

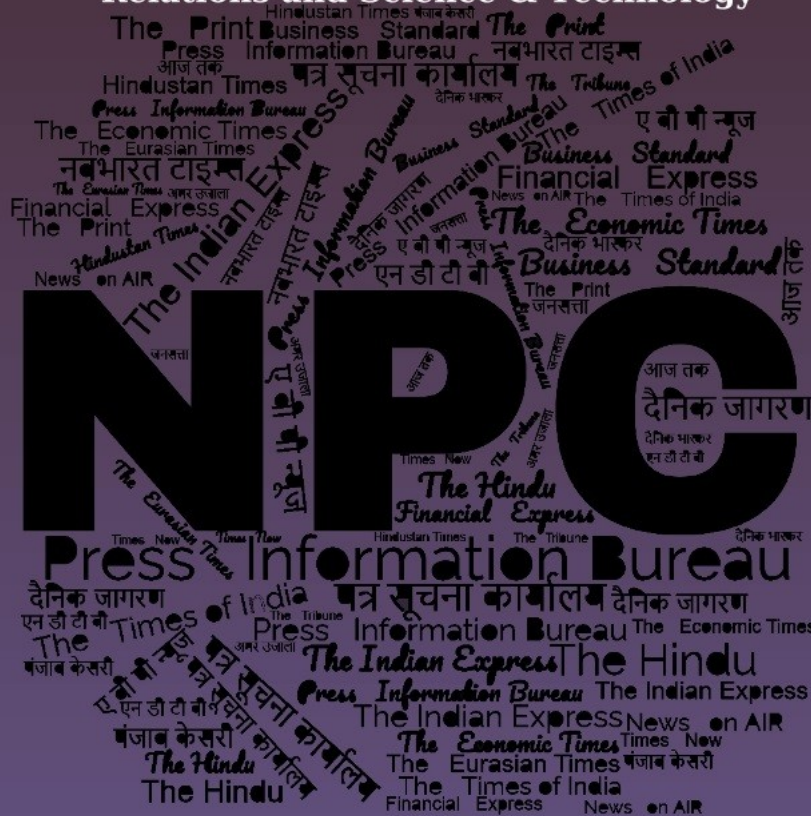
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Defence News

Defence Strategic: National/International



**Press Information Bureau
Government of India**

Ministry of Defence

Thu, 04 July 2024

Raksha Mantri holds telecon with Australian Deputy Prime Minister to review progress in bilateral defence ties

Discussions focused on closer collaboration between the two countries in Indo-Pacific: Shri Rajnath Singh

Raksha Mantri Shri Rajnath Singh held a telephonic conversation with Australian Deputy Prime Minister and Defence Minister Mr Richard Marles on July 04, 2024. Through a post on X, the Raksha Mantri stated that a range of issues pertaining to bilateral defence cooperation were reviewed, with focus on closer collaboration between the two countries in the Indo-Pacific. “We place great value on India-Australia Comprehensive Strategic Partnership,” he said.

Both Ministers noted the transformative progress in defence cooperation under the comprehensive strategic partnership, and appreciated the momentum achieved in the ties since the last India-Australia 2+2 Ministerial Dialogue, which the two Ministers attended in November 2023.

Australia considers India as a top-tier security partner in their National Defence Strategy document which was released in 2024.

Mr Richard Marles congratulated Shri Rajnath Singh for taking charge as the Raksha Mantri for a second consecutive term, and appreciated the functioning of the Indian democratic system wherein people voted in large numbers.

He also congratulated the Raksha Mantri on Team India becoming the T20 world champions.

<https://pib.gov.in/PressReleasePage.aspx?PRID=2030645>

Form of war rapidly transforming, will have to be ready to accept change: CDS Chauhan

Chief of Defence Staff Gen Anil Chauhan on Thursday said the form of war is transforming rapidly due to technological advancements and the country's armed forces will have to be ready to accept this change.

He made the remarks while addressing a gathering of Army officers, junior commissioned officers (JCOs) and soldiers drawn from 18 Grenadiers to mark 25 years of the battles of Tololing and Tiger Hill fought during the Kargil war in 1999.

Tiger Hill top was captured by the Indian Army on July 4, 1999. The 18 Grenadiers battalion played a pivotal role in the Kargil conflict. 'Vijay Diwas' is celebrated on July 26 every year to mark India's victory over Pakistan in the 1999 Kargil war.

"People of the country have faith in our capabilities and due to that, we have this immense prestige. The legacy that has been bequeathed to you has been earned by our ancestors. We may not have made a direct contribution but we are reaping its fruits," Gen Chauhan told the gathering.

This also "entrusts on us responsibilities", both individually and as a community, he said. One cannot make a mistake as a soldier and as a community, the trust can never be lowered, the chief of defence staff (CDS) added.

In his address, Gen Chauhan said, "We are going through an age of transformation. In today's era, the form of a war is rapidly changing. Therefore, we will always have to be ready to accept this change."

"We want to become a professional armed force and a superpower... India. It is our desire. This can happen only if we work with new energy, new zeal and new thoughts".

Quoting scientists and philosophers, the CDS underlined that change is the only constant and the Indian armed forces "cannot stay away from this change" "Due to rapid technological developments, the form of the war is changing rapidly.

In the past, it was found that valour was an essential element in winning a battle. But in future wars, valour alone is not enough... We will have to be flexible and imaginative and keep an open mind," he added.

As many weapons get upgraded with better technology, tactics and strategies also change and it is very rapid now, the CDS told the gathering.

"Today we are talking of a multi-domain warfare. Instead of just conventional domains like land, sea, maritime and air, the cyber, electromagnetic spectrum and space domains are also added to augment our military strength," he said.

The CDS said that people love and trust the armed forces and if "we have to maintain it, we will have to bring change. "We cannot fail in a war," he asserted, adding that unlike sports, there are no runners-up in war as winner takes it all.

"To maintain that trust, you will have to understand and adapt to these new things. This is the main reason why the government has made the post of a CDS and it is part of reforms that we are endeavouring to implement," Gen Chauhan said.

He said that as CDS, his mandate is to bring jointness and integration among the three Services, that all must work in consonance. "A unit works like a human body where any ailment impacts overall health," he said.

Gen Chauhan extended his greetings to members of the 18 Grenadiers battalion and also the Veer Nari, whose sons or husbands made the supreme sacrifice for the nation.

