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H.E. ROMAN N. BABUSHKIN

Deputy Chief of the Russian
Mission in India



INDIA RUSSIA RELATIONS



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WE ENTER 11TH YEAR IN SERVICE

The IADN is a leading Independent Defence and Strategic news and information-providing website. It is a 'Not-for-profit' 'self-sustaining' 'non-partisan' 'knowledge building' website providing exclusive, non-partisan in-depth news and analysis on leading defence strategic and security-related issues about India.

The IADN was founded in March 2012 by Mr Shantanu K. Bansal. It can be called a unique venture that has played an instrumental role in presenting defence and strategic issues to a wider audience. Before IADN, the issues related to defence and security were limited to the interest of some scholars and government, the IADN took the initiative to enlighten the public about the prevailing security situation of the country hence assisting the much-needed 'strategic culture.' Having been inspired by IADN many such news and analysis platforms mushroomed across the open domain.

With extreme efforts, the IADN was able to transform itself into an open information & knowledge sharing platform. Time and again through its unique way of reporting, it has touched upon minds worldwide, providing a way for better policy orientation in the sector it serves. Today IADN is backed by a strong, ever-growing community of more than 5 lakh followers hence having a prominent say on the leading issues of National Interest.

The IADN has a spotless record, it has the intact quality of reporting as it should be. The team of editors, content writers and graphic designers from various backgrounds, represents every region of India- North, South, West and East reflecting the true spirit of India. Our serving/veteran team members have got the opportunity to associate with leading companies, institutions and government organisations.

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WEAPON TRIALS

A Series of Newly Tested Platforms

TRAINING LAUNCH OF AGNI-1 BALLISTIC MISSILE



On June 1st, 2023, the Strategic Forces Command of Indian Armed Forces conducted a training launch of an Agni-1 nuclear ballistic missile successfully from Dr. APJ Abdul Kalam Island, Odisha. The training launch is conducted by randomly selecting a missile from the inventory, proving India's credible deterrence. All the objectives

were met during the launch and the missile hit its intended target with a very high degree of accuracy. The Agni-1 is a road-mobile ballistic missile in the inventory of SFC which can hit targets with nuclear warheads up to 1,200 kilometres away. It can carry a payload of up to 2,500kgs.

DRDO CONDUCTS SUCCESSFUL NIGHT LAUNCH OF AGNI-P



On June 7th, 2023 DRDO's successfully test-fired Agni-Prime ballistic missile from Dr. APJ Abdul Kalam Island, Odisha. This new generation ballistic missile is being developed as a successor to Agni I/II ballistic missiles.

This was the 1st pre-induction night launch of the ballistic missile by India and it paves way for quicker induction in the service. It is much lighter in weight and longer in range compared To Agni-1. Range Instrumentation like Radar, Telemetry and Electro Optical Tracking Systems were deployed at different locations, including two down-range ships, at the terminal point to capture flight data covering the entire trajectory of the vehicle. During the flight test, all objectives were successfully demonstrated. This is both road & rail mobile system making it difficult to locate and destroy in a pre-emptive attacks. This ballistic missile has a very high accuracy and can also be used to target aircraft carriers.



NEW ACQUISITION AND PROCUREMENT

Acquisition of New Weapons,
Parts and Collaborative
Developments



U.S. SEALS KEY 'JET ENGINE DEAL' AHEAD OF MODI'S VISIT

Sealing a key deliverable during Prime Minister Narendra Modi's state visit to Washington DC, the United States (US) administration has completed the executive approvals for the manufacture of F414 jet engines in India and begun the process of notifying the US Congress about the impending Memorandum of Understanding to be signed between General Electric (GE) and Hindustan Aeronautics Limited (HAL), people familiar with discussions on the subject said.



INDIAN NAVY TO INDUCT 20 REMOTELY MANNED FAST INTERCEPTOR CRAFTS

Innovation For Defence Excellence (iDEX) has signed its 50th SPRINT contract with Sagar Defence for Autonomous Weaponised Boat Swarms for the Indian Navy. Autonomous Weaponised Boat is one of the technologies introduced out of the 75 challenges by the Indian Navy under the Azadi Ka Amrit Mahotsav in 2022. Sagar Defence has developed the country's first Autonomous Weaponised unmanned boat with the capability for swarming. The contract was signed under an Indian Navy project of the Defence India Start-up Challenge (DISC 7) SPRINT initiative.

EXPECTING EXPORT ORDERS FROM ARGENTINA, EGYPT AND PHILIPPINES: HAL



After inauguration of its pavilion at the Paris Air Show, Hindustan Aeronautics Limited (HAL) Chief Ananthakrishnan CB said the company has leads from many countries like Argentina, the Philippines and Egypt and it is seeing how best to convert them into business prospects. In an exclusive interview with ANI, Ananthakrishnan CB said, "We are in discussions with Argentina, Egypt and the Philippines. We hope that some breakthrough order will come through."

DRDO LAB TO GET KNOWHOW OF CRITICAL TECH AS PART OF GE ENGINE DEAL, WILL HELP INDIGENOUS PROGRAMS: OFFICIALS

Gas Turbine Research Establishment-- a DRDO lab involved in the development of indigenous engines-- would be part of the proposed deal with American GE for manufacturing jet engines in India, which would help them gain expertise in the field, government officials said. The officials said the American firm in an "unprecedented move" is sharing manufacturing technology for engines which is 80 per cent by cost.

MOD SIGNS A CONTRACT OF RS. 2725 CR WITH MAZAGON DOCK SHIPBUILDERS FOR MEDIUM REFIT WITH LIFE CERTIFICATION OF SUBMARINE INS SHANKUSH

Ministry of Defence has signed a contract on 30th June, 2023 for Medium Refit with Life Certification (MRLC) of Sub-Surface Killer (SSK) Class of Submarine "INS Shankush" with M/S Mazagon Dock Shipbuilders Limited (MDL), Mumbai at an overall cost of Rs. 2725 Cr. INS Shankush is a SSK Class of Submarine to be re-fitted at MDL, Mumbai. Delivery of Submarine post MRLC will be in 2026. After completion of MRLC, INS

Shankush will be combat ready and will join the active fleet of the Indian Navy with upgraded combat capability.

PARAS DEFENCE WINS RS 53 CRORE CONTRACT FROM DRDO



The leading defence engineering major Paras Defence and Space Technologies (NS: PRAF) has bagged a contract worth Rs 53 crore from DRDO. The small-cap company has won an order from the Instrument Research & Development Establishment (IRDE), Ministry of Defence, DRDO, for realization of Optronic Periscopes including installation and support. The domestic order is for the supply of Optronic Periscopes.

INDIAN ARMY UPGRADES KONKURS-M ATGM WITH TONBO IMAGING'S LONGWAVE INFRARED THERMAL IMAGER



The Indian Army recently updated its 9K111M Konkurs-M anti-tank guided missile (ATGM) with Tonbo Imaging's Sarisa cooled, longwave Infrared (LWIR) thermal imager reported MilitaryLeak. Sarisa comes with mounting brackets for installation in front of the optical channel of the Konkurs-M ATGM launcher. Sarisa is a thermal imaging camera that detects, recognizes, and identifies dangers at vast distances during the day, night, and in poor weather conditions. Before launching the missile, it can lock onto a stationary or moving target. It is deployed as a clip-on with built-in collimated optics, allowing the user to engage with the targets using the same sight channel of direct-view optics as the Konkurs launcher. The thermal imager is designed in accordance with MIL-STD-810G and MIL-STD-461F standards.

MAHINDRA DEFENCE BEGINS DELIVERIES OF 'ARMADO' ALSV'S FOR INDIAN ARMED FORCES



Mahindra Group chairman Anand Mahindra announced on Saturday that Mahindra Defence Systems (MDS), a wholly-owned subsidiary of his company, has started deliveries of 'Armado,' an Armoured Light Specialist Vehicle (ALSV) built for the Indian armed forces. "At #MahindraDefence, we have just begun deliveries of the Armado – India's 1st Armoured Light Specialist Vehicle. Designed, developed & built with pride in India for our armed forces. Jai Hind," the industrialist said in a tweet.

GE AEROSPACE-HAL DEAL TO ENTAIL 80% TRANSFER OF TECHNOLOGY TO INDIA: OFFICIAL

American defence major GE Aerospace will transfer 80 per cent of the technology to India for production of F414 fighter jet engines under its deal with Hindustan Aeronautics Limited, a senior official said. The

General Electric (GE) Aerospace inked a Memorandum of Understanding (MoU) with the Hindustan Aeronautics Limited (HAL) on Thursday to jointly produce fighter jet engines for the Indian Air Force (IAF).

145 MADE-IN-INDIA LIGHT COMBAT HELICOPTERS 'PRACHAND' TO ENTER MASS PRODUCTION SOON



Government sources have confirmed that the highly anticipated mass production of the 145 Light Combat Helicopter (LCH) "Prachand" will commence soon. On June 15, Air Marshal Ashutosh Dixit, Deputy Chief of the Air Staff, visited Hindustan Aeronautics Limited (HAL) and personally flew the series production trainer-01 of the TEJAS. During the meeting, he received a comprehensive briefing on the production status of the indigenous combat helicopter.

INDIAN ARMED FORCES TO INDUCT KILLER DRONES INTO MILITARY

In a ground breaking development, India's Defence Ministry approved the acquisition of MQ-9 Reaper drones from the United States. The formal announcement will be made during Prime Minister Modi's official visits to the USA next week. In a whopping \$3 billion deal, India will acquire 30 MQ-9 Reapers.

MEIL GROUP COMPANY BAGS RS 500 CR ORDER FROM DEFENCE MINISTRY



The radio relay containers will address a long overdue requirement of mobile communication detachments of the Indian Army. IComm, a group company of Megha Engineering & Infrastructures Ltd (MEIL), has bagged a Rs 500 crore order from the Ministry of Defence. "The Ministry of Defence (MoD) on Thursday inked a contract with ICOMM Tele Limited for the procurement of 1,035 of 5/7.5-ton radio relay communication equipment containers. The delivery of the containers is scheduled to commence from the current Financial Year 2023-24," infrastructure company MEIL said in a statement.

