

November
2022

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

खंड : 47 अंक : 221

23 नवंबर 2022

Vol.: 47 Issue: 221

23 November 2022



रक्षा विज्ञान पुस्तकालय

Defence Science Library

रक्षा वैज्ञानिक सूचना एवं प्रलेखन केंद्र

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Wed, 23 Nov 2022

Defence Research Laboratory Tezpur Premier Lab of DRDO Celebrate Diamond Jubilee

Defence Research Laboratory (DRL) Tezpur, a premier lab of Defence Research & Development Organisation (DRDO) celebrated Diamond Jubilee and Lab Raising Day on Monday. Vice Chancellor of Cotton University, Guwahati Prof. Ramesh Ch. Deka was the chief guest of the function and Chatra Bhushan Gogoi, District and Sessions Judge Sonitpur was the guest of honour and many eminent personalites from academia, Army and CAPF also graced the occasion. Dr. Dev Vrat Kamboj, Director DRL delivered the 61st Lab Raising Day speech and Dr. Vanlalhmuaaka, Scientist briefed about the 60 years journey of DRL. The moment turned more special with the presence of retired officers & staff.

A coffee table book capturing six decades of DRL's resplendent past was released and a video documentary showcasing the journey of DRL, highlighting technologies and products, was also released. To commemorate diamond jubilee, a series of events were organised throughout the year such as National Level competition for Ideas on "Life Support Technologies for Enhancing Combat Efficiency under different terrains of NE India" among school and college students, Science model competition, lectures on entrepreneurship, DRDO Kisan-Jawan-Vigyan Mela at Tawang etc. Prizes were also given by the chief guest to the students who won various competitions organised during the diamond jubilee celebration year.

<https://www.sentinelassam.com/north-east-india-news/assam-news/defence-research-laboratory-tezpur-premier-lab-of-drdo-celebrate-diamond-jubilee-624592>



पत्र सूचना कार्यालय
भारत सरकार

रक्षा मंत्रालय

मंगलवार, 22 नवंबर 2022

रक्षा मंत्री श्री राजनाथ सिंह ने कंबोडिया में अमेरिकी रक्षा मंत्री श्री लॉयड ऑस्टिन के साथ द्विपक्षीय बैठक की

रक्षा मंत्री श्री राजनाथ सिंह ने आज कंबोडिया के सिएम रीप में अमेरिकी रक्षा मंत्री श्री लॉयड ऑस्टिन के साथ द्विपक्षीय बैठक की। श्री राजनाथ सिंह और श्री लॉयड ऑस्टिन 9वीं आसियान रक्षा मंत्रियों की बैठक (एडीएमएम) प्लस बैठक में भाग लेने के लिए कंबोडिया में हैं। दोनों नेताओं ने गर्मजोशी के साथ एक-दूसरे से मुलाकात की और बढ़ते द्विपक्षीय रक्षा संबंधों पर संतोष व्यक्त किया। रक्षा मंत्री के साथ रक्षा सचिव श्री गिरिधर अरमाने और रक्षा मंत्रालय के अन्य वरिष्ठ अधिकारी भी मौजूद थे।

दोनों रक्षा मंत्रियों ने एक मजबूत भारत-अमेरिका रक्षा सहयोग के लिए अपनी प्रतिबद्धता व्यक्त करते हुए पारस्परिक हित के मुद्दों की विस्तृत बातचीत की। श्री राजनाथ सिंह ने सैन्य उड्डयन, कृत्रिम बुद्धिमत्ता और साइबर प्रौद्योगिकी जैसे महत्वपूर्ण क्षेत्रों में क्षमता निर्माण के लिए दोनों देशों के साथ मिलकर काम करने की आवश्यकता पर बल दिया। रक्षा मंत्री भारत एवं अमेरिका के बीच अधिक रक्षा-औद्योगिक सहयोग हेतु एक रोडमैप बनाने के लिए तत्पर हैं। उन्होंने विमान रख-रखाव, मरम्मत एवं ओवरहाल (एमआरओ) और जहाज निर्माण, मरम्मत व रिफिट में भारत की बढ़ती विशेषज्ञता पर प्रकाश डाला तथा ऐसे विशिष्ट क्षेत्रों का सुझाव दिया जहां अमेरिकी रक्षा कंपनियां भारत में भारतीय भागीदारों के साथ प्रौद्योगिकी सहयोग व विनिर्माण अवसरों की तलाश कर सकती हैं।

सचिव ऑस्टिन ने सुझावों का स्वागत किया और रक्षा मंत्री को इस संबंध में सहयोग का आश्वासन दिया। दोनों नेताओं ने नेविगेशन, ओवरफ्लाइट एवं बाधारहित व्यापार की स्वतंत्रता के साथ एक समावेशी और नियम-आधारित इंडो पैसिफिक के प्रति अपनी प्रतिबद्धता व्यक्त की। उन्होंने समुद्री डोमेन जागरूकता सहित दोनों देशों के बीच समुद्री सहयोग को मजबूत करने के लिए की जा सकने वाली पहलों पर भी चर्चा की। दोनों नेताओं ने क्षेत्रीय सुरक्षा स्थिति पर अपने विचार भी साझा किए।

<https://pib.gov.in/PressReleasePage.aspx?PRID=1878096>



**Press Information Bureau
Government of India**

Ministry of Defence

Tue, 22 Nov 2022

Raksha Mantri Shri Rajnath Singh Holds Bilateral Meeting with US Secretary of Defence Mr Lloyd Austin in Cambodia

Raksha Mantri Shri Rajnath Singh held a bilateral meeting with US Secretary of Defence Mr Lloyd Austin in Siem Reap, Cambodia today. Shri Rajnath Singh and Mr Lloyd Austin are in Cambodia to attend the 9th ASEAN Defence Ministers' Meeting (ADMM) Plus meeting. Both leaders met each other with great warmth and expressed satisfaction at the growing bilateral defence engagements. The Raksha Mantri was accompanied by Defence Secretary Shri Giridhar Aramane and other senior officials of Ministry of Defence.

