

STRATEGIC FOCUS

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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



DRDO CARRIES OUT SUCCESSFUL FLIGHT TRIALS OF HIGH-SPEED EXPENDABLE AERIAL TARGET 'ABHYAS' CRORE

Four flight trials of the High-speed Expendable Aerial Target (HEAT) - ABHYAS were successfully conducted by the Defence Research & Development Organisation (DRDO) at the Integrated Test Range, Chandipur in Odisha from January 30 to February 02, 2024. The trials were executed with four different mission objectives in a revised robust configuration, utilizing a single booster designed by the Advanced Systems Laboratory, Hyderabad, to ensure reduced launch acceleration.

DIGITAL FLIGHT CONTROL COMPUTER FOR TEJAS MK1A FLOWN SUCCESSFULLY



In a significant development towards the Tejas Mk1A program, the Digital Fly by Wire Flight Control Computer (DFCC) was integrated into prototype LSP7 and successfully flown on 19th Feb 2024. DFCC had been indigenously developed by the Aeronautical Development Establishment (ADE), Bengaluru, for the Tejas - Mk1A. The Digital Fly by Wire Flight Control Computer featured a Quadraplex Power PC-based Processor, high-speed autonomous state machine-based I/O controller, enhanced computational throughput, and complex on-board software compiled to DO178C level-A safety requirements. All critical parameters and performance of the flight controls were found satisfactory. The maiden flight was piloted by Wg Cdr Siddarth Singh KMJ (Retd) of the National Flight Test Centre.

The Aeronautical Development Agency, under the aegis of the Department of Defence R&D and Ministry of Defence, had successfully type certified the Tejas-Light Combat aircraft (LCA). The Indian Air Force had already operationalized Tejas LCA Mk1. The improved version of the aircraft, Tejas MK1A, featured an advanced mission computer, high-performance

Digital Flight Control Computer (DFCC Mk1A), Smart Multi-Function Displays (SMFD), Advanced Electronically Scanned Array (AESA) Radar, Advanced Self-protection Jammer, Electronic Warfare Suit, etc.

DRDO SUCCESSFULLY FLIGHT TESTS VERY SHORT RANGE AIR DEFENCE SYSTEM



DRDO successfully executed two flight trials of the Very Short-Range Air Defence System (VSHORADS) missile on February 28th and 29th, 2024. The tests took place using a ground-based portable launcher off the coast of Odisha at the Integrated Test Range, Chandipur. Targeting high-speed unmanned aerial vehicles in diverse interception scenarios, the missiles effectively intercepted and destroyed the designated targets in alignment with the mission objectives.

VSHORADS, a Man Portable Air Defence System (MANPAD), is a domestically developed project led by the Research Centre Imarat (RCI) in collaboration with various DRDO laboratories and Indian industry partners.

The missile integrates cutting-edge technologies, including a miniaturized Reaction Control System (RCS) and integrated avionics, all of which demonstrated successful functionality during the conducted tests. Propelled by a dual thrust solid motor, the VSHORADS missile is designed to neutralize low-altitude aerial threats within short ranges. The missile's overall design, including the launcher, prioritizes optimal portability. The flight trials were observed by officials from the Indian Army, senior scientists from diverse DRDO laboratories, and industry partners.

MOD INKS CONTRACT WORTH RS.2269.54 CR WITH BEL TO PROCURE 11 SHAKTI ELECTRONIC WARFARE SYSTEMS FOR INDIAN NAVY



The Ministry of Defence signed a contract with Bharat Electronics Limited (BEL), Hyderabad on 13 February 2024 in New Delhi for the procurement of 11 Shakti Electronic Warfare Systems along with associated equipment/accessories for the Indian Navy under the Buy (Indian- IDDM) category at a total cost of Rs.2269.54 Cr.

The Shakti EW System was indigenously designed, developed, and manufactured. It was capable of accurately intercepting electronic emissions and implementing countermeasures in a dense electromagnetic environment.

The Shakti EW System was to be installed on board capital warships of the Indian Navy. The project was expected to generate employment of two and a half lakh man-days over a period of four years with the participation of more than 155 industry partners, including MSMEs, thus furthering the vision of 'Atmanirbhar Bharat.'

MOD SIGNS CONTRACT WORTH RS.1,752 CR WITH AWEIL FOR 463 STABILISED REMOTE CONTROL GUNS FOR INDIAN NAVY & INDIAN COAST GUARD



The Ministry of Defence signed a contract on February 14, 2024, with Advanced Weapon Equipment India Ltd. (AWEIL), Kanpur for the manufacturing and supply of a total of 463 indigenously manufactured 12.7 mm Stabilised Remote Control Guns (SRCG) for the Indian Navy and

Indian Coast Guard at a total cost of Rs. 1752.13 crores, with Indigenous Content (IC) of more than 85%.

The SRCG enhanced the capability of the Indian Navy and Indian Coast Guard to accurately engage small targets that posed a threat to ships in an asymmetric environment, both by day and night.

This acquisition provided a further boost to the vision of "Aatmanirbharta in Defence." The contract also opened up a large avenue in defence manufacturing for over 125 Indian vendors and DPSUs for over a period of 5 years.

DAC CLEARS CAPITAL ACQUISITION PROPOSALS WORTH RS 84,560 CRORE TO BOOST THE CAPABILITIES OF THE ARMED FORCES & INDIAN COAST GUARD



The Defence Acquisition Council (DAC), under the chairmanship of Raksha Mantri Shri Rajnath Singh, accorded approval for the Acceptance of Necessity (AoNs) for various capital acquisition proposals amounting to Rs 84,560 crore.

The approvals include the following systems for the Indian Armed Forces:-

- AoN was issued under the Buy {Indian-Indigenously Designed Developed and Manufactured (IDDM)} category for the procurement of a new generation of Anti-tank mines with a seismic sensor and provision for remote deactivation, along with additional safety features.
- AoN under Buy (Indian-IDDM) category was accorded for the procurement of the Canister Launched Anti-Armour Loiter Munition System.
- AoN was accorded for the procurement of Air Defence Tactical Control Radar under the Buy (Indian-IDDM) category to strengthen the Air Defence Systems, especially the capabilities to detect slow, small, and low-flying targets, as well as surveillance, detection, and tracking of different targets.
- The AoN for the procurement of Medium Range Maritime Reconnaissance and Multi-Mission Maritime Aircraft, through the Buy and Make category, was granted by the DAC to strengthen the surveillance and interdiction capabilities of the Indian Navy and the Indian Coast Guard (ICG) over the country's vast maritime area. This will see delivery of 9 systems to the Indian Navy & 6 systems to Indian Coast Guard.
- AoN under Buy (Indian) category was accorded for the procurement of Active Towed Array Sonar with capabilities to operate at low frequencies and various depths for long-range detections of adversary submarines.
- AoN was accorded for the procurement of Heavy Weight Torpedoes to enhance the attacking capabilities of Kalvari Class submarines.
- AoN for sustainment support through Follow On Support (FOS) and Repair Replenishment support through Follow On Supply Support

(FOSS) for 24 MH60R aircraft under the Foreign Military Sale route with the US Government was also accorded.

- DAC had accorded AoN for the procurement of Flight Refueler Aircraft to enhance the operational capabilities and reach of the Indian Air Force.
- AoN under Buy (Indian-IDDMM) category for the procurement of Software Defined Radios for the ICG was also granted. This fulfilled the requirement of the ICG for having high-speed communication with secure networking capability for seamless information exchange between the ICG and the Indian Navy units.

46-METER MODULAR BRIDGE INDUCTED BY INDIAN ARMY



Indian Army has bolstered its bridging capability with the induction of the 46-meter Modular Bridge. Designed and developed by DRDO and produced by Larsen & Toubro (L&T), the bridging system was formally handed over in a ceremony at the Manekshaw Centre, New Delhi. The event was graced by General Manoj Pande, Chief of the Army Staff. Senior dignitaries from the Indian Army, DRDO, and MoD were also in attendance.

Over the next four years, a total of 41 sets, valued at ₹2,585 Crores will be progressively inducted. It is a mechanically launched single-span, fully

decked 46-meter assault bridge, enabling the army to overcome obstacles such as canals and ditches with ease. It augments the crucial bridging capability of Indian Army Engineers as these bridges were highly mobile, rugged, and designed for quick deployment and retrieval, aligning with the fast-paced nature of mechanized operations.

Each set of Modular Bridge consisted of seven carrier vehicles based on 8x8 Heavy Mobility Vehicles and two launcher vehicles based on 10x10 Heavy Mobility Vehicles. The bridge could be employed over various types of obstacles like canals and ditches with quick launching and retrieval capabilities. The equipment was highly mobile, versatile, rugged, and capable of keeping pace with wheeled and tracked mechanized vehicles.

The modular bridges replaced the manually launched Medium Girder Bridges (MGB) that were previously used in the Indian Army. The indigenously designed and manufactured Modular bridges has many advantages over the MGB, such as increased span, less time for construction, and mechanical launching with retrieval capability.

SURVEY VESSEL (LARGE) SANDHAYAK COMMISSIONED TO INDIAN NAVY



INS Sandhayak (Yard 3025), the first Survey Vessel Large (SVL) ship, was commissioned into the Indian Navy in the presence of Raksha Mantri Shri Rajnath Singh at an impressive ceremony held at the Naval Dockyard, Visakhapatnam on February 3, 2024. The commissioning ceremony marked the formal induction of the first of the four ships of the SVL Project under construction at Garden Reach Shipbuilders & Engineers (GRSE), Kolkata. The project has been steered by the Warship Design Bureau of the Indian Navy.

The keel was laid on March 12, 2019 and the ship was launched on December 05, 2021. It has undergone a comprehensive schedule of trials in harbour and at sea, leading up to commissioning. The ship has a displacement of 3,400 tons and an overall length of 110 meters with a beam of 16m.

INS Sandhayak is equipped with state-of-the-art hydrographic equipment including Deep & Shallow Water Multibeam Echo-Sounders, Autonomous Underwater Vehicle, Remotely Operated Vehicle, Side scan sonars, Data Acquisition and Processing System, satellite-based positioning systems and terrestrial survey equipment. The ship is propelled by two Diesel Engines and is capable of achieving speeds in excess of 18 knots. It has an indigenous content of over 80% by cost and is a tribute to the collaborative efforts between the Indian Navy and Industry, including MSMEs. Its induction underscores the growing maritime interests and capabilities of the nation.

‘Sandhayak’ means the one who carries out a special search. The crest depicts the sixteen points of a mariner’s compass, enclosing a ‘divider’ and an ‘anchor’ riding the sea, symbolising the charting of oceans, which is the basic role of the survey ship. The commissioning is an affirmation of India’s expertise in warship designing and construction.

TUG MAHABALI DELIVERED TO NAVY



The 25T Bollard Pull (BP) Tug, Mahabali, was delivered to the Indian Navy on 02 Feb 24 in the presence of Rear Admiral Subir Mukherjee, NM, ASY(Kochi). This Tug was a proud flag bearer of the “Make in India” initiative of the Government of India.