<https://economictimes.indiatimes.com/news/defence/form-of-war-rapidly-transforming-will-have-to-be-ready-to-accept-change-cds-chauhan/articleshow/111480470.cms>

THE ECONOMIC TIMES

Thu, 04 July 2024

India's Rudram-1 Missile: How does it stack up against global competitors?

Rudram 1 Missile: India has successfully test-fired its first indigenous anti-radiation missile, the Rudram-1, developed by the Defence Research and Development Organisation (DRDO) for the Indian Air Force (IAF). This significant achievement underscores India's progress in developing advanced defense technologies crucial for modern warfare.

Key Features of Rudram-1 The Rudram-1 missile is integrated with the IAF's Sukhoi-30MKI fighter jets, serving as a potent platform for its deployment. Equipped with INS-GPS navigation and a Passive Homing Head, the missile ensures precise targeting of radiation-emitting sources.

This capability is pivotal for Suppression of Enemy Air Defence (SEAD) missions, enabling the IAF to neutralize enemy radars and communication systems from extended ranges.

Comparative Analysis with Global Counterparts

United States: AGM-88 HARM

The AGM-88 High-speed Anti-Radiation Missile (HARM) of the United States has been operational for over three decades. Known for its advanced seeker technology, it autonomously detects and destroys radar signals with minimal aircrew input, making it a cornerstone of US Air Force and Navy SEAD operations.

Russia: Kh-58:

Russia's Kh-58 anti-radiation missile stands out for its versatility, boasting a range of 120 kilometers and adaptable seeker heads tailored to engage specific radar types. It has been integral to

Russian SEAD strategies, offering flexibility and effectiveness in countering adversary air defenses.

United Kingdom: ALARM

The British Royal Air Force employs the Air-Launched Anti-Radiation Missile (ALARM), designed to loiter over hostile airspace and engage activated radar systems swiftly. ALARM's capability to persistently monitor and strike enemy radars aligns with UK's SEAD requirements, ensuring sustained air superiority.

China: FT-2000

China's FT-2000 system, based on the HQ-9 platform derived from Russian technology, targets high-value airborne radar systems like AEW (Airborne Early Warning) and AWACS (Airborne Warning and Control System). This reflects China's strategic focus on countering advanced adversary surveillance capabilities.

Iran: Hormoz-2

Iran's Hormoz-2 anti-radiation missile extends its operational reach to maritime environments, covering distances up to 300 kilometers. This ballistic missile underscores Iran's effort to enhance its SEAD capabilities against naval targets, demonstrating regional strategic ambitions.

Brazil: MAR-1

Developed by Mectron, Brazil's MAR-1 anti-radiation missile has gained international recognition, notably exported to countries including Pakistan. It exemplifies Brazil's capability to produce competitive SEAD solutions, effectively neutralizing enemy air defenses with precision.

Strategic Implications for India

The successful test of Rudram-1 signifies a significant leap in India's defense capabilities, particularly amid escalating security challenges from neighboring China and Pakistan. By integrating advanced indigenous technologies like Rudram-1 with Su-30MKI jets, India enhances its ability to conduct SEAD operations deep within hostile territories, preemptively neutralizing critical air defense installations.

Technological Edge and Operational Flexibility

Rudram-1's advanced features such as INS-GPS navigation and Passive Homing Head provide a technological advantage, enabling precise targeting across diverse electromagnetic spectrums. It supports launch from varying altitudes (from 500 meters to 15 kilometers) and boasts a range of up to 250 kilometers, adapting seamlessly to varied combat scenarios. This operational flexibility enhances the IAF's combat readiness and effectiveness in challenging environments.

Regional Defense Dynamics

India's successful induction of Rudram-1 into its defense arsenal marks a significant strategic development in regional security dynamics. While China and Pakistan possess their own indigenous SEAD capabilities, Rudram-1's integration elevates India's deterrence posture, mitigating risks to its aerial assets and bolstering operational resilience.

This advancement underscores India's commitment to enhancing national security through indigenous defense innovations, reinforcing its position as a formidable regional player. In achieving this milestone with Rudram-1, India not only strengthens its defense preparedness but also underscores its growing prowess in developing cutting-edge defense technologies.

As geopolitical tensions persist, India's strategic focus on indigenization and technological advancement remains pivotal in safeguarding its national interests and maintaining regional stability.

<https://economictimes.indiatimes.com/news/defence/indias-rudram-1-missile-how-does-it-stack-up-against-global-competitors/articleshow/111483363.cms>

THE ECONOMIC TIMES

Thu, 04 July 2024

Is China fueling Pakistan's nuclear ambitions against India?

A recent photograph from the 2023 Pakistan Day Parade rehearsals has provided new insights into Pakistan's advancing military capabilities. The image depicts a JF-17 Thunder Block II aircraft carrying what appears to be a Ra'ad-I air-launched cruise missile (ALCM). This marks the first public display of this specific configuration, signaling significant strategic developments.

China has played a crucial role in aiding Pakistan's military modernization. The JF-17 Thunder, developed jointly by Pakistan Aeronautical Complex and China's Chengdu Aircraft Industry Corporation, is poised to take over from the aging Mirage III and V aircraft in Pakistan's air force. With over 130 operational JF-17s, this partnership underscores the deepening defense cooperation between the two countries.

FAS Confirms Nuclear-Capable Ra'ad-I Missile on JF-17

The Federation of American Scientists (FAS) analyzed the image and confirmed the missile as a Ra'ad-I, Pakistan's sole nuclear-capable ALCM. "Notably, this was the first time such a configuration had been observed in public," stated the FAS report. The identification was made by comparing the missile's 'twin-tail' design to the Ra'ad-II's 'x-shaped' tail, introduced in 2017.

Detailed Analysis and Comparisons

The FAS conducted a thorough comparison with previous versions of the Ra'ad missiles displayed in Pakistan Day Parades from 2017 to 2024. Using Photoshop's Vanishing Point feature, they measured the length of the missiles at approximately 4.9 meters.

This measurement, along with the tail fin configuration, confirmed that the missile on the JF-17 is likely a Ra'ad-I rather than the newer Ra'ad-II or the conventional anti-ship variant, Taimoor. The report by Eliana Johns of FAS provided detailed insights into these findings.