The two Defence Ministers discussed wide range of issues of mutual interest while expressing their commitment to a strong India-US defence cooperation. Shri Rajnath Singh emphasised the need for both countries to work together for capability building in critical domains such as military aviation, artificial intelligence and cyber technology. The Raksha Mantri looked forward to building a roadmap towards greater defence industrial collaboration between India and US. He highlighted India's growing expertise in aircraft Maintenance, Repair and Overhaul (MRO) and ship-building, repairs and refits and suggested specific areas where US defence companies can look for technology cooperation and manufacturing opportunities with Indian partners in India. Secretary Austin welcomed the suggestions and assured Raksha Mantri of cooperation in this regard.

The two leaders expressed their commitment towards an inclusive and rules-based Indo Pacific with freedom of navigation, overflight and unimpeded trade. They further discussed initiatives that can be taken to strengthen maritime cooperation between the two countries including in maritime domain awareness. Both leaders also shared their perspectives on the regional security situation.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1878057>

THE ECONOMIC TIMES

Tue, 22 Nov 2022

Immense Scope to Boost Defence Cooperation between India, Cambodia: Rajnath Singh

Defence Minister Rajnath Singh has met his Cambodian counterpart, General Samdech Pichey Sena TEA Banh, in Siem Reap and said there is "immense scope" to boost defence cooperation between the two countries. Singh is currently visiting Cambodia to attend the ASEAN Defence Ministers' Meeting (ADMM) Plus and the maiden India-ASEAN Defence Ministers meeting. He arrived at Siem Reap on Monday to co-chair the India-ASEAN Defence Ministers meeting and

attend the 9th ADMM Plus, the defence ministry said in a statement. "Reviewed the full range of India-Cambodia defence ties during the fruitful meeting with Cambodia's Deputy Prime Minister and Defence Minister, General Samdech Pichey Sena TEA Banh in Siem Reap today. There is immense scope to boost defence cooperation between both the countries," Singh said in a tweet on Monday.

On Tuesday, he shared pictures of his meetings with other leaders on Twitter.

"Insightful deliberations with Australia's Deputy Prime Minister and Minister for Defence, Mr. @RichardMarlesMP on boosting defence ties and deepening cooperation between India and Australia in Siem Reap, Cambodia today," Singh said in a tweet.

"Delighted to meet the US Secretary of Defence, Mr Lloyd J. Austin in Siem Reap. @SecDef," he wrote on the microblogging site. In another tweet, Singh said: "Had a wonderful interaction with the Defence Minister of New Zealand, Mr. Peeni Henare." To commemorate 30 years of the India-ASEAN ties, India and Cambodia will co-chair the India-ASEAN Defence Ministers' Meeting on Tuesday, which will be presided by Singh. Various initiatives to boost the India-ASEAN partnership are likely to be announced at the meeting. "Upon his arrival, Singh held a bilateral meeting with Deputy Prime Minister and Minister of National Defence of Cambodia General TEA Banh. Both ministers met warmly and noted the shared rich cultural and historic linkages between India and Cambodia," the defence ministry said in a statement on Monday.

During the meeting, both leaders recognised Angkor Wat, an ancient temple complex in Cambodia, as the "symbol of the long-lasting ties between the two countries". It is of significance that India and Cambodia are also celebrating 70 years of their diplomatic relations this year, it added. Singh congratulated Cambodia on the successful chairmanship of ASEAN and ADMM Plus in 2022. He and Gen. TEA Banh reviewed the entire gamut of defence cooperation and discussed mutually beneficial avenues for furthering the bilateral ties, the statement said. As the chair of the ADMM Plus meeting, Cambodia will host the 9th annual meeting on Wednesday and Singh will address the forum. He will also call on the prime minister of Cambodia during the visit, the statement said.

<https://economictimes.indiatimes.com/news/defence/immense-scope-to-boost-defence-cooperation-between-india-cambodia-rajnath-singh/articleshow/95686653.cms>



Press Information Bureau
Government of India

Ministry of Defence

Tue, 22 Nov 2022

Indo-Pacific Regional Dialogue 2022 (IPRD):

23 to 25 Nov 22

The IPRD is an apex level international annual conference of Indian Navy, and is principal manifestation of Navy's engagement at the strategic-level. The National Maritime Foundation (NMF) is Navy's knowledge partner and chief organizer of each edition of the event. The IPRD seeks to foster exchange of ideas and promote deliberations on regionally relevant maritime

issues. Being a Track 1.5 event that aims to encourage discussions on public policy, the IPRD endeavors for a balanced representation from government and non-government agencies and institutions. The first two editions of IPRD were held in 2018 and 2019 respectively at New Delhi. IPRD 2020 was cancelled due to Covid-19 outbreak. The third edition of IPRD was held in 2021 in online mode. The aim of each successive edition of the IPRD is to review both opportunities and challenges that arise within the Indo-Pacific. Through this annual dialogue, the Indian Navy and the NMF, continue to provide a platform for incisive discussions pertaining to the geopolitical developments affecting the maritime domain of the Indo-Pacific.

The fourth edition of IPRD is scheduled to be held from 23 to 25 Nov 22. The theme of IPRD-2022 is 'Operationalising the Indo-Pacific Oceans Initiative (IPOI)', which was articulated by the Hon'ble Prime Minister, Shri Narendra Modi in Bangkok, at the 14th East Asia Summit (EAS) on 04 November 2019. The IPOI Is a comprehensive and inclusive construct for regional cooperation that is focused on seven interconnected spokes or pillars: Maritime Security, Maritime Ecology, Maritime Resources, Disaster Risk-reduction and Management, Trade-Connectivity and Maritime Transport, Capacity-building and Resource sharing, and Science, Technology and Academic Cooperation.

