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# समाचार पत्रों से चयित अंश
# Newspapers Clippings

डीआरडीओ समुदाय को डीआरडीओ प्रौद्योगिकियों, रक्षा प्रौद्योगिकियों, रक्षा नीतियों, अंतर्राष्ट्रीय संबंधों और विज्ञान एवं प्रौद्योगिकी की नूतन जानकारी से अवगत कराने हेतु दैनिक सेवा

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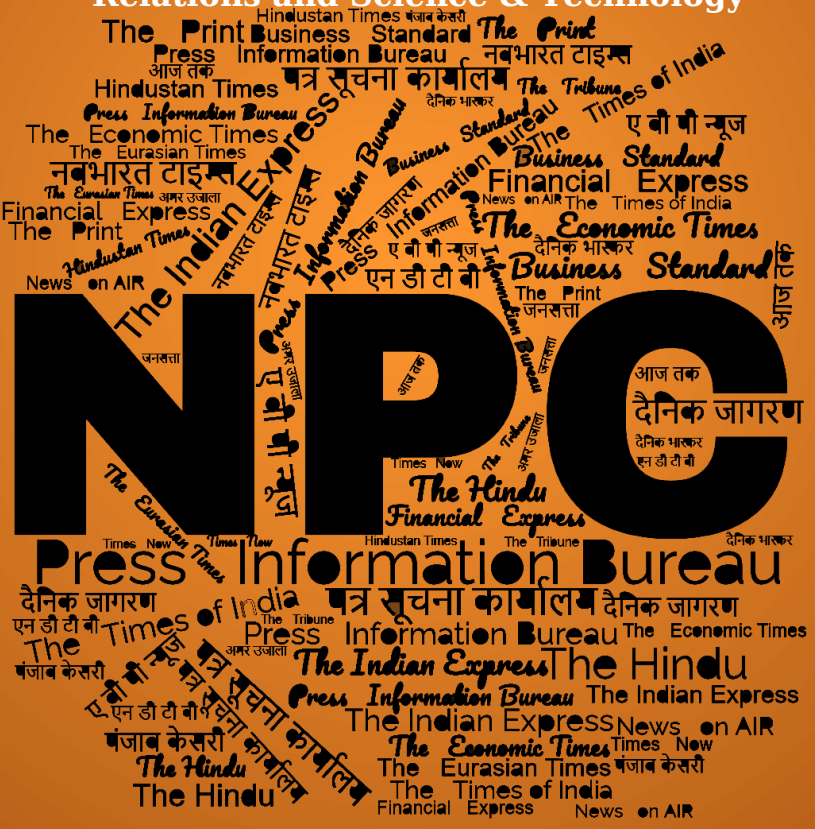


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# CONTENTS

# DRDO News

## DRDO Technology News

United News of India
India's Multi Lingual News Agency

***Tue, 05 Sep 2023***

### Min of State for Defence Visits CVRDE, Avadi

Union Minister of State for Defence and Tourism Ajay Bhatt on Tuesday made his maiden visit to the Combat Vehicles Research and Development Establishment (CVRDE), Avadi. During his visit, the Minister had a meeting with senior scientists and reviewed the progress of on-going projects at CVRDE. Dr S V Kade, Distinguished Scientist & Director General (ACE) gave a presentation about various achievements and important technology/products developed by CVRDE. Mr V.Balamurugan, Outstanding Scientist & Director CVRDE briefed the present status and improvements of on-going projects.

The Minister evinced keen interest towards the advanced systems developed by CVRDE and the respective project leaders highlighted the uniqueness of their systems. The Minister also made a ride in Main Battle Tank (Arjun Mk I A) with crew members and experienced the advanced features of the Indian Made Tank. Mr Ajay Bhatt appreciated the CVRDE fraternity for the unstinted efforts and contributions in the Defence base. Further, he also emphasized the importance of enhancing the self-reliance in R&D systems and expressed his confidence that DRDO will empower the nation with 'Make in India' concept.

http://www.uniindia.com/min-of-state-for-defence-visits-cvrde-avadi/south/news/3044769.html

# Defence News

## Defence Strategic: National/International

Press Information Bureau
Government of India

**Ministry of Defence**

***Tue, 05 Sep 2023***

### Visit of Brazilian Navy Delegation, 05 Sep 23

A Brazilian Navy delegation led by Admiral José Augusto Vieira da Cunha de Menezes, Chief of General Staff visited New Delhi and met VAdm Sanjay J Singh, Vice Chief of the Naval Staff on