Ra'ad-I vs Ra'ad-II

To ascertain the specific missile type, experts compared the observed Ra'ad configuration with past displays of Ra'ad-I and Ra'ad-II missiles. Notably, the Ra'ad-I features a 'twin-tail' design, distinct

from the 'x-shaped' tail fin introduced with the Ra'ad-II in recent years. Using advanced tools like Photoshop's Vanishing Point, analysts estimated the Ra'ad missile's length at approximately 4.9 meters, consistent with previous Ra'ad-I specifications. This finding, combined with the tail fin configuration, strongly suggests the deployment of the Ra'ad-I ALCM on the JF-17 Thunder Block II.

Role of China in Pakistan's Military Advancements

China has played a crucial role in aiding Pakistan's military modernization. The JF-17 Thunder, developed jointly by Pakistan Aeronautical Complex and China's Chengdu Aircraft Industry Corporation, is poised to take over from the aging Mirage III and V aircraft in Pakistan's air force. With over 130 operational JF-17s, this partnership underscores the deepening defense cooperation between the two countries.

Strategic Shift and Modernization

The integration of the Ra'ad-I on the JF-17 represents a significant strategic enhancement for Pakistan. For years, Pakistan has relied on its Mirage aircraft for nuclear strike roles. However, budget constraints have forced Pakistan to repair and upgrade these aging planes. The induction of the JF-17, equipped with Ra'ad-I missiles, is expected to replace the Mirage aircraft and bolster Pakistan's nuclear deterrence capabilities.

Regional Implications and Impact on India

This development comes amidst a broader nuclear arms competition in South Asia involving India, China, and Pakistan. As India inducts Rafale jets capable of carrying nuclear weapons and advances its missile technology with MIRVs on Agni-P and Agni-5 missiles, Pakistan's enhancements with the JF-17 and Ra'ad-I underscore the intensifying arms race.

The heightened tensions and development of short-range, lower-yield nuclear-capable systems by Pakistan raise concerns about regional stability and the potential for escalation in a conflict with India. China and Pakistan have been cooperating in matters of defense. Additionally, Pakistan is developing other short-range, lower-yield nuclear-capable systems like the NASR (Hatf-9) ballistic missile, aimed at countering conventional military threats from India below the strategic nuclear level.

These advancements, coupled with heightened regional tensions, raise concerns about an accelerated arms race and the potential for escalation in a conflict between India and Pakistan. Islamabad currently holds 170 nuclear warheads as of 2024, and its nuclear warheads are stored separately from its missiles, assembling them only when necessary. This means that even if JF-17 jets are equipped with Ra'ad missiles, they are unlikely to carry nuclear warheads during patrols.

Pakistan's nuclear posture remains focused on countering India's conventional and nuclear capabilities. Unlike India, which has declared a No First Use policy, Pakistan emphasizes smaller, tactical nuclear weapons to counter India's superior conventional forces. Pakistan's warhead designs primarily use highly enriched uranium (HEU), produced at facilities in Kahuta and Gadwal, Punjab.

The revelation of the JF-17 Thunder Block II's nuclear capabilities, supported by China, highlights Pakistan's strategic shift in modernizing its air force. The integration of Ra'ad-I missiles signifies a

significant enhancement in Pakistan's nuclear deterrence, impacting the regional power balance. As South Asia witnesses an accelerated arms race, the implications for regional stability and potential conflict escalation remain critical concerns.

<https://economictimes.indiatimes.com/news/defence/is-china-fueling-pakistans-nuclear-ambitions-against-india/articleshow/111477424.cms>

THE ECONOMIC TIMES

Thu, 04 July 2024

Rs 300 crore allocated by Defence Ministry to foster Make in India defence tech innovations

The Ministry of Defence has sanctioned over Rs 300 crore through its Technology Development Fund (TDF) to enhance capabilities in cutting-edge technology and promote 'Aatmanirbharta' in defence, according to an official statement.

Fostering Indigenous Innovation

The Technology Development Fund (TDF) is a flagship programme under the Ministry of Defence, executed by DRDO as part of the 'Make in India' initiative. It aims to provide grants-in-aid to Indian industries, MSMEs, startups, and academic institutions for developing defence and dual-use technologies not currently available in India's defence industry.

Supporting MSMEs and Start-ups

The initiative aims to foster a culture of design and development in military technology, particularly by engaging private industries like MSMEs and startups. This collaboration is crucial for meeting the current and future needs of the Armed Forces and the defence sector.

Enhancing Industry Capabilities

The TDF aims to enhance the capacity and capability of Indian industries in designing and developing defence technologies. By creating an R&D ecosystem that integrates industry and academia, the Ministry seeks to achieve selfreliance ('Aatmanirbharta') in defence technology and bolster the country's defence manufacturing ecosystem.

Success Stories Under TDF

The Defence Ministry highlighted successful start-ups benefiting from the scheme. Pune-based Combat Robotics developed an innovative simulator for unmanned vehicles, supporting UGVs, UUVs, USVs, and UAVs. ChiStats Labs in Pune is developing virtual sensors for aero gas turbine engine health monitoring using AI/ML technologies. In Bengaluru, NewSpace Research and Technologies innovated an autonomous drone for indoor operations, enhancing capabilities in search and rescue, surveillance, and environmental monitoring.

Contributing to Technological Advancements

The projects are set to revolutionize unmanned aerial systems, providing solutions for diverse applications such as hazardous environment exploration. Developed under the mentorship of CAIR, Bengaluru, these advancements mark significant progress in defence technology.

The Defence Ministry on Wednesday highlighted several successful startups benefiting from the scheme. Pune-based startup Combat Robotics, with the help of the scheme, has successfully developed an innovative simulator for unmanned vehicles.

This multi-domain simulator supports unmanned ground vehicles (UGVs), unmanned underwater vehicles (UUVs), unmanned surface vehicles (USVs), and unmanned aerial vehicles (UAVs), serving as an excellent development tool for agencies working on autonomous systems.

Another Pune-based defence equipment startup, ChiStats Labs Private Limited, is developing virtual sensors for aero gas turbine engine health monitoring, which helps to increase the operational reliability and longevity of the engines. The system is built on modern artificial intelligence/machine learning (AI/ML) technologies.

Bengaluru-based NewSpace Research and Technologies Pvt. Ltd., under the project titled 'Autonomous Drone as First Responder for Search and Report Operations in Enclosed/Indoor Environments', has created a cutting-edge UAV capable of exploring indoor environments under various conditions, including zero light.

