

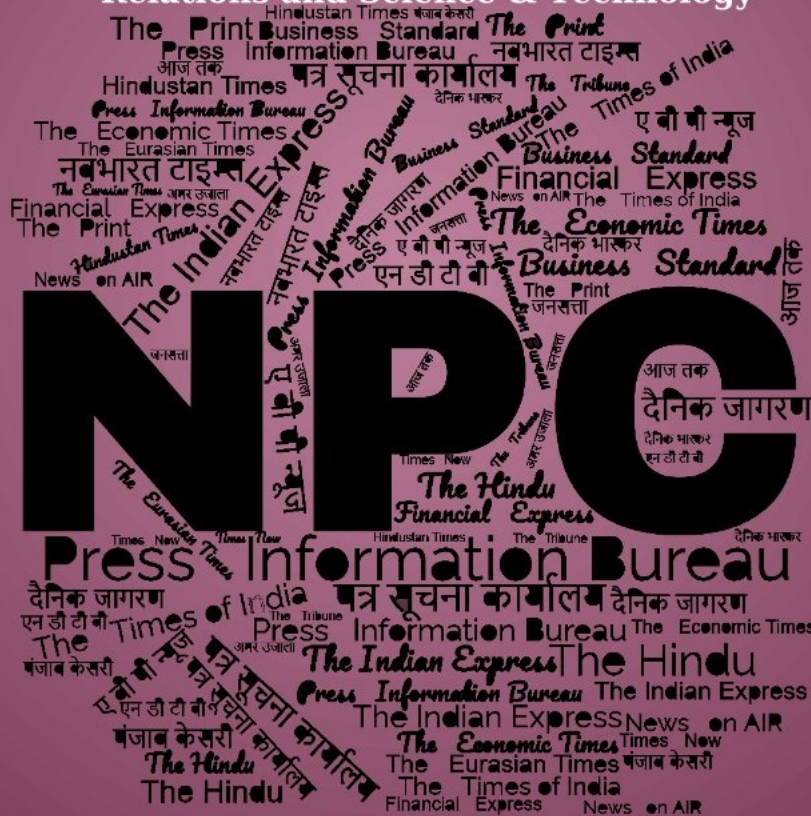
अक्टूबर
Oct
2023

खंड/Vol. : 48 अंक/Issue : 200
26/10/2023

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

A Daily service to keep DRDO Fraternity abreast with DRDO Technologies, Defence Technologies, Defence Policies, International Relations and Science & Technology



रक्षा विज्ञान पुस्तकालय
Defence Science Library
रक्षा वैज्ञानिक सूचना एवं प्रलेखन केंद्र
Defence Scientific Information & Documentation Centre
मेटकॉफ हाउस, दिल्ली - 110 054
Metcalf House, Delhi - 110 054

CONTENTS

S. No.	TITLE	Page No.
Defence News		
Defence Strategic: National/International		1-13
1.	Special Forces Training School gets a Cutting-Edge Vertical Wind Tunnel	<i>Press Information Bureau</i> 1
2.	Curtain Raiser Goa Maritime Conclave (GMC) – 2023	<i>Press Information Bureau</i> 2
3.	Chanakya Defence Dialogue of Indian Army: Strengthening Strategic Insights	<i>Financial Express</i> 3
4.	Warming Ties: On Bhutan-China Relations and India's Concerns	<i>The Hindu</i> 4
5.	Jaishankar meets Kyrgyzstan Prez, Discusses Ways to Boost Bilateral Ties	<i>Business Standard</i> 6
6.	BRO achieves Breakthrough of 260-metre Kandi Tunnel on Jammu-Poonch Highway	<i>Hindustan Times</i> 7
7.	Contours of Joint Theatre Commands Ready, Await Govt. Nod before Tweaks	<i>The Indian Express</i> 7
8.	Sri Lanka allows Chinese Research Ship to Dock as India's Security Concerns Grow	<i>The Hindu</i> 9
9.	'Iron Sting', Israel's latest Lethal Weapon System against Hamas: Explained	<i>India.com</i> 10
10.	Armenia Keen to Expand Defence Links with India as Conflict Festers	<i>Mint</i> 11
11.	Russia says it Rehearsed Delivering a Massive Retaliatory Nuclear Strike	<i>Reuters</i> 12
Science & Technology News		13-17
12.	China Announces Plan for New Telescope ahead of its Space Station Crew Launch	<i>Hindustan Times</i> 13
13.	China to Build the World's Largest 'Ghost Particle' Detector: What are Neutrinos and Why do they Need to be Detected?	<i>The Indian Express</i> 14
14.	ISRO to hold more tests for Gaganyaan in coming months	<i>The Hindu</i> 16