05 Sep 23. The Brazilian delegation also held discussions with VAdm Sandeep Naithani, Chief of Materiel on areas of mutual cooperation, with focus on Indian Navy's indigenisation efforts for achieving self reliance in Submarine maintenance.

https://pib.gov.in/PressReleasePage.aspx?PRID=1954935

REPUBLICWORLD.COM

***Tue, 05 Sep 2023***

# Indian Army Chief Discusses Security and Synergy at Naval Commanders' Conference

Indian Army Chief Gen Manoj Pande recently engaged in a pivotal interaction with Naval Commanders during the Commanders' Conference on September 5. The event focused on shedding light on the security situation along the borders, as per Indian Navy officials.

In a statement, Gen Pande underscored several critical facets, including modernization, indigenization, and human resource initiatives that the Indian Army has embarked upon. Furthermore, as per Naval officials, he emphasised avenues for enhancing tri-service synergy, highlighting the importance of mutual learning and the adoption of ‘best practices’ across the armed services.

Subsequently, the Indian Army officials stated in a tweet on X, “COAS addressed the Naval Commanders Conference in New Delhi wherein COAS highlighted the current Operational Environment, Indian Army initiatives towards Transformation, joint pursuits with the Indian Navy, and other contemporary military matters.”

During the first day of the Bi-annual Naval Commanders Conference in New Delhi, the release of the Maritime Infrastructure Perspective Plan 2023-37, updated IRS Rules and Regulations Handbook, Family Logbook, and Electronic Service Document Project marked significant developments in infrastructure planning, shipbuilding, and HR management.

Defence Minister Rajnath Singh and State Defence Minister Ajay Bhatt had, in the meeting, emphasised the Indian Navy's commitment to national security and indigenisation efforts. Singh highlighted the Navy's achievements, including the launch of indigenous stealth frigates Vindhyagiri and Mahendragiri, and its alignment with the Prime Minister's Paanch Pran principles. The conference showcased indigenous projects in AI, cybersecurity, and more. CNS Adm R. Hari Kumar, who was also present, emphasised the Navy's readiness for missions, regional leadership, adaptability, and joint efforts.

In a similar event held between August 22 and 23, 2023, the two-day Tri-Services Commanders' Conference 23 unfolded under the leadership of General Anil Chauhan, the Chief of Defence Staff (CDS). This conference, hosted by the Western Naval Command (WNC) in Mumbai, saw in-depth discussions and extensive deliberations centred on the concepts of jointness and integration within the framework of both the existing security landscape and anticipated future security scenarios.

The first phase of this Naval Commanders' Conference, which commenced on March 6, featured a unique twist – its initial stage took place at sea aboard INS Vikrant, India's indigenous aircraft carrier. The conference's opening day saw Indian Defence Minister Rajnath Singh addressing the Naval Commanders. During the meeting, the Chiefs of Defence Staff, Army, and Air Force delved into discussions regarding tri-service synergy and readiness, with a focus on augmenting India's national interests and defence capabilities, as stated by the Ministry of Defence.

The MoD further stated, the conference included operational live sea demonstrations, showcasing the Navy's commitment to safeguarding India's maritime interests amid evolving geostrategic challenges.

https://www.republicworld.com/india-news/general-news/indian-army-chief-discusses-security-and-synergy-at-naval-commanders-conference-articleshow.html

THE TIMES OF INDIA

***Wed, 06 Sep 2023***

# Navy may Allow Traditional Indian Attire in Messes, Wardrooms, Institutes

The Navy may soon allow officers and sailors to wear specified traditional Indian attire in messes, wardrooms and institutes. Apart from operational issues and combat readiness, the ongoing naval commanders' conference is considering a "national civil dress for messes and functions" as an option for its personnel.

The options for the "national civil dress" displayed on the side-lines of the three-day conference, which were shown to junior defence minister Ajay Bhatt on Monday, include a short kurta with a formal waistcoat and narrow pyjamas as well as a band-gala suit.