The success of this project will open up various applications, including search and rescue operations, surveillance, industrial inspections, environmental monitoring, and hazardous environment exploration, contributing significantly to technological advancements in unmanned aerial systems, the Ministry added. The technology has been developed under the technical guidance and mentorship of CAIR, Bengaluru.

The Ministry's allocation of Rs 300 crore through the Technology Development Fund underscores its commitment to advancing indigenous defence technologies. By supporting innovation and fostering collaborations with MSMEs and startups, India aims to strengthen its defence capabilities and achieve self-sufficiency in defence technology.

<https://economictimes.indiatimes.com/news/defence/defence-ministry-allocates-rs-300-cr-for-technology-development-fund-to-promote-make-in-india-products/articleshow/111476902.cms>

THE ECONOMIC TIMES

Thu, 04 July 2024

Russian armour-piercing tank rounds to be made in India, Rostec says

Russia's vast state-owned Rostec corporation said on Thursday that its weapons export unit had organised the production in India of armourpiercing rounds for Russian-made battle tanks. Rostec issued its statement ahead of a July 8-9 visit to Russia by Indian Prime Minister Narendra Modi who will hold talks with President Vladimir Putin.

The "Mango" projectiles that will be made in India are designed to be fired from the guns of T-72 and T-90 tanks which India's land forces use, Rostec said.

"The rounds allow you to hit modern tanks equipped with combined protection. Various modifications of these combat vehicles are in service with India," it said in its statement.

Rostec said it also had plans to localise the production of gunpowder in India as part of the Indian government's drive to have more foreign goods made in India. Moscow has long supplied the Indian military with equipment.

<https://economictimes.indiatimes.com/news/defence/russian-armour-piercing-tank-rounds-to-be-made-in-india-rostec-says/articleshow/111487845.cms>

THE ECONOMIC TIMES

Thu, 04 July 2024

Indian Navy chief meets newly-appointed Bangladesh Army chief; discusses new avenues for cooperation

n. Indian Navy chief Admiral Dinesh K Tripathi has met with the newlyappointed army chief of Bangladesh General Waker-Uz-Zaman, and discussed the robust bilateral ties and explored new avenues for cooperation between the two armed forces.

Admiral Tripathi began a five-day visit to Bangladesh on June 30 to consolidate the bilateral defence engagement and explore new avenues of cooperation in the maritime domain. This visit is Admiral Tripathi's first official visit abroad after he took the reins of the Navy two months ago.

"During his ongoing visit to Bangladesh, Adm Dinesh K Tripathi, CNS, interacted with General Waker-Uz-Zaman, Chief of the Army Staff, Bangladesh Army, at Bangladesh Army Headquarters, Dhaka," the spokesperson for the Indian Navy said in a post X on Thursday.

"The two principals discussed longstanding and robust ties between the two nations and initiatives for enhancing defence cooperation and exploring further avenues in areas of training and joint exercises between the armed forces of Bangladesh and India," the post said.

Lieutenant General Waker-Uz-Zaman was last month named Bangladesh's next Army chief for a three-year term and assumed charge on June 23, the Defence Ministry said. Admiral Tripathi, during his visit, also interacted with Air Marshal Hasan Mahmood, the Chief of the Air Staff, Bangladesh Air Force.

"During the interaction, the longstanding and strong ties between the two nations were highlighted, and initiatives for enhancing cooperation in the field of training, joint exercises and interoperability were discussed," the post said.

Admiral Tripathi also held bilateral discussions with his counterpart, Admiral M Nazmul Hassan, the Chief of the Naval Staff, Bangladesh Navy, in Dhaka. Naval cooperation between India and Bangladesh has been traditionally strong, encompassing a wide span which includes operational

interactions through Port Calls and bilateral Naval Exercises, along with Capacity Building, Capability Enhancement and Training initiatives, a statement from the Indian Navy said, adding that the visit of the Chief of the Naval Staff, Indian Navy, will further strengthen the strong bonds of friendship between the navies of both countries.

During his visit, Admiral Tripathi also interacted with Major General Tarique Ahmed Siddique (Retd), the Security Advisor to Bangladesh's Prime Minister, at Dhaka and discussed with him enhancing the long-standing relations between the two nations through defence cooperation.

The Indian Navy chief also called on Bangladesh Prime Minister Sheikh Hasina who said the ties between India and Bangladesh could be seen as a model of bilateral ties for the South Asian region.

<https://economictimes.indiatimes.com/news/defence/indian-navy-chief-meets-newly-appointed-bangladesh-army-chief-discusses-new-avenues-for-cooperation/articleshow/111489454.cms>

THE ECONOMIC TIMES

Thu, 04 July 2024

India a key ally of US in rivalry with China: US ambassador to India

Washington supports New Delhi's emergence as a leading global power, US ambassador to India Eric Garcetti said in an interview. The North American country is investing locally and joining hands with allies such as India to ensure a free and open IndoPacific region while competing with China, he said.

Pointing to the situation in Ukraine, the diplomat said the war has demonstrated to the world that developments in one region directly affect security elsewhere and partnerships around the world are crucial to addressing interconnected challenges.

"We are investing domestically, aligning with partners, including India, and competing with the People's Republic of China," Garcetti said. He was responding to a question on how India and the US can work together to bolster nations in the region that are under threat from an expansionist China.

"These actions will strengthen the international system and help the region meet its mounting challenges," he said. These include not just economic coercion and other measures by adversaries but also the climate crisis, global health security, natural disasters and governance challenges, the ambassador said.

Enhancing India's Defence Capabilities

In the interview ahead of the 2024 Nato summit in Washington DC that will focus on Ukraine and Transatlantic security, Garcetti said the military alliance's partnerships across the globe, including the Indo-Pacific, are crucial to addressing shared and interconnected hazards.

"Given today's threat environment, Nato benefits from exchanging expertise and experiences with partners in the Indo-Pacific," he said.

India is a key US ally in ensuring peace and security in the region.

"The US supports India's emergence as a leading global power and as a vital partner in ensuring a free and open Indo-Pacific that is connected, prosperous, secure, and resilient," Garcetti said.

Responding to a question on India's public stand against joining Nato, the ambassador said that individual members of the grouping are offering India advanced military technology and expertise to enhance defence capabilities and strategic security through bilateral agreements and joint exercises.

"Nato member states individually contribute to India's technological advancement by providing access to cutting-edge research, innovation, and collaboration in sectors such as cybersecurity, space exploration, and information technology," he said.