The contract for the construction and delivery of three 25T BP Tugs was concluded with M/s Shoft Shipyard Pvt Ltd (M/s SSPL), an MSME, in consonance with the "Aatmanirbhar Bharat" initiative of the Government of India. These Tugs were built under the classification rules of the Indian Register of Shipping (IRS). The availability of the Tugs provided impetus to operational commitments of the Indian Navy by facilitating assistance to naval ships and submarines during berthing and un-berthing, turning, and maneuvering in confined waters. The Tugs also provided afloat firefighting assistance to ships alongside, at anchorage, and had the capability to conduct limited Search and Rescue Operations.

NEW ACQUISITION AND PROCUREMENT

Acquisition of New Weapons,
Parts and Collaborative
Developments

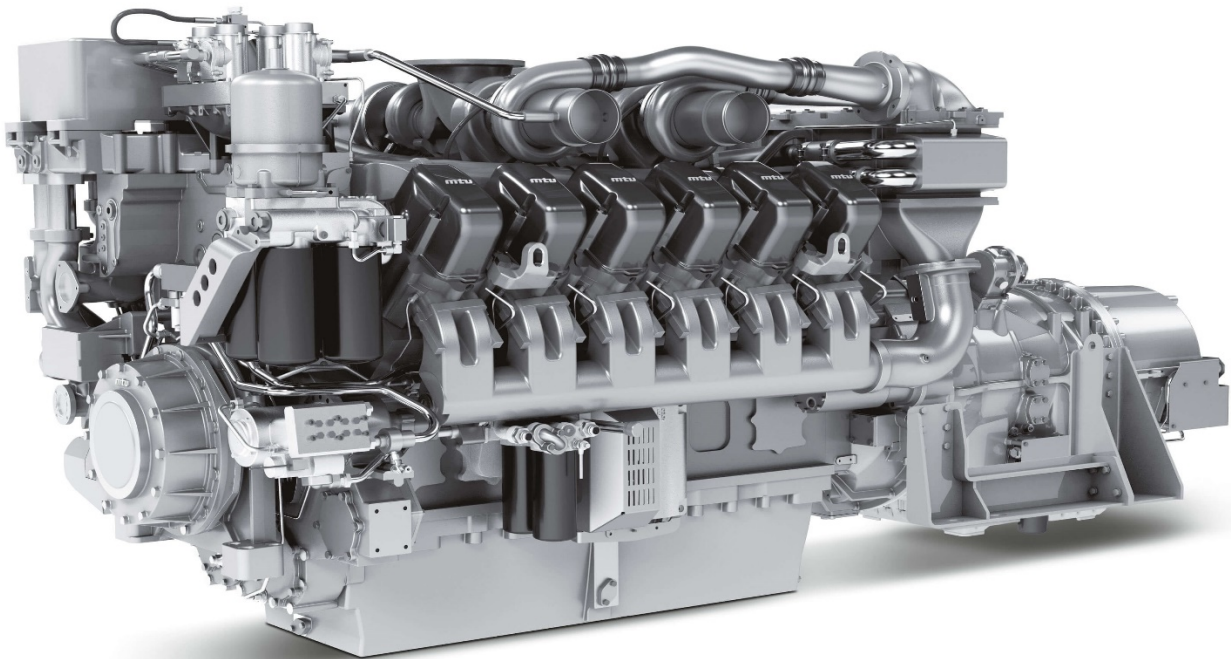


INDIAN ARMY ISSUES RFI FOR OUTSOURCING OF OVERHAUL OF T-72 TANKS; SUPPLYING MAJOR ASSEMBLIES & SPARES

Indian Army invites Request for Information (RFI) from the interested bidders for undertaking the Overhaul of Armoured Fighting Vehicles i.e. Tank T-72 including the provisioning of major assemblies/ sub-assemblies

and spares. The purpose of this Request for Information (RFI) is to identify prospective vendors (DPSUs / Private Indian Vendors) to undertake the Overhaul of Tank T-72 Tanks on a complete outsourcing model and facilitate preparation of Request for Proposal (RFP). Indian Army stated that all DPSUs and Private Indian Vendors are eligible to respond to this RFI and participate in this project.

GRSE, ROLLS-ROYCE TO MANUFACTURE MTU S4000 MARINE ENGINES IN INDIA



Garden Reach Shipbuilders and Engineers Limited (GRSE) and Rolls-Royce, have signed a frame and individual license agreement on Tuesday to co-operate in the license production and localization of the MTU IMO Tier-II compliant series 4000 marine engines for governmental ships as a part of the 'Make in India' joint initiative PSU Watch website. According

to an official statement, this collaborative effort has significant market potential in coming years for all fast patrol vessels, interceptor boats and fast attack craft projects of Indian Navy and the Indian Coast Guard.

GERMANY PUSHES FOR INTER-GOVERNMENTAL AGREEMENT FOR SUBMARINE DEAL WITH INDIA



Indian and Germany discussed the deal at the highest level during the visit of German Defence Minister Boris Pistorius in June 2023, when he made a strong pitch for the bid by Thyssenkrupp Marine Systems. Germany has presented a government-to-government proposal for the sale of six advanced conventional submarines to India for the Navy's P-75I procurement program, diplomatic sources confirmed. A senior German delegation was in Delhi recently to take the discussions forward.

INDIAN ARMY TO ACQUIRE ROBOTIC MULES



The Army has embraced modern technology, signing contracts worth over ₹320 crore for 563 logistics drones designed for high-altitude deliveries. Additionally, a ₹285-crore deal has been finalized for 100 four-legged robotic mules capable of autonomous movement in diverse terrains up to 10,000 feet. Another contract worth almost ₹70 crore is for 300 rough-terrain vehicles, each capable of carrying over 100kg of load.

FRENCH AEROSPACE GIANT THALES PLANS TO SET UP AVIONICS MRO IN DELHI

As New Delhi and Paris looked to expand strategic partnership, French defence major Thales on Friday said it is bringing its "trusted" high-tech capabilities to India and plans to set up an avionics MRO in Delhi to provide world class services to its airline customers. Vice President and Country

Director of Thales India Ashish Saraf said the company is fully committed and mobilised to support the modernisation and indigenisation efforts that are underway in the Indian aerospace and defence sector. In their talks in Jaipur on Thursday night, Prime Minister Narendra Modi and French President Emmanuel Macron resolved to further shore up bilateral strategic cooperation, especially in areas of defence, security, trade and clean energy.

NAVY SELECTS TELANGANA AS KEY BASE FOR 2ND VERY LOW FREQUENCY COMMUNICATION TRANSMISSION STATION

The Indian Navy has chosen Telangana as a key base for the second very low frequency (VLF) communication transmission station in the country, with the upcoming facility planned for the Vikarabad district, an official statement said. According to the statement from the Chief Minister's Office (CMO), the Navy uses a VLF communication transmission station to communicate with ships and submarines. This station will be set up in the Damagudem forest area near Puduru in the Vikarabad mandal.

NAVY'S AMMUNITION CUM TORPEDO CUM MISSILE BARGE – LSAM-19 LAUNCHED

The launch of ammunition cum torpedo cum missile (ACTCM) barge, LSAM 19 (Yard 129), fifth barge of 11 x ACTCM Barge Project, built by MSME shipyard, Suryadipta Projects Pvt Ltd, Thane for Indian Navy, was undertaken on Wednesday, an official said. The launch ceremony was presided over by Commodore V Pravin.

ARJUN ARRV COMPLETES ALL TRIALS WITH ARMY; TO PROCURE 10 VEHICLES INITIALLY



The Indian army has proposed requirement of 24 such vehicles for its 4 regiments of Arjun Tank. During the Vibrant Gujarat summit of 2024, the Vayu Aerospace review has informed that Indian Army is going to procure 10 Arjun ARRVs to start the procurement process. In 2018, the DAC has given approval for acquisition of Arjun ARRV. On 5th September 2023, Indian has released an RFI for the procurement of 170 Armoured Recovery Vehicle (ARV) based on tracked platform. This Request for Information (RFI) is being issued with a view to finalise SQRs, decide procurement category and identify probable Indian vendors who are capable to

commence supply of ARV within two years of Award of Contract / Supply Order at the rate of at least 50 ARV vehicles per year.

INDIAN NAVY RECEIVES FIRST INDIGENOUS HERMES-900 UAV FROM ADANI DEFENCE AND AEROSPACE, STRENGTHENING MARITIME SURVEILLANCE



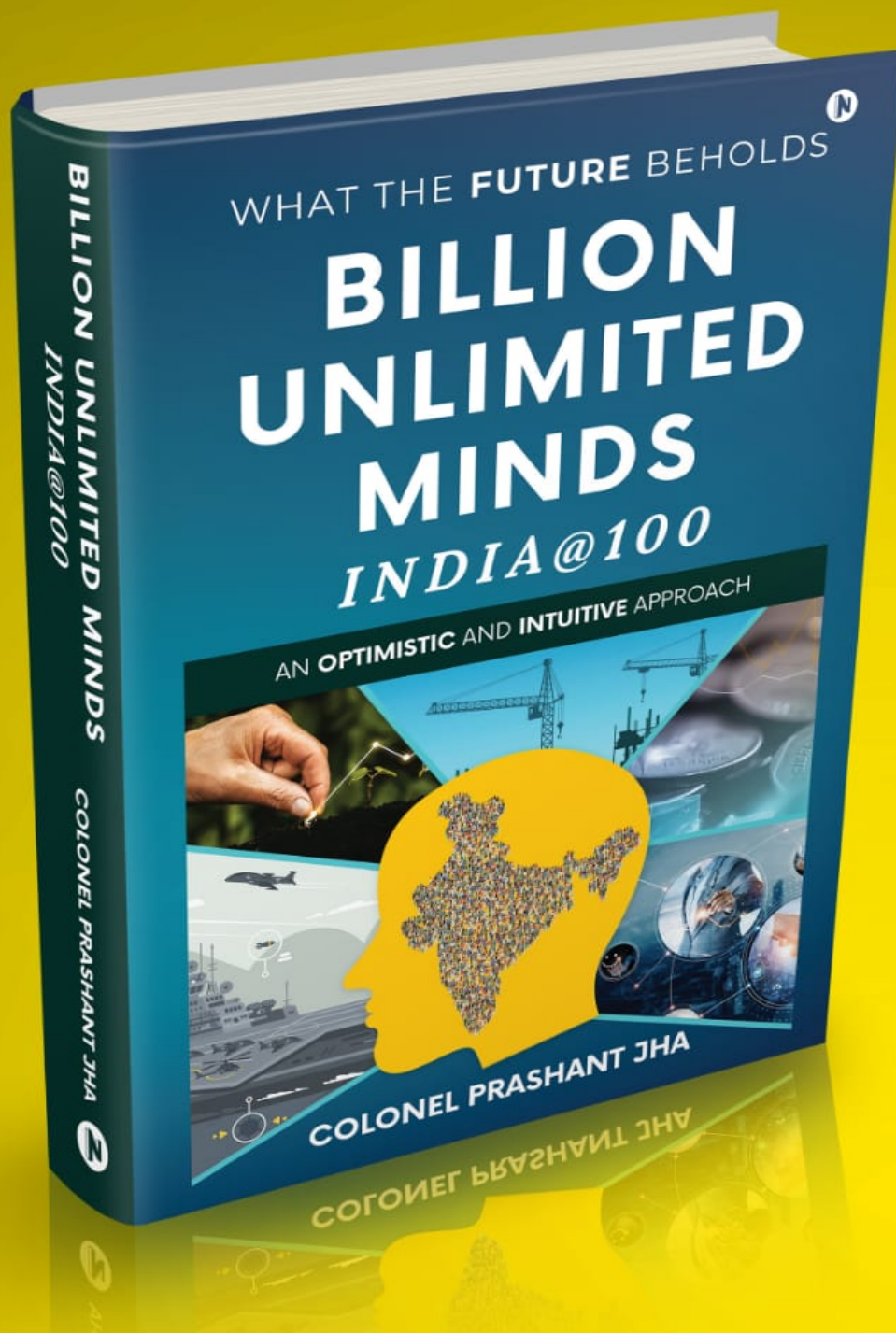
The Indian Navy received the first indigenously made unmanned aerial vehicle (UAV) ‘Drishti 10 Starliner’ from the Adani Defence and Aerospace on Wednesday, with Admiral R Hari Kumar hoping that the drone “may turn out to be a third eye in the sky” for securing maritime domain witnessing increasing challenges of conflict. Adani Defence and Aerospace was contracted by the Ministry of Defence about ten months ago to supply four medium altitude long endurance (MALE) drones to the Indian Navy and Indian Army. Both the services will get two each in the next few months.