Indian Navy being the lead maritime security agency of the Government, is deeply invested in the actualization of each of the seven spokes or pillars of the IPOI. The 2022 edition of the Indo-Pacific Regional Dialogue (IPRD-2022) is appropriately centered upon the IPOI and its operationalization, with particular but not exclusive focus upon the pillars of 'Maritime Security'. IPRD-2022 will be conducted in physical format in New Delhi, through six professional sessions spread over the three-day period from 23 to 25 Nov 22. As part of the event, globally renowned speakers and eminent panellists will explore how the areas of maritime cooperation envisaged in the IPOI could be optimally and inclusively operationalized. In addition, there will be an Inaugural Session and a Margdarshan (Guidance) session which would include addresses from Shri Rajnath Singh, the Hon'ble Raksha Mantri, Shri Bhupendra Yadav, Hon'ble Minister of Environment, and Shri Ajay Bhatt, Hon'ble Raksha Rajya Mantri.

The six thematically-arranged sessions of the IPRD-2022 are: (1) Weaving the Fabric of Holistic Maritime Security in the Indo-Pacific: Multilateral Options; (2) Constructing Holistic-Security Bridges across the Western and Eastern Maritime Expanse of the Indo-Pacific; (3) Building maritime Connectivity: Ports, Trade, and Transport; (4) Capacity-building and Capability Enhancement Leveraging the Physical and Social Sciences; (5) Practical approaches to a Regional Blue Economy; (6) Disaster Risk-reduction and Management; Solutions for Small Island Developing States (SIDS) and Vulnerable Littoral States.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1878012>

The Tribune

Wed, 23 Nov 2022

Army to Buy Loitering Ammunition

The Indian Army has asked 180 canister-launched loitering ammunitions that can target enemy tanks. The force is also looking at specialised anti-drone systems. The request for proposal seeking supplies from vendors was issued today. The Ministry of Defence wants the infantry and

armoured units to have the capacity to undertake action at a 15-km range to destroy enemy's armoured vehicles with a "heat warhead". The ministry also intends to procure integrated drone detection and interdiction system.

<https://www.tribuneindia.com/news/nation/army-to-buy-loitering-ammunition-453733>



Wed, 23 Nov 2022

Defence Infra Push Underway in Ladakh Amid China Standoff

The Indian Army is building infrastructure at a rapid pace in eastern Ladakh with a focus on better living experience and improved facilities for soldiers, conservation of modern weapons and equipment deployed there, and supporting faster movement of men and material to deal with any contingency in the midst of the lingering border standoff with the Chinese People's Liberation Army (PLA) in the sensitive sector, officials familiar with the development said on Tuesday. India has inducted thousands of extra troops and modern military weaponry into the Ladakh sector to counter the Chinese military build-up after the standoff began two and a half years ago.

The altered dynamic along the contested Line of Actual Control (LAC) necessitated the infrastructure push aimed at enhancing efficiency of the army's deployments, said one of the officials cited above, who asked not to be named. The steps taken by the army to support its forward deployments along LAC include building of modular shelters for troops deployed at heights of up to 18,000 feet, habitat for reserve troops in rear locations, storage facilities for tanks, artillery guns and other equipment, underground facilities for ammunition storage, airfields, and new roads, bridges and tunnels in difficult terrain for improved connectivity with forward areas.

The army has also built ponds in high altitude areas in Ladakh to provide drinking water to troops. Infrastructure is not only coming up in Ladakh but also in the central (Uttarakhand) and eastern sectors (Sikkim and Arunachal Pradesh) to cater to the army's needs and build capacities to deal with emerging challenges, said a second official. "It's very heartening to see the push being given to infrastructure development along LAC. At the altitudes at which the LAC lies, the quality of infrastructure will be a key factor in both peacetime border management and war," said former Northern Army commander Lieutenant General DS Hooda (ret'd). To be sure, PLA has significantly modernised defence infrastructure across LAC after the standoff began in May 2020.

The Indian Army's infrastructure push comes alongside concerted efforts to upgrade military capability with a variety of weapons and systems including artillery guns, swarm drone systems that can carry out offensive missions in enemy territory, longer range rockets, remotely piloted aerial systems and high-mobility protected vehicles. The army is also pursuing the development of light tanks for mountain warfare and futuristic infantry combat vehicles (FICVs), as previously reported.

In January 2022, former army chief General Manoj Mukund Naravane said the silver lining to the border crisis was that India used it as an opportunity to fast-track infrastructure development, undertake doctrinal reviews and fill operational voids through emergency purchases. On Tuesday, the army sought proposals from domestic vendors for 180 canister-launched anti-armour loiter systems under the emergency procurement route, and integrated drone detection and interdiction systems, the officials said.

Last week, the army said it will construct modular, 3D-printed, next generation bunkers to provide better protection to front-line soldiers guarding the country's border with China. These bunkers will come up near LAC in Ladakh next year onwards, and will be able to withstand a direct hit by a tank shell.

It is also heartening that the latest technology like 3D printing and pre-engineered buildings is being utilised for creating defences and habitat, Hooda said. "At the minimum, it will halve the construction time," he added. While 20-odd 3D-printed bunkers have already been made, the army will construct hundreds of such bunkers in Ladakh and the numbers will gradually increase. Despite four rounds of disengagement from Galwan Valley, Pangong Tso, Gogra (PP-17A) and Hot Springs (PP-15), the Indian and Chinese armies still have more than 60,000 troops each and advanced weaponry deployed in the Ladakh theatre. The Indian and Chinese armies have held 16 rounds of talks so far, but problems at Depsang in Daulet Beg Oldi sector and Charding Nullah Junction (CNJ) in Demchok sector are still on the negotiating table.