"The matter is still under deliberation by the top commanders. If a decision is taken to allow a national civil dress, it will be with strict specifications and guidelines...it will be formal wear, in addition to the existing mess uniforms like the 'Red Sea Rigs' and formal western attire like lounge suits," an officer said, on being contacted by TOI.

Kurta-pyjamas or other traditional Indian clothes for male personnel as well as guests are strictly not allowed in Army, IAF and Navy messes till now. Over the last several months, however, the Navy has been at the forefront of the drive to discard "vestiges of the colonial era" in the military arena in line with the government's directive.

In December last year, Navy chief Admiral R Hari Kumar had said, "The PM articulated 'Panch Pran' from the ramparts of the Red Fort, which included 'Gulami ki Mansikta Se Mukti'. In pursuance of that end state, the Navy will continue to proactively identify redundant or archaic practices, processes or symbols that could either be discontinued, or modified in consonance with modern day realities."

Towards this end, PM Narendra Modi had "unveiled" a new "swadeshi" Ensign for the Navy, which included the removal of the red-coloured St George's Cross from the flag, during the commissioning of indigenous aircraft carrier INS Vikrant on September 2 last year.

The Navy then also got a new President's Standard and Colour as well as Crest in line with the "swadeshi" drive. Last month, the Navy had also put a stop to the practice of its officers carrying batons. "With the passage of time, carrying of batons by naval personnel has gradually become a norm. The symbolism of authority or power portrayed through the holding of the baton is a colonial legacy that is out of place in a transformed Navy of 'Amrit Kaal'," the naval directive said.

https://timesofindia.indiatimes.com/india/navy-may-allow-traditional-indian-attire-in-messes-wardrooms-institutes/articleshow/103407094.cms?from=mdr

FINANCIAL EXPRESS
Read to Lead

***Tue, 05 Sep 2023***

# Ex Trishul: India's Military Strength on Display along Eastern Ladakh

In a significant move, India has launched a massive military exercise along its borders with China and Pakistan. This exercise involves the Indian Air Force (IAF) deploying its most advanced assets, including fighter jets like Rafale and air defence systems like S-400, MRSAM, and Spyder.

The timing of this exercise (Sept 4-14) is crucial, as India is preparing to host the G-20 summit, bringing global leaders to its capital, Delhi. To ensure the safety of this high-profile event, IAF will be responsible for securing the airspace. This summit is historic, as it will witness over 20 world leaders converging in India, a scale not seen in decades.

The current exercise, named "Trishul," focuses on the northern borders with China and Pakistan and aims to provide comprehensive air defence cover for the G-20 summit. Delhi and its surroundings will witness the deployment of various defensive and offensive assets.

During the G-20 preparations, fighters like Mirage 2000 and Rafale will conduct Combat Air Patrols (CAPs). Additionally, air defence systems, including anti-aircraft guns, the Akash system with a 25-kilometer range, and the MRSAM with a nearly 70-kilometer range, have been stationed in and around Delhi. The formidable S-400 air defence system will be active, offering continuous multi-layer protection. India's Airborne Early Warning and Control Systems (AEW&CS) will also play a pivotal role during the G-20 summit. To bolster security further, anti-drone systems have been implemented to safeguard against potential threats. Simultaneously, the Indian Army is conducting its exercises in Ladakh. More troops have been deployed before the harsh winter sets in, while those scheduled for rotation have been temporarily retained. This temporary surge in troop density in Ladakh, including specialized mountain warfare units and Para commandos, is part of a routine seasonal exercise to ensure preparedness for the winter months.

In summary, India's military is flexing its muscles along its borders and airspace while preparing to welcome world leaders for the G-20 summit. These exercises demonstrate India's commitment to security and readiness to handle a gathering of global significance. The G-20 is a gathering of major world powers, including the US, the UK, China, Russia, and the European Union, alongside India. The responsibility of ensuring a secure environment for such a distinguished assembly rests on India's shoulders.

https://www.financialexpress.com/business/defence-ex-trishul-indias-military-strength-on-display-along-eastern-ladakh-3233183/

FINANCIAL EXPRESS
Read to Lead

***Tue, 05 Sep 2023***

# Armoured Recovery Vehicles: India's Bold Move to Strengthen its Defence Arsenal

To bolster India's defence capabilities, the Ministry of defence has initiated the procurement of 170 Armoured Recovery Vehicles (ARVs) based on a tracked platform. This move, announced on

September 5, 2023, is a part of the government's commitment to the 'Make in India' and 'Atmanirbhar Bharat' initiatives, stressing self-reliance and indigenous production.