INDIA MERGES T-72 WITH T-90 TO CREATE A DEADLY HYBRID TANK 'ATHARVA'

With the weaknesses of Russia's tanks being exposed during the ongoing war with Ukraine, the Indian Army has decided to upgrade the Russian armour in its inventory. The move intends to upgrade the now vulnerable T-72 Main Battle Tanks (MBT) with newer technology and improved firepower was reported last year by FirstPost. Developed by the Indian Army's Corps of Electronics and Mechanical Engineers, the tanks fuse the T-72's hull with the T-90s turret, creating a new tank. As per the specifications, 'Atharva' weighs 45.8 tons. It is lighter than the T-90s but weighs more than the T-72s. The hybrid tank is powered by the V92S2 high-power multifuel engine that boasts 1,000 hp and has been specifically designed for the T-90 MBT reported EA Times. The Indian Army unveiled the Atharva, a hybrid tank that combines the T-72 tank's main body with the T-90 Bhishma's turret, in January 2024.

FLYING WEDGE DEFENCE BECOMES FIRST EVER FIRM TO SECURE DGCA TYPE CERTIFICATION FOR INDIGENOUS UAV TECHNOLOGY

Bangalore based, Flying Wedge Defence and Aerospace became the first private company in India to receive a Directorate General of Civil Aviation (DGCA) type certification for indigenous unmanned aerial vehicle (UAV) technology. The certification is required for any drone, aircraft, or aeroplane to operate in the country. The certification is crucial for the safe and legal operation of drones in India. The Bangalore-based company's medium-sized FWDA10, which weighs 26.70 Kg and can reach altitudes of up to 85.31 feet, has officially earned its certification.



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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.

CALL FOR CHAPTERS

THEME

INTELLIGENCE REVOLUTION: ROLE OF MILITARY INTELLIGENCE
AND CORPORATE INFLUENCE IN THE FUTURE CONFLICT



In the rapidly changing landscape of contemporary warfare, the role of intelligence agencies and corporate entities has become pivotal in shaping the future of conflicts worldwide. The proposed co-edited book, "Intelligence Revolution: Role of Military Intelligence and Corporate Influence in the Future Conflict," seeks to explore and analyze this crucial intersection. This book aims to provide an in-depth examination of the evolving dynamics of military intelligence, the influence of private corporations on national security, and their collective impact on the global security landscape. In the 21st century, the nature of warfare has transformed significantly, with intelligence agencies and corporate entities playing increasingly prominent roles. This co-edited book addresses the pressing need to understand the intricate relationship between military intelligence and corporate influence in shaping the future of conflicts. As technological advancements, economic interests, and political agendas converge, the implications for global security are profound. This book serves as a platform to explore the multifaceted dimensions of this intelligence revolution and its relevance in contemporary times.

EDITORS

Dr Monojit Das, executive editor of IADN having over 6 years of research experience as an M.Phil and Ph.D. researcher with co-authored articles and books published on security and international relations. Experience in liaising with civil government to promote India's cultural diversity globally and developing a mechanism to initiate academic exchanges between institutes to promote Indian education and strengthen bilateral relations with friendly nations. My co-authored two books on national security included in curriculum of multiple institutions and invited a BOS member to develop a cyberpsychology program at CIIPS-SCBC, RRU, Institute of National Importance, Gol.

Mr Shantanu K. Bansal, Founder of IADN, he has more than 10 years of experience in research and analysis. An award-winning researcher, he writes for the leading defence and security journals, think tanks and in-service publications. He has worked with the Army Training Command (ARTRAC), Helicopter Training School (HTS), Defence Services Staff College (DSSC) and Institutions alike. He has written two in-service books which include "75 Stratagems of India" of the Indian Army and "60 years of Chetak" of the Indian Air Force (IAF). With hands-on experience in the information warfare domain he has been in the forefront of all national-level dialogues, symposiums.



Contact@iadnews.in



+91 9911493425
+91 7384747134



IADN AT SINGAPORE AIRSHOW 2024

The Singapore Airshow is Asia's most influential international aerospace and defence exhibition for stakeholders to forge strategic alliances, and collaborate for change to shape the future of the global aviation industry. The event offers a unique platform for industry thought leadership through its strategic forums, and co-located exhibitions and events. Leading industry players, government and military chiefs gather here bi-annually to contribute to dialogues, exchange ideas and seek solutions and strategies to advance the interests of the global aerospace and defence sector. Every two years, high-level government and military delegations, as well as senior corporate executives around the world, attend the Singapore Airshow to forge partnerships and seal deals in this region. As Asia's most influential airshow, this is the place to be for leading aerospace companies and budding players eager to make their mark in the international aerospace and defence market. The event not only facilitated fruitful discussions and networking but also underscored the pivotal role that drones are poised to play in transforming the aviation sector, thus contributing to the growth and prosperity of the sector.



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ARMAMENT



ROYAL MALAYSIA AIR FORCE (RMAF) SUKHOI SU-30 MKM FLANKER-H



AIRBUS HELICOPTERS H225M



ST ENGINEERING TERREX S5



BELL 505 JET RANGER X



ELBIT HERMES 450 UAV

TECHNOLOGY FOCUS

Technologies Which Are
Changing the Battlefield In
India and Beyond



ENDUREAIR DEVELOPS SABAL LOGISTICS UAVS

According to a report by Janes, Indian firm EndureAir Systems has developed two new unmanned aerial vehicles (UAVs) for military logistics operations. The 'Sabal' series UAVs consist of small, electrically propelled tandem-rotor aerial vehicles designed primarily for cargo and observation applications, the company said. Rama Krishna, CEO of EndureAir, told

Janes that the Sabal UAVs, comprising Sabal-10 and Sabal-20, have a low audio and visual signature and can be transported and operated by two people

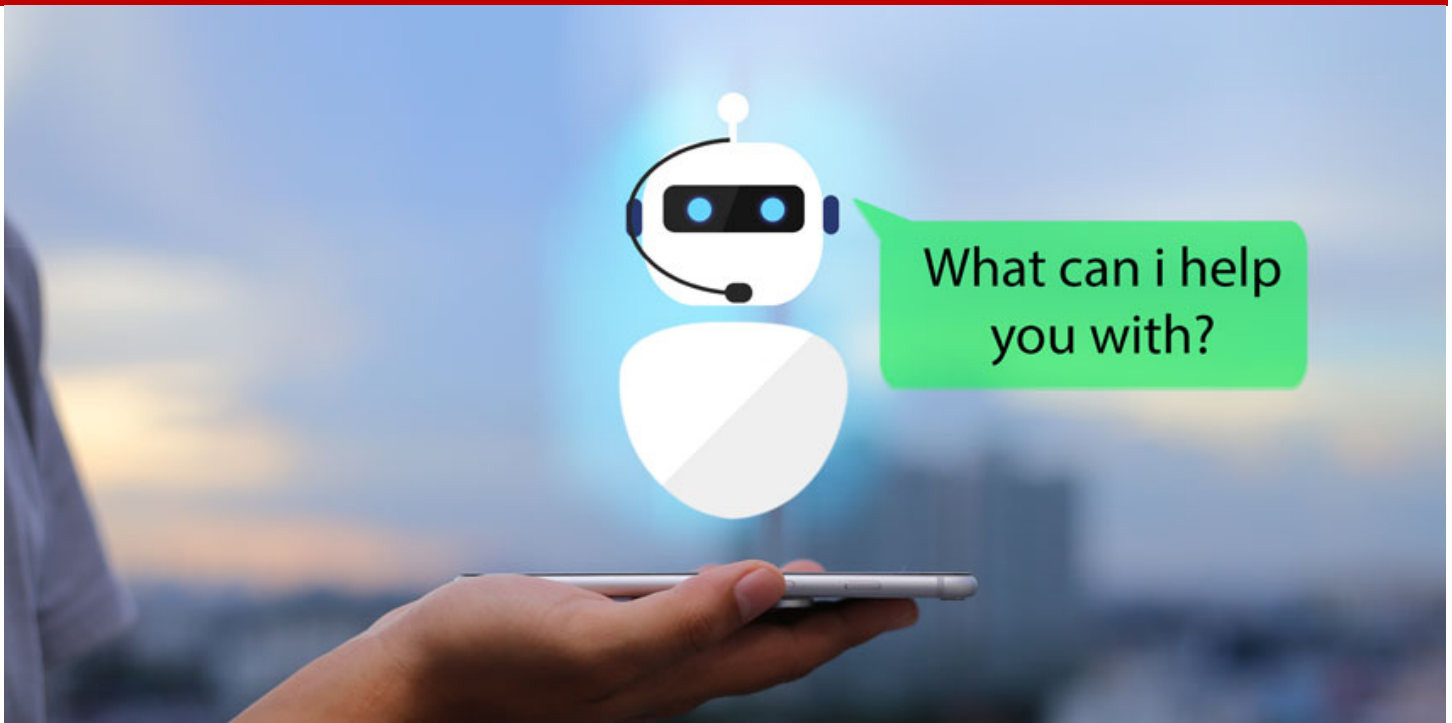
MIDHANI PROVIDING SPECIAL MATERIAL DEVELOPED FOR KAVERI DRY ENGINES, TO SUPPLY SUPER ALLOYS FOR GE-F414 TURBOFAN ENGINES



Defence Public Sector Undertaking (DPSU), MIDHANI is providing special material developed for the first time for Kaveri dry engines, being manufactured by Godrej Aerospace on the technical know-how from Defence Research And Development Organisation's (DRDO's) Gas Turbine Research Establishment (GTRE). Sources said the Kaveri engines are expected to be ready in around mid 2024 and would go for extensive

trials before seeking airworthiness certification. Once that happens, it would give the government an option to mount the engines on one of the TEJAS platforms. MIDHANI has been supplying certain nickel-based alloys to a British aerospace company through a Navratna defence firm giving international exposure needed by indigenous defence firms ahead of India working to close a deal with US-based GE Aerospace for domestic manufacturing of F414 fighter jet engines.