Press Information Bureau
Government of India

Ministry of Defence

Wed, 25 Oct 2023

Special Forces Training School gets a Cutting-Edge Vertical Wind Tunnel

In a landmark move to augment the training infrastructure of special forces and combat free-fallers, the Special Forces Training School (SFTS) at Bakloh, Himachal Pradesh, gets Indian Army's first Vertical Wind Tunnel (VWT).

General Manoj Pande, Chief of the Army Staff, virtually inaugurated the facility. The state-of-the-art wind tunnel is set to refine the Combat Freefall (CFF) skills of armed forces personnel.

As part of the ongoing transformation of the Indian Army, technology is being infused into the training methodologies. Installation of a VWT is also a step in that direction.

Functioning as a freefall simulator, the VWT creates a column of air at specific velocities, orchestrating different CFF conditions. The system offers a controlled environment, enabling trainees to enhance their skills by simulating real-life freefall conditions.

The VWT's integration into the CFF training curriculum at SFTS brings forth numerous pay-offs. The system simulates varied freefall scenarios which is crucial in assessing individual reactions to numerous situations in an airborne operating environment.

It reduces potential instability in the air and during parachute deployment thereby assisting trainees to get used to free-fall conditions. The VWT is not only beneficial for beginners but also an exceptional resource for delivering advanced training to seasoned free-fallers and CFF instructors.

Installation of the first VWT is aligned with the current impetus given to modernising the training infrastructure in the Indian Army. This project, a first of its kind in the Indian Army, will deliver simulated training on combat freefall to the special forces.

It is poised to greatly enhance the operational readiness of the future-ready Indian Army, ensuring that the special forces are fully prepared to tackle contemporary challenges of current and future battlefields. It promises faster and more precise training results

<https://pib.gov.in/PressReleasePage.aspx?PRID=1970937>



Press Information Bureau
Government of India

Ministry of Defence

Wed, 25 Oct 2023

Curtain Raiser Goa Maritime Conclave (GMC) – 2023

Indian Navy's Outreach Initiative for 'Harnessing Maritime thought'

The 4th edition of Goa Maritime Conclave (GMC) - 2023 is being held from 29 to 31 October 2023 by the Indian Navy under the aegis of Naval War College, Goa. GMC is the Indian Navy's outreach Initiative providing a multinational platform to harness the collective wisdom of practitioners of maritime security and the academia towards garnering outcome oriented maritime thought. Previous editions of the biennial event were held in 2017, 2019, and 2021 and it provides a forum for exchange of views by the Chiefs of Navy/ Heads of Maritime Agencies on dealing with contemporary and future maritime challenges, as well as presenting cooperative strategies for enhancing interoperability amongst partner maritime agencies.

The theme for this year's edition of GMC is "Maritime Security in the Indian Ocean Region: Converting Common Maritime Priorities into Collaborative Mitigating Frameworks", which has been derived keeping in mind the necessity of 'synergising and collaborating efforts' in the maritime domain towards achieving maritime security in the Indian Ocean Region (IOR). At the GMC-23, Adm R Hari Kumar, Chief of the Naval Staff of Indian Navy would be hosting Chiefs of Navies/ Heads of Maritime Forces/ Senior Representatives from 12 Indian Ocean littorals, including Bangladesh, Comoros, Indonesia, Madagascar, Malaysia, Maldives, Mauritius, Myanmar, Seychelles, Singapore, Sri Lanka, and Thailand. Hon'ble Raksha Mantri, Shri Rajnath Singh has kindly consented to be the Chief Guest and he would deliver the Keynote Address of GMC-23.