These ARVs will play a crucial role in ensuring the operational readiness of the Indian Army, particularly in challenging terrain and weather conditions. The procurement process has already begun with the issuance of a Request for Information (RFI), aiming to finalize the Standard Qualitative Requirements (SQRs), determine the procurement category, and identify potential Indian vendors capable of supplying ARVs within a tight timeline of two years from the Award of Contract/Supply Order, with a minimum requirement of 50 ARV vehicles per year.

The operational requirements for these ARVs are extensive. They must be equipped to navigate diverse terrains, from plains and deserts along the Western Borders to high-altitude mountainous regions found along the Northern Borders of India. Moreover, they need to operate perfectly day and night, under various weather conditions, including snowy, rainy, dusty, and sandy environments. These vehicles must also withstand extreme temperature ranges, from as low as -20°C to as high as 45°C, depending on the terrain.

The primary function of these ARVs is to provide repair and recovery cover to disabled Armoured Fighting Vehicles (AFVs) during hostile operations. They will be configured on tracked chassis, ensuring mobility across different terrains. These vehicles will have a carrying capacity of at least six persons, including the driver and commander, and will be equipped with essential utility tools such as cranes, dozers, winches, general tools, special maintenance tools, and ancillary equipment required for repair and recovery missions.

The service life of these ARVs is expected to be a minimum of 32 years, with the possibility of one major overhaul or repair intervention. They must also be transportable through various means, including existing in-service tank transporter vehicles of the Indian Army, transport aircraft of the Indian Air Force, and broad-gauge railway military bogeys.

These ARVs are crucial components in the maintenance and support of Main Battle Tanks (MBTs) like the 'Arjun.' They facilitate efficient and speedy repair and recovery operations during combat situations.

The Defence Research and Development Organisation (DRDO) has collaborated with state-owned Bharat Earth Movers Limited (BEML) to manufacture them for the Indian Army. These vehicles have impressive lifting and pulling capacities, ensuring their effectiveness in the field.

Currently, BEML-built ARVs, based on Russian-made T-72 tank hulls, are in use, armed with a 12.7mm machine gun and equipped with powerful cranes capable of lifting up to 15 tons. Additionally, there are upgraded variants like the WZT-3M, produced in collaboration with Polish company Bumar. These ARVs, also known as ARV-3 in the Indian Army, have proven their worth in recovery operations.

These versatile vehicles are designed to recover damaged MBTs, tracked armoured vehicles, and heavy vehicles from the battlefield. They are equipped with tools for minor field repairs and earth-moving projects, enhancing the Army's self-sufficiency during operations.

Over the years, India has made substantial investments in ARVs, with contracts dating back to 1999. However, as per media reports, a significant order worth US$275 million for 204 ARV-3/WZT-3M vehicles was scrapped in 2012. Despite such setbacks, the Ministry of Defence's recent initiative to procure 170 ARVs reflects a commitment to maintaining a robust and agile defence infrastructure capable of addressing diverse operational challenges.

In conclusion, the procurement of Armoured Recovery Vehicles marks a pivotal step in enhancing India's defence capabilities. These vehicles will provide invaluable support to the Indian Army, ensuring the swift recovery and repair of combat assets under challenging conditions. The 'Make in

India' and 'Atmanirbhar Bharat' initiatives continue to drive self-sufficiency and innovation in India.

https://www.financialexpress.com/business/defence-armoured-recovery-vehicles-indias-bold-move-to-strengthen-its-defence-arsenal-3234029/

THE TIMES OF INDIA

***Wed, 06 Sep 2023***

# Pak: US Military Gear, Arms Left Behind in Afghanistan now in Militant Hands

Pakistan's caretaker PM claimed on Monday that US military equipment left behind during the American withdrawal from Afghanistan has fallen into militant hands and ultimately made its way to the Pakistani Taliban.

The equipment — a wide variety of items, from night vision goggles to firearms — is now "emerging as a new challenge" for Islamabad as it has enhanced the fighting capabilities of the Pakistani Taliban, PM Anwaar-ul-Haq Kakar said.