INDIAN ARMY CREATES ARTIFICIAL INTELLIGENCE CHATBOT TO PREVENT OFFICERS FROM FALLING VICTIM TO HONEY TRAPS



In response to the escalating risk of online honey-trapping, a common tactic in international espionage, the Indian Army has taken proactive measures. Motivated by real cases involving Indian military personnel who were deceived by foreign intelligence operatives online, the army has developed an AI-based chatbot. This chatbot is specifically designed to evaluate

soldiers' vulnerability to such deceptive practices. The digital landscape is witnessing a growing concern over the prevalence of honey-trapping, particularly in instances involving Pakistani intelligence operatives targeting Indian military personnel and defense executives.

COLLABORATION TO DEVELOP INTELLIGENT TRANSPORTATION SYSTEM

In a significant move towards harnessing space technology for Earth applications, the Indian National Space Promotion and Authorization Centre (IN-SPACe) under Department of Space, Government of India has entered into a Framework Memorandum of Understanding (MoU) with Skytrack Technologies Private Limited, a start-up based in Guwahati, Assam to catalyse the design and development of an Intelligent Transportation System (ITS) using cutting-edge technologies. The MoU, signed on January 19, 2024, outlines the collaboration between IN-SPACe and Skytrack for the design and development of an Intelligent Transportation System using APIs and data products from the Indian Space Research Organisation (ISRO). Skytrack Technologies, registered as a Start-Up under DPIIT and a Small Industry under the Ministry of Medium, Small, and Micro Enterprises, specializes in developing technologies for Intelligent Transportation Systems using Geographic Information System (GIS) applications, APIs, and data products.

DRDO DEVELOPS PORTABLE TARGET ECHO SIMULATOR (PTES) FOR ANTI-SHIP MISSILES



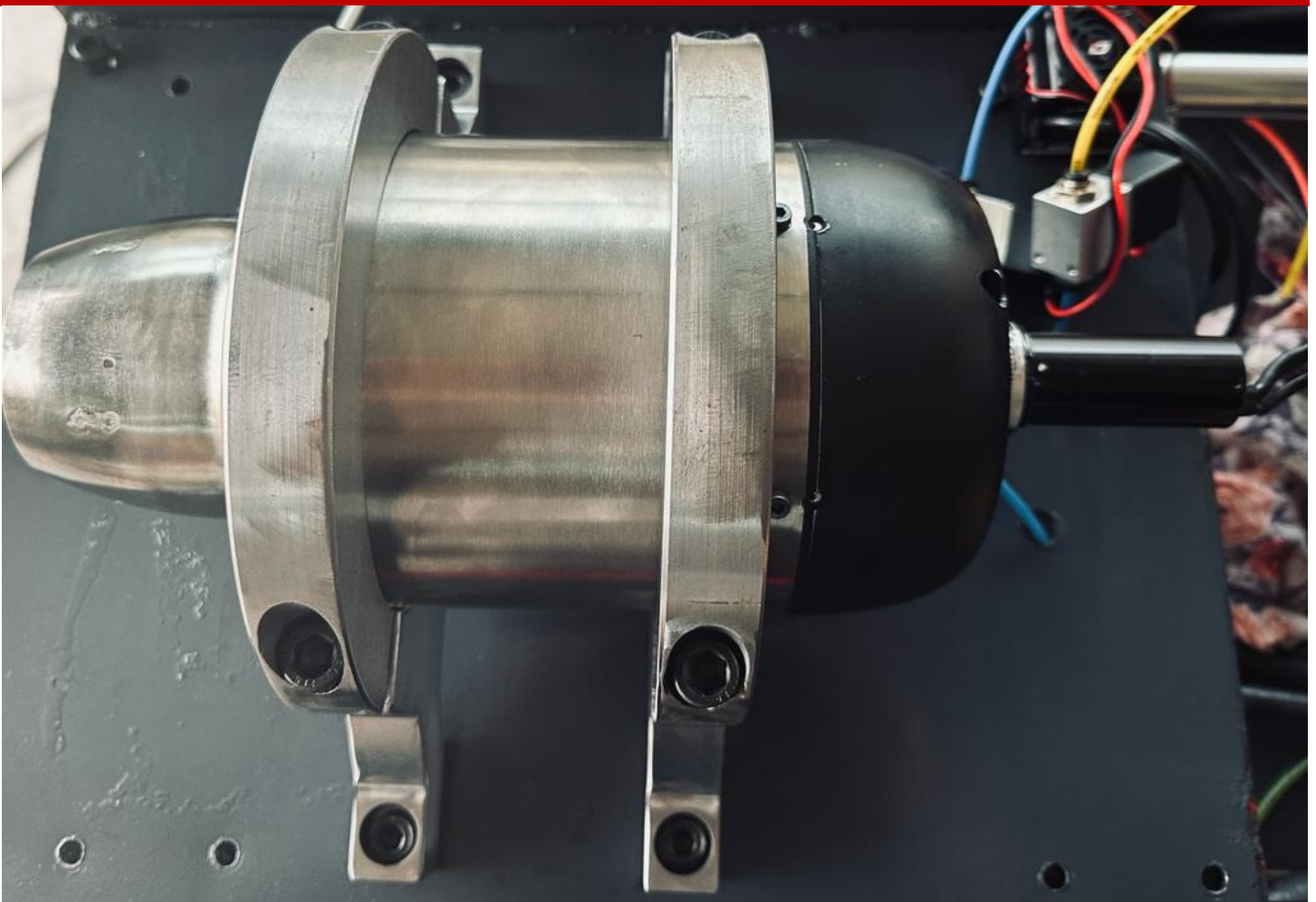
The Defence Research and Development Organisation (DRDO) has developed a Portable Target Echo Simulator (PTES) to test its X-band missile seeker. X-band seekers are commonly used in anti-ship missiles. Radio Frequency Gimbaled Seeker, RPF and Altimeter system have been developed for various tactical missile systems including Beyond Visual Range Air to Air Missile (BVRAAM) Astra and Akash-1S.

DMSRDE DEVELOPS INDIGENOUS FUEL FOR BRAHMOS SUPERSONIC CRUISE MISSILES

In a major achievement towards becoming self-reliant, Defence Materials and Stores Research and Development Establishment (DMSRDE) in

Kanpur has prepared indigenous fuel for the BrahMos supersonic cruise missile. The fuel was prepared in nine months and testing has begun. The fuel will be used in the missile's liquid Ramjet engine and its testing has been started, said director and scientist of DMSRDE Dr Mayank Dwivedi during a press conference at the institute on Sunday. Currently, the fuel is exported from Russia.

DG PROPULSION SUCCESSFULLY TESTS ITS J-40 JET ENGINE FOR DRONES AND UAV



DG Propulsion has successfully completed a consistent endurance test run for its J40 jet engine, powered by an in-house developed ECU. The engine achieved a continuous cruising speed at 84000 rpm. J40 jet engine, after

countless hours of rigorous testing, not only showcases stellar performance but also wears its age like a badge of honour. Built to endure, these engines are designed to handle the toughest challenges.

C-DAC DEVELOPS ARM-BASED INDIGENOUS MICROPROCESSOR CALLED AUM FOR EXASCALE SUPER COMPUTERS

India is developing an ARM-based high-performance computing (HPC) processor to power its first exascale supercomputer, which is expected to be ready this year. The processor, called AUM, developed by the Centre for Development of Advanced Computing (C-DAC), an autonomous scientific body under the Ministry of Electronics and Information Technology (MeitY). AUM is based on a 5-nanometer node and will have 96 cores, which C-DAC says will put it ahead of the Fujitsu A64FX processor that powers the Fugaku, the second fastest supercomputer in the world. C-DAC claims AUM will offer 4.6 teraflops per socket of compute power, which is more than the 2.7 teraflops per socket mustered by Fugaku.

COROVER.AI'S BHARATGPT EMERGES AS INDIA'S PREMIER INDIGENOUS GENERATIVE AI

CoRover.ai has positioned itself as India's premier Indigenous Generative AI platform with the launch of BharatGPT, a Large Language Model (LLM) inspired by Prime Minister Narendra Modi's visionary leadership. BharatGPT, integrated with the National Hub of Language Technology (NHLT) developed by Digital India, supports over 12 Indian languages for voice modality and 22 languages for text modality. This achievement is part

of the National Language Translation Mission (NLTM) under the Ministry of Electronics and Information Technology (MeitY).

INDIAN ARMY UNVEILS INDIGENOUS SECURE ARMY MOBILE BHARAT VERSION (SAMBHAV) ECOSYSTEM

In a step towards enhancing national defence capabilities, the Indian Army has developed the Secure Army Mobile Bharat Version (SAMBHAV) ecosystem in collaboration with the National Centres of Excellence from academia and industry. SAMBHAV, operating on contemporary 5G technology, represents a crucial advancement for India's defence infrastructure. The ecosystem is designed to provide a secure communication platform and is set to configure 35,000 sets in two phases. The initial phase aims to configure 2,500 sets by January 15, with the remaining 32,500 sets scheduled to be completed by May 31, 2024.

DRDO ANTI-DRONE TECH READY, HANDED OVER TO BEL, PRIVATE FIRMS FOR PRODUCTION

The Defence Research and Development Organisation is focussing on high endurance Unmanned Aerial Vehicles while the capability for smaller drones exists with the industry, House panel told. The counter-drone system developed by the Defence Research and Development Organisation (DRDO) is ready for production and was already demonstrated to armed services and other internal security agencies with some orders already placed. The DRDO is now focussing on high endurance Unmanned Aerial Vehicles (UAV) while the capability for smaller drones exists with the industry.

IISC DEVELOPS CLEAN, GREEN COOLING TECH FOR INDIAN NAVY

A team of seven scientists and researchers from Indian Institute of Science (IISc) has developed a clean green cooling technology using carbon dioxide (CO₂). But this time, the technological innovation is for the Indian Navy. The team from the Interdisciplinary Centre for Energy Research (ICER), IISc, developed a trans critical CO₂-based refrigeration and heat pump system. The system has completed 1,300 hours of testing at Maharashtra-based naval base INS Shivaji. It will be officially inaugurated by the Navy this month.

DARPA RESEARCH LEADS TO GROUNDBREAKING DISCOVERY IN QUANTUM COMPUTING, DEVELOPING THE WORLD'S FIRST LOGICAL QUBIT CIRCUIT

A team of Harvard scientists working on a project funded by the Defence Advanced Research Projects Agency (DARPA) has announced a significant breakthrough in the field of quantum computing. Researchers working with the Optimization with Noisy Intermediate-Scale Quantum (ONISQ) program say they have created the world's first quantum circuit using logical quantum bits (qubits). The innovation marks a significant stride towards fault-tolerant quantum computing, promising to revolutionize the design of quantum computer processors. Established in 2020, DARPA says the ONISQ program aims to develop ways to surpass the capabilities of classical supercomputers in solving combinatorial optimization problems, a challenging class of problems relevant to defence and commercial sectors.