The Conclave participants would benefit from interactions with eminent speakers and subject matter experts over four sessions focusing on

- Identifying Gaps in Regulatory and Legal Frameworks for Achieving Maritime Security in the IOR
- Formulation of a Common Multi-lateral Maritime Strategy and Operating Protocols for GMC Nations for Collective Mitigation of Maritime Threats and Challenges

- Identification and Establishment of Collaborative Training Programmes with Center of Excellence across the IOR
- Leveraging Activities Pursued Through Existing Multilateral Organisations in the IOR towards Generating Collective Maritime competencies”.

As part of the conclave, visiting dignitaries would also be afforded an opportunity to witness India's Indigenous shipbuilding industry at the “Make in India Exhibition” and witness the indigenous warships as also capabilities of the Deep Submergence Rescue Vessel (DSRV).

In its fourth iteration, the Goa Maritime Conclave continues to strive to find regional solutions to the regional security challenges in the IOR, and fulfil its quest of becoming an ‘outcome-oriented’ forum by converting Common Maritime Priorities into Collaborative Mitigating Frameworks.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1970835>



Wed, 25 Oct 2023

Chanakya Defence Dialogue of Indian Army: Strengthening Strategic Insights

The Indian Army is poised to embark on a journey of strategic wisdom with the introduction of the “Chanakya Defence Dialogue.” This innovative initiative will serve as a vital platform for the exchange of insights and discussions on critical security matters, further enhancing the nation’s strategic awareness.

The Chanakya Defence Dialogue is set to be inaugurated on the auspicious date on October 26, 2023, with a keynote address delivered by the distinguished Chief of Army Staff, General Manoj Pande. Subsequently, the first edition of this thought-provoking series is planned for the month of November, marking a significant milestone in India’s pursuit of heightened strategic awareness.

The Chanakya Defence Dialogue will be a recurring forum designed to unite leading experts from the international defense and strategic community. Its primary objective is to foster connections and facilitate the free flow of ideas and philosophies among these distinguished intellects. While a wide range of security challenges will be thoroughly addressed, the main focus of the discussions will be on South Asia and the Indo-Pacific region.

The dialogue series will revolve around thought-provoking themes, including the dynamics of “Neighbourhood Forces,” where evolving regional influences will be scrutinized. The “Indo-Pacific Frontier” will take center stage as a strategic focal point of global significance, and the “Evolving Impact of Emerging Technologies on Defence and Security” will be explored, shedding light on how cutting-edge innovations are shaping the landscape of national defence.

In hosting this remarkable event, the Indian Army will collaborate with the eminent think tank, the Centre for Land and Warfare Studies (CLAWS). The dialogue will witness active participation from representatives of various nations, including Australia, France, Japan, and the United States. Over the course of two insightful days, the Chanakya Defence Dialogue will assemble a distinguished assembly of speakers, military tacticians, diplomats, and influential thought leaders specializing in defence and strategic matters. The conversations will encompass a spectrum of security challenges and strategies, with a particular focus on the volatile regions of South Asia and the Indo-Pacific.

Reportedly, top military leaders and experts from various countries will convene to discuss pivotal security matters. Their deliberations will span a wide array of topics, ranging from collaborative efforts to enhance regional safety to countering terrorism, maritime security, and fortifying cyberspace security. Diplomatic solutions to territorial disputes and the impact of climate change on national security will also be on the agenda.

Additionally, the dialogue will encompass debates on cooperation in technological advancements within the defence sector, regular military exercises, and measures to control the proliferation of nuclear weapons. Topics like regional stability and cooperative procurement of military equipment will be comprehensively addressed, all with the overarching goal of safeguarding the security of nations.

These discussions will place significant emphasis on countries in the Indo-Pacific region and their collaborative efforts to ensure safety and security. Considerations will extend to disaster humanitarian assistance and disaster relief practices, with the primary aim of establishing stability and cooperation in the Indo-Pacific region and worldwide, adhering to established rules and agreements.

The Chanakya Defence Dialogue underscores the Indian Army's earnest commitment to learning, enhancing strategic acumen, and leveraging expert knowledge. Focusing on themes of paramount importance, such as the dynamics of neighbouring forces, the strategic significance of the Indo-Pacific region, and the evolving implications of cutting-edge technologies in defence, this ambitious dialogue series promises to be a cornerstone in the journey towards fortified strategic insights.