There is no definite information on how much US equipment was left behind — but the Taliban seized US-supplied firepower, recovering guns, ammunition, helicopters and other modern military equipment from Afghan forces who surrendered it. Though no one knows the exact value, US defence officials have confirmed it is significant.

Speaking to journalists at his office Monday in Islamabad, Kakar did not provide any evidence to support his allegation or directly link the Afghan Taliban and the TTP. He said there was a need to adopt a "coordinated approach" to tackling the challenge of the leftover equipment.

Two security officials in Islamabad said the TTP either bought the equipment from the Afghan Taliban, or was given it as an ally. The officials spoke on condition of anonymity. The Pakistani Taliban have also released statements and video clips in recent months, claiming they possess, for example, guns with laser and thermal sighting systems.

https://timesofindia.indiatimes.com/world/pakistan/pak-us-military-gear-arms-left-behind-in-afghanistan-now-in-militant-hands/articleshow/103410146.cms

R. REPUBLICWORLD.COM

***Tue, 05 Sep 2023***

# Japan's $53 Billion Military Budget Sparks Concerns in Asia-Pacific Region: Report

The Japanese Defence Ministry's proposal for a historic increase in military expenditure, including a request for a $53 billion defence budget for fiscal year 2024, has raised alarms about the potential ramifications for peace and stability in the Asia-Pacific region. Geopolitical analyst and former US Marine, Brian Berletic, expressed his concerns during an interview with Sputnik.

Japan's Defence Ministry has submitted a budget proposal that is 12% higher than the previous year, marking its largest-ever defence budget request. The budget, if approved, will allocate funds for the acquisition of 15 US-made fifth-generation F-35A and F-35B fighter jets, precision-guided missiles, and enhancements to troop and equipment transportation capabilities. Notably, the F-35 fighter jets possess the capability to conduct tactical nuclear bombings, air-to-air missions, and intelligence gathering.

Additionally, the budget includes provisions for the construction of two Aegis-equipped destroyers, a new class of frigates, and joint development with the United States of the Glide Phase Interceptor (GPI), designed to counter hypersonic missiles. Aegis is a US-made ballistic missile defence system.

**American influence on Japanese policy**

Brian Berletic emphasised that Japan's foreign policy is significantly influenced by American interests, characterising Japan as a nation politically influenced by Washington. According to Berletic, the surge in Japanese military spending aims to transform the country into a potent proxy for the United States in its efforts to counter a rising China.

He contended that Japan's increased military expenditure poses a risk to its substantial trade with China, one of its largest trade partners. Berletic reasoned that Japan's investment in F-35 warplanes is driven by the anticipation of potential conflicts, where naval and air assets would play a pivotal role. By acquiring F-35s, Japan aims to bolster its capabilities in joint operations with the US against the People's Republic of China.

However, Berletic expressed concerns that this military buildup directs significant resources away from Japanese citizens and into the coffers of US-based arms manufacturers, specifically Lockheed Martin, the manufacturer of the F-35.

**US-driven geopolitical objectives**

The analyst argued that the broader context of Japan's military expansion is part of a wider effort by the United States to divide the Asia-Pacific region against China, which serves as the primary engine of economic growth and development in the area.

Berletic concluded by highlighting that Japan's increase in military spending is a result of its subordination to the United States, which not only makes Japan dependent on the US militarily but also subjects it to American foreign policy decisions. He suggested that Japan's future direction will be dictated by Washington, even if it contradicts Japan's best interests or self-preservation.

https://www.republicworld.com/world-news/rest-of-the-world-news/japans-53-dollars-billion-military-budget-sparks-concerns-in-asia-pacific-region-report-articleshow.html

ANI
South Asia's Leading Multimedia News Agency

***Wed, 06 Sep 2023***

# Chinese Nationals Accessing Sensitive US Sites, Spark Espionage Threats

The Federal Bureau of Investigation (FBI) of the United States has reportedly tracked around 100 incidents where Chinese nationals, sometimes posing as tourists, have accessed military bases and sensitive sites in America, the Wall Street Journal reported.

The US officials have described the incidents as potential espionage threats.

The Defense Department, FBI and other agencies held a review last year to try to limit these incidents, which involved “gate-crashers” because of their attempts to get into US military bases without proper authorization, the WSJ report said.

Those responsible range from Chinese nationals detected crossing into a US missile range in New Mexico, to scuba divers caught swimming in murky waters near a government rocket launch site in Florida, several officials recently told The Wall Street Journal.