IN A MAJOR BOOST TO INDIAN ARMY AS DRDO SUCCESSFULLY TESTS ROBOTIC MOUNTED GUN SYSTEM AT POKHRAN



In a major boost to the Centre's Make in India mission and the Army soldiers deployed along the international borders, the the Defence Research and Development Organisation (DRDO) on Friday successfully tested the robotic mounted artillery system at the Pokhran firing range in Jaisalmer district of Rajasthan. In the Jaisalmer district, bordering India-Pakistan border, the DRDO tested the 155×52 ATAGS by installing it on BEML's armoured truck which can give a befitting reply to the enemy. Due to this test, the entire surrounding area including Pokhran Field Firing Range of Jaisalmer echoed with gun blasts. According to defence sources, this test was conducted in the presence of officials of Defence Research and Development Organization and officers and soldiers of the Indian Army which was completely successful.

JAIPUR-BASED START-UP BEGINS MAKING NANOMATERIALS FOR BATTERIES FROM AGRI WASTE

“We have a patented process that takes organic waste and transforms it into nanocarbons. It is then added to batteries and capacitors to increase their energy and power efficiency,” said the company’s chief operations officer (COO) Mahi Singh. The start-up has experimented with Agri-wastes, municipal wastes, and paper-based wastes, including coconut fibres, shells, human hair, human sludge, sugarcane bagasse, walnut shells, chicken poop, and even municipal sludge, she said.

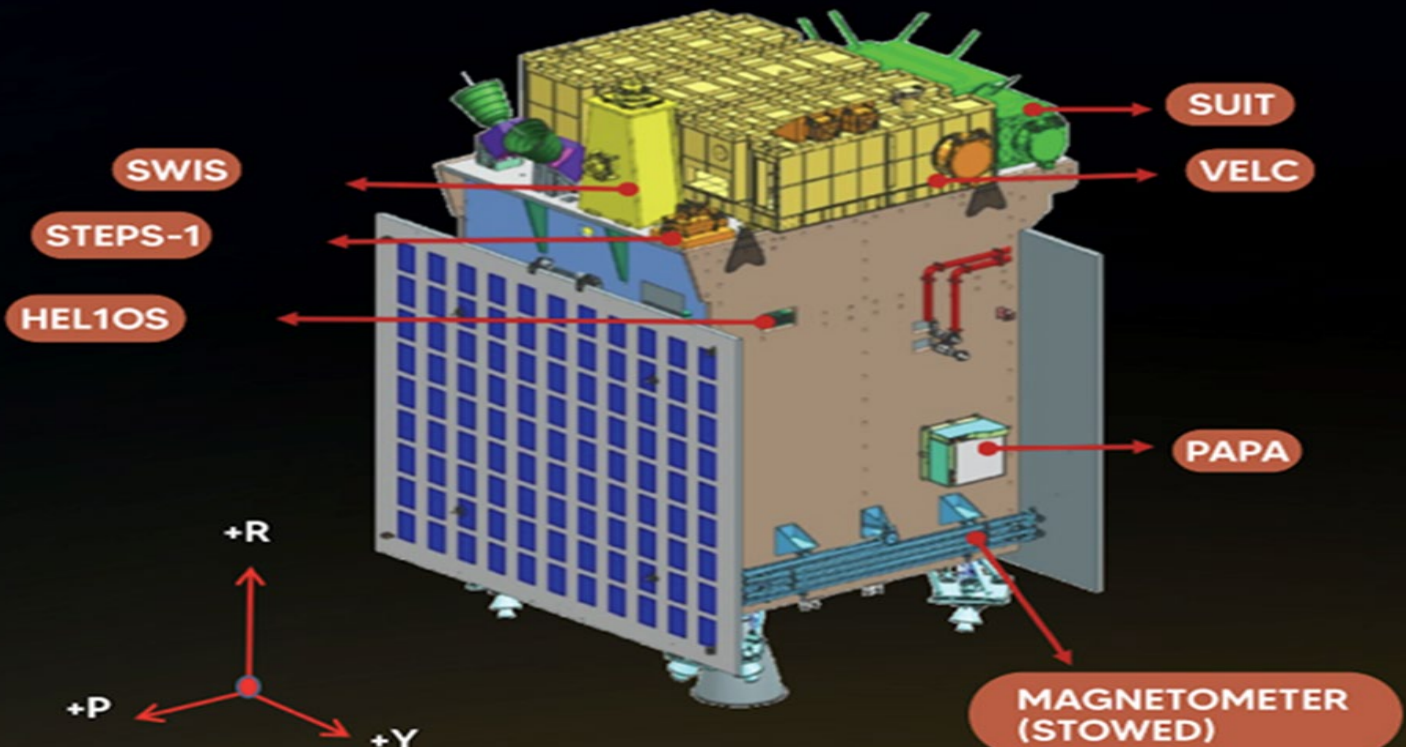
AATMANIRBHAR BHARAT: INDIA DESIGNING AND DEVELOPING ADVANCED GALLIUM NITRIDE SEMICONDUCTORS FOR DEFENCE SECTOR

Innovations for Defence Excellence (iDEX), the flagship initiative of the Department of Defence Production, has reached a milestone with the signing of its 300th contract. The contract relates to the design and development of advanced Gallium Nitride Semiconductors which is essential for the next generation of wireless transmitters in defence applications ranging from radars to EW (Electronics Warfare) jammers. Currently, almost all GaN components are imported being a sensitive and cutting-edge technology whose export is controlled and restricted by many countries. The proposal aims to design, develop and manufacture GaN components for defence in India using completely indigenous GaN technology. This would significantly enhance the indigenous design & development capability, paving way for immense potential in the defence

sector including exports. The contract was signed by Additional Secretary (Defence Industries Production) & CEO/DIO T Natarajan with M/s Agnit Semiconductors Private Limited in the presence of Defence Secretary Shri Giridhar Aramane and other senior civil & military officials of Ministry of Defence in New Delhi on December 01, 2023. The iDEX achieved the milestone within nine month of the signing of its 200th contract with a winner of the Indian Navy Prime challenge launched under the SPRINT initiative on February 15, 2023. The 150th Contract of iDEX was signed in December, 2022.

SPACE

From The Field of Space And
Space Technologies



ISRO SUCCESSFULLY DEPLOYS MAGNETOMETER BOOM ON ADITYA-L1 IN HALO ORBIT

The space agency says that the magnetometer boom was deployed in the Halo orbit at the Lagrange point L-1, on January 11, 2024. The boom had been in stowed condition for 132 days since the Aditya-L1 launch. The Indian Space Research Organisation (ISRO). The 6-metre-long magnetometer on the Aditya-L1 satellite has been successfully deployed. The 6m magnetometer boom, previously stowed for 132 days, is now successfully deployed in the Halo orbit. The boom houses two fluxgate magnetometers that measure the interplanetary magnetic field in space.



POEM-3 MISSION ACHIEVES ALL ITS PAYLOAD OBJECTIVES; PSLV-C58 TO LEAVE ZERO DEBRIS

POEM-3, the PSLV Orbital Experimental Module-3, India's unique inexpensive space platform using the spent PS4 stage of the PSLV-C58 vehicle that launched XPoSat on January 1, 2024, has successfully achieved all its objectives. After deploying the satellite into its intended orbit at 650 km, the vehicle was lowered to 350 km circular orbit to minimize the time of orbit decay after completion of the experiment. It is a three-axis-attitude controlled platform with power generation and telecommand & telemetry capabilities, for supporting Payloads. By 25th day in orbit, POEM-3 completed 400 orbits. Its current orbit measures around 322 km by 352 km. It is predicted that POEM-3 will continue orbiting for approximately 73 more days before re-entering the Earth's atmosphere.

ISRO LOX METHANE TECHNOLOGY DEMONSTRATOR ENGINE DEVELOPED; SEVERAL HOT TESTS COMPLETED

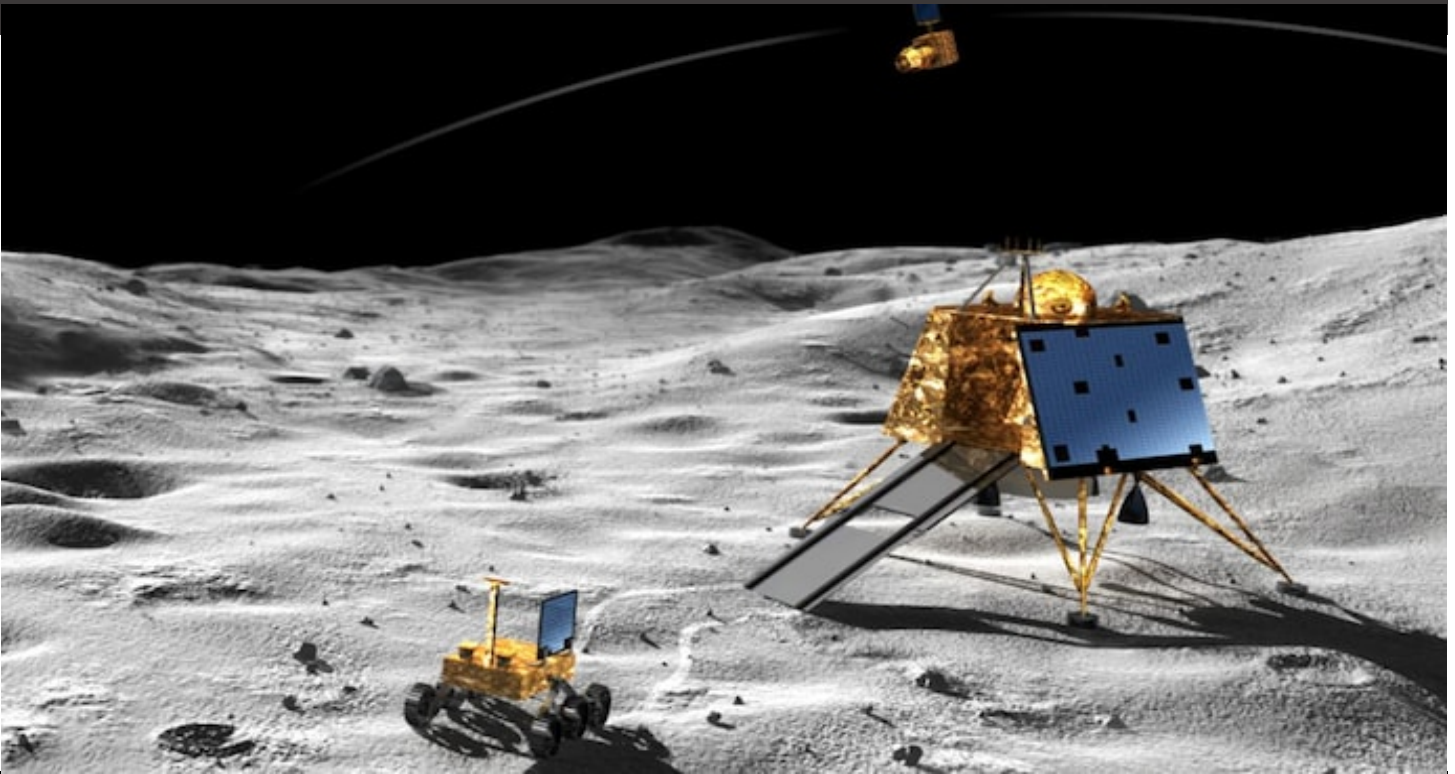
ISRO's LOX Methane Engine. 20 ton Technology Demonstrator developed & 6-8 hot tests completed. Test facilities for extensive tests have been developed. Tech for 100 ton Lox Methane engine in a way that can be inferred is under development. Engine is believed to be reusable up to 20 times. In its endeavour to develop cutting-edge technologies that are on par with elsewhere in the world,, the Indian Space Research Organization (ISRO) is developing two "LOX-Methane" engines. These engines use liquid oxygen as the oxidizer and methane as the fuel. ISRO is developing these engines for its future launch vehicles. Liquid oxygen (LOX) is the liquid form of molecular oxygen. It was used as the oxidizer in the first liquid-fuelled rocket invented in 1926.