<https://www.financialexpress.com/business/defence-chanakya-defence-dialogue-of-indian-army-strengthening-strategic-insights-3286443/>



Thu, 26 Oct 2023

Warming Ties: On Bhutan-China Relations and India's Concerns

This week's visit of Bhutan's Foreign Minister Tandi Dorji to China, was unprecedented on several levels. Bhutan and China do not maintain diplomatic relations. His visit is the first ever by a

Bhutanese Foreign Minister. Moreover, the main purpose was the holding of boundary talks that have not taken place in more than seven years.

The talks appeared to yield substantive progress, according to a joint statement, with both countries having also signed a cooperation agreement outlining the functioning of a new joint technical team for the delimitation and demarcation of the boundary.

In the talks with Dr. Dorji, the Chinese Foreign Minister, Wang Yi, called for both sides to soon establish diplomatic relations and to conclude their boundary negotiations. It is true that India, given its special relationship with Bhutan, has been very wary about the possibility of the establishment of diplomatic relations and the signing of a boundary agreement. But both those outcomes increasingly appear inevitable.

Indeed, only this month, the Bhutanese Prime Minister in an interview with this paper said that the two countries were inching towards the completion of a three-step road map on boundary delineation and demarcation. He asserted that no agreement with China would in any way go against India's interests.

Given Bhutan's unique dependence on India, there is little doubt that it will have taken New Delhi on board in its efforts to normalise relations with China, in return guaranteeing India's security interests and red lines.

One such red line will involve keeping China away from southern Doklam's ridges that overlook India's "Siliguri corridor", even as Beijing and Thimphu consider a "swap" between territories in the valleys of the north, where Bhutan is coming under intense Chinese pressure, and on the Doklam plateau in the west.

A second line will likely involve Thimphu going slow on normalising ties and opening itself up to a permanent Chinese diplomatic presence, while continuing with border talks. The question now facing New Delhi is how best to protect its interests.

One lesson from the crisis that was thrust upon Thimphu in 2017, during the India-China Doklam stand-off, is that India's interests are better served by taking Bhutan on board and aligning strategies rather than by expecting acquiescence from a sovereign nation that will understandably pursue its own.

A border deal that addresses Bhutanese concerns in the north while preserving India's red lines in the west will not necessarily undermine New Delhi's interests. Rather than alarm, India must approach the boundary negotiations with a greater understanding of Bhutan's reasoning, and with confidence that India's long-trusted neighbour will take both India's interests and its own into consideration before any final agreement.

<https://www.thehindu.com/opinion/editorial/warming-ties-the-hindu-editorial-on-bhutan-china-relations-and-indias-concerns/article67458318.ece>

Business Standard

Wed, 25 Oct 2023

Jaishankar meets Kyrgyzstan Prez, Discusses Ways to Boost Bilateral Ties

External Affairs Minister S Jaishankar called on President of Kyrgyzstan Sadyr Zhaparov on Wednesday and discussed ways to boost bilateral cooperation in banking, defense and energy sectors.

Jaishankar was accorded a warm welcome here on Wednesday as he arrived in Kyrgyzstan on a two-day visit during which he will meet the country's leadership and attend a conclave of the Shanghai Cooperation Organisation (SCO). "Delighted to call on President Sadyr Zhaparov of Kyrgyz Republic. Conveyed the personal greetings of PM @narendramodi. Discussed cooperation in banking, energy, health and pharma, defense, agriculture and investments," he posted on X.

The minister conveyed India's support to Kyrgyzstan for the successful Presidency of the SCO Council of Heads of Government.

Kyrgyzstan is hosting the SCO Council of Heads of Government (CHG) meeting in its capacity as the current chair of the grouping.

Jaishankar also met his counterpart from Kyrgyzstan Zheenbek Kulubaev and discussed a range of issues.

"Good to see my old friend FM Zheenbek Kulubaev in Bishkek. Spoke about strengthening India-Kyrgyz cooperation in the fields of trade and economy, development projects, health and education. Also exchanged views on Afghanistan, West Asia and connectivity," he wrote on X.

Jaishankar will represent Prime Minister Modi at the SCO Council of Heads of Government (CHG) meeting.