Some of the authorities believed that the Chinese government in some cases are compelling its citizens to test out the service and report back regarding the security practices at the installations.

In response to the report, an FBI spokesperson stated, "The greatest long-term counterintelligence threat to our nation’s information and intellectual property is from China."

"The Chinese government is engaged in a broad, diverse campaign of theft and malign influence without regard to laws or international norms that the FBI will not tolerate," an FBI spokesperson told Fox News Digital.

"In coordination with our defence and intelligence community partners, along with state and local law enforcement, the FBI is committed to protecting our national security and defence information from the Chinese government's actions and ultimately, their efforts to undermine our democracy and those who defend it," the spokesperson added.

According to Fox News citing the Wall Street Journal, recently a group of Chinese nationals arriving at Fort Wainwright, Alaska, claimed that they had reservations at a commercial hotel on the base and tried to make their way past guards.

Notably, Fort Wainwright is home to the US Army’s 11th Airborne Division focused on Arctic warfare.

"The security of our installations remains a top priority for the Department. Physical security standards for our bases take into consideration a wide variety of potential threats, including attempted spying by our adversaries," a Defence Department spokesperson also told Fox News Digital, reacting to the report.

"We work with local, State, and Federal law enforcement officials, the intelligence community, and our foreign partners to protect our military bases against these threats at home and abroad," the spokesperson added.

The Department of Defence (DoD) "has conducted several base security reviews since 2018, some of which included support by interagency partners," the spokesperson continued. "A recent review focused on the physical security condition of our gates, among other aspects of base security. The results of the reviews have and will continue to inform changes to the protective posture of our bases."

"Every day DoD conducts more than 10,000 ‘controlled turnarounds’ of individuals who arrive at one of our 1400 gates. These individuals are not authorized to access and depart the installations without having gained unauthorized access," the Defence spokesperson said.

Officials told the Wall Street Journal the incidents have occurred in rural areas where tourism is less common and far from a commercial airport. They said the Chinese nationals often use what officials described as scripted language, claiming when stopped that they are tourists who have lost their way.

This type of low-level Chinese intelligence collection is more of a numbers game, a former Senate Intelligence Committee official told the Journal, explaining how the Chinese government is willing

to throw numerous people at collection, knowing that if a few get caught it will be difficult for the US government to prove anything nefarious beyond trespassing.

The WSJ reported that repeat incidents have occurred at an intelligence centre based in Key West, Florida, dating back to a few years ago involving Chinese nationals found swimming in nearby waters and taking pictures.

https://www.aninews.in/news/world/us/chinese-nationals-accessing-sensitive-us-sites-spark-espionage-threats20230906050701/

# Science & Technology News

Press Information Bureau
Government of India

**Ministry of Science & Technology**

***Tue, 05 Sep 2023***

## Scientists Fabricated Optically Active Flexible Biodegradable Polymer-Nanocomposite Films

Researchers have fabricated an optically active biodegradable nanocomposite film with excellent mechanical properties that can be used as a stretchable optical devices like flexible display, flexible organic LED, etc.

Polymers have become an indispensable part of our daily life. However, different engineering applications demand highly flexible and optically active polymers. In this regard, numerous methodologies have been adopted to improve the properties of polymeric materials by using suitable nanomaterials. The nanomaterials are known to enhance the properties of the polymers keeping the inherent properties of the polymers intact. Scientists have reported that polyvinyl alcohol (PVA) is one of the most widely studied synthetic biodegradable polymers having good film-forming and excellent mechanical properties. Moreover, its optical and mechanical properties can be tuned by incorporating suitable nanomaterials.

A research group from physical sciences division of the Institute of Advanced Study in Science and Technology (IASST), Guwahati, an autonomous institute of North-East India under the Department of Science and Technology (DST), fabricated a biodegradable PVA-CuO nanocomposite film using a facile solution casting technique, where Cu salt used as a precursor for the in-situ CuO nanoparticles formation under different heat treatment.