<https://www.hindustantimes.com/india-news/defence-infra-push-underway-in-ladakh-amid-china-standoff-101669143094425.html>

ThePrint

Tue, 22 Nov 2022

Chief of Defence Staff Meets Indian Coast Guard Chief, Briefed about Blue Economy, Charter

In order to review the preparedness of the Indian Coast Guard, the Chief of Defence Staff (CDS) General Anil Chauhan on Tuesday visited the headquarters of the Indian Coast Guard (ICG). CDS General Anil Chauhan was received by the Chief of Indian Coast Guard VS Pathania. The CDS was briefed about the role of the Indian Coast Guard in the maritime zone towards ensuring the seas' safety, security and cleanliness, informed ICG officials. The Indian Coast Guard, taking to Twitter wrote, "General Anil Chauhan, PVSM, UYSM, AVSM, SM, VSM, Chief of Defence Staff being received by Indian Coast Guard DG VS Pathania, PTM, TM on his arrival at the ICG Headquarters New Delhi today".

As per the officials, the CDS was briefed about the blue economy and the Indian Coast Guard charter. Notably, the keel-laying ceremony for two Coast Guard Pollution Control Vessels (GSL Yard 1267 and 1268) was held on Monday at Goa Shipyard by Indian Coast Guard's Director General VS Pathania and the ceremony was performed in the presence of Goa Shipyard's CMD Brajesh Kumar Upadhyay and other senior dignitaries from both Goa Shipyard and the Indian Coast Guard. Meanwhile, on Friday last week, the Indian Coast Guard conducted its 20th National Maritime Search and Rescue (NMSAR) Board meeting in Gujarat's Kevadia.

“The NMSAR Board comprising 31 members from various central ministries and agencies, members of armed forces, and all Coastal States and Union Territories meets annually to discuss the policy issues. In the meeting, guidelines and procedures are formulated, to assess the efficacy of the National Maritime Search and Rescue Plans and services for the mariners and the fishermen, in the vast 4.6 million sq km of the Indian Search and Rescue Region (ISRR),” read an official statement by the ICG.

<https://theprint.in/india/chief-of-defence-staff-meets-indian-coast-guard-chief-briefed-about-blue-economy-charter/1230714/>



Tue, 22 Nov 2022

'Make in India is a Critical National Necessity; Foreign OEMs have Accepted it'

Government of India's thrust on 'Make in India' and 'Aatmanirbhar Bharat' vis-a-vis current environment and ecosystem, great opportunities have arisen for MSME groups to build their capability and to meet future challenges in defence MRO. Indian defence forces have equipment and platforms from multiple sources; hence challenges are even greater. The necessity for Make in India does not need reiteration. Indigenization and innovation must now be the primary focus, particularly for MSMEs, who alone can fill the gap for MRO activities in the critical defence sector. Crown Group, which has established itself as India's leading defence MRO provider for critical services to the Indian Navy, Air Force and Coast Guard through its various wings, is again at the forefront of meeting the recent challenges.

The Group is establishing newer MRO centres and forging technological tie-ups to indigenize & provide mission-critical services to Indian armed forces.

Vice Adm Paras Nath (Retd) AVSM, VSM, Group President of Crown Group Defence, shared his views on how multiple challenges can be turned into opportunities by groups/ companies like Crown Group.

What are your views on the steps taken by the Government of India to make India self-reliant in Defence MRO? Do you think India is on the right track to becoming a Defence MRO hub?

The Government of India's initiative in making Indian defence forces MRO self-reliant is indeed laudable and timely. As a nation with multiple security challenges and huge defence assets, we must develop critical indigenous MRO capabilities as we must maintain and service military assets to be in mission mode all the time. The current environment and threat perception necessitate our industry to gear up for new activities.

Therefore, Make in India is a critical national necessity in the defence sector which will pay very rich dividends for the country in times to come. We see a distinct focus from the defence forces to support and push the indigenization agenda in our Indian interactions with them. Sooner than later, our friendly neighbours will look up to MSMEs for MRO in the defence sector, making India into a defence MRO hub.

Crown Group’s defence verticals have been in the MRO business for long. What are your plans to expand and take on the ever-growing needs of defence forces?

Crown Group’s verticals are definitely expanding on a war footing. We have already strengthened our marine presence in Vishakhapatnam and Andaman & Nicobar. Karwar and Chennai facilities are being augmented with state-of-the-art equipment and facilities. Partnerships with Marine and Aviation OEMs are being expedited for quick transfer and absorption of the latest technology. Moto of Crown Group is to “Serve the Nation” by partnering with reputed OEMs to provide quality support to defence forces.

Do you find major difficulty in partnering with foreign OEMs?

Difficulties! Yes, major and minor. But we look at the difficulties differently. One must overcome hurdles through innovation and evolution to achieve big and good. Fortunately, most foreign OEMs have accepted 'Make in India'. They have understood that the thrust is a ‘win-win’ situation for all in terms of economy of scale, cost-cutting and expeditious service at the seafront.

What is Crown Group’s core competency, and how do you plan to enhance technical and professional manpower

I think Crown Group’s core competency is its technical and professional team. This is a unique group wherein we have Ex-servicemen (ESM) from Army, Navy, Air Force, and Coast Guard backed up by finance, legal and strategy planners from the civil environment. As mentioned earlier, we are in the process of upgrading our infrastructure and machinery equipment regularly. As the maxim goes, “It's the man behind the machine that matters”. Our manpower is the best one can have. We are further augmenting the human resource as the requirement grows. Our team comprises some of the best; the Marine division is headed by Cmde Rakesh Anand (Retd), former CMD of Mazagon Dock; the Aviation division is led by Rear Adm Devender Sudan (Retd), former ACNS (Air) and Fighter pilot, Commerce and Purchase department is headed by Cmde SK Iyer (Retd), a seasoned logistician, and Strategic planning is looked after by Vikas Banga. We have a long list of senior and mid-level veterans taking Crown Group forward.

Is Crown Group planning to harness the defence infrastructure and core competency in the civil environment?

Yes, very much. With foreign collaboration, we have taken baby steps in making shallow water crafts and river dredgers for IWAI. IWAI is giving full support and guidance in this area. We also have plans to create an exclusive ‘Make in India’ vertical under the Crown Group.