"Look forward to productive exchanges at the SCO; meeting Kyrgyz leadership and taking forward our bilateral agenda," he said.

Russian Foreign Minister Sergey Lavrov and his Chinese counterpart Wang Yi are also expected to join the SCO meeting in the Kyrgyz capital city of Bishkek.

According to the Ministry of External Affairs, Jaishankar will meet with his counterparts from other SCO member states and call on the country's top leadership.

The SCO grouping comprises China, India, Iran, Kazakhstan, Kyrgyzstan, Pakistan, Russia, Tajikistan and Uzbekistan.

Founded in Shanghai in June 2001, the SCO is an intergovernmental organisation. Since its inception, the SCO has mainly focused on regional security issues and its fight against regional terrorism, ethnic separatism and religious extremism.

https://www.business-standard.com/india-news/jaishankar-meets-kyrgyzstan-prez-discusses-ways-to-boost-bilateral-ties-123102501171_1.html

Thu, 26 Oct 2023

BRO achieves Breakthrough of 260-metre Kandi Tunnel on Jammu-Poonch Highway

The Border Roads Organisation on Wednesday achieved a breakthrough of the 260-metre Kandi tunnel along the Jammu-Poonch national highway, a defence spokesperson said. The tunnel work, which commenced in March, has seen remarkable progress despite facing adverse weather conditions, including heavy rainfall and landslides along the entire road stretch, the spokesperson said.

He said the first of the four tunnels has achieved its breakthrough, a significant milestone in the ongoing 'project Sampark' on the Akhnoor-Poonch highway (NH 144A), which came ahead of the schedule, demonstrating the exceptional expertise and determination of the BRO. Brigadier Tejpal Singh, chief engineer project Sampark, was present to witness this momentous occasion. The spokesperson said the crucial project has been divided into eight packages, and the BRO is making remarkable progress in enhancing the horizontal and vertical profile of the road. "Package 1 is expected to be completed by June next year. Once completed, this tunnel will reduce the length of the road by 2.5 kilometres, improving connectivity and facilitating more efficient travel between Akhnoor and Poonch," the spokesperson said.

Additionally, he said this tunnel will play a vital role in enhancing strategic connectivity for the armed forces, enabling smoother and more expedient movement from Jammu to Poonch. "The BRO is committed to the timely and successful execution of all projects undertaken, and this achievement is a testament to its dedication to improving transportation infrastructure and serving the nation," the spokesperson said.

<https://www.hindustantimes.com/cities/chandigarh-news/bro-achieves-breakthrough-of-260-metre-kandi-tunnel-on-jammu-poonch-highway-101698260154400.html>



Thu, 26 Oct 2023

Contours of Joint Theatre Commands Ready, Await Govt. Nod before Tweaks

by Amrita Nayak Dutta

The Armed Forces have narrowed down the final contours of the integrated theatre commands with a proposal for theatre commanders under a national defence committee likely to be headed by the Defence Minister, top officials have told The Indian Express.

Officials said the structures of the theatre commands are awaiting the approval of the government, based on which there may be further changes. The theaterisation plans seek to integrate the Army, Navy and Indian Air Force and their resources into specific theatre commands. An official said members of the Chiefs of Staff Committee (COSC) are also likely to be part of the defence committee that will oversee the work of theatre commanders.

“As per current plans, the structural changes, owing to the theaterisation plans, are also likely to involve appointment of a Vice CDS and a Deputy CDS,” the official said, adding that they would oversee the verticals of operations, intelligence and planning, training, procurements and other Defence-related aspects. Earlier discussions involved keeping the roles of raise, train and sustain for the service chiefs while entrusting operations to the theatre commanders. But, according to a second official, it is currently being discussed that the service chiefs will likely retain some operational roles.

The official said that while the basic structure of the theatre commands is nearly final, certain matters related to human resource matters are yet to be decided. The theaterisation plans, officials said, also entail overall transformation and better integration of the three service headquarters. As reported by The Indian Express in January this year, three theatre commands will be set up first — one facing Pakistan, another opposite China, and a maritime theatre command to tackle maritime threats outside the coastal borders of the country. These theatre commands are likely to be located in Jaipur, Lucknow and Karwar, respectively.