INDIAN ARMY SIGNS PROCUREMENT CONTRACT OF 'TACTICAL LAN RADIO' THROUGH IDEX



The Indian Army on Friday signed the second procurement contract of 'Tactical LAN Radio' through Innovations Defence Excellence (iDEX) continuing with the commitment towards the 'Make in India' initiative. "The contract with Astrome Tech Pvt Ltd, Bangalore for procurement of indigenously developed 'Tactical LAN Radio' was signed in the presence of Lt Gen MV Suchindra Kumar, the Vice Chief of Army Staff at New Delhi. With this initiative, the Indian Army has taken the lead by signing two contracts under iDEX to date," the Ministry of Defence said. A tactical LAN solution is being developed indigenously for creating secure tactical LAN in remote and difficult terrain.

PRE-INDUCTION NIGHT LAUNCH OF 'AGNI-PRIME' BALLISTIC MISSILE SUCCESSFULLY FLIGHT-TESTED BY DRDO



New Generation Ballistic Missile 'Agni-Prime' was successfully flight-tested by Defence Research and Development Organisation (DRDO) from Dr APJ Abdul Kalam Island off the coast of Odisha on June 07, 2023. During the flight test, all objectives were successfully demonstrated. This was the first pre-induction night launch conducted by the users after three successful developmental trials of the missile, validating the accuracy and reliability of the system. Range Instrumentation like Radar, Telemetry and Electro Optical Tracking Systems were deployed at different locations, including two down-range ships, at the terminal point to capture flight data covering the entire trajectory of the vehicle.

THYSSENKRUPP, INDIA'S MAZAGON DOCK SHIPBUILDERS SIGN SUBMARINE MOU



Germany's Thyssenkrupp and India's Mazagon Dock Shipbuilders have signed an agreement to participate in a submarine tender by the Indian Navy that sources said has a value of around \$5.2 billion. As part of the planned cooperation, Thyssenkrupp would take care of engineering and design, while Mazagon would be in charge of construction and the delivery of six submarines the Indian Navy has tendered, Thyssenkrupp said in a statement.

BEL BAGS RS 5,900 CR ORDERS FROM AKASH WEAPON SYSTEM, OTHERS



Bharat Electronics (BEL) has received orders worth Rs 5,900 crore, of which Rs 3,914 crore of orders are from the Akash Prime Weapon System. The public sector defence unit said it has received orders for two regiments of the improved Akash Weapon System with upgrades from BDL for a value of Rs 3,914 crore. Akash is an all-weather, point/area air-defence weapon system for defending vulnerable points/areas against threats emanating from low, medium and high altitudes. The system uses high mobility vehicles for mobile applications.

INDIAN ARMY ISSUES RFI FOR MULTIPURPOSE MACHINE GUNS FOR ITS SPECIAL FORCES

The Indian Army issued a Request for Information (RFI) for the procurement of a General Purpose Machine Gun (GPMG) to be utilised by its Special Forces. The GPMG is intended to serve as a multipurpose weapon, providing sustained fire and serving as an ideal "Squad

Automatic Weapon" for the Special Forces. A squad automatic weapon is a weapon designed to be used on the frontline, providing crucial support at the infantry squad level.

US OFFERS STRYKER ARMoured VEHICLES, M777 HOWITZER UPGRADE TO INDIA

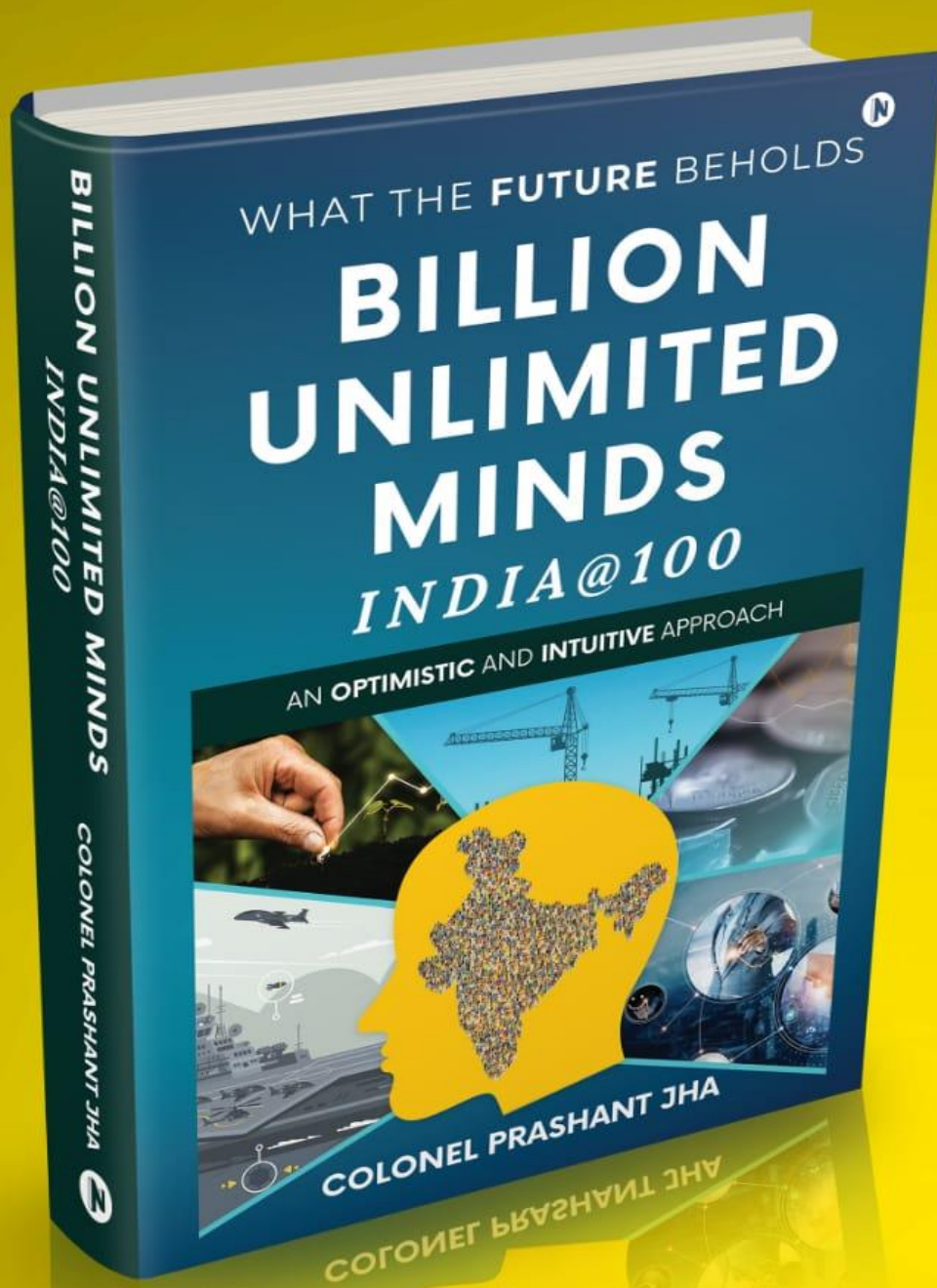


Amid Prime Minister Narendra Modi's state visit to the United States (US), the Pentagon has reportedly offered India the Stryker family of eight-wheeled armoured fighting vehicles and the upgradation of the M777 towed howitzers. It has also offered India the MQ-9 Reaper drones and 100% transfer of technology for the indigenous manufacturing of General Electric's (GE) F414 fighter jet engines. India is reportedly the world's largest arms importer, and it relies on Russia for nearly half of its military supply.

DEFENCE FORCES PLANNING TO EQUIP PREDATOR DRONES WITH INDIGENOUS WEAPON



In an exclusive conversation with India Today, Defence Ministry officials informed that the three-armed forces are planning to equip 31 Predator drones with indigenous weapons. Speaking to India Today, a senior defence ministry official said, "We are planning to equip the Predator drones with indigenous weapons as a push to increase self-reliance in the defence sector under the Make in India programme of the government."



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Meet The Author



Colonel Prashant Jha is a keen development enthusiast and a compulsive optimist. An alumnus of the Army War College and Defence Services Staff College, he commanded an Air Defence Regiment in the western sector.

Colonel Jha helps entrepreneurs, learners and individuals with opportunities in India. He writes extensively on India's development, sustainability and geopolitics. He is passionate about artificial intelligence, microeconomics, sustainability solutions and new age technologies to solve problems of mankind.

**Let's Work Together To
Build A Brighter Future,**



**The Opportunities for
India Are Endless,**



**And Our Growth Is Sure
To Be Phenomenal!**



What the Future Beholds



This book provides an in-depth look at the current state of India and the steps that can be taken to ensure its future success. It covers a wide range of subjects, from economics, sustainability to political reforms and social change.



The book talks about India's needs to harness its billion unlimited minds and take the next leap of faith. The book is an invaluable resource for anyone interested in India and its potential to becoming a natural leader in the world order.



It provides invaluable insights into the strategies necessary for India to become a world leader in the years to come. This book is an essential read for anyone interested in India's future over next two decades and beyond.



SPECIAL ADDRESS BY CHARGÉ D'AFFAIRES A.I. OF RUSSIA IN INDIA

ROMAN N. BABUSHKIN



H.E. ROMAN N.
BABUSHKIN

Dear readers,

I would like to extend my heartfelt congratulations on the occasion of the Indian Aerospace Defence News (IADN) 11th anniversary which is a significant milestone in its journey of contributing to the development of India's aerospace and defence potential.

Highly appreciate in this regard a significant space in the magazine dedicated to Russia-India's ever-evolving cooperation emanating from the enduring friendship and trust, which have over the years matured into a coherent special and privileged strategic partnership remarkably immune to negative external factors.

Our success story keeps delivering for the benefit of our nations. The bilateral turnover in 2022/23 leapfrogged to over USD 44 bn making us among the leading partners in trade, energy, nuclear power, metallurgy, petrochemicals, space, modern technologies and vibrant people-to-people ties. The cooperation in the military-technical sphere and defence remains unique and unparalleled. The production of T-90 tanks, Su-30MKI fighter jets, AK-203 assault rifles as well as other armaments and components in India became an integral part of “*Make in India*” and “*Atmanirbhar Bharat*” initiatives long ago. The flagship joint venture “*BrahMos*” is a role model.