ISRO CONDUCTS PRELIMINARY STUDIES ON ROTATING DETONATION ENGINES (RDES)

A new type of engine -- called a rotating detonation engine -- promises to make rockets not only more fuel-efficient but also more lightweight and less complicated to construct, say researchers. For the findings, published in the journal Physical Review E, researchers at the University of Washington have developed a mathematical model that describes how these engines work. According to a March 2023 study, the research adopted air and gas mixtures with the same main composition as kerosene as the reactants. The

study also designed the isolator, injector, and annular combustor, and performed an experimental study under the condition of high enthalpy airflow.



ISRO CHIEF SOMANATH SETS SIGHT ON MOON AS BASE FOR STRATEGIC ACTIVITIES

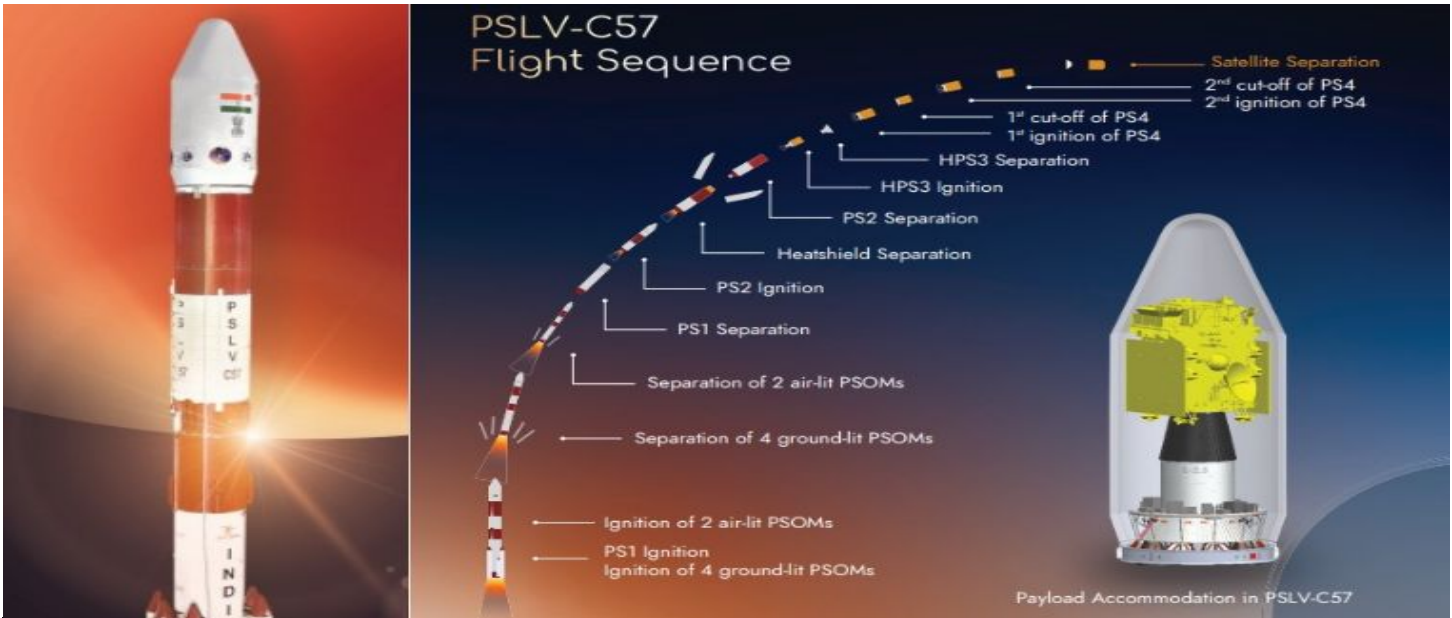
In a move to stimulate interest in human spaceflight ambitions, the Indian Space Research Organisation's (ISRO) Chairman, S Somanath on Thursday called to build a long-term human outpost on the Moon and use it as a base. He contended that the lunar surface could potentially be used for strategic activities. "We also look at the Moon as a base when you look at human access to the Moon and continued access to the Moon in the long term. It also has an economic impact on our space activity," Somanath said on the permanent presence of humans on the Moon while speaking on the second day of the ongoing Vibrant Gujarat Global Summit.

ISRO TO DEVELOP INDIGENOUS METHOD TO CERTIFY SPACECRAFT

The Indian Space Research Organisation (ISRO) is currently working on an indigenous mechanism to certify its spacecraft, said ISRO chairman S Somnath on Sunday. He was speaking at a fire-side session on 'Unlocking the potential of Aerospace & Defence sector through dedicated corridors' with S Christopher, the former chairman of the Defence Research and Development Organisation (DRDO). Unlike an aircraft, which can be certified to be safe for humans to fly, there is no such mechanism for Indian spacecraft yet, he said. "There is quite the difference between a human flying an aircraft and a human flying a spacecraft. Moreover, as an industry, we understand the demand we have today," chairman Somnath added.

LANDMARK ACHIEVEMENT: ISRO SUCCESSFULLY PLACES ADITYA-L1 SPACECRAFT IN HALO ORBIT AROUND LAGRANGE POINT 1

ISRO executed a key manoeuvre on Saturday, and successfully placed the Aditya-L1 spacecraft, India's first space-based solar observatory, to its final orbit Lagrange Point 1 location approximately 15 lakh kilometres away from Earth. It was Prime Minister Narendra Modi who broke the news first on the internet of the success of Aditya-L1 mission. ISRO as usual drew a blank and was not present anywhere on the internet or the mainstream media to provide viewers the live updates/information they were keenly looking for on the status of the crucial manoeuvre.



ISRO'S FUEL CELL THAT COULD POWER INDIA'S SPACE STATION WORKS FLAWLESSLY IN SPACE

The Indian Space Research Organisation (ISRO) has successfully tested a newly designed fuel cells that could be used for power generation in the proposed space station to be built by India. The 100 W class Polymer Electrolyte Membrane (PEM) Fuel Cell was tested on the PSLV-C58's orbital platform, POEM3 in space. This innovative fuel cell technology is set to revolutionise power production in space habitats, offering a sustainable and efficient solution for future space missions. The test conducted by ISRO's Vikram Sarabhai Space Centre (VSSC) aimed to evaluate the operation of PEM Fuel Cells in the unique conditions of space and gather critical data to aid in the design of systems for upcoming space endeavours.

ISRO TESTS HIGH EFFICIENCY, LOW-COST BATTERY FOR FUTURE MISSIONS

ISRO on Friday said it has tested a new kind of battery cell which is more efficient and costs less than the conventional ones used on its missions. The

national space agency said it has qualified 10 Ah Silicon-Graphite-anode based high energy density Li-ion cells as a low weight and low cost alternative to conventional ones being used currently. The flight demonstration of the cells as a battery was also successfully completed by powering a resistive load onboard the POEM-3 platform of PSLV-C58, launched on January 1, the space agency said in a statement.

INDIA SUCCESSFULLY LAUNCHES XPOSAT THE WORLD'S SECOND SPACE-BASED OBSERVATORY

India successfully launched on Monday the world's second space-based observatory to probe through a poorly observed astronomical window some of the most violent objects in the cosmos, including the remnants of dead stars called black holes and neutron stars. The Indian Space Research Organisation (ISRO) launched the X-ray Polarimeter Satellite (XPoSat).

INTERNATIONAL RELATIONS

Covering International and
Geopolitical Matters



MYANMAR MILITARY'S STRUGGLES AMID REBEL OFFENSIVE

The Myanmar military faces challenges from a rebel offensive, leading to mass surrenders and defections. Soldiers report plunging morale, logistical strains, and a lack of reinforcements. Calls for help and resupply often go unanswered, with some troops disguising themselves as civilians to buy food. The rebels' successes weakened the military internally, with soldiers deployed without proper training.

The military's commander, Min Aung Hlaing, hasn't addressed mass surrenders. The military, ruling since 1948, enforces loyalty, but its

struggles may not mean imminent defeat. Soldiers are cut off from news and indoctrinated to see rebels as disorganized or ruthless.

Accounts come from defectors, prisoners, and police documents. Defectors hope to end the conflict, while prisoners justify their surrender due to poor training and planning. The rebels' October offensive surprised even supporters, with hundreds of outposts falling since. The military has mobilized more troops but struggles to supply them, facing financial issues from international sanctions.

Army commanders limit contact with the outside, making it harder for rebels to convince soldiers to surrender. The rebels' message is clear: "Join with the people or die."



IRANIAN WOMEN DEFY HIJAB LAWS: A BRAVE STAND AGAINST OPPRESSION

In a bold act of defiance, Iranian women are openly flouting the hijab laws, risking arrest and financial penalties. Despite the risk, these women are determined to challenge the oppressive regime and reclaim their freedom.

The movement gained momentum after the mysterious death of 22-year-old Mahsa Amini in state custody, sparking nationwide protests. Human rights

groups report over 20,000 arrests and 500 deaths during these demonstrations.

Despite the crackdown, women continue to resist. They receive text message warnings when caught without a hijab on government-monitored feeds or traffic cameras. A reporting system allows people to snap photos of violators and send them to authorities.

While some judges hand down financial penalties instead of physical punishment, the threat of arrest looms large. However, women like Hamayra, who grew up outside Iran, see it as the least they can do to push back against oppression.

Iranians face challenging conditions at home, with the government embroiled in Middle East proxy conflicts. Yet, even as the regime marks 45 years since the 1979 revolution, Iranian women stand undeterred, showing remarkable courage in the face of adversity.

US AND CANADA'S DIVERGENT PATHS IN SIKH SEPARATIST CASES

The US and Canada have taken different approaches to handling alleged assassinations of Sikh separatists, revealing contrasting political and diplomatic strategies. While both nations prioritize human rights, strategic interests and community influence play significant roles.

Canada's Sikh community wields considerable political power, leading to a strong response to the killing of a Sikh leader. Prime Minister Trudeau's accusations against India strained bilateral ties, resulting in diplomatic expulsions and visa suspensions.

In contrast, the US, despite acknowledging a foiled assassination plot, maintained strong relations with India. The US Senate approved a

significant arms sale to India, emphasizing regional stability and mutual interests.

This divergence underscores the US's pragmatic diplomacy and long-term security goals. India's strategic importance in countering China is a key factor, aligning with US interests in Indo-Pacific stability.