An official said that existing tri-service agencies such as cyber, space and the special operations division — to gradually upgrade to commands — might be integrated as a fourth theatre command in the future. But this plan is still at a discussion stage. Limited cross-postings between the Army, Navy and IAF have already been implemented to promote jointness. “Restructuring of the headquarters and the subsequent postings will take place after the final approval from the government,” the official said. Currently, the Army and the IAF have seven commands each, while the Navy has three. In addition, there are two tri-service commands — the Andaman and Nicobar Command and the Strategic Forces Command (SFC), apart from the Headquarters Integrated Defence Staff (HQIDS). One regular command of each of the three services is likely to be upgraded to a theatre command. The current discussions are to subsume the Andaman and Nicobar Command into the maritime theatre command and bring the HQIDS under the CDS. The SFC will continue to operate independently.

All other commands will continue to oversee the respective operational theatres and there will be focus on enhancing jointness among the three services in areas such as intelligence, logistics, training, infrastructure among others. Considered a major military reform, creation of theatre commands and their structure has been under discussions for three years now. CDS General Anil Chauhan is spearheading the theaterisation plans. Multiple deliberations, studies and table top exercises have been carried out by the three services to examine employment of theatres in different operational scenarios. It is not yet clear which service will lead which theatre command. Earlier theaterisation plans, which had envisioned creation of an air defence command, had met with objections from the IAF which said the creation of theatre commands would divide its fighting assets.

<https://indianexpress.com/article/india/contours-of-joint-theatre-commands-ready-await-govt-nod-before-tweaks-8999683/>

Sri Lanka allows Chinese Research Ship to Dock as India's Security Concerns Grow

A Chinese research ship will be allowed to dock at a Sri Lankan port this week, likely adding to neighboring India's concerns about China's growing influence in the Indian Ocean. The arrival of the Shi Yan 6 follows last year's visit by a Chinese naval vessel.

The latest ship has been given permission to dock for replenishment at the port of Colombo, the Indian Ocean island's main port, from Wednesday until Oct. 28, said foreign ministry spokesman Kapila Fonseka. The vessel had been expected to conduct research with Sri Lankan state institutions, but Fonseka said permission was granted only for replenishment and no research work would be carried out. "The particular permission is very clear," he said.

According to Chinese television network CGTN, Shi Yan 6 is a geophysical scientific research vessel on an expeditionary voyage in the eastern area of the Indian Ocean. Organized by the South China Sea Institute of Oceanology under the Chinese Academy of Sciences, the vessel is scheduled to operate at sea for 80 days, covering a range of more than 12,000 nautical miles (roughly 22,200 kilometers), CGTN reported.

China has been trying to expand its influence in Sri Lanka, which is located on one of the world's busiest shipping routes in what India considers part of its strategic backyard. Beijing was once widely seen as having an upper hand with its free-flowing loans and infrastructure investments. But Sri Lanka's economic collapse last year provided an opportunity for India as New Delhi stepped in with massive financial and material assistance.

Two weeks ago, Sri Lanka reached an agreement with Export-Import Bank of China on key terms and principles for restructuring its debt, an important step toward unlocking a second installment of a \$2.9 billion package from the International Monetary Fund aimed at helping the island nation from its dire economic crisis. Sri Lanka declared bankruptcy in April 2022 with more than \$83 billion in debt, more than half to foreign creditors.

China accounts for about 10 percent of Sri Lanka's loans, trailing Japan and the Asian Development Bank. Sri Lanka borrowed heavily from China over the past decade for infrastructure projects including a seaport, airport and a city being built on reclaimed land. The projects failed to earn enough revenue to pay for the loans, and in 2017, Sri Lanka leased the seaport in Hambantota to China.

Last year, Chinese navy vessel Yuan Wang 5 docked at Hambantota in southern Sri Lanka. There were fears in India that the vessel could be used to surveil the region.