This research group is led by Dr. Sarathi Kundu, Associate Professor, along with Mr. Saiyad Akhirul Ali, working as a Junior Research Fellow (JRF). Their tests have proved superior optical, mechanical, and antimicrobial properties of the nanocomposite films under different heat treatments. The formation of the CuO nanoparticles inside the polymer matrix under heat treatment is confirmed by different spectroscopic and microscopic techniques. The evaluation of mechanical properties validated the formation of a highly flexible and robust nanocomposite film with tensile strength as high as 39 MPa and flexibility of 169% with copper chloride loading.

The PVA-CuO nanocomposite film fabricated by the simple solution casting technique followed by the heat treatment method recently published in the journal of Colloids and Surfaces A: Physicochemical and Engineering Aspects, can be used as a stretchable optical device.

Publication link: https://doi.org/10.1016/j.colsurfa.2023.131840

https://pib.gov.in/PressReleasePage.aspx?PRID=1954785

***Wed, 06 Sep 2023***

# Indian Government Issues Warning about DogeRAT Malware Targeting Android Users

In a recent advisory, the Indian government has raised concerns about a dangerous malware threat targeting Android users in the country through social media and messaging platforms. This malware, known as DogeRAT, poses a significant risk by potentially compromising sensitive data and granting hackers control over infected devices.

The advisory, issued by the Controller General of Defence Accounts, a department of the Ministry of Defense, describes the DogeRAT as a Remote Access Trojan. It primarily targets Android users in India as part of a sophisticated cyber campaign. The malware disguises itself as legitimate applications, such as Opera Mini, OpenAI ChatGPT, and premium versions of YouTube, Netflix, and Instagram, to infiltrate unsuspecting users' devices.

Once DogeRAT finds its way onto a victim's device, it gains unauthorised access to sensitive information like contacts, messages, and banking credentials. Even more concerning, it can take complete control of the infected device, allowing hackers to send spam messages, initiate unauthorised payments, modify files, capture photos, and record keystrokes. Additionally, this malicious software can track the user's location and record audio, further compromising user privacy.

To protect against this threat, the Defence Ministry has advised its departments and officials not to download apps from untrusted third-party sources or click on links from unknown senders. They have also emphasised the importance of keeping smartphones up to date with the latest software and security patches and recommended the installation of antivirus apps.

This advisory follows earlier findings by researchers from CloudSEK, a contextual AI company, who uncovered the DogeRAT targeting users across various industries, including banking and entertainment.

In addition, recent cybersecurity incidents, like the breach of the official website of the Ministry of AYUSH in Jharkhand, further underscore the need for heightened vigilance in protecting sensitive information online. The breach exposed over 3.2 lakh patient records on the dark web, highlighting the growing threats to digital data security.

https://www.indiatvnews.com/technology/news/indian-government-issues-warning-about-dogerat-malware-targeting-android-users-2023-09-06-891002

INDIA TODAY

*Tue, 05 Sep 2023*

# Rover Pragyan Captures Moon in New Detail. ISRO Gives it a 3D Feel

The Indian Space Research Organisation (Isro) has recently unveiled a new method of visualising objects and lunar terrain in three dimensions using anaglyph technology.

This innovative technique uses stereo or multi-view images to create a 3D effect, providing a more immersive and detailed view of the subject matter.

The anaglyph images are created using NavCam Stereo Images, a technology developed by the Laboratory for Electro-Optic Systems (LEOS) at Isro.

The process involves capturing both a left and right image onboard the Pragyan Rover, which are then positioned in different color channels to create the 3D effect.

In this specific 3-channel image, the left image is placed in the red channel, while the right image is positioned in the blue and green channels, creating a cyan hue.

The difference in perspective between these two images results in the stereo effect, which gives the visual impression of three dimensions.

To fully appreciate the depth and detail of these images, Isro recommends viewing them with red and cyan glasses. This allows each eye to filter out one color, enabling the brain to process the two images together and perceive the image in 3D.

Data processing for these images is carried out by the Space Applications Centre (SAC) at Isro. This breakthrough in imaging technology opens up new possibilities for space exploration and research, allowing scientists to study celestial bodies in greater detail than ever before.

This development marks another significant achievement for Isro, further cementing its position as a leader in space technology and research.

https://www.indiatoday.in/science/chandrayaan-3/story/rover-pragyan-captures-moon-in-new-detail-isro-gives-it-a-3d-feel-2431357-2023-09-05

THE HINDU

*Tue, 05 Sep 2023*

# Aditya-L1 Successfully Undergoes Second Earth-Bound Manoeuvre: ISRO

The second Earth-bound manoeuvre of the Aditya L-1 mission to study the Sun has been is performed successfully from ISTRAC, Bengaluru.