Please tell us about some of the critical MRO services you have provided for the Indian Navy, as your marine vertical is quite elaborate and one of the oldest.

There is a long list, and some of them cannot be shared for obvious reasons. What we can share includes successful MRO jobs for India’s only aircraft carrier ‘INS Vikramaditya’, amphibious warship ‘INS Jalashwa’ and various other Marine, Aerospace and Avionics projects.

We have one of the largest facilities in Karwar, which is Asia’s biggest Defence Naval Base, to undertake mechanical and electro-mechanical repairs primarily for the Indian Navy. In Goa, we have set up two facilities catering to Defence Aerospace MRO and Avionics repairs, including a NABL-accredited calibration laboratory.

We have set up an electronics repair/manufacturing facility in OIPL Mumbai, where we are doing repairs of complex weapon equipment, PCBs and electronic modules.

In addition, we have two ship repair workshops in Chennai and Vizag, with satellite nodes in Cochin, Port Blair, Calcutta, Andaman & Nicobar. Our corporate office in Delhi coordinates and provides strategic decision support to our customers.

Apart from critical MRO services, does Crown Group Defence plan to manufacture defence components and equipment in India?

Crown Group has already established facilities and received orders for the design & manufacturing of complex PCBs for specialized equipment in OIPL, Mumbai. We are further working towards establishing indigenous manufacturing facilities for components and spares that have higher volumes or are categorized as consumables.

With the government's focus on promoting self-reliance in defence manufacturing and positioning India as an exporter of military hardware, Crown Group's focus is on indigenization through tie-ups with international OEMs and in-house research and development.

In a drive to support the indigenization of equipment for Indian Naval Ships and Submarines, Crown Group has tied up with major pump manufacturers to provide seafront service to the Indian Navy ships and submarines and take on component manufacturing subsequently.

We are also engaging with academia across India to bring out technologically advanced solutions that will strengthen and modernize the Indian Defence sector. We have tied up with Amrita University to promote Defence R&D. We are also in advance talks for collaboration with IITs & other reputed Universities for various Defence projects.

Crown Group has emerged as the partner of the first choice for international OEMs for setting up mission-critical defence MRO and manufacturing facilities in India. So what makes Crown special and a preferred partner?

We have a legacy of more than four decades of serving Indian defence forces. Right from the beginning, the Group has had a non-negotiable focus on quality and timely delivery because we understand the critical importance of both these attributes for defence operations. The appreciation of the outstanding MRO services and on-time delivery of critical projects has helped the Group secure a good deal of MRO contracts from the Indian Armed Forces.

On the other hand, global OEMs that are looking for organized players to help them maintain and service their equipment, and provide quality service to their customers in India, find it easy to partner with Crown Group. This is because we have a professional team with experienced personnel from defence and have set up world-class facilities for MRO of Indian naval marine and aviation assets. All these together put Crown Group Defence in a strong position to support any foreign company in setting up their manufacturing/MRO base in India and taking forward the vision under Make in India.

<https://newsable.asianetnews.com/india-defence/interview-with-crown-group-defence-group-president-vice-adm-paras-nath-ret-d-rlrfmb>

U.S., China Defence Chiefs Meet in Cambodia

U.S. Defense Secretary Lloyd Austin met his Chinese counterpart Wei Fenghe in Cambodia on Tuesday, with both sides describing the talks as productive without backing away from their core positions. The rival powers have clashed over a host of issues including Taiwan, security and human rights, but there have been attempts to lower the temperature since a rare summit between the leaders of both countries last week.

U.S. President Joe Biden and Chinese leader Xi Jinping tried to cool the rhetoric but the differences were clear — and the exchange between their defence chiefs was similar. A senior U.S. defence official said the talks between Mr. Austin and Mr. Wei on the sidelines of a conference of Defence Ministers in Siem Reap were "productive" and "professional". "Both sides agreed that it's important that our countries work together to ensure that competition does not veer into conflict", but "competition remains the defining feature of the relationship", the official told journalists. Mr. Austin sought the "reopening of a number of military-to-military dialogues and mechanisms to help manage that competition responsibly", the official added.

That was a reference to procedures and exchanges that were scrapped after U.S. House Speaker Nancy Pelosi visited Taiwan in August despite furious warnings and threats from Beijing. The U.S. official said Mr. Austin and Mr. Wei had a "lengthy exchange" on Taiwan during the meeting, which lasted for an hour and a half. A Chinese Defence Ministry spokesman described the meeting as "sincere, in-depth, practical and constructive". "Both sides acknowledged that both militaries should earnestly implement the important consensus reached by both heads of state, maintain communication and contact, strengthen crisis management, and work hard to uphold regional peace and stability," the spokesman said.

"China attaches importance to developing bilateral military relations, but the U.S. must respect China's core interests." China claims Taiwan is a part of its territory to be taken one day, by force if necessary. Mr. Wei said in the meeting that Taiwan is a red line for China, the spokesman said. "Taiwan is China's Taiwan, it is a matter to be resolved by the Chinese people alone, and no external forces have the right to interfere." Beijing lashes out at any diplomatic action that might lend Taiwan legitimacy and has responded with growing anger to visits by Western officials and politicians. It reacted to Ms. Pelosi's Taiwan visit with its largest and most aggressive exercises around the island since the 1990s.

Mr. Austin told Mr. Wei that U.S. policy towards Taiwan has not changed and that Washington still opposes unilateral changes to the status quo on the island. Mr. Austin and Mr. Wei also discussed other issues including Russia's invasion of Ukraine and North Korea, according to a readout by Pentagon Press Secretary Brigadier General Pat Ryder. "Secretary Austin discussed Russia's unprovoked war against Ukraine and underscored how both the United States and (China) oppose the use of nuclear weapons or threats to use them," General Ryder said. Mr. Austin also expressed concern about "increasingly dangerous" behaviour by Chinese warplanes in the Asia-Pacific region, the readout added. Mr. Austin called on China — Pyongyang's main diplomatic backer — to "fully enforce" UN Security Council resolutions against North Korea

over its weapons programmes. The defence chiefs' meeting followed a brief exchange between Mr. Xi and U.S. Vice President Kamala Harris at an Asia-Pacific summit in Bangkok.