Garcetti said India and the US have launched the Indus-X programme under the Initiative for Critical and Emerging Technology (iCET) umbrella, when asked about possibilities for collaboration in defence and security. This is a defence innovation ecosystem designed to pair startups together to quickly tackle challenges through innovative and collaborative ideas.

In seven months of its launch, the initiative has identified winners of joint challenges. One of the winning companies, PierSight, has showcased innovation in oil spill detection. He added that Penn State University and the Association of University Technology Managers (AUTM Foundation) are also developing workshops under Indus-X to strengthen technology transfer from academia to start-ups.

<https://economictimes.indiatimes.com/news/defence/india-a-key-ally-of-us-in-rivalry-with-china-us-ambassador-to-india/articleshow/111495997.cms?from=mdr>

ThePrint

Fri, 05 July 2024

India-Thailand defence cooperation rising, we share common “threat perceptions,” says Indian envoy

Stating that India and Thailand share common ‘threat perceptions’, Indian Ambassador to Thailand Nagesh Singh said that the defence and security collaborations between the two nations have picked up and most of their objectives are in sync with each other.

He said that the two countries have started more dialogues and exercises at staff level and between the three armed forces. The envoy also highlighted the issue of human trafficking and unregulated fishing in Bay of Bengal.

Speaking to ANI, the Indian envoy said, “So the defence and security collaboration? I am adding security to defence because, also at the intelligence level, we have regular meetings. That is one

area which was not there 10 years back, but suddenly it has taken off because India and Thailand realize that we have common threat perceptions. Most of our strategic objectives are in sync with each other's."

"So now we have started having all sorts of dialogue at the staff level and all the three armed forces. Between Navy, Air Force, there are exercises...of all the three wings which take place. We also participate in a few multinational exercises, Singapore, India, Thailand, the SITMECs in the Bay of Bengal," he added.

The 13th edition of the India-Thailand joint military exercise, MAITREE, is being conducted from July 1-15 at Fort Vachiraprakan in Tak Province, Thailand.

The Indian Army contingent, comprising 76 personnel, is being represented mainly by a Battalion of the Ladakh Scouts along with personnel from other units and services. The Royal Thailand Army contingent also comprises 76 personnel mainly from 1st Battalion, 14 Infantry Regiment of 4 Division.

The Indian envoy further said that India is now taking the cooperation from just exercises further to defence production.

"Similarly, our Coast Guard ships are visiting each other because, again, in the Bay of Bengal... human trafficking, unregulated fishing. So this is an area which is growing very, very fast bilaterally," Nagesh Singh said.

"Now the Thai side is interested, and so are we, as we've become now exporters of defence equipment, to take this partnership from exercises and talks into defence production, the defence industrial production side, where we could look at co-production, co-development," he further added.

Speaking on the India-Thailand ties, the Ambassador said that it is a multifaceted relationship and is on a high upward trajectory.

"India-Thailand relationship is on a very high upward trajectory. It's a multifaceted relationship. Every aspect, from the political side, the meeting of our political leadership, to the economic and commercial side, then you can get into the people-to-people connect. And when I say people-to-people connect," the envoy said.

"India is amongst the top three countries in terms of tourist arrivals from India into Thailand. There are universities here at least six or seven India study centres in some of the most prominent universities in Thailand..."

He also highlighted the people-to-people ties between the two nations with the rise of Indian tourists, especially due to the long connect between Buddhism and Hinduism.

The envoy affirmed that India and Thailand will elevate the ties between the two nations into a strategic partnership in the coming months.

"Buddhism and Hinduism provide a very, very strong people to people connect because a large number of Thais visit India for pilgrimage to the Buddhist circuit. Similarly, on the defence and security side, that's one relationship which is moving fast and in a very strategic direction...the relationship has all the elements of describing it as a strategic partnership, which I think right now,

in technical terms, we still don't have with Thailand but in the coming months, you'll see that it will be elevated to a strategic partner," Singh further said.

<https://theprint.in/world/india-thailand-defence-cooperation-rising-we-share-common-threat-perceptions-says-indian-envoy/2161136/>



Thu, 04 July 2024

Brazil's Strategic Military Evaluation: The Akash Missile System

Brazil's military is on the brink of a significant decision as it evaluates new air defence systems to bolster its national security. This initiative was set into motion by Ordinance EME/C Ex. No. 1,338/2024 on June 21, 2024, aiming to enhance Brazil's air defence capabilities through the Medium Altitude/High Altitude Air Defence Artillery System project (Pit Sis AAAe Me Altu/G Altu).

As part of the Army's Strategic Program for Air Defence, Brazil is considering India's Akash missile system and China's Sky Dragon 50 for this crucial upgrade.

The Brazilian Interest in Akash

The Akash missile system, developed by India's Defence Research and Development Organization (DRDO), has garnered significant interest from Brazil. This system, integrated into the Indian Air Force in 2012, boasts a range of about 25 kilometers and the ability to target multiple aerial threats simultaneously. India's Defence Research and Development Organization (DRDO) has claimed that it can destroy four aerial targets at once within a 25-kilometer range, a feat demonstrated during the Indian Air Force's 'Astra-Shakti' exercise.

Brazil's Defence Needs

General Tomas Miguel Paiva of Brazil had raised alarms earlier this year about Brazil's inadequate medium and long-range air defence systems. The Brazilian Army currently has systems capable of intercepting threats only up to 3,000 meters. Consequently, General Paiva has proposed a government-to-government agreement with India to acquire the Akash system, reflecting the urgency of filling this defence gap.

The Competition: China's Sky Dragon

The Chinese Sky Dragon 50 (DK-10) is another contender in this evaluation process. A Brazilian military delegation is set to visit China to assess this system firsthand. The Sky Dragon 50, produced by China North Industries Corporation (Norinco), has demonstrated its capabilities during live fire exercises attended by Brazilian officials.

Strategic Diplomatic Dynamics

The decision extends beyond technical specifications; it intertwines with diplomatic and strategic negotiations. A significant aspect of this process is the potential for reciprocal agreements. If Brazil opts for India's Akash missile system, there is speculation about whether the Indian Air Force might, in turn, procure Brazil's C390 Medium Transport Aircraft, underlining the quid pro quo nature of such defence deals.

<https://www.financialexpress.com/business/defence-brazils-strategic-military-evaluation-the-akash-missile-system-3543909/>

Business Standard

Fri, 05 July 2024

6th cyber dialogue: India, UK agree to deepen ties, build robust cyberspace

India and the United Kingdom have agreed to deepen cooperation between their cyber agencies in order to build a safe and robust cyberspace, the Ministry of External Affairs (MEA) said on Thursday.