Russia is committed to strengthening and expanding friendly and mutually beneficial ties with India bilaterally and multilaterally for the sake of the establishment of just and equal multipolarity as well as close coordination for this purpose in the G20, BRICS, the SCO and other fora. There is no doubt that Russia-India comprehensive engagements will thrive as a consistent defining factor in world affairs stimulating an inclusive dialogue on peace and security as well as sustainable development and other core issues. Let us wish the team of the IADN every further success in proceeding to new proud milestones and reflecting the irreversible course of India's global power posture. **Jai Rus! Jai Hind!**



INDIA'S DIESEL-ELECTRIC SUBMARINE FLEET UPGRADE

ANKIT KUMAR



An electrical engineer with a background covering military affairs. He also takes an interest in covering space, airlines, infrastructure nuclear energy and related issues. He has been the lead editor at IADN since 2014. He is presently pursuing MBA from FMS, Delhi.

As per the latest GDP estimates, India has the fifth-largest economy in the world. It is expected to surpass Germany and grab the fourth spot by the end of the decade, possibly even surpassing Japan by the start of the next decade. This prosperity for the citizens of India depends on the sea.

India has one of the largest and most capable naval fleets in the world. And this does a huge job of ensuring the protection to India's sea lines of communication for trade and commerce, protecting the natural resources in India's Exclusive Economic Zone and conducting disaster response whenever required.

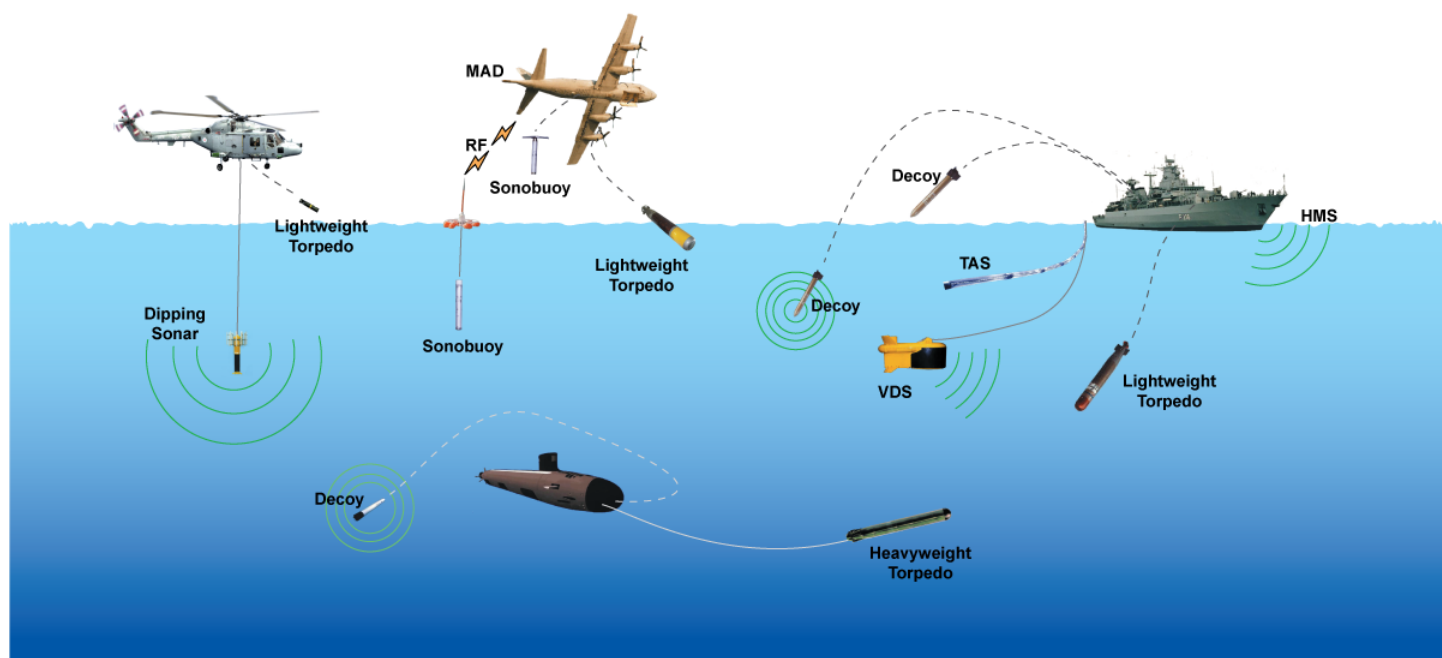
Naval warfare is a multi-faceted domain of warfare and one among them is underwater warfare led by Submarines. A domain which India is trying to quickly fill up the crucial gaps in capability.

A potent and modern submarine fleet is enough to choke the sea-based trade of any nation if utilised effectively. Since the days of German Wolfpacks in northern Pacific during World War 2 to today's renewed interest by multiple nations to acquire the capability to ward off a bigger and more powerful adversary.

To counter the threat of submarines, Anti-Submarine Warfare concepts were developed but these specialised techniques take up a lot of capital resources as well as time and have their own lacune to count for thus, ensuring the relevance of submarines even today.

Diesel Electric Submarines with some form of Air Independent Propulsion and the capability to fire missiles while being submerged is the most sought-after capability by the navies around the world today.

Naval warfare is a multi-faceted domain of warfare



WHERE DOES INDIA STAND?

With a fleet of legacy-era Kilo 877 EKM submarines, Type 209 Mod 1500 submarines and the more modern Kalvari Class submarine, India has blue water reach but misses several critical capabilities. Some of which is enjoyed by our adversaries like Pakistan and China.

India has blue water reach but misses several critical capabilities

The Indian Navy currently has: -

- 07 Sindhughosh Class (Kilo 877 EKM) submarines
- 04 Shishumar Class (Type 209 Mod 1500) submarines
- 05 Kalvari (Scorpene) Class submarines

More than half of the fleet is now near the 30-year service mark and the newer Kalvari class submarines still do not have an Air Independent Propulsion System along with the absence of a contemporary heavy weight wire guided torpedo. These gaps put several doubts on the capability of the Navy to conduct all its tasks successfully.

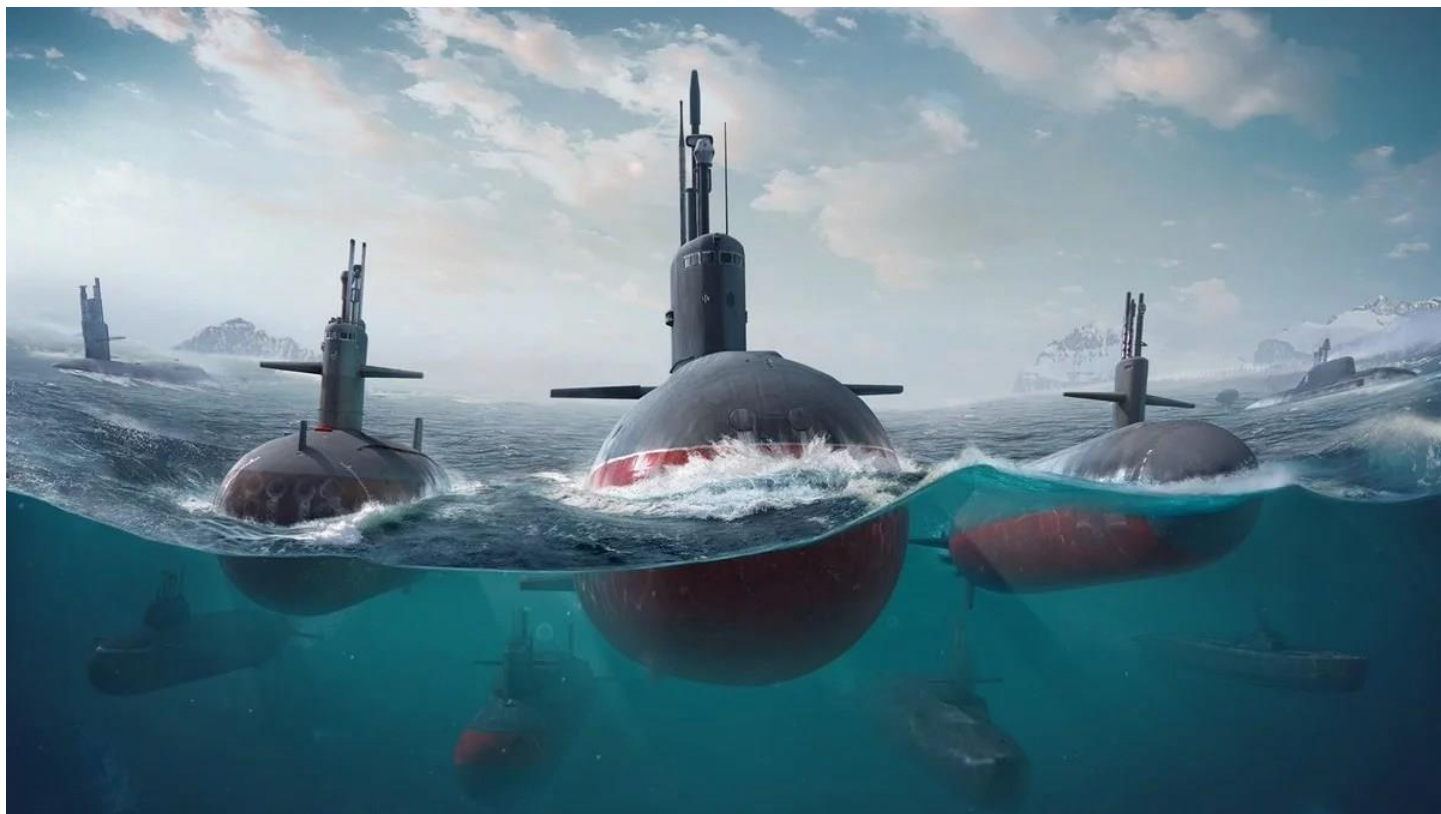


CRITICAL CHALLENGES AHEAD

India has put considerable effort to modernize its naval fleet, especially after a third-pronged threat from China in the Indian Ocean Region (IOR), keeping the regional vision in perspective such as the SAGAR initiative to ensure sustainable shared and mutually benefiting relationships in the

IOR. However, among a myriad of interwoven issues, we can clearly take out 4 problems which are causing delays in the necessary modernisation of the Indian Navy submarine fleet. These issues consist: -

- 1. DELAYS:** There have been numerous delays in the design and building of Indian submarines. The Project 75 Kalvari program has been delayed with the 6th and final submarine still not commissioned into the navy. Further, there are delays on the part of the decision-making level at the Ministry of Defence, Indian Navy and Prime Minister's Office as is shown by the failure of India to conclude the deal for 6 Project 75I submarines in more than 10 years now.
- 2. COST OVERRUNS:** A significant issue has been the price of Indian submarines. For instance, Indian Navy will pay 340 million USD for the refit and life extension of a Type 209 submarine. Newer diesel-electric submarines under Project 75I are touted to cost over 1 billion USD per piece. Small order numbers, stringent customisations and lack of alternatives often drive up the costs to sky limits.
- 3. TECHNOLOGY:** India has encountered a variety of technological difficulties while developing its submarines. India has a dedicated research and development capability but lack of funding, and necessary testing infrastructure among other things still hamper the development of various technologies and sub-systems for the submarines. Proven domestic technology will solve a lot of issues including cost overruns and delays.
- 4. FOREIGN DEPENDENCE:** India has been heavily dependent on foreign suppliers for the components of its submarines. This has made India vulnerable to supply disruptions and has increased the cost of the submarines. Foreign vendors further often back up from their promises resulting in lower serviceability of Indian Submarines.