<https://www.thehindu.com/news/international/us-china-defence-chiefs-meet-in-cambodia/article66170222.ece>

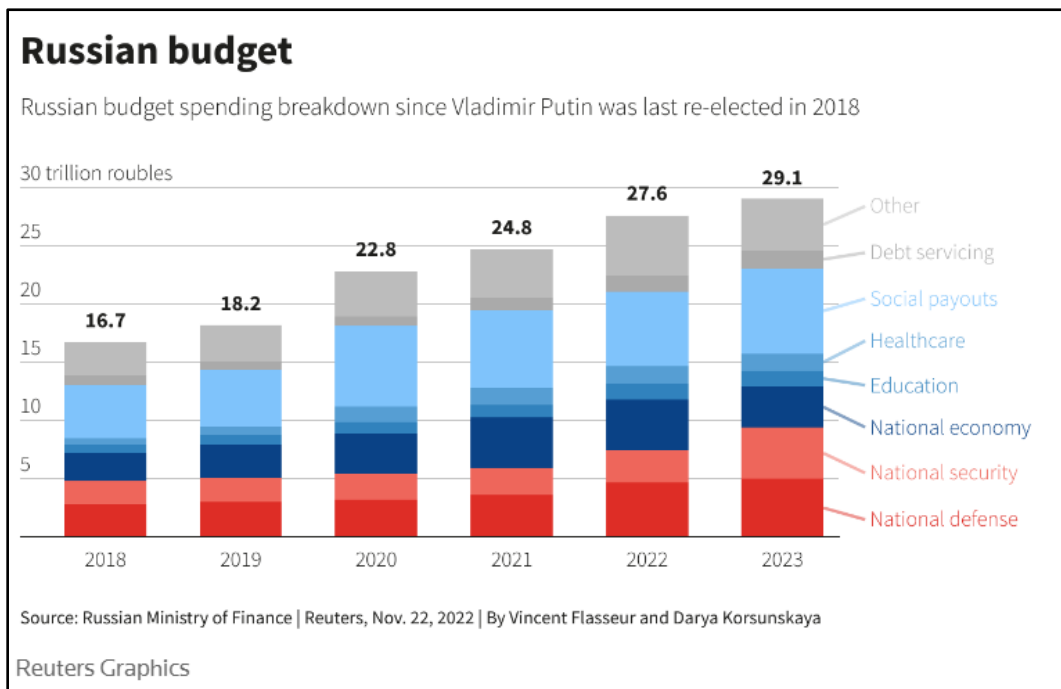


Tue, 22 Nov 2022

Surge in Russia's Defence and Security Spending Means Cuts for Schools and Hospitals in 2023

By Darya Korsunskaya

Russia plans to spend nearly a third of next year's budget on defence and domestic security while slashing funding for schools, hospitals and roads as it diverts cash to support its military campaign in Ukraine. A Reuters budget analysis shows Moscow will spend a combined 9.4 trillion roubles (\$155 billion) on defence and security, squeezing out other priorities in a critical year leading up to a likely re-election bid by President Vladimir Putin in 2024. Security spending alone - including the work of the state Investigative Committee, the prosecutor's office, the prison service and the National Guard, which has been deployed in Ukraine - will rise 50% compared with 2022. The combined military and security outlay is a record for the Kremlin but amounts to only about 18% of what the United States plans to spend in the next fiscal year on defence and some - but not all - national security needs.



"The budget is a tool to finance the military campaign," said Alexandra Suslina, an independent analyst. "The increase in pensions, student payouts is minor compared to what should have been

done in Russia. Decade-long problems remain unresolved." The finance ministry did not respond to a Reuters request for comment.

"Patriotic spirit"

The changing shape of the budget reflects Russia's efforts to bolster its military effort in Ukraine, where it has lost substantial ground since September despite proclaiming the annexation of four regions it partly occupies. Putin has ordered the central government and the country's 80-plus regions to work more effectively together to support the military's needs. On paper, defence spending will rise by just 1% next year to 4.98 trillion roubles - but only because it was revised up by a third this year, from an initially planned 3.5 trillion roubles, after Moscow sent its troops into Ukraine in February.

By contrast, domestic security spending is set to rise 50.1%, to 4.42 trillion roubles. Putin has said that sanctions are boomeranging on Western countries, which are struggling to tame their highest inflation levels in decades as energy and food costs surge. But Russia's economy is also being hit. It shrank 4% year-on-year in the third quarter, reflecting the sanctions and the Kremlin's decision to call up 300,000 reservists. Hundreds of thousands of others fled the country to avoid the draft. The 2023 budget will see spending on the "national economy" - including roads, agriculture, and research and development - fall by 23% to 3.5 trillion roubles. Healthcare is to get 9% less - or 1.5 trillion roubles - while education spending will be cut by 2% to 1.4 trillion roubles.

Infrastructure and industrial spending will fall by 23.5% and 18.5% respectively, according to a joint study by the Russian Presidential Academy (Ranepa) and the Gaidar Institute. That "could trigger significant difficulties" at a time when Moscow is trying to find new markets away from the West, the institutes said. Investment in research and development will be cut, too, and "a number of crucial industries will not have enough funds to develop domestic technologies", Ranepa said, as western sanctions cut Moscow off from the newest technologies. Bidding for a fourth presidential term in 2018, Putin promised to spend over \$400 billion on everything from roads to healthcare and education - a total of 13 "national projects" - to make Russia the world's fifth biggest economy by 2024. Those goals were shifted to 2030 during the COVID pandemic and next year's budget sees funding for them being cut by 10%, raising a risk the targets will be missed again, analysts say.