The Sixth Cyber Dialogue between the two sides was held here on Wednesday.

"Discussions during the dialogue included cyber-threat assessment, internet governance, data protection, protection of critical infrastructure, capacity building and cooperation in multilateral fora, including the latest developments in the cyber realm at the United Nations," according to a statement issued by the MEA.

"Both sides agreed to deepen cooperation between their respective cyber agencies in order to build a safe and robust cyberspace," the statement said.

The dialogue was co-chaired by Amit A Shukla, Joint Secretary, Cyber Diplomacy Division, MEA, and Kat Jones, Head of Strategy and Engagement, Cyber Policy Department, The Foreign, Commonwealth and Development Office (FCDO) of the UK.

The Indian delegation consisted of officials from the MEA, Ministry of Home Affairs, Indian Cybercrime Coordination Centre (I4C), Ministry of Electronics and Information Technology (MEITY), Defence Research and Development Organisation (DRDO), CERT-In and National Critical Information Infrastructure Protection Centre (NCIIPC), the statement said.

The delegation from the UK comprised officials from the National Cyber Security Centre, Cyber Policy Department of the FCDO and representatives of the Cyber Policy Team of the British High Commission, it added.

https://www.business-standard.com/external-affairs-defence-security/news/india-uk-agree-to-deepen-cooperation-to-build-safe-and-robust-cyberspace-124070400651_1.html

USA Is India's No.1 Defense Export Market; Here Is The List Of Top 10 Countries For Indian Hardware

Rajnath Singh, who took charge on June 14, 2024, for a second consecutive term as Defense Minister, has set an ambitious target for Indian defense exports. The Defense Minister said, "Defense exports had touched a record Rs 21,083 crore in Financial Year 2023-24. It was historic. Our target will be to export over Rs 50,000 crore worth of defense equipment by 2028-2029."

Since coming to power in 2014, the BJP government led by Narendra Modi has prioritized the promotion of Indian defense exports to friendly nations. The major export push is in sync with the PM's flagship initiatives: "Make in India" and "Atmanirbhar Bharat."

As a result of this push, India has experienced a significant turnaround by exploring the untapped export potential of its defense industry. As per data released by the Ministry of Defence, the value of Indian defense exports in FY 2013-14 was Rs. 686 crores (\$80M). After 10 years of the Modi government, the value of defense exports reached Rs. 21,083 crores (2.5B), a remarkable jump of more than 30 times. Although this is a remarkable accomplishment for India's defense industry, significant untapped potential remains that the government aims to uncover by establishing ambitious goals for the next five years.

As of today, India exports military equipment to 84 countries worldwide, including high-income nations like Australia, Belgium, Canada, France, Germany, Israel, Italy, Japan, South Korea, Netherlands, New Zealand, Saudi Arabia, Switzerland, Taiwan, UAE, UK, USA, etc. While the success of India's rise in defense exports is not unknown, the major products that have been the driving force behind this transformation remain largely unknown. Here are the top 10 countries that buy the highest amount of Indian military gear.

#1 USA

As per data released by India's Ministry of Defence in January 2023, the USA is one of the top markets for Indian military equipment. The exports comprise bullet-proof jackets and helmets, parts and components of firearms, armor-shielding equipment, electronics, sub-systems, and aero components. The Indian companies that the USA buys from are Aventel, Boeing India, Cummins Technologies India, Fokker Elmo Sasmos Interconnection Systems, GKN Aerospace Engine Systems India, Goodrich Aerospace Services, Indo MIM, Inmet Technology Solutions, MKU, Rockwell Collins India Enterprises, Rosselltechsys, Tata Advanced Systems, Tata Boeing Aerospace, and Vemtechnologies.

#2 ISRAEL

Israel purchases a significant number of Indian weapons, as per the Ministry of Defence. The shopping list includes bullet-proof jackets and helmets, parts and components of firearms, batteries, sub-systems, etc. The companies that export weapons to Israel are PLR Systems, Kalyani Rafael

Advanced System, Indo MIM, Alpha-Elsec Defence and Aerospace Systems, Lotus Aviation Technology, Defsys Solutions, Adani-Elbit, Advanced Systems, DCX Cable Technologies, Aceinotec Manufacturing, Alpha Design Technologies, Larsen and Toubro, Wipro Enterprises, HBL Power Systems, Godrej and Boyce, Astra Microwave Products, Astra Rafael Comsys, and BF Elbit Advanced Systems.

#3 UK

The UK is an important export destination for Indian military equipment manufacturers. Their items include bullet-proof jackets and helmets, electronics, sub-systems, aero components, and engineering services. The Indian weapon manufacturers include Cummins Technologies India, Goodrich Aerospace Services, Larsen and Toubro, Mahindra Defence Systems, Micron Instruments, and Tata Advanced Systems.

#4 France

France, a key military and diplomatic ally of India, has been one of the top buyers of Indian weapons. The French have purchased firearm components, batteries, and aerospace components from India. The Indian companies that have exported military equipment to France include Dassault Reliance Aerospace, Godrej and Boyce, Goodrich Aerospace Services, Hyderabad Precisions Manufacturing, Mahindra Aerostructure, Micron Instruments, MKU, Safran Electrical and Power India, Sasmos HET Technologies, and Titan Engineering and Automation.

#5 Germany

Germany, the largest economy in the European Union (EU), is also a significant target for Indian weapons manufacturers. It buys bullet-proof jackets and helmets, armor-shielding equipment, and firearm components from India. The companies involved in these exports are MKU, Indo MIM, Grindwell Norton, Micron Instruments, and Mercedes-Benz Research and Development India.

#6 UAE

The UAE has purchased bullet-proof jackets and helmets, ammunition, firearm components, and batteries from India. The companies exporting military equipment to UAE are Ordnance Factory Board, Indo MIM, Aceinotec Manufacturing, MKU, HBL Power Systems, and Indian Armour Systems.

#7 The Netherlands

The Netherlands, too, purchases a substantial amount of Indian military equipment. The EU nation imports bullet-proof jackets and helmets, subsystems, aero components, fuselage structures, armoring, and engineering services from India. The companies that export equipment to the Netherlands include Mahindra Aerostructure, Aerostructures Manufacturing India, GKN Aerospace Engine Systems India, SM Carapace Armour, and Lakshmi Machine Works.