While human rights are important, the US and India have overlapping but not identical interests. The arms sale aims to reassure India amid regional tensions, serving both nations' strategic goals.

Canada's stance reflects its commitment to human rights, leading to a confrontational approach with India. The issue has sparked protests, highlighting the complexities of international relations and human rights advocacy.

As the US and Canada navigate these challenges, the Sikh separatist issue underscores the delicate balance between strategic interests, human rights, and diplomatic relations.

UNRWA EMPLOYEES: ACCUSATIONS AND IMPLICATIONS

Israel disclosed details implicating 12 UNRWA employees in the October 7 attacks, citing their alleged ties to Hamas. While Israel provided names and roles, no evidence was offered. The accusations strained Israel's relations with the UN, prompting funding suspensions from multiple countries.

UNRWA swiftly dismissed 10 accused employees and initiated an investigation. Israel's defense minister labeled UNRWA's involvement in terror activities, urging aid transfer to other organizations. However, UNRWA emphasized ongoing investigations and maintained its screening procedures against the UN Security Council's sanctions list.

Israel also alleged a significant portion of UNRWA staff had affiliations with Hamas or Palestinian Islamic Jihad, but provided no evidence. UNRWA disclosed routine sharing of staff information with Israel but received no prior notification of alleged Hamas ties.

The situation underscores escalating tensions, casting doubt on UNRWA's legitimacy and prompting international scrutiny of Israel's claims.



THAI POLITICS: A NEW GENERATION'S CHALLENGE

Thailand's political landscape is shifting, with a generational divide emerging. The once-dominant divide between Thaksin supporters and opponents is giving way to a split between advocates of liberal democracy and 'Thai-style democracy'. This shift could marginalize the traditional forces of the army and monarchy.

The Move Forward Party (MFP), an antimonarchist and antimilitarist party, emerged as a major player, securing 151 seats in the lower house. The

MFP's radical stance against the army, monarchy, and old political dynasties resonated with the youth, attracting both former 'yellow shirts' and 'red shirts'.

The Pheu Thai Party, led by Srettha Thavisin, also made gains with 141 seats. However, the military-backed parties, Palang Pracharat Party and United Thai Nation Party, saw diminished support, with only 40 and 36 seats respectively.

This election marks a significant shift in Thai politics, with a new generation challenging the traditional power structures. The future of Thai democracy may hinge on how this generational divide plays out.



THAILAND AND INDIA: A POSSIBLE STRATEGIC PARTNERSHIP FOR MYANMAR'S CRISIS

Thailand's Vice Minister for Foreign Affairs, Sihasak Phuangketkeow, expressed a desire to collaborate with India and ASEAN members to address the ongoing crisis in Myanmar. The situation in Myanmar, marked by armed hostilities and political complexities, has persisted for over three years.

ASEAN has attempted to resolve the crisis through a five-point consensus, focusing on reducing violence, halting hostilities, providing humanitarian

aid, and facilitating dialogue. However, little progress has been made, prompting Thailand to explore alternative approaches.

Phuangketkeow highlighted the importance of humanitarian assistance, particularly for the over two million displaced people in Myanmar. He emphasized the need for transparent and non-discriminatory aid distribution, which could pave the way for broader engagement, including a humanitarian dialogue.

While external engagement is crucial, Phuangketkeow stressed that the ultimate resolution lies with the parties within Myanmar. He expressed hope for a cooperative future and indicated a willingness to work closely with India on the Myanmar issue.

This collaborative approach between Thailand and India underscores the significance of regional cooperation in addressing complex geopolitical challenges.

GLOBAL ECONOMIC CONCERNS: BEYOND UK AND JAPAN

The UK and Japan's technical recessions in the last quarter of 2023 are just the beginning of a broader global economic concern. At least 14 countries saw a decline in GDP during the July-September quarter, and another six countries reported GDP contraction for the first time in the December quarter.

Ireland and Finland joined the UK and Japan in technical recessions, with GDP contractions of 0.7% and 1.9% in Q3 and Q4 respectively for Ireland, and 0.4% and 0.9% for Finland in the same periods.

Denmark, Luxembourg, Moldova, and Estonia were already in recession by the third quarter. Now, an additional 10 countries are at risk of slipping into

recession, including Denmark, Luxembourg, Moldova, Estonia, Ecuador, Bahrain, Iceland, South Africa, Canada, and New Zealand.

Six countries reported GDP contraction for the first time in the December quarter: Malaysia, Thailand, Romania, Lithuania, Germany, and Colombia. Germany, being the largest economy in the Eurozone, could impact the entire region's growth, especially as the Eurozone reported stagnation in Q4.

India's economy has been relatively stable, but no country is immune to global economic shifts. External factors like global price rises and shifts in service exports could impact India's economy, highlighting the interconnectedness of the global economy.



CANADIAN MILITARY'S DECLINE: A CAUSE FOR CONCERN

Current and former defense officials are sounding the alarm on Canada's military, citing troop shortages, aging equipment, and technology. Only 61% of the Canadian Armed Forces is deemed ready for operations, a worrying figure in an increasingly volatile world.

The situation came into focus when Chief of the Defence Staff Gen. Wayne Eyre appeared before Parliament's national defense committee after a \$1

billion spending cut. He spoke of ammunition shortages and the impact of domestic natural disasters on readiness.

Other defense and security insiders echoed these concerns, highlighting challenges in the Royal Canadian Navy and a significant shortfall in reserve forces. The situation, they say, is the result of decades of underfunding.

Canada's Department of National Defence's 2022-23 report revealed that only half of military equipment was ready for training and operations. The inability to conduct multiple operations concurrently is a significant concern.

Despite increased spending, Canada still falls short of NATO's two percent GDP defense spending target. Russia's invasion of Ukraine has prompted European countries to bolster their defenses, but Canada's military readiness remains a concern.

While the government has announced measures to improve military readiness, critics argue that these are future solutions to current problems. They call for a shift in political priorities and a more serious approach to national security.



PAKISTAN'S FRAUGHT ELECTION: A MILITARY-BACKED STATUS QUO

Pakistan's February 8 elections were marred by fraud, ensuring Nawaz Sharif's return to power with military support. Imran Khan's popular PTI party was effectively barred from participating, and despite blatant ballot stuffing, Sharif's PML(N) party failed to win the most seats.

Sharif is attempting to form a coalition government with the PPP, led by Bilawal Bhutto Zardari, but the only bond between them is their mutual dislike of the PTI.

If Sharif returns to power, it could mean a shift in Pakistan's foreign relations. During his previous stint (2013-2018), relations with India were relatively good. However, Sharif's interest in improving relations with Delhi contributed to his downfall in 2017, and he's unlikely to make the same mistake.

Relations with China, particularly the CPEC, will likely continue positively under Sharif. However, he will need to address the security concerns surrounding Chinese workers and officials in Pakistan.

The TTP remains a significant challenge, with Afghanistan's support for the group hindering any improvement in Pakistan-Afghan relations. Washington, despite its criticism of the election, is committed to strengthening security cooperation with Pakistan.

Overall, under Sharif's leadership, Pakistan's foreign relations may see minimal change, with possible slight improvements in relations with India and the US.

ARMENIA EYES STRATEGIC PARTNERSHIP WITH INDIA



Armenia is eager to strengthen its relationship with India, aiming to elevate bilateral ties to a strategic partnership. Narek Mkrtchyan, Armenia's labour minister, expressed confidence in the maturity of their relations, calling for discussions on this matter between the foreign ministers of both countries.

Emphasizing the importance of defense cooperation, Mkrtchyan highlighted Armenia's desire to deepen its defense ties with India. This aspiration comes in the wake of India's increased arms sales and strategic support to Armenia during its clashes with Azerbaijan over the Nagorno-Karabakh territory.

In 2020, Armenia acquired the Swathi weapon-locating radar system from India, and a bilateral agreement was subsequently reached for India to supply ammunition, multi-barrel rocket launchers for Pinaka, and anti-tank munitions to Armenia.

In November 2022, Kalyani Strategic Systems, a subsidiary of Bharat Forge, secured a \$155 million contract to supply artillery guns to Armenia, further solidifying the strategic partnership between the two nations.

Armenia is also keen on Indian firms participating in the construction of infrastructure projects, particularly the North-South Road, which spans the country from its southern border with Iran to its northern border with Georgia. The road requires upgrades to handle heavy truck traffic, offering opportunities for Indian infrastructure companies.

The Armenian government plans to announce international tenders for various projects, including the construction of schools, kindergartens, and an academic city. Indian companies are encouraged to participate in these tenders, signaling Armenia's openness to Indian investments and business ventures.

Overall, Armenia's pursuit of a strategic partnership with India reflects its commitment to fostering stronger ties and exploring mutual benefits in various sectors.

BRAZIL'S DEMOCRATIC CRISIS: A CALL FOR UNITY



The recent allegations of a coup attempt by former President Jair Bolsonaro and his allies have exposed the deep-seated issues within Brazil's political landscape. The accusations of spreading propaganda, organizing a coup, and undermining the electoral process are serious and must be addressed with the utmost seriousness.

Brazil's history of political turmoil, including the impeachment of former President Dilma Rousseff and the imprisonment of Lula, underscores the fragility of its democratic institutions. The current allegations against Bolsonaro are particularly grave, given his defense of the brutal dictatorship and the delicate balance of power between the military and civilian authorities.

In the face of these challenges, it is crucial for Brazil to uphold the rule of law and ensure that impartial investigations are conducted to uncover the truth. Lula, who has returned to power on promises of strengthening democracy, must prioritize unity and stability. He should not allow the coup scandal to further divide the country and undermine the legitimacy of its democratic system.

Brazil's future hinges on its ability to navigate these turbulent times and uphold the principles of democracy. It is imperative for all political actors to put aside their differences and work towards a common goal of a stable and prosperous Brazil.



CHINA'S FACTORY ACTIVITY DECLINE SENDS RIPPLES ACROSS ASIA

China's manufacturing sector continued to shrink in February, marking the fifth consecutive month of contraction. This decline in the world's second-

largest economy has had a ripple effect on manufacturers across Asia, with subdued demand both domestically and internationally.

The official manufacturing purchasing managers index (PMI) for China, released by the National Bureau of Statistics, came in at 49.1 last month. However, the Caixin PMI, which focuses on smaller firms, improved to 50.9.

In North Asia, factory managers reported a decrease in output and new orders, reflecting subdued customer spending. Taiwan's PMI edged down to 48.6 from 48.8 the month prior, marking the 21st straight month of contraction in the trade-reliant economy. Japan's PMI also fell to 47.2 from 48, with the sharpest decline in exports in 11 months, attributed to reduced international sales from China, the US, and Europe.

Southeast Asia saw Thailand's PMI worsening to 45.3 from 46.7 in January, with Malaysia and Myanmar also remaining in contraction territory. Only Indonesia, the Philippines, and Vietnam posted above-50 readings in February.

The region also experienced inflationary pressures due to rising raw material prices, which factories were unable to pass on to consumers due to tepid demand.

The latest data comes amid warnings from the World Trade Organization that global commerce is performing weaker than expected due to economic headwinds and protectionism. Merchandise trade likely fell short of the WTO's forecast in 2023, and this year's estimate may also be too optimistic.