<https://www.thehindu.com/news/international/sri-lanka-allows-chinese-research-ship-to-dock-as-indias-security-concerns-grow/article67459153.ece>

‘Iron Sting’, Israel’s latest Lethal Weapon System against Hamas: Explained

Israel and Palestine have been at war since October 7; it is soon going to be a month and the attacks do not seem to end anytime soon. It was Hamas who first attacked Israel on October 7, suddenly but soon after, Israel was ready with its counter-attacks which have continued. The nation is going strong in terms of ‘wiping off’ Hamas joints and places; the country first used the ‘Iron Dome’ Defence System that made quite a few headlines and now its using the ‘Iron Sting’ Weapon System. More about the ‘Iron Sting’ has been disclosed by the Israeli Defence Forces (IDF) via a video. What is the ‘Iron Sting’, how is it being used by Israel against Hamas and how dangerous and ‘lethal’ is the weapon system, know everything..

What Is ‘Iron Sting’?

‘Iron Sting’ is a weapon system which was invented by the Elbit Systems and was disclosed by the Israeli Defence Forces and Defence Ministry of Israel, for the first time in 2021. Described as an ‘innovative and accurate mortar bomb’, the Iron Sting is a part of a range of several weapons which are utilised to counteract to the multiple threats in the Middle-East.

This system was first revealed by the IDF on Sunday when it was used to strike down rocket launchers of the Hamas Terrorists, in the Gaza Strip. As mentioned earlier, Iron Sting is an ‘innovative and accurate mortar bomb’ which is built to be used in both open spaces and dense urban environments; the system specifically targets what needs to be destroyed and thus limits the possibility of attack or hurt the non-combatants.

More About ‘Iron Sting’

According to a report by The Jerusalem Post, the weapon includes a mortar of 120mm, it has GPS facilities and for hitting targets with utmost precision, it uses laser guidance. The range of this weapon is 1-12 KM. The Iron Sting Weapon System was showcased when in action, by the Israeli Defence Forces, in a video footage.

It has also been said that the aim of designing the system is to revolutionize ground warfare, provide battalions with accurate, organic and highly effective firepower. The testing of this system was completed in 2021 and in a press release, then-Defence Minister Benny Gantz said that the system is set to address specific needs of the IDF by adapting combat capabilities to confront adversaries concealed within civilian, urban areas while adhering to legal and moral standards set by State of Israel.

Commander Of Commando Brigade, Col. Omer Cohen Statement

Col. Omer Cohen, Commander of the Commando Brigade was quoted as saying by The Jerusalem Post, “Thanks to the precision, lethality, and expertise of fighters, the Maglan unit in cooperation

with the Air Force took out dozens of terrorists with a variety of means, one of which is the precision mortar “Iron Sting”. From the beginning of the war, the Commando Brigade fought fiercely against the enemy’s brutal attack and eliminated over 100 terrorists in the Gaza Strip. Regular and reservist Maglan, Egoz and Duvdevan units will get to any place and any enemy and eliminate them. Together we will win; I am sure of our soldiers and trust them.”

<https://www.india.com/news/world/iron-sting-israels-latest-lethal-weapon-system-against-hamas-explained-6443638/>



Wed, 25 Oct 2023

Armenia Keen to Expand Defence Links with India as Conflict Fester

Armenia is keen to expand its defence ties with India, its deputy foreign minister Mnatsakan Safaryan said, in the aftermath of its bitter conflict with Azerbaijan. “Armenia is diversifying its defence cooperation and this is a good opportunity to further enhancing Armenian-Indian ties in this field,” Safaryan told Mint.

The country has appointed a defence attaché to its Embassy in New Delhi in order to scope out potential for further cooperation, he added. In 2020, India sold the Swathi weapon-locating radar system to Armenia. After this, a bilateral deal was struck for New Delhi to supply Yerevan anti-tank munitions, Pinaka multi-barrel rocket launchers and ammunition.

In November 2022, Kalyani Strategic Systems, a wholly owned subsidiary of **Bharat Forge**, won a \$155 million contract to supply artillery guns to Armenia, according to numerous media reports citing defence ministry sources. The relationship developed after Armenia lost a short but intense conflict with Azerbaijan in 2020.

In March this year, Armenia’s top military commander Maj-Gen Edward Asryan visited India and met chief of defence staff Gen Anil Chauhan. Asryan also met the National Security Council. Prior to this, defence minister Suren Papikyan visited India in October 2022 to meet defence minister Rajnath Singh.

Safaryan also thanked India for condemning Azerbaijan’s “aggression” towards Armenia and welcomed a greater Indian role in the region.