#8 Philippines

In a bid to arm China's adversaries, India has increased arms sales to the Philippines in the last few years. The Southeast Asian nation has imported bullet-proof jackets and helmets, firearm components, and the Brahmos Missile from India.

MKU, Inmet Technology Solutions, Indo MIMI, NNF Technologies, and Brahmos Aerospace are the companies that have exported military hardware to the Philippines.

#9 Sri Lanka

India has supplied critical military equipment to Sri Lanka as part of its “Neighbourhood First” policy. Indian exports include bullet-proof jackets and helmets, electronics, batteries, and off-shore patrol vessels. The Indian companies involved in these exports are HBL Power Systems, Bharat Electronics, MKU, and Goa Shipyard.

#10 Saudi Arabia

As a result of closer ties between the two nations, India has also exported weapons and other military equipment to Saudi Arabia. The exports include night-vision binoculars, bullet-proof jackets and helmets, armor shields, and bomb blankets. The Indian companies involved in exports are MKU, Micro

Conclusion

Indian defense exports are dominated by non-core technology-based products. Compared with core tech products such as aircraft, missiles, and warships, these equipment are low-cost. To meet the 50,000 crores target (\$6B), India must export high-end products. India is banking on key indigenous weapons like Light Combat Aircraft (LCA) Tejas, Advanced Light Helicopter (ALH) Dhruv, a Light Combat Helicopter (LCH), Prachand, Light Utility Helicopter (LUH), Missiles/Rockets like BrahMos, Akash, Pinaka, etc.

Despite the US topping the list, India is aggressively targeting Southeast Asia and the Middle East to export the above-mentioned hi-tech weapons. BrahMos and Pinaka have managed to secure export orders from the Philippines and Armenia, but New Delhi continues to promote other platforms, such as Teja and its choppers, to other countries, including Argentina and Nigeria.

<https://www.eurasiantimes.com/usa-is-indias-no-1-market-for-defens/>



Thu, 04 July 2024

Indian ‘Iron Dome’ Akash SAM Competes Against Chinese ‘Sky Dragon’ For Brazilian Missile Deal

Indian “Iron-Dome” Akash Surface-to-Air Missile (SAM) is competing against Chinese-made Sky Dragon-50 air defense systems to secure an order from Brazil. Reports indicate that Brazilian forces have started evaluating the systems, even as the South American top brass is pushing for a government-to-government deal for the Akash missiles. The system’s evaluation follows the Brazilian Army’s publication of the Ordinance on June 21 for the acquisition of the Medium Altitude/High Altitude Air Defense Artillery System Project. The project is part of the Army’s strategic program for air defense.

The Brazilian forces set the ball rolling in November 2023, when the Brazilian Army issued a Request for Quote (RFQ) for the prices of the medium-altitude air defense systems available nationally and internationally. A second RFQ was issued in February 2024 for additional information. Brazilian military chief General Tomas Miguel Mine Ribeiro Paiva suggested a “government-to-government” agreement with India to acquire the Akash anti-aircraft missile system. He is scheduled to visit China in August to discuss potential bilateral cooperation.

A Brazilian Army delegation previously visited China in 2023 for a live fire demonstration of the Sky Dragon 50 or Tianlong-50 and the SH15 self-propelled howitzer, both produced by China North Industries Corporation. General Paiva witnessed a live demonstration of India’s Akash Air Defense Missile System in August 2023. He was also shown other Indian-made defense platforms, such as the advanced Arjun tanks and versatile Advanced Light Helicopter (ALH) Dhruva helicopters.

The event highlighted the Akash system’s prowess in safeguarding airspace and showcased India’s self-reliance in defense technology. While Sky Dragon 50 has been categorized as medium-range SAM, its range is not in the public domain. On the other hand, Akash is a short-range SAM system manufactured by Bharat Dynamics Limited (BDL) to protect vulnerable areas and points from air attacks.

According to the BDL website, the Akash Weapon System (AWS) can simultaneously engage Multiple Targets in Group Mode or Autonomous Mode. It has built-in Electronic Countermeasures (ECCM) features. The entire weapon system is mounted on mobile platforms. It can effectively engage helicopters, fighter jets, and UAVs flying in the range of 4-25 kilometers. It is fully automatic and has a quick response time from target detection to kill.

The Indian Defense Research and Development Organisation (DRDO) claims that it is the first system in the world capable of engaging four aerial targets simultaneously at 25 kilometers of range by command guidance using a single firing unit. It is highly immune to active and passive jamming. It can be transported swiftly via rail or road and deployed quickly. The project’s overall indigenous content is 82 percent, which will increase to 93 percent by 2026-27.

Armenia has already placed an order to acquire the Indian-built SAM. Multiple countries from South America, the Middle East, and Africa have shown interest in the acquisition of the indigenous Akash Missile system. The Philippines and Vietnam have also shown interest in the weapon system.

Akash – Sky Is The limit

The Akash weapon system’s mobility, mounted on trucks, makes it agile and nimble in the battleground and enhances its survivability. The Indian Army and the Air Force have already inducted the Akash. Akash has already evoked a comparison with the Israeli Iron Dome. But the Akash system is bigger than the Iron Dome missiles, and it can also intercept unmanned aerial vehicles and other types of smaller incoming projectiles, in addition to helicopters and aircraft.

The weapon system can be made fully automatic with a quick response time from target detection to kill. Its open-system architecture ensures adaptability to existing and futuristic air defense environments. In December 2023, the firepower of the Akash Missile system was demonstrated during the IAF’s Astrashakti exercise. During the exercise, a single Akash missile system engaged

four unmanned aerial targets simultaneously. The four targets came from the same direction in a close formation and split to attack defense assets from multiple directions simultaneously.

The Akash missile comes in two upgraded varieties: Akash-NG (New Generation) and Akash Prime. They both have a flying height of around 18 km and an operational range of 27–30 km. Nonetheless, Akash Prime possesses an extra native active Radio Frequency (RF) seeker, which enhances its accuracy when striking airborne targets. Additional enhancements to the system comprise enhanced dependability in low-temperature conditions at elevated elevations.

According to former DRDO scientist Ravi Kumar Gupta, Akash's versatility is an advantage over other systems. He told the Eurasian Times that, unlike other surface-to-air missiles that work only in particular altitudes and climates, Akash's biggest advantage is that it can work at "all places."