INDIA'S STRATEGIC PIVOT TO LATIN AMERICA: A NEW ERA OF ENGAGEMENT

India's recent diplomatic efforts in Latin America and the Caribbean (LAC) signal a significant shift in its foreign policy priorities. External Affairs Minister Dr S Jaishankar's visits to Guyana, Panama, Colombia, and the Dominican Republic underscore India's renewed focus on the region. This strategic pivot is driven by a desire to strengthen economic ties, leverage soft power, and expand India's diplomatic footprint in a region that has historically been overlooked.

India's engagement with LAC countries is not new, but it has gained momentum in recent years. The region's growing importance in global geopolitics, coupled with India's economic and strategic interests, has prompted a reevaluation of bilateral relations. India's soft power, including its cultural heritage, philosophy, yoga, and ayurveda, has long resonated with the people of Indian origin in the Caribbean. Leveraging this cultural affinity, India is seeking to deepen its people-to-people ties and enhance its strategic presence in the region.

China's Belt and Road Initiative (BRI) has also played a role in shaping India's approach to LAC. China's economic influence in the region, driven

by infrastructure and energy investments, has prompted India to adopt a more proactive stance. India's focus on soft power and cultural diplomacy, combined with its economic and strategic interests, is a counterbalance to China's economic dominance.

India's engagement with LAC countries is multifaceted, encompassing economic, political, and security dimensions. India's investments in the region, including in infrastructure, renewable energy, and defence, are aimed at enhancing economic cooperation and fostering mutual prosperity. India's diplomatic efforts, including the establishment of new diplomatic missions and the hosting of business conclaves, are aimed at deepening political and strategic ties.

India's strategic pivot to LAC is not without challenges. The region's geographical distance, coupled with logistical and transport costs, pose obstacles to economic cooperation. India's diplomatic presence in the region is also limited, with only a handful of countries having Indian missions. To overcome these challenges, India needs to adopt a more proactive approach, including expanding its diplomatic footprint and enhancing economic cooperation.

India's engagement with LAC countries is a reflection of its growing global ambitions. As India seeks to enhance its strategic presence in the region, it must navigate the complex geopolitical landscape and balance its economic and strategic interests. India's soft power and cultural diplomacy, combined with its economic and strategic investments, are key to building a more resilient and prosperous partnership with LAC countries.



BERLIN HOSTS PEACE TALKS BETWEEN ARMENIA AND AZERBAIJAN

The foreign ministers of Armenia and Azerbaijan are currently engaged in peace talks in Berlin, marking a significant step towards resolving the long-standing conflict between the two countries. The talks come five months after Azerbaijan recaptured the Nagorno-Karabakh region, leading to the displacement of thousands of ethnic Armenians.

The meeting in Berlin follows a surprise direct meeting between the leaders of Armenia and Azerbaijan on the sidelines of the Munich Security Conference earlier this month. The two countries had previously issued a joint statement in December expressing their desire to reach a peace deal.

German Foreign Minister Annalena Baerbock, who is hosting the talks, commended the "courageous steps" taken by both countries to work towards a durable peace. She emphasized the importance of putting the past behind and focusing on a peaceful future for their people.

German Chancellor Olaf Scholz mediated the previous talks in Munich, where Armenian Prime Minister Nikol Pashinyan and Azerbaijani President

Ilham Aliyev agreed to continue with the peace negotiations. Baerbock's visit to both countries in November had also called for new peace talks to take place.

However, the road to peace has not been without challenges. Azerbaijani President Ilham Aliyev accused European Union and French leaders of "demonizing" his country and denied any plans to attack Armenia. He also criticized EU diplomat Josep Borrell's comments about the territorial integrity of Armenia, calling them a "covert threat towards Azerbaijan."

The conflict between Armenia and Azerbaijan dates back to the 1990s when the Armenian-majority Nagorno-Karabakh region broke away from Azerbaijan. A Russian-brokered cease-fire in 2020 saw Azerbaijan regain areas surrounding Nagorno-Karabakh, and the region was fully retaken by Azerbaijan in September 2023. The situation remains complex, with Armenia accusing Azerbaijan of "ethnic cleansing" and Azerbaijan maintaining that ethnic Armenians left voluntarily.



UKRAINE WITHDRAWS FROM AVDIIVKA AMIDST RUSSIAN ADVANCES

In a significant development in the ongoing conflict between Ukraine and Russia, Ukrainian forces have withdrawn from the eastern town of Avdiivka, marking Russia's biggest victory since the fall of Bakhmut in May last year. Avdiivka, which has been besieged by Russian forces for months, was a key town for Ukraine as it allowed Kyiv to resupply its forces in the region. The withdrawal comes after months of intense fighting and waves of attacks launched by Moscow towards the town.

The fall of Avdiivka is a significant change on the more than 1,000km-long (620-mile) front line since Russian troops seized the nearby town of Bakhmut in May 2023. Bakhmut, which has also been a key flashpoint along the front line, remains a critical area of contention, along with the areas around Robotyne and Krynky further south.

Russian President Vladimir Putin has hailed the capture of Avdiivka as an "important victory." However, the UK Ministry of Defence (MoD) has suggested that Russian forces may lack the combat effectiveness to immediately exploit the capture of the town.

Ukraine's President Volodymyr Zelensky has attributed the decision to withdraw from Avdiivka to the need to save soldiers' lives, highlighting the challenges faced by Ukraine in the conflict. Ukraine is critically dependent on weapons supplies from the US and other Western allies to continue fighting against Russia, a much larger military force with an abundance of artillery ammunition.

The conflict between Ukraine and Russia has been ongoing for two years since Russia's invasion, with Moscow's forces making an apparent breakthrough this week after months of virtual stalemate.

MILITARY EXERCISES

India participating in international and bilateral military exercises



EXERCISE 'DHARMA GUARDIAN'

The 5th edition of Joint Military Exercise 'DHARMA GUARDIAN' between the Indian Army and the Japan Ground Self Defence Force commenced on Mahajan Field Firing Ranges in Rajasthan. The Exercise was scheduled to be conducted from 25th February to 9th March 2024.

Exercise 'DHARMA GUARDIAN' was an annual exercise and conducted alternatively in India and Japan. The contingent of both sides comprised 40 personnel each. The Japanese contingent was represented by troops from the 34th Infantry Regiment, and the Indian Army contingent was represented by a Battalion from the Rajputana Rifles.

Tactical drills practiced during the Exercise included establishing a Temporary Operating Base, creating an Intelligence, Surveillance, and Reconnaissance (ISR) Grid, setting up a Mobile Vehicle Check Post, executing Cordon and Search Operations in a hostile village, Heliborne operations, and House Intervention Drills. A Weapon and Equipment Display was also organized, showcasing the ‘Atmanirbhar Bharat’ initiative and the growing defense industrial capability of the country.

Lieutenant General TOGASHI Yuichi, Commanding General, Eastern Army, Japan Ground Self Defence Force, also visited India on the sidelines of “Exercise DHARMA GUARDIAN.” The General officer visited Mahajan Field Firing Ranges on 3rd March 2024 and witnessed Combat Shooting demonstration, Special Heliborne Operation (SHBO), and House Intervention Drills.



INDIAN COAST GUARD IN MOZAMBIQUE

Indian Coast Guard Offshore Patrol Vessel (OPV) ICGS Varaha had made a significant port call at Maputo Port, Mozambique on 14 February 2024, as part of its ongoing strategic overseas deployment to East Africa, marking a pivotal milestone in the ongoing diplomatic maritime engagements.

During its three-day visit, the crew of ICGS Varaha participated in a series of professional interactions in the field of Marine Pollution Response (MPR), Maritime Search and Rescue (M-SAR), and Maritime Law Enforcement, including cross-deck training, calls on various Mozambique Naval and maritime agencies officials, sports fixtures, joint yoga sessions, tabletop exercises, and Passage Exercise (PASSEX) with the Mozambique Naval Forces. The visit of ICGS Varaha, an indigenously built Offshore Patrol Vessel to East African countries, also aimed to showcase the Indian shipbuilding industry's prowess and capabilities, furthering the concept of “Aatmnirbhar Bharat.”

The visit to Maputo held great significance as it reinforced bilateral relationships with key maritime agencies. These long standing relationships were integral to ensuring the safety, security, and environmental sustainability of the seas in the region, while also addressing contemporary maritime challenges.

The deployment of ICGS Varaha to East Africa exemplified India's commitment to fostering warm and cordial relations with African countries. The overarching goal was to promote friendly relations through maritime cooperation, aligning with India's maritime vision encapsulated in “SAGAR – Security and Growth for All in the Region” and the concept of “Global South.”



EXERCISE VAYUSHAKTI-2024

The Indian Air Force conducted Exercise Vayu Shakti-24 on February 17, 2024, at the Pokhran Air to Ground Range near Jaisalmer. The last edition of the exercise took place on February 16, 2019. As usual, Exercise Vayu Shakti served as a captivating demonstration of the IAF's offensive and defensive capabilities, both during the day and at night. The exercise also showcased joint operations with the Indian Army. This year, the exercise featured the participation of 121 aircraft, including the indigenous Tejas, Prachand, and Dhruv. Other participating aircraft included the Rafale, Mirage-2000, Sukhoi-30 MKI, Jaguar, Hawk, C-130J, Chinook, Apache, and Mi-17. Indigenous Surface to Air Weapon systems Akash and Samar demonstrated their capability to track and shoot down intruding aircraft. Exercise Vayu Shakti served as a testament to the IAF's ability to deliver long-range, precision-guided weapons as well as conventional weapons accurately, on time, and with devastating effect, while operating from multiple airbases. Special operations by the IAF transport and helicopter fleets, involving the Garuds and Indian Army elements, were also on display. A brief summary of the event is as follows:-

Opening Ceremony:

- Three Chetak helicopters displayed the Indian National Flag and IAF ensign.
- A Rafale aircraft created a sonic boom.
- Two Jaguar aircraft performed reconnaissance.

Air Combat Demonstration:

- Over 120 IAF aircraft showcased their offensive capabilities, including:
- Fighter jets like Rafale, Su-30 MKI, Tejas, and others attacking simulated targets with precision weapons.
- Tejas performing a swing-role mission, engaging both air and ground targets.
- A long-range drone destroying a simulated radar site.
- A Rafale engaging an aerial target beyond visual range.

Combat support operations included:

- C-17 dropping supplies and C-130J transporting IAF Garud special forces.
- Apache helicopters engaging ground targets for the first time in this exercise.
- Mi-17 helicopters and weaponized Advanced Light Helicopters engaging targets.
- Chinook helicopters airlifting M-777 Howitzers for the Indian Army.

Night Operations (First Time Showcased):

- Light Combat Helicopter Prachand engaging targets with rockets.

- Jaguar and Su-30 MKI performing night bombing with heavy weapons.
- Remotely Piloted Aircraft assessing bomb damage.

Other Displays:

- Akashganga team performing a freefall drop.
- C-130J dispensing flares.
- Tri-service band performance.

The exercise demonstrated the IAF's offensive capabilities, precision targeting, and joint operations with the Indian Army. It highlighted the growing role of indigenous weapon systems like Tejas, Prachand, Akash, and SAMAR.



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