Social spending such as pensions and welfare, a cornerstone of Putin's domestic economic policy and used to court voters in previous campaigns, will total 7.3 trillion roubles - an 8% rise but still less than the combined military and security budget. Funding will be cut for state programmes on education, but increased by 513% from this year for "patriotic training" in schools to reflect Russia's view of current and historic events, according to Ranepa and the Gaidar Institute. The health spending cut is an "unjustified reduction given ... the increase in the death rate both due to the coronavirus pandemic and worsening access to medical services", the Higher School of Economics said in a note.

Debt Looming

With sanctions pressuring state revenues, Russia projects the budget deficit will double to 3 trillion roubles next year, or 2% of gross domestic product, and analysts have said it could be as high as 4.5 trillion roubles. To fill the gap, the ministry has already tapped its National Wealth Fund and also borrowed \$14 billion in a OFZ rouble bond offering last week. That was its

biggest ever one-day debt sale - a fact that the British Ministry of Defence highlighted on Twitter as a sign Russia was borrowing to sustain defence spending.

While Russian public debt is seen at 17% of GDP next year, low by international standards, servicing costs will increase towards 6.8% of total spending in 2025 from 5.1% now, exceeding funding for health and education, analysts say. "In 2023–2025, the public debt will grow faster than the country's economy, indicating a low efficiency of the borrowed funds usage" and hitting economic development, the Financial University said.

<https://www.reuters.com/world/europe/surge-russias-defence-security-spending-means-cuts-schools-hospitals-2023-2022-11-22/>

euronews.

Tue, 22 Nov 2022

NATO Allies may Lift Target to Spend 2% of Output on Defence – Stoltenberg

NATO allies may decide to aim to spend more on defence than their current target of 2% of national output when they meet for their next summit in Vilnius in July 2023, the chief of the alliance said on Monday. "I expect that, in one way or another, even though perhaps the 2% will be kept, it will be kept more as a kind of floor than a ceiling for defence spending," NATO Secretary-General Jens Stoltenberg said during a visit to Spain. "These are negotiations that will go on, but I'm absolutely confident that the ambitions will be increased in one way or another – because everyone now sees the need for investing more," he added.

In response to Russia's annexation of Ukraine's Crimea peninsula in 2014, NATO leaders pledged to reverse the trend of declining defence budgets, with allies agreeing to spend at least 2% of economic output on defence from 2024. Since Russia's invasion of Ukraine in February this year, many allies have increased their military spending. "I cannot tell you exactly what our allies will agree when it comes to formulating the pledge for defence spending for the next decade or so... but I expect that it'll be an even stronger commitment to increasing defence spending," Stoltenberg said.

<https://www.euronews.com/2022/11/22/ukraine-crisis-nato-spending>

Wed, 23 Nov 2022

Pixxel to Build a Real Time Health Monitor for Planet Earth

Pixxel, an Indo American company, has embarked on a mission to launch a constellation of satellites to build a real time health monitor for the planet. The company is juggling cutting edge research in different fields like hyperspectral sensors, computer vision.

Tech It One Step at a Time: Pixxel's Technology Demonstration

Pixxel planned their constellation launch to first have three satellites online as part of their technology demonstrations. The first two satellites in the trio are Anand and Shakuntala satellites. Pixxel launched its first fully-fledged commercial satellite Shakuntala (Technology Demonstrator-2) with the SpaceX Falcon-9 rocket earlier this year on April 1st. Girish Linganna, a defence and aerospace analyst, shared with Financial Express Online that “Shakuntala, Pixxel’s first fully-fledged satellite, hosts one of the highest resolution hyperspectral commercial cameras ever flown to space, bringing it one step closer to building a 24x7 health monitor for the planet.”

Launched aboard SpaceX’s Transporter-4 mission from Cape Canaveral, this launch puts the company within touching distance of its ambitious mission to assemble one of the world’s most advanced constellations of low-earth-orbit imaging satellites. “Weighing less than 15 kgs, Shakuntala (TD-2) is capable of capturing orbital images in more than 150 bands of colour from the visible and infrared spectrum with a resolution of 10-metres per pixel — far exceeding the specificity of 30-metre per pixel hyperspectral satellites launched by a few select organisations such as NASA, ESA, and ISRO”, added Linganna. In just a few weeks from launch, TD-2 began amassing information and uncovering the invisible changes wreaking havoc on our planet like natural gas leakages, deforestation, melting ice caps, pollution, and declining crop health.

Pixxel is set to launch their third hyperspectral satellite, Anand, into space. The launch is taking place through a ISRO PSLV rocket on November 26, 2022, at the Sriharikota Launch Complex in Andhra Pradesh. The company became the first Indian company ever to launch a commercial satellite to space when it launched its satellite Shakuntala in April earlier this year through SpaceX. Speaking on the Anand satellite, Linganna informed that, “it is a hyperspectral microsatellite which weighs less than 15 kgs and has a total of 150+ wavelengths that will enable it to see our planet in a lot more detail than today’s non-hyperspectral satellites with not more than 10 wavelengths. The imagery from the satellite can be used to detect pest infestation, map forest fires, identify soil stress and oil slicks amongst other things.”

Pixxel’s hyperspectral satellites are unique in their ability to provide hundreds of bands of information with global coverage at a very high frequency, making them ideal for disaster relief, agricultural monitoring, energy monitoring and urban planning applications. They are equipped to beam down upto 50x more information with unprecedented detail, compared to other conventional satellites in orbit. Pixxel has already inked partnerships with the likes of Rio Tinto

and Data Farming who will use hyperspectral datasets to identify mineral resources and monitoring active and determining crop issues respectively. The imagery from this will provide the team targeted inputs to improve the form factor and imaging capabilities of the next batch of commercial-grade satellites. With this launch, "Pixxel moves closer to achieving its vision of building a health monitor for the planet through a constellation of cutting-edge hyperspectral small satellites in space," he adds.