"The systems are developed for diverse conditions that can withstand extreme conditions anywhere in the world, which makes them 'most reliable and sturdy.' Since the system is fully indigenous, India can fine-tune it to any of the buyer's requirements in a cost-effective manner with a high degree of effectiveness against the adversary," Gupta said.

<https://www.eurasiantimes.com/indian-iron-dome-akash-sam-competes/>

Science & Technology News



Press Information Bureau
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Thu, 04 July 2024

World to witness 1st Indian in Space and other Indian in Deep Sea by 2025, says Union Minister Dr. Jitendra Singh

World to witness 1st Indian in Space and other Indian in Deep Sea by 2025, says Union Minister Dr. Jitendra Singh on the stage of Bharat 24 News network during his address here today.

Speaking on India's progress in Space and Marine sector, Dr. Jitendra Singh shared that four astronauts—three Group Captains and one Wing Commander have been selected for India's 1st Human Space Mission- Gaganyaan. Similarly, he also shared that India's Deep-Sea mission will send three Indians to deep sea in 2025.

During his address highlighting the Development in the Northeast India, Union Minister of State (Independent Charge) for Science and Technology, Minister of State (Independent Charge) for Earth Sciences, MoS PMO, Department of Atomic Energy and Department of Space and MoS Personnel, Public Grievances and Pensions Dr. Jitendra Singh said Infrastructure overhaul in Northeast India in the last decade is the role model of PM Modi's development." Going further he

recalled the new airports made operational in Northeast. Increase in network of all-weather roads and highways along with remote connectivity. The railways operating trains from Itanagar and new waterways that have been opened. He categorically mentioned that not only in terms of Infrastructure but also in human resources development is commendable as recruiters in the hospitality and aviation industry are now visiting these states for talent acquisition. Going further he stated that Prime Minister is fond of the region and preferred Mizoram to establish a 'Citrus Fruit Park- A Centre of excellence' in Mizoram due its favorable conditions.

Dr. Jitendra Singh when asked about the progress of Jammu Kashmir in the last decade said "Record number of tourists visiting Kashmir nearly 2.5 crore in the last season is the testimony of development and peace in the region." He also added that 1 lakh people have already arrived for Amarnath Yatra which also highlights boom in domestic tourism. He also mentioned that terrorism is in its last phase.

The media group congratulated Dr. Jitendra Singh for making a hat trick by winning from Udampur constituency and also being the Minister for the 3rd time. The Science and Technology Minister recalled the recent progress and shared the path of India's vision. He said "Space sector is limited to launch rockets and satellites but it will also propel growth and positively impact agriculture, infrastructure, communication, healthcare etc. Land Record management, new geospatial policy, new space policy, and initiatives such as soil health card, DBT, land mapping etc. will boost farmer productivity,"

He said, "In 2022 we had just one space Startup and in 2024 after opening the space sector for private participation we have nearly 200 startups and many among them have global capacity. He also shared that in just few months 1000 crore of Private sector investment has come into Space sector.

Dr. Jitendra Singh said, "India is among the frontline nations in terms quantum technologies as we have National Quantum Mission". He also highlighted India's Vast resources which are untapped such as Himalayan resources, Marine Resources of 7500km long coastline. The minister also shared that the government is successful in bringing agriculture and entrepreneurship together by Aroma Mission which promotes lavender cultivation and empowers farmers economically with the help of technology.

<https://pib.gov.in/PressReleasePage.aspx?PRID=2030692>

THE TIMES OF INDIA

Thu, 04 July 2024

Forensics to deepfakes: At expo, insight into how world can fight off challenges

From abuse of technology and detecting deepfakes to convertible drones for kamikaze operations and advanced cybersecurity apparatus, the International Police Expo and Drone International Expo 2024 at Pragati Maidan has on display contemporary topics related to law and order. Not only are

equipment from the UK, US, Israel and Germany on show, but also a plethora of those bearing the 'Make-in-India' stamp.

Over 200 national and international drone manufacturers were present. The event saw over 4,000 police and defence personnel thronging the venue on Thursday to explore the new tech on the block. Several companies have put up stalls displaying cyber security and anti-virus systems too.

The police representatives seemed particularly interested in the cyber security stalls, which had the latest crisis management and incident breach response on display. The section on non-lethal weapons showcased the latest rubber projectiles, smoke ammunitions, muzzle blast tear gas shells and sound-and-flash impact fuses besides illuminating projectiles with parachutes. "There are the latest distraction grenades and signalling rockets with parachutes on display as well," said a police officer.

The expo has a show on deepfake detection technology that runs on an advanced AI engine that analyses various digital formats to expose AI-generated forgeries. Pi-Labs, which has developed a multimodal defence against deepfakes that is being actively used by the police forces across India to outsmart AI manipulation, is on display at the event. With increasing cases of cyber fraud, revenge porn and other offences, this tech can help unmask deception and protect citizens. The technology can detect synthetic voice clones besides audio and video manipulation or tampered images.

Surveillance drones, such as the Marak PL 7.0 from Optiemus Unmanned Systems, exhibit how they have been designed and built to carry out seamless tactical mapping. The Marak comes with a lightweight multispectral camera that captures high quality videos and relays live feed up to 20km. Drones at this expo are designed to be tailored for critical applications in agriculture, defence, public safety, emergency response, and mapping, providing comprehensive solutions for complex missions. Armoured ambulances were also a significant feature of the exhibition.

"These may be used in war/conflict-prone areas to ensure personnel do not get hurt during firing while rescue operation is ongoing," a representative explained. Condor, a non-lethal technologies brand, presented multiple grenades, pepper sprays and other gear. Its primary focus is to showcase ammunition meant to be used in situations necessitating restricted use of force and firearms.

After the introduction of the new criminal laws — Bharatiya Nyaya Sanhita to replace Indian Penal Code, Bharatiya Nagarik Suraksha Sanhita (CrPC) and Bharatiya Sakshya Adhinyam (Evidence Act) — the emphasis is on forensic investigation. So, police officers took special interest in eSec Forte's special tech with long battery backup for forensic experts, special smart tablets and multiple connectors for various devices in a singular kit. eSec also showcased a 'Faraday bag' that can be used to protect electronic devices during the collection and analysis of digital evidence.

<https://timesofindia.indiatimes.com/city/delhi/insight-into-fighting-off-challenges-at-international-police-expo-and-drone-international-expo-2024/articleshow/111497835.cms>

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