PUTTING PLANS INTO ACTION

Considering the problems in the segment India has had well laid out plans and blueprints since long but its only now that we are able to see some of them put into action on the ground.

1. UPGRADE OF LEGACY PLATFORMS: Type 209s and Kilos of Indian Navy are being upgraded in phased manner to keep up their contemporary combat capabilities. Harpoon Cruise Missiles for Type 209s and Klub Cruise Missiles for the Kilos are an important capability which makes the platforms of Indian Navy one of the most potent offensive platforms in the world. The capability to launch long-range cruise missiles from submarines is present only with a handful of nations in the world. Sonars, self defence suites, optronics, etc are the other equipment upgraded to keep the platforms combat capable.

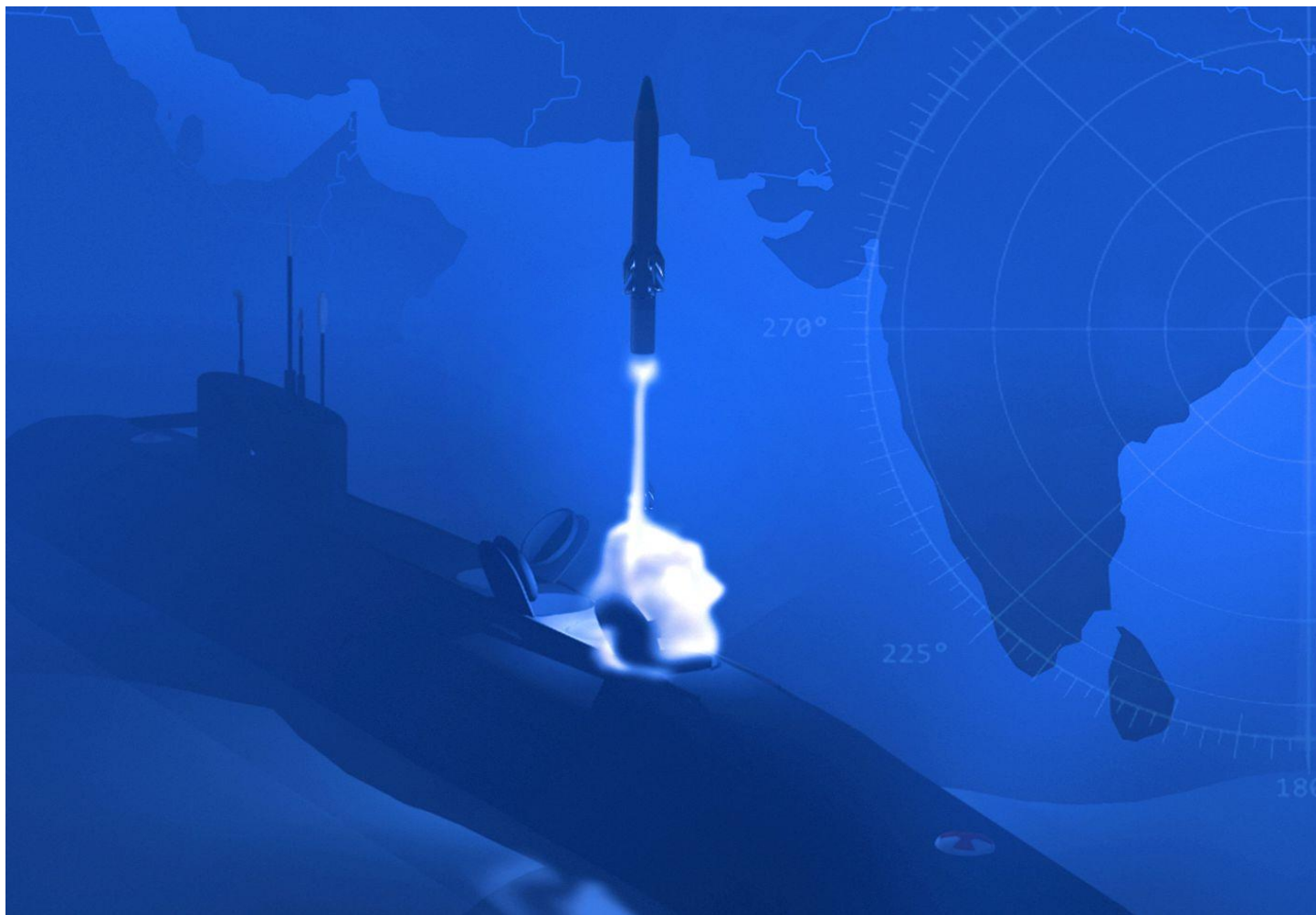
2. ACQUIRING MORE SUBMARINES: The Indian Navy is working to acquire more diesel-electric submarines in the coming years. These include: -

- 03x Kalvari-class follow on submarines. India has signed an MoU with France for building 03 more Kalvari Class submarines in India by MDSL.
- 06x P75 India submarines. MDSL-TKMS(Germany) and L&T-Navantia(Spain) are the two bidders currently vying for the multi-billion dollar deal by Indian Navy. RFP for the same is expected soon.
- 06x P76 Indigenous Diesel Electric Submarine.

These can further replace the Type 209s and Kilo Class submarines of the Indian Navy in the next 15 years to make Indian Navy one of the largest diesel-electric submarine operators.

3. DEVELOPING INDIGENOUS SUBMARINE TECHNOLOGY: India is also working to develop its own submarine technology. This includes the development of a new nuclear reactor for submarines and the development of new weapons systems for submarines. India is also developing the necessary subsystems for these platforms so that the dependence on foreign OEMs (Original Equipment Manufacturers) can be reduced further. This will allow India the necessary flexibility even on platforms based on foreign designs like Kalvari Class. However, all this will require close support from friendly countries, which only a few countries can offer.

*All this will require **close support** from **friendly countries**, which only a few countries can offer*



CONCLUSION

Pakistan, an adversary is already invested in a program to procure 08 diesel-electric submarines from China to boost its numbers from the current 5 platforms to 11. Bangladesh, Myanmar, and Indonesia are other important players around India's periphery who are seriously investing in submarine capability. China with its new infrastructure push around India has multiple dual-use capable ports ready which can serve its submarines prowling the Indian Ocean Region.

If India wants to hold the capability of a net security provider for the IOR, submarines are an absolute necessity. The comparison with Aircraft Carriers shouldn't be allowed to hold back any progress in the submarine modernisation programs as each one of them have its own specific roles which the other cannot fulfil. **[End]**

TECHNOLOGY FOCUS

Technologies Which Are
Changing the Battlefield In
India and Beyond



DRDO DEVELOPING AIR DEFENCE FIRE CONTROL RADAR FOR DIRECTED ENERGY WEAPONS (DEW)

A TOI report states that DRDO is developing a new variant of its Air Defence Fire Control Radar for an unknown Directed Energy Weapon being developed by DRDO. ADFCR will mount on a 6x6 High Mobility Vehicle. All the subsystems will be Integrated into the vehicle. Detection range of new ADFCR is desired to be 20km for $RCS \geq 0.1m^2$ & 8km for $RCS \geq 0.01m^2$. This ADFCR can work in ECM environments & can provide positional data of jammers, with the position data we can destroy

jammers in counter attack. This variant of ADFCR can track UAVs, Aircrafts, helicopters, sudden popping up targets etc.

LASER WEAPONS, NEUTRON BOMBS, RAILGUNS: NEXT-GEN WEAPONS INDIA NEEDS TO FEND OFF STRATEGIC THREATS



The end of World War II in 1945 led to a new era in weapons development. The beginning of the Cold War in the second half of the 20th century led to the advent of a new age in which aircraft speeds increased by leaps and bounds due to the application of turbojet and turbofan engines. Ballistic missiles have also led to the development of new payload-delivery vehicles over longer ranges. The deployment of tactical nuclear weapons, aided by medium-range terrain-hugging and

radar-evading cruise missiles, played a huge role in the domain of tactical/theatre-level battlefields. The widespread deployment of heavy armour, along with cutting-edge guided artillery systems, set a new benchmark in the history of modern warfare.

DRDO, INDIAN NAVY DEMONSTRATE COMMAND AND CONTROL OF TAPAS UAV FROM GROUND STATION TO WARSHIP AT SEA



In a remarkable achievement, the Defence Research and Development Organisation (DRDO) and the Indian Navy successfully showcased the transfer of command-and-control capabilities of the Tapas Unmanned Aerial Vehicle (UAV). The demonstration involved commanding the UAV from a distant ground station to the onboard INS Subhadra, a warship situated 148 kilometers away from the Karwar naval base.

DRDO DEVELOPS VARIETY OF MATERIALS FOR INFRARED FOCAL PLANE ARRAY TECHNOLOGY (IRFPA) TECHNOLOGIES

For strategic material development required for IRFPA technologies, bulk crystals of semiconducting materials, e.g Cadmium Zinc Telluride (CZT, Zn = ~ 4%), epitaxial layers of HgCdTe or Mercury Cadmium Telluride (MCT) and Germanium (Ge, Sb doped) are grown and fabricated into required sizes and quality in the laboratory according to DRDO's Technology Focus newsletter. Over the years several technological achievements, breakthroughs and product development has taken place in these areas. CZT substrates are used for in-house growth of MCT epitaxial layers for the IRFPA development, a major thrust area of the laboratory. Due to strategic importance, device quality MCT epilayers and IRFPA grade CZT substrates are not available to India. Major players in HgCdTe-based IRFPA technologies worldwide do mainly rely on in-house prepared material.