“ISTRAC/ISRO’s ground stations at Mauritius, Bengaluru and Port Blair tracked the satellite during this operation,” ISRO said.

The manoeuvre was performed in the early hours of September 5 and the new orbit attained is 282 k.m. x 40,225 k.m.

Three more manoeuvres are scheduled to take place. The next manoeuvre is scheduled for September 10, 2023, around 02:30 Hrs. IST.

After the final manoeuvre on September 18, Aditya-L1 undergoes a Trans-Lagrangian1 insertion manoeuvre, marking the beginning of its 110-day trajectory to the destination around the L1 Lagrange point. Upon arrival at the L1 point, another manoeuvre binds Aditya-L1 to an orbit around L1, a balanced gravitational location between the Earth and the Sun.

The satellite spends its whole mission life orbiting around L1 in an irregularly shaped orbit in a plane roughly perpendicular to the line joining the Earth and the Sun.

Aditya-L1 is the first Indian space based observatory to study the Sun from a halo orbit around first sun-earth Lagrangian point (L1), which is located roughly 1.5 million km from earth.

The first earth-bound manoeuvre was successfully performed on September 3.

ISRO's Polar Satellite Launch Vehicle (PSLV-C57) on September 2 had successfully launched the Aditya-L1 spacecraft, from the Second Launch Pad of Satish Dhawan Space Centre (SDSC), Sriharikota.

After a flight duration of 63 minutes and 20 seconds, Aditya-L1 spacecraft was successfully injected into an elliptical orbit of 235 x 19,500 k.m. around the earth. According to ISRO, a satellite placed in the halo orbit around the L1 point has the major advantage of continuously viewing the Sun without any occultation /eclipses. This will provide a greater advantage of observing the solar activities and its effect on space weather in real time.

Aditya-L1 carries seven scientific payloads indigenously developed by ISRO and national research laboratories including Indian Institute of Astrophysics (IIA), Bengaluru, and Inter University Centre for Astronomy and Astrophysics (IUCAA), Pune.

The payloads are to observe the photosphere, chromosphere and the outermost layers of the Sun (the corona) using electromagnetic and particle and magnetic field detectors.

https://www.thehindu.com/sci-tech/science/aditya-l1-successfully-undergoes-the-second-earth-bound-manoeuvre-isro/article67272178.ece

***Tue, 05 Sep 2023***

# IIT Delhi’s RoboExo Exoskeleton Heads to Australia for Clinical Trials in Collaboration with Proxmed

IIT Delhi has unveiled a new hand exoskeleton device called RoboExo SMART that researchers have developed with the support of Science and Engineering Research Board (SERB), The Defence Research and Development Organisation’s Industry Academia Centres of Excellence (DIA-CoE), the Indian Council of Medical Research (ICMR) and the Ministry of Defence.

The robotic exoskeleton was developed to alleviate the paralysing effects of stroke, which is a debilitating condition that severely impacts brain functions in the patient. The RoboExo device has already undergone various stages of evaluation, and is currently in the crucial stage of national clinical validation. The device is now poised for the next important phase, clinical trials for

international acceptability, in collaboration with the Australian private company Proxmed, that works in the intersection between medicine and IT.

Amit Mehndiratta, from the Centre of Biomedical Engineering (CBME) at IIT Delhi said, “The collaboration with Proxmed Pty. Ltd. Australia heralds an exciting chapter. The exoskeleton’s journey to Australian shores for clinical trials marks a pivotal step towards global recognition and efficacy validation. Together, both entities will propel stroke rehabilitation into an era of unparalleled possibilities.” The collaboration was enabled by Foundation for Innovation and Technology Transfer (FITT), an interface between academia and industry hosted by IIT Delhi.

The exoskeleton compensates for the shortcomings in physiotherapy for rehabilitation, which is labour intensive. The RoboExo SMART synchronises finger joint and wrist movements, minimising muscle rigidity, and enhancing daily functions. The interface is controlled by muscle activity, with realtime performance feedback and adaptable settings, that reduces the recovery time for patients. The solution is also portable, lightweight and affordable. The RoboExo SMART device has been designed for improving accessibility in resource-restricted regions.

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