<https://www.financialexpress.com/lifestyle/science/exclusive-pixxel-to-build-a-real-time-health-monitor-for-planet-earth/2886602/>

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Tue, 22 Nov 2022

China Issues 10 Science Challenges in Astronautics

Chinese space scientists and engineers published 10 science and technology challenges in the field of astronautics for 2022 at the ongoing China Space Conference held in Haikou, capital city of the southern island province of Hainan. This list of challenges includes -- power acquisition from cosmic dynamics, the search for habitable exoplanets and signs of life, key technologies for a shuttle-like space transport system, the monitoring of and defence against near-Earth asteroids, and development of artificial light synthetic materials for extraterrestrial subsistence.

Long-distance, high-power wireless energy transfer technology, in-situ construction on the surface of the moon utilizing regolith, trans-media aircraft control, AI-enabled, autonomous, collaborative work on space constellation, and high-precision prediction of the Earth's upper atmospheric flow field evolution, are also mentioned on the list as problems to crack in space exploration. Wang Wei, director of the Research and Development Department under the China Aerospace Science and Technology Corporation, announced the list via a video at the four-day conference that kicked off on Monday.

"Driven by new energy, new material and digital intelligence, a new round of tech revolution is stepping up the drive in the global space landscape," said Wang. The list will "play a positive, supporting role to China's research in basic science and the country's advances in engineering projects," Wang added.

<https://www.chinadaily.com.cn/a/202211/22/WS637c6426a31049175432b383.html>

THE ECONOMIC TIMES

Tue, 22 Nov 2022

India's Big Plans for Cleaner Jet Fuel Face a String of Hurdles

At the foothills of the Himalayas, in the city of Dehradun, India's government is working on a jet fuel it hopes can help clean up the smog hanging over its big cities. There -- on a sprawling 300 acre tea estate where leopards and deer can be spotted -- scientists are working with partners including Boeing Co. to get global approvals for their biofuel, which is made from waste

cooking oil and the seeds of plants like pongamia and jatropha that aren't consumed. The project run by the Indian Institute of Petroleum, a laboratory of the Council of Scientific & Industrial Research, is India's attempt at shaking up the \$155 billion global biofuels industry, which has long been dogged by criticism that crop-based alternatives like ethanol can trigger indirect emissions by expanding farmland and driving up food prices for the world's poorest people.

The institute has tied up with India's biggest airline, IndiGo, to deploy its homegrown fuel, however its researchers face a string of challenges. Not only is the new technology for the production of the fuel more expensive than traditional jet fuel, but there are difficulties collecting sufficient raw materials, hampering scientists' ability to produce it on a wide enough scale to be commercially viable. Building the infrastructure needed to transport and store the sustainable aviation fuel will take "significant" investments, said Salil Gupte, president of Boeing India.

"At this point, it's more about first proving that we can do the fuel locally and that's what we're engaged on with IIP," Gupte said. "The infrastructure to build out the availability of jet aviation fuel has taken decades and decades, so we're going to have to either modify or build over that system an equally convenient capability for sustainable aviation fuel."

Villagers rummage through jungles of Chhattisgarh and Karnataka to gather seeds of wild jatropha and pongamia trees, which are then crushed in small mills to extract oils that then travel hundreds of miles in trucks to reach the institute in Dehradun and get converted into sustainable aviation fuel. While they work on boosting scale, the Dehradun scientists are also seeking approval for the fuel from ASTM International, the Pennsylvania-based organization that develops and publishes standards for products and services globally. Boeing says it's presently helping review and support the certification process for the aviation fuel samples from Dehradun. Airbus SE, meanwhile, is studying the demand and challenges of sustainable aviation fuel in India with Paris-based airport operator Groupe ADP among others to prepare a business case for the fuel's local production.

One advantage the fuel would have over other alternatives being used in the US is that it doesn't have to be blended with regular jet fuel and can potentially be used as is, according to Anil Sinha, senior principal scientist at the institute. "In the US, we're still giving an option to food crops, and for that reason, I think India and Europe are ahead of what the US is proposing," said Nikita Pavlenko, fuels team lead at the Washington-based International Council on Clean Transportation. At the same time, India's strategy is harder to implement and more expensive, Pavlenko said. Senior officials at the ministries of petroleum and civil aviation didn't respond to requests for comment. To commercialize the indigenous fuel, the center has given its technology to the government-owned Mangalore Refinery and Petrochemicals Ltd., and it plans to develop a plant with a capacity of 20,000 liters a day by 2024. But four years after SpiceJet Ltd. operated India's first biofuel flight, the adoption of sustainable aviation fuel hasn't taken off.

India also doesn't have the supply chains needed to gather feedstock in far off places. Anjan Ray, the institute's director, estimates India has the potential to gather 3.5 million tons of oilseeds, but the actual collection is less than 500,000 tons annually. Prime Minister Narendra Modi has committed to turning India -- the world's third largest emitter of green house gases -- net carbon zero by 2070, but his government faces difficulties on several fronts. By 2040, just 59.4% of new car sales in India will be electric vehicles, compared with 84.6% in China and 78.7% in the US, BloombergNEF estimates. India may also miss its target of increasing renewable energy capacity to 175 gigawatts by the end of 2022 with state power retailers grappling with financial distress.

For the indigenous biofuel, much hinges on a push by the government. IndiGo, which has committed to blending 10% sustainable aviation fuel by 2030, said in a statement that the government should give tax benefits and subsidies to encourage its use. India needs to build transportation, storage and airport infrastructure for blending of sustainable aviation fuel, it said.

Tapping used cooking oil or biomass waste is a more “sustainable route,” said Ramya Natarajan, group head for climate change mitigation at the Centre for Study of Science, Technology and Policy, a think tank in Bengaluru. “But the challenge there is the absence of a workable supply chain.”

<https://economictimes.indiatimes.com/industry/renewables/indias-big-plans-for-cleaner-jet-fuel-face-a-string-of-hurdles/articleshow/95675667.cms?from=mdr>