EX-ISRO OFFICIAL PROMOTED SISIR RADAR TEST FLEW DRONE FITTED WITH 'RABBIT SAR'



Space sector start-up, Sisir Radar Private Ltd has successfully tested its Synthetic Aperture Radar (SAR) fitted on a drone, said a senior company official. "The drone fitted with SAR was flown (on Friday) at a place called Sonarpur, about 50 km from Kolkata," Tapan Misra, Founding Director and Chief Scientist, SISIR Radar Private Ltd, told. Misra who was earlier a Director at the Space Applications Centre of Indian Space Research Organisation (ISRO) has named his product as 'Rabbit SAR' as its antennas are long like the ears of a rabbit.

SOLAR INDUSTRIES DEMONSTRATES SMALLEST ROCKET MOTOR TO CDS GEN ANIL CHAUHAN



The Chief of Defence Staff (CDS) General Anil Chauhan (Retired), PVSM, UYSM, AVSM, SM, VSM, visited city-based Economic Explosives Ltd. (EEL), a subsidiary of Solar Group of Industries, on Saturday. On the occasion, the CDS was shown test firing of the smallest

rocket motor, a state-of-the-art product, under development at the EEL. The rocket motor would equip the 'Counter Drone System' with hard kill and soft kill capabilities. The CDS was taken to the EEL's test range for the demonstration of firing of indigenously developed 30 mm ammunition, being supplied to the Indian Navy.

ISRO AND PHYSICAL RESEARCH LABORATORY (PRL) INAUGURATE PARAM VIKRAM-1000 SUPER COMPUTER



The Param Vikram-1000 is a High Performance Computing (HPC) Cluster setup in June 2023. The Param Vikram-1000 provides theoretical peak performance (R_{peak}) 1395.63 TeraFlop/s (TF) and Maximal LINPACK performance (R_{max}) 956.34 TF . This is a centrally established High Performance Computing facility to cater the high-end computational requirements of PRL scientific and technical fraternity. The Param

Vikram-1000 has 108 computing nodes dispense 7296 CPU cores, 2,76,480 GPU Cores, 74TB of RAM and 1 PB of high performance luster parallel filesystem. To perform image analysis and run related scientific tools like Mathematica, a separate Visualization Node with two 32 core Intel Icelake CPUs having clock speed of 2.60 GHz and two Nvidia A40 GPU Cards is also available. The system has been setup using open-source tools/libraries like Lustre, OpenHPC, Slurm, Ganglia, Intel oneAPI etc.

QNU LABS SIGNS MOU WITH INDIAN NAVY FOR QUANTUM ENCRYPTION SYSTEMS



QNu Labs has signed a contract with the Indian Navy for the procurement and deployment of Quantum Key Distribution (QKD) based systems. "This partnership showcases the potential of homegrown deep-tech startups like QNu Labs to be pivotal contributors to such national endeavours. As we stand on the cusp of a quantum revolution, QNu Labs is dedicated to driving innovation, partnering with key stakeholders, and ensuring the security and integrity of India's communication infrastructure. This deal serves as a beacon of India's significant strides in quantum

technology, setting a new benchmark for other sectors to follow in harnessing this cutting-edge technology," said Sunil Gupta, CEO, QNu Labs.

DRDO, L&T JOIN HANDS FOR AIP SYSTEM FOR NAVY'S 'KALVARI' CLASS SUBMARINES

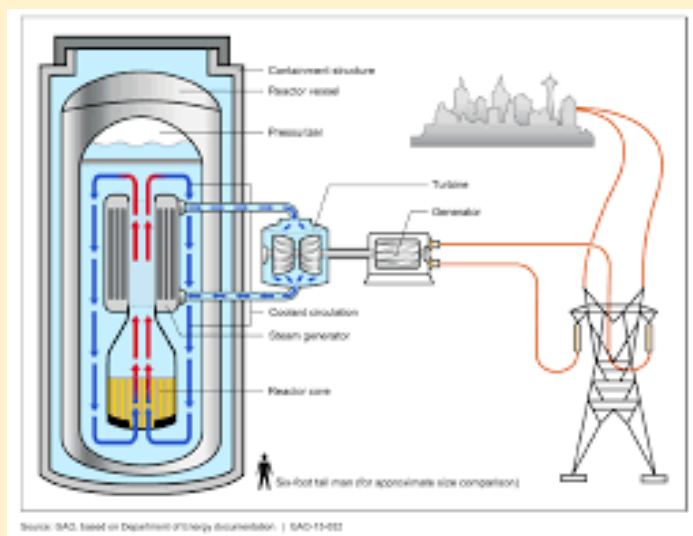
Larsen and Toubro and DRDO have signed a contract for the realisation of two Air Independent Propulsion (AIP) system modules for 'Kalvari' class submarines of the Indian Navy. The contract documents were exchanged between Arun T Ramchandani, Executive Vice President and Head-L&T Defence, and PT Rojatkhar, Director of Naval Materials Research Laboratory (NMRL), L&T informed stock exchanges.

MISSILE SYSTEMS, UAVS IN DRDO'S TECH PRIORITY AREAS



The Defence Research and Development Organisation (DRDO) on Tuesday released a list of 75 technology priority areas including missile systems, aero structures, armoured and combat vehicles, autonomous systems, electronic warfare, guidance and navigation, surveillance and tracking, guided artillery and multi-barrel rockets. “The list identified by the DRDO is further divided into 403 technological categories, which spread out to 1,295 current and future technology development tasks,” the defence ministry said in a statement. The list was announced at the DRDO’s ‘Anusandhaan Chintan Shivir’ held in the national capital to encourage defence R&D in industry and academia.

INDIA, US TO CO-DEVELOP SMALL MODULAR REACTORS



India and the US are working together for developing next-generation small modular reactor technologies for domestic and export markets. According to a joint statement issued by the US White House, amid Prime Minister Narendra Modi's US visit, President Joe Biden and Prime Minister Modi noted "the ongoing discussion on developing next-generation small modular reactor technologies in a collaborative mode for the domestic market as well as for export".

DRDO AND SAFRAN TO CO-DEVELOP A HIGH THRUST 110KN ENGINE FOR AMCA MK-2 AS FRANCE OFFERS FULL TOT: REPORT



France has offered full transfer of technology (ToT) for the co-development of a new 110KN high-thrust jet engine to power the AMCA Mk-2 fifth generation stealth jet. This comes after India signed an historic deal for the co-manufacture of General Electric GE F-414 jet engines in India with eighty percent ToT during the 'state' visit of the Prime Minister Narendra Modi to United States. The General Electric deal will involve the transfer of critical technologies that the US has, hitherto, not even shared with treaty allies like the UK, France and Australia.

AIRBORNE VERSION OF KALI MOUNTED ON IL-76 TRANSPORTER TESTED? REPORT



According to sources familiar with this matter, an airborne version of KALI mounted on IL-76 was tested many times. It may be able to take out ICBMs in the Endo/Exo-atmospheric regimes. KALI's design enables it to destroy aircraft and missiles through soft kill. In a hypothetical scenario where India is under attack, enemy missiles and fighter planes will likely be encroaching on eastern and western borders for an offensive. There would be tanks on the Rajasthan border moving in for the attack, and the chances are that there would also be naval ships surrounding the country's coastal areas.

SPACE

From The Field of Space And
Space Technologies



INDIA'S LATEST GPS NAVIGATION SATELLITE NVS-01 SUCCESSFULLY LAUNCHED

GSLV-F12 successfully launched India's most advanced NVS-01 navigation satellite into a precise orbit at 10:42 hours IST (29-May-2023) from the second launch pad at SDSC-SHAR, Sriharikota. The NVS-01 is an advanced navigation satellite, weighing about 2,232 kg, the satellite was placed in a Geosynchronous Transfer Orbit. Subsequent orbit raising manoeuvres will be used for taking the satellite to the intended orbit.

ISRO'S ADITYA-L1 MISSION GETS CRUCIAL TELESCOPE TO MONITOR SUN

Indian Space Research Organisation's (ISRO) Aditya-L1 mission has received an important instrument, called Solar Ultraviolet Imaging Telescope (SUIT). The telescope will be a crucial piece of equipment aboard the Aditya-L1 mission, which is expected to launch in August to carry out observations of the Sun. SUIT has been built by Inter-University Centre for Astronomy and Astrophysics (IUCAA) in Pune.

ISRO TO SET UP SATELLITE TERMINALS ON FISHING BOATS IN 13 COASTAL STATES



The move is being done to establish better communication with vessels in sea and monitor Indian waters more efficiently. To establish better communication with vessels in sea and monitor Indian waters more

efficiently, NewSpace India Ltd, the commercial arm of the Indian Space Research Organisation (ISRO), is setting up mobile satellite service (MSS) terminals on at least one lakh motorised and fishing boats across 13 coastal states, officials said.

NORWAY EXPLORES SPACE COLLABORATION WITH ISRO

Norwegian Ambassador, H.E. Mr. Hans Jacob Frydenlund, paid a visit to the Chairman, ISRO, Shri Somanath S, at the ISRO Headquarters on June 7, 2023. Accompanying the ambassador were officials from Kongsberg Satellite Service (KSAT), a Norway-based organization specializing in satellite communication and maritime surveillance services.

INDIAN SPACE START-UP ETHEREALX DEVELOPING THE WORLD'S MOST POWERFUL PARTIALLY REUSABLE VERTICAL LANDING MEDIUM-LIFT ROCKET



The company is founded to significantly reduce space transportation costs, enable quick scientific growth, and foster a spacefaring civilization, according to this blurb on its website. The Ethereal X Razor Crest Mk-1 will house 9 of the most powerful operational liquid rocket engines in all of Asia, Europe, Australia, Africa, South America, and Antarctica - Stallion. EtherealX's single Stallion engine will be capable of producing an enormous 925 kilonewtons of thrust, enabling the Razor Crest Mk-1 to carry 24.8 tonnes to LEO.

ISRO READIES PLAN FOR NEXT GENERATION LAUNCH VEHICLE

The architecture for Indian Space Research Organisation's (ISRO), ambitious Next Generation Launch Vehicle (NGLV) has been finalised, ISRO chairman S. Somnath has said. Speaking to presspersons at the SMOPS-2023 International Conference on Spacecraft Mission Operations here on Thursday, he said that the team working on the NGLV programme had already submitted a preliminary report focusing on what the rocket should look like.

AHMEDABAD-BASED AZISTA BST AEROSPACE PREPARES FOR MAIDEN SATELLITE LAUNCH ABOARD SPACE X FALCON-9

ABA First Runner (AFR), the satellite that will launch aboard the SpaceX rocket, weighs 80 kilograms and hosts an optical remote sensing payload. Azista BST Aerospace Pvt. Ltd. (ABA) is a joint venture between Azista Industries Pvt. Ltd. and Berlin Space Technologies GmbH. Ahmedabad-based Azista BST Aerospace is set to launch its first satellite, ABA First Runner (AFR), aboard a SpaceX Falcon 9 rocket this month. The launch comes at a time when the Indian space tech ecosystem is experiencing

rapid growth, thanks to the approval of the Indian Space Policy and increased interest from foreign venture capitalists.

TATA ELXSI TO BUILD CREW RECOVERY MODELS FOR ISRO'S GAGANYAAN MISSION

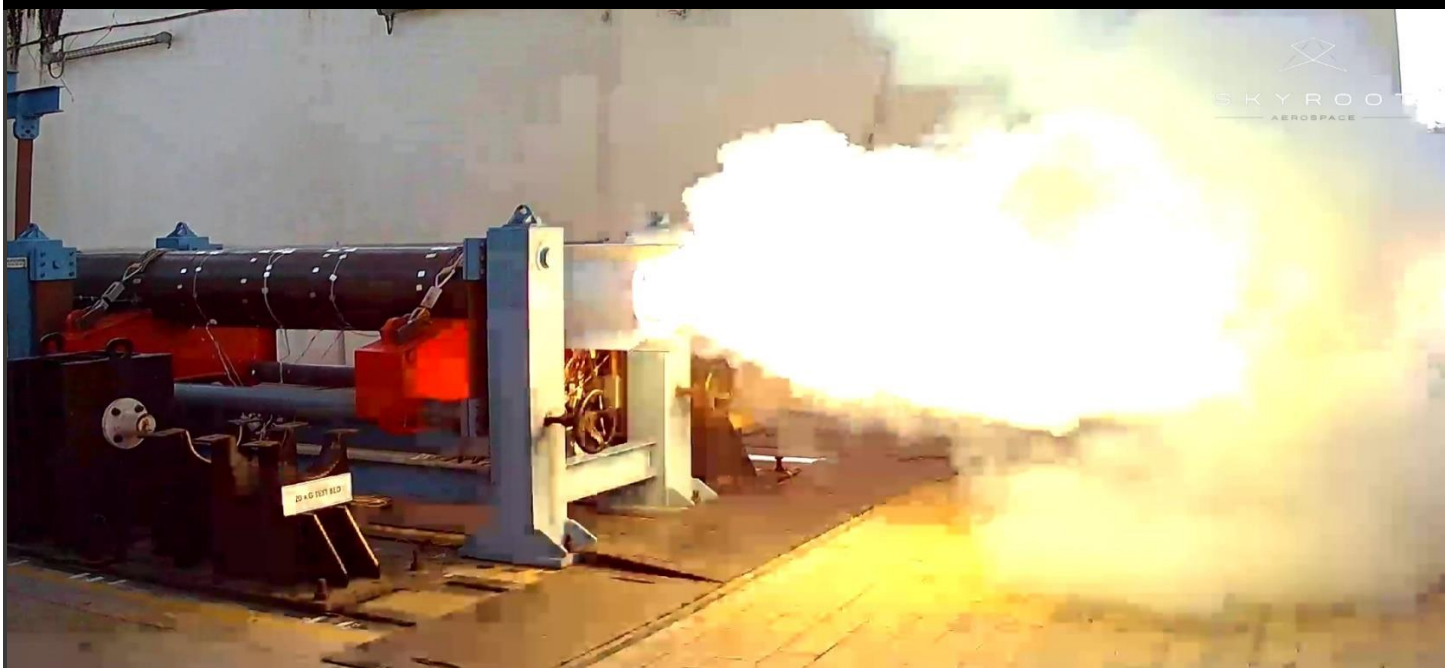


Design and technology company TATA Elxsi has partnered with Indian Space Research Organisation (ISRO) for the upcoming Gaganyaan Mission. Under the partnership, TATA Elxsi will be designing and developing the Crew Module Recovery Models (CMRM) for the mission. This also marks TATA Elxsi's foray into mechanical design for space. Two Recovery-Models (CMRM and GSF) have been delivered to Naval training teams at Kochi and Visakhapatnam to train the recovery teams. ISRO's Gaganyaan project aims to demonstrate human spaceflight capability by launching a three-member crew onto an orbit of 400 km for a three-day mission and bringing them back to Earth safely by landing in Indian sea waters. The CMRMs are mock-up models, which simulate details of mass, centre of gravity, outer dimensions, interfaces, and externals of the actual Crew Module.

ROBOTICS WILL HAVE KEY ROLE IN SPACE MISSIONS, SAYS ISRO CHAIRMAN

Robotics will have a major role to play in the futuristic interplanetary missions of the Indian Space Research Organisation (ISRO), S. Somanath, chairman of the space agency, has said. Mr. Somanath was inaugurating a Technical Hindi Seminar on 'Space robotics-a true game changer for future space programs' organised by the ISRO Inertial Systems Unit (IISU), Thiruvananthapuram. Space robots would be sent to space ahead of human mission to study the possibilities and challenges, he said. IISU director Sam Dayala Dev presided. Anil Bharadwaj, director, Physical Research Laboratory, Ahmedabad, gave the keynote address. Senior ISRO officials were present.

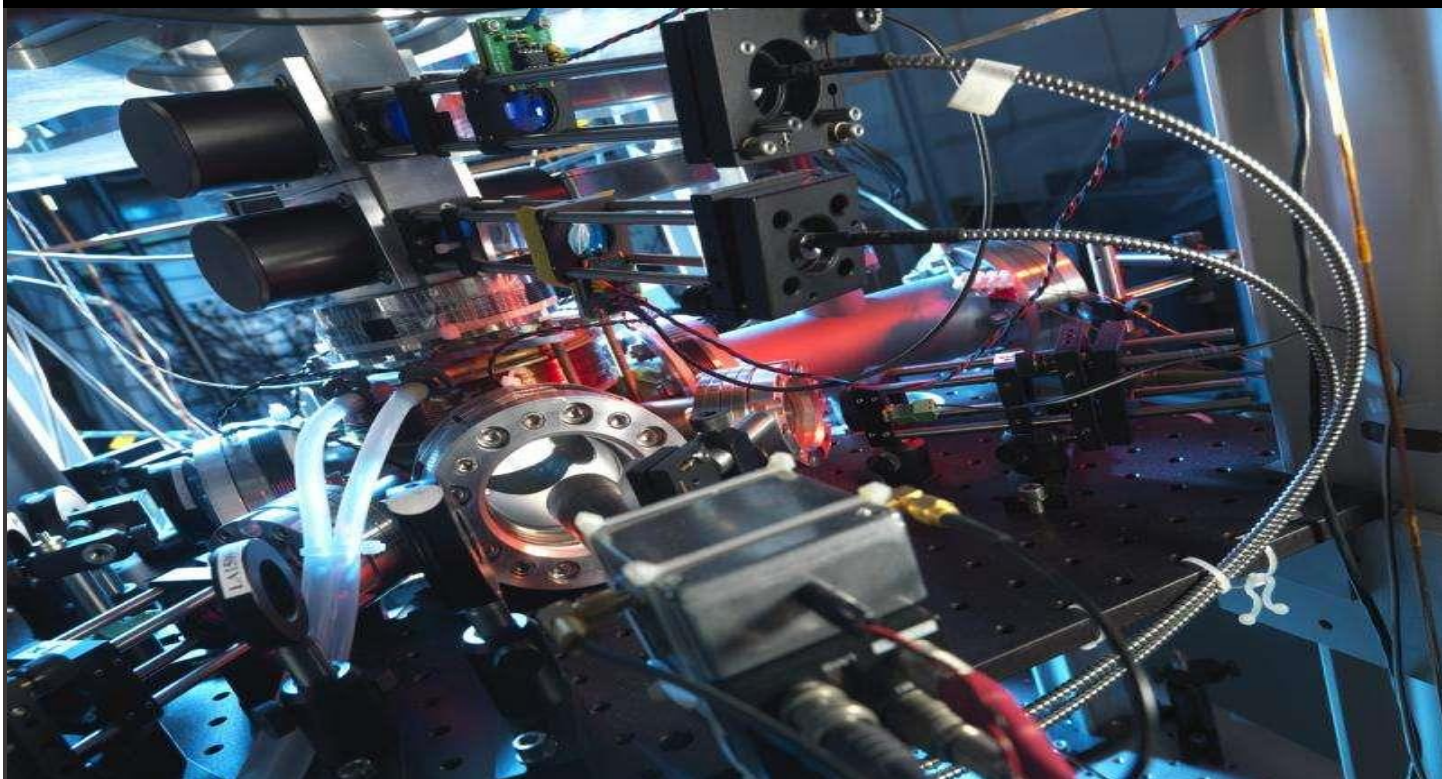
SKYROOT SUCCESSFULLY TESTS ENGINE THAT WILL HELP VIKRAM-I FLY STABLE



Skyroot Aerospace successfully conducted the flight qualification test of the Raman-I engine, which will be used for roll attitude control in the company's under-development Vikram-I rocket. The engine underwent a

test fire at the Liquid Propulsion Systems Centre of the Indian Space Research Organisation (ISRO), making Skyroot the first private company to utilise this facility. "We are thrilled to announce the successful flight qualification testing of our Raman-I engine, used for roll attitude control of the Vikram-I rocket. This test holds significance as it is the first-ever test conducted at the Liquid Propulsion Systems Centre (LPSC) of ISRO by a private company," the company stated in a tweet.

INDIA JOINS AN ELITE CLUB, ONE OF 5 COUNTRIES TO USE RUBIDIUM ATOMIC CLOCK IN THEIR GPS SATELLITE



India's ISRO joins an elite club of space agencies which use a very complex and technical device, a Rubidium atomic clock in their GPS satellites. Only 4 other national space agencies use this atomic clock - USA's NASA, EU's ESA, China's CNSA and Russia's ROSCOSMOS. India made a significant jump towards self-dependency after the successful launch and deployment of its NVS-1 NavIC satellite. While

technologically, every component on board the NVS-1 NavIC satellite is an engineering marvel in and of itself, one component that really stands out is the Rubidium Atomic Clock that has been placed on board the satellite. So rare and difficult is this clock to make, that only 5 countries so far have used it for their space missions.

INDIA'S NAVIC SATELLITES OFFER 3-METRE POSITIONING ACCURACY, SAYS ISRO CHAIRMAN



India's NavIC (Navigation for Indian Constellation) series of satellites offer a positioning accuracy of three metres, ISRO Chairman Dr S Somanath told WION. He added that the position accuracy would vary if the signals are weaker and not all satellites are available. However, he said that the navigation, positioning and timing services offered by Indian satellites are superior, considering the architecture being used. ISRO has the means to make the service global, as and when required.

INTERNATIONAL RELATIONS

Covering International and
Geopolitical Matters



ASIA AND PACIFIC REGION

PM MODI'S STATE VISIT TO THE USA PUTS FORWARD THE NEW LEGACY OF INDIAN-AMERICAN COOPERATION

The date of June 21st to 24th remained in high profile affairs due to Prime Minister Narendra Modi's state visit to the USA had led to new opportunities for collaborating in the field of defence, science, trade etc. During his visit, PM Modi was invited to a state luncheon at the U.S. Department of Defense, where he was hosted by US Secretary and US

Vice-President. The meeting held between PM Narendra Modi and US President Joe Biden comprises for starting a new legacy of bilateral cooperation between new countries. PM Modi also held meetings with notable personalities including Elon Musk, Sundar Pichai, Neil deGrasse Tyson etc. The overall visit was analysed as an important strategic step by India to secure and boost its geopolitical and national security interests.

CHINA'S STEP FURTHER IN BRI AFTER ITS 'SATELLITE AID' TO EGYPT

Egypt has become the first African country to achieve the capability to assemble, integrate and test satellites after China's funding by delivering the prototype MisrSat II satellites to this African country. Though the cooperation was done for boosting Egypt's space capabilities, China's funding was sharply aimed at heightening the Belt and Road Initiative (BRI), a step to nourish China's political interest in the region. As per the current status, China is working its fingers to the bone to promote the BRI amid objections by India and USA.

EIGHT CHINESE WARPLANES HEADED AT TAIWAN'S CONTROLLED WATERS

According to Taiwan's defence ministry, eight Chinese warplanes have crossed the median line of the Taiwan strait, and heading towards Taiwan's controlled waters marking an invoking step against Taiwan. The information came just a month after China's incursion attempt to jeopardize Taiwan's Air Defence Identification Zone (ADIZ). As per the

allegations by Taiwanese officials, China is ramping up its incursion attempts to imperil the national security of Taiwan.

IRAQ TO BECOME AN IMPORTANT ECONOMIC ZONE AS SAUDI ARABIA AND UAE CALLS FOR THE INCLUSIVE INVESTMENT

Saudi Arabia and the United Arab Emirates have earmarked funding of \$6 billion to boost their economic and trade interests in Iraq says the reports. The agreement of such heavy funding was signed between Saudi Arabia, UAE and the Federation of Iraqi Chambers of Commerce (FICC) for forming new business councils. As per the statement of FICC's President Abdel Razzak Al-Zouhairi, Iraq has been trying to maintain the integrated system for commercial trade for ensuring the development of global trade and conserving the route for entry and exit of commercial goods. The trilateral agreement is not only meant for trade activities but for empowering the investment sectors along with trade exchange.

RECENT RUSSIAN STRIKES AT SYRIA ATTRACT UN'S CONCERN

The United Nations has shown its deep concern over Russian strikes that hit the Idlib province of Syria, claiming many casualties. However, the statement by the Syrian Government cleared that the Russian forces have done a collaborated operation along with the Syrian Army to target terrorist headquarters in Idlib. The Russian strike was reported as the retaliation by government side after terrorists targeted the state-controlled region of Hama and Latakia in Syria.

AUSTRALIA MILITARY ASSISTANCE TO UKRAINE WAS DONE WITHOUT EXPORT PERMITS, SAYS REPORTS

The military assistance sent by Australia to help Ukraine has attracted various allegations of auditing errors and exporting without a permit, says an audit report. The first information of the audit fault was reported after Australia's military assistance to Ukraine which cost around \$38.4 million, was done without any formal agreement between the two countries. The audit report also questions the assistance of \$4.2 million from NATO's trust fund in 2022.

WAR GAME CONTINUES AS NORTH KOREA TEST-FIRED ANOTHER SET OF BALLISTIC MISSILES

While pointing to South Korea and US's joint military exercise in the region, North Korea has fired its two short-range ballistic missiles, quoting the step with a warning and retaliating phrase. For months, North Korea has been continuously test-firing its missiles to mark a threat to growing defence cooperation between South Korea and the USA. The recent North Korean missile fires have been reported for flying 850 and 900 km before landing in Japan's exclusive economic zone.

AMERICA (NORTH AND SOUTH)



USA DEPLOYS FIGHTER JETS IN MIDDLE EAST IN RESPONSE TO RUSSIA'S GROWING INFLUENCE

After Russia's increasing military dominance in the Europe and Asia Pacific region, the USA has deployed its F-22 fighter jets in the Middle East to counter Russian threats. Prior to the deployment of F-22 fighter jets, US commanding has been continuously alleging Russia of 'unprofessional and unsafe behaviour'. The Russian aircraft have been reported for doing head-to-head engagement with the USA surveillance aircraft in the middle eastern region, especially around Syria.

CANADA'S MILITARY HELICOPTER SUFFERED TRAGIC CRASH NEAR PETAWAWA MILITARY BASE CAMP

The Royal Canadian Airforce CH147 Chinook helicopter crashed near the Petawawa military base camp of the Canadian Military, reporting the

death of two military officials on board while the other two were rescued and rushed to the hospital in critical condition. The possible reason for this tragic incident has been answered with technical faults hitherto, while major investigations are going on.

CUBA AND RUSSIA TO BOOST TECHNICAL TIES

Despite being standing in the middle of heavy sanctions by the West, Cuba and Russia are calling for further technical ties, particularly in enhancing Cuba's military technology. Cuba has been under an embargo imposed by the USA for decades, leading the country to a worst-economic disaster, however, Russia's recent oil shipment to Cuba has been seen as a boon to revive the country from a fuel crisis. Russia is now furthering its step to boost Cuba's military technology while keeping its eye on the USA.

BRAZIL'S POLITICAL ENVIRONMENT IS STILL IN UNREST

Brazil's politics is shifting ways every day as the country is witnessing heavy protests and political demonstrations. Foreign elements are also reported to influence Brazil's national political environment along with domestic factors. As per the reports, former Brazilian President Jair Bolsonaro has been preparing for a coup against the current Brazilian President Lula da Silva. In January 2023, President Lula da Silva fired the Army Chief from his position for his involvement in allowing political protests by far-right groups in Brazil.

LATIN AMERICA TO BECOME THE IMPORTANT STRATEGIC PARTNER FOR IRAN

Iran's President Ebrahim Raisi has been giving his best shots to Latin America for strategic partnerships and new collaborations. Iranian President Raisi who was on a state visit to Venezuela, Nicaragua and Cuba, was aiming to secure new military and trade cooperation in the Latin American region while keeping USA's threats and sanctions at bay. Venezuela has remained a close ally of Iran for decades with various defence and trade cooperation agreements signed by two countries over the years. Raisi visit and meeting with Venezuelan President Maduro has raised concerned with USA's political interests in the region.

EUROPE



FRANCE ENTANGLED IN VIOLENT PROTESTS

France has been witnessing violent protests and demonstrations since days after French Police shot down a 17-year-old teenager of North African descent. Hundreds of people gathered in a mosque in Paris fuelled the

riots, causing heavy loss of French assets and government properties. Thousands of police forces have been deployed in Paris alone to curb the violent protests. The protestors have reportedly been damaging schools, buses and cars to show their aggression against the French government.

GERMANY TO BUY AIR DEFENCE SYSTEM FROM ISRAEL

The German government has decided to buy Arrow 3 Air Defence systems from Israel for nearly \$4.3 billion says the report. The Arrow 3 Air Defence System has specifically been made to shoot down missiles over Earth's atmosphere and has an additional feature for providing a protective cover for neighbouring countries. Germany has been restlessly filling its defence stocks after it supplied heavy military assistance to Ukraine, making an equipment gap in its own's military stockpile. The recent procurement of Air Defence Systems from Israel has been made while concerning Russia's growing military presence in European region.

TURKEY TO RESUME DIPLOMATIC TIES WITH EGYPT AFTER A DECADE

Turkey and Egypt have resumed their diplomatic ties by ending their decade-long diplomatic tensions. The two countries have even appointed their ambassadors to carry forward the formal consulate duties. The countries were reported for broking after Egypt expelled the Turkish ambassador for backing organizations that can jeopardize Egypt's national security. The step for normalization between Egypt and Turkey was already been taken in Doha in 2022.

UNITED KINGDOM CALLS FOR PERMANENT SEATS FOR INDIA, GERMANY, BRAZIL AND JAPAN IN UNSC

United Kingdom's permanent ambassador to United Nations (UN) Ambassador Barbara Woodward has called for the expansion of the United Nations Security Council (UNSC) permanent seats for India, Germany, Brazil and Japan. The UNSC has been comprised of five permanent members including the United States, the United Kingdom, the Russian Federation, China and France with VETO powers. India has been trying to get permanent membership of the UNSC for decades but China has been overturning it by using its VETO.

EXILED IRANIAN POLITICAL GROUPS IN EUROPE ANXIED AS EUROPE GEARS UP TALKS WITH IRAN

The exiled Iranian groups like People's Mujahedin (MEK) and the National Council of Resistance of Iran (NCRI) have been in a quandary as the European countries have been gearing up their efforts to talk with Iran. The exiled political groups have also alleged that several European countries including France and Albania have restricted the protests and rallies against the Iranian government and raided their places in an attempt to appease Iran.

AFRICA



LIBYA ARRESTS 50 CHINESE NATIONALS FOR CRYPTO-MINING

The Libyan Government has confirmed the arrests of fifty Chinese nationals in an operation alleging them for crypto mining in the country's western region. Libyan authorities have said that the operation took place after a video shared on the Facebook page of the Tripoli prosecutor's office, which showed several structures without any windows but large quantities of computers and hardware suspected of generating the virtual currencies. Noting the point of hypocrisy, China remained the global leader in manufacturing cryptocurrency prior to the banning of cryptocurrency in China in 2021, however, Chinese nationals remain engaged in crypto-mining activities in different countries in secretive orders.

TRIBAL CHIEFS, HUMAN RIGHTS ACTIVISTS AND OFFICIALS CAME TOGETHER TO SEEK END OF VIOLENCE IN NIGER

The tribal chiefs of different tribes, human rights activists and several government officials in the Niger government have come together to seek the end of prolonged violence happening in the country due to ethnic tensions. Although, the religious leaders and tribal chiefs have recorded peacefully resolving ethnic conflicts in the past decades. Africa had always remained in the red zone of ethnic tensions and prolonged riots between different communities for religious and resource factors. However, the efforts of religious leaders in Niger are commendable for restoring peace and ending the violence. Now, the local approach is getting supported by government authorities and various human rights groups for ending the conflicts and avoiding such conflicts in the near future.

SOUTH AFRICA CALLS FOR SETTLEMENT OF RUSSIA-UKRAINE WAR

South African President Cyril Ramaphosa asked for the settlement of the Russia-Ukraine war while holding a conversation with Vladimir Putin in the suburbs of Saint Petersburg in June 2023. The South African President quoted that *“the war must be settled through negotiation and through diplomatic means”*, however, the Russian spokesperson has responded that *“Any initiative is difficult to implement”*. Though, Putin has also hinted that Russia is open to a constructive dialogue with those who want to implement peace. South Africa remained neutral withstand ever since

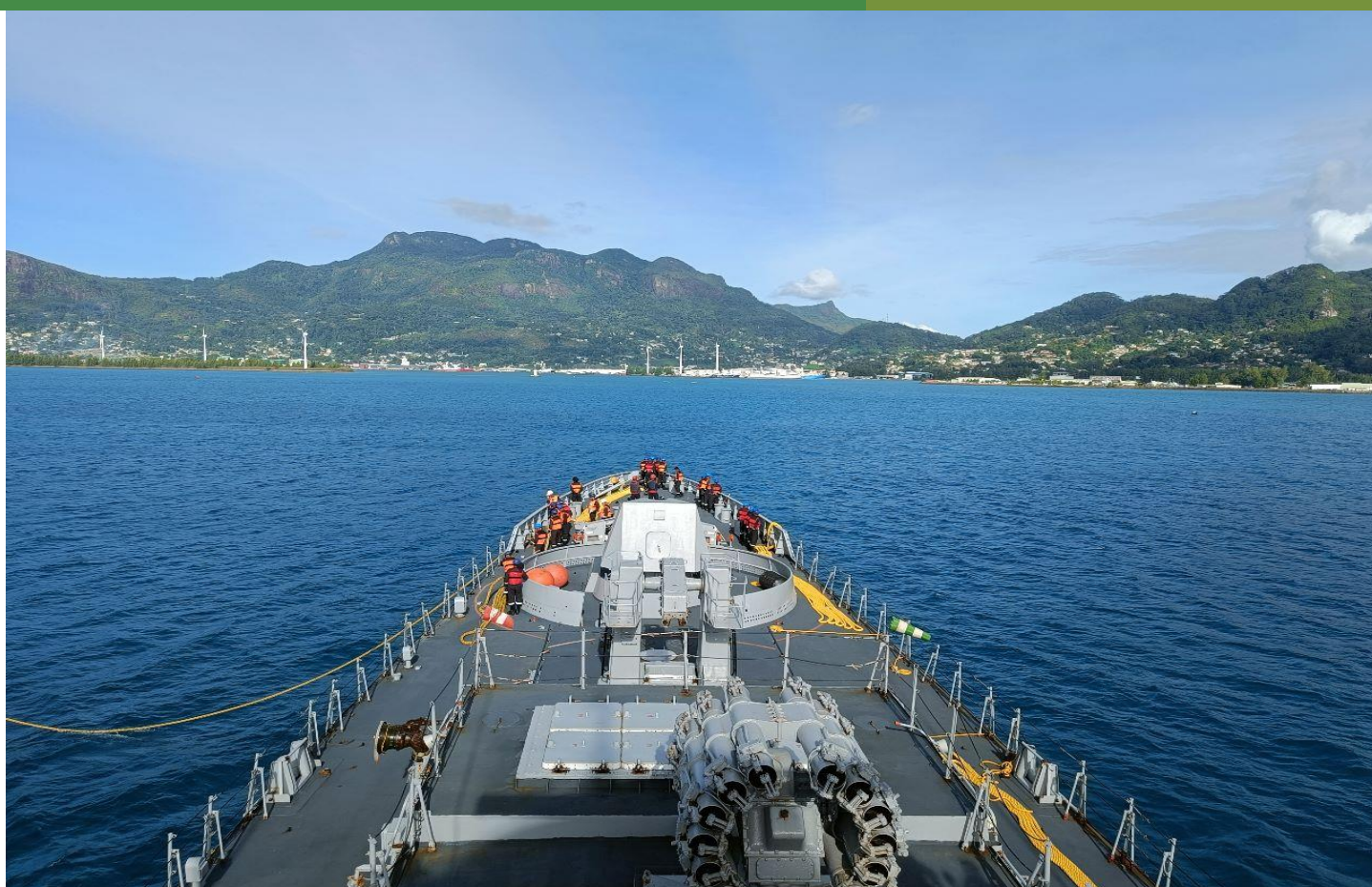
the Russia-Ukraine war took place, but the country's regime has been constantly alleged by the West for siding with Russia.

CHINESE WARSHIPS ARRIVE IN NIGERIA TO BOOST NAVAL COOPERATION

The port call of Chinese warships in Nigeria has been analysed as a crucial step for improving diplomatic ties between China and Nigeria as the Chinese military strategist claims. China has earlier shown its keen interest in making a military base in the western African region to counter American dominance in the region. As per the record, the USA remained the largest arms exporter of Nigeria as the country has been fighting Jihadi terrorists for years. China's Call for visiting Nigeria via Naval ships can pave the way for Chinese interest in Africa via military cooperations.

MILITARY EXERCISES

India participating in international and bilateral military exercises



ASEAN INDIA MARITIME EXERCISE (AIME-2023)

The Indian Naval Ships INS Satpura and INS Delhi with RAdm Gurcharan Singh, the Flag Officer Commanding Eastern Fleet embarked on-board arrived at Singapore on 01 May 2023 to participate in the Inaugural ASEAN India Maritime Exercise (AIME-2023) from 02nd to

08th May 2023. Along with the two ships, Indian maritime patrol aircraft P8I and integral helicopters also took part in the exercise.

INDIAN NAVY IN SEYCHELLES

INS Trishul made a port call at Seychelles and prior to entry into port, undertook joint EEZ surveillance. This will enhance the capabilities of the Seychelles security which is an important part in Indian Navy's plan for management of Indian Ocean Region.

INDIAN NAVY IN OMAN



Indian Naval Ship Tarkash made a port call to Muscat, Oman from 19 to 22 Jun 2023. During the port call, the ship's crew interacted with the Sultan of Oman's Armed Forces, wherein an organised visit was conducted to Sultan's Armed Forces Museum and Maritime Security Centre, Muscat, Oman.

INDIAN NAVY IN MOZAMBIQUE



Indian INS Trishul made a port call at Toamasina, Madagascar from 19th to 22nd June 2023. Personnel from Indian and Malagasy Armed Forces engaged in wide range of professional interactions. The visit was aimed at enhancing cooperation and mutual understanding between both the Navies.

INDIAN NAVY IN KENYA



INS Sunayna visited Kenya from 20th to 23rd June. A Maritime Partnership Exercise was conducted between the two navies. The crew of both Indian and Kenya Navy conducted drills in Firefighting & Damage Control, boarding exercises, asymmetric threat simulations and VBSS during the harbour phase. A HADR capsule was also conducted onboard for the Kenya Navy. On departure from Mombasa, INS Sunayna undertook Passage Exercise (PASSEX) with Kenya Naval Ship Jasiri on 23 Jun 23.

INDIA-MALDIVES JOINT MILITARY EXERCISE “EKUVERIN”



India conducted joint military exercise with Maldives in Uttarakhand. The 12th edition of joint military exercise “Ex Ekuverin” between the Indian Army & the Maldives National Defence Force at Chaubatia, Uttarakhand was held from 11 to 24 June 2023. A platoon strength contingent from Indian Army and Maldives National Defence Force participated in 14 days long exercise. The exercise was aimed at enhancing interoperability in Counter Insurgency/ Counter Terrorism Operations under the UN mandate

and carry out joint Humanitarian Assistance and Disaster Relief operations.

MAIDEN INDIA-FRANCE-UAE MARITIME PARTNERSHIP EXERCISE

Indian Navy stealth frigate INS Tarkash and French Navy frigate Surcouf participated in the 1st edition of India, France and UAE Maritime Partnership Exercise in the Gulf of Oman. Integral helicopters, French Rafale aircraft and UAE Navy Maritime Patrol Aircraft also participated in the exercise.

The exercise witnessed a wide spectrum of naval operations such as Surface Warfare, involving tactical firing and Drills for Missile engagements on surface targets, Helicopter Cross Deck Landing Operations, Advanced Air Defence Exercises and Boarding operations.

INDIAN NAVY IN COMOROS



Indian Navy stealth frigate INS Trishul visited Anjouan port in Comoros from 31st May to 2nd June as part of the Indian Navy's long range deployment. Professional interactions with Comoros Armed Forces and Comoros Coast Guard, sports fixtures and a joint Yoga session with Comoros Defence forces were undertaken by the ship during the stay in harbour. The ship also aided the Comorian Coast Guard in repairs of communication equipment and the Navigation Radar display installed at the Port Control. The ship conducted a medical outreach camp for the local populace of Anjouan. About 500 people benefited from the camp, wherein patients were provided Ophthalmic, Cardiovascular and ENT consultation apart from General health check-up. In addition, BLS (Basic Life Saving) training for Comoros Defence personnel was also undertaken.



INDIAN AEROSPACE DEFENCE NEWS

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