“We would like to see India’s increased presence in Armenia and in our region at large, be it trade and business ties or others. “Given your country’s fast development, it will contribute to overall stability in our region, as well as India’s strategy to engage more in its neighbourhood” Safaryan said.

India has taken an interest in the conflict between Armenia and Azerbaijan over the territory of Nagorno-Karabakh, where Armenians were in a majority. While the region is recognised as a part of Azerbaijan, it was controlled by ethnic Armenians.

After taking back control over large parts of Nagorno-Karabakh in 2020, Azerbaijan was able to consolidate its grip over the region after a short military campaign in September this year.

Azerbaijan's victory may be a cause of concern to New Delhi because of the growing closeness between Azerbaijan, Pakistan and Turkey. The three countries have built a closer military and political relationship in recent years. Turkey and Azerbaijan have backed Pakistan on Kashmir.

These concerns could pave the way for greater cooperation on national security. Armenia's secretary of the security council Armen Grigoryan and India's national security adviser Ajit Doval met in August this year.

<https://www.livemint.com/news/india/armenia-keen-to-expand-defence-links-with-india-as-conflict-festers-11698254453791.html>



Wed, 25 Oct 2023

Russia says it Rehearsed Delivering a Massive Retaliatory Nuclear Strike

Russia has successfully tested its ability to deliver a massive retaliatory nuclear strike by land, sea and air, a Kremlin statement said on Wednesday, a display of force which coincides with Moscow de-ratifying a landmark nuclear test ban treaty.

The exercise, which involved the test launch of missiles from a land-based silo, a nuclear submarine, and from long-range bomber aircraft, comes as Moscow is locked in what it casts as an existential standoff with the West over Ukraine. With tensions at their highest level since the 1962 Cuban missile crisis, Russia - which has the world's largest nuclear arsenal - is moving quickly to revoke its ratification of a nuclear test ban treaty to bring itself into line with the United States.

"Practical launches of ballistic and cruise missiles took place during the training," the Kremlin said in a statement on the nuclear drills. State TV showed Defence Minister Sergei Shoigu reporting by video link to Putin on the exercise, which he said was a rehearsal for "a massive nuclear strike" in response to an aggressor's nuclear attack.

A Yars intercontinental ballistic missile was fired from a test site at a target in Russia's far east, a nuclear-powered submarine launched a ballistic missile from the Barents Sea, and Tu-95MS long-range bombers test-fired air-launched cruise missiles, the Kremlin statement said.

"In the course of the events, the level of preparedness of the military command authorities and the skills of the senior and operational staff in organising subordinate troops (forces) were tested," it said.

"The tasks planned in the course of the training exercise were fully accomplished."

Video footage of the exercise published by the defence ministry showed the land and submarine-based missiles noisily streaking into the night sky and nuclear-capable bomber aircraft taking off from an airfield under the cover of darkness. Russia carries out such exercises to test its so-called nuclear triad from time to time. The United States also carries out regular nuclear drills.

Russia has made it clear that - despite its de-ratification - it has no plans to abandon a 1992 moratorium on nuclear test blasts in line with the Comprehensive Test Ban Treaty (CTBT), which Moscow has signed. Russia would only resume such testing - a move that Western military experts believe it might be tempted to do to signal intent and evoke fear in any standoff with the West - if the United States did so first, Moscow has said.

The only reason Russia says it is revoking its withdrawal of the CTBT is to bring itself into line with Washington which signed but never ratified the same document.

<https://www.reuters.com/world/europe/russia-says-it-rehearsed-delivering-massive-retaliatory-nuclear-strike-2023-10-25/>

Science & Technology News



Wed, 25 Oct 2023

China Announces Plan for New Telescope ahead of its Space Station Crew Launch

China announced plans on Wednesday to send a new telescope to probe deep into the universe as it prepared to launch the country's next, three-member crew for its orbiting space station. The telescope, dubbed Xuntian, will be installed by China's Tiangong space station and will co-orbit with it, according to a statement from Lin Xiqiang, spokesperson and deputy director general of the Chinese Manned Space Agency.

No timeframe was given for the installation. State broadcaster CCTV said the telescope would enable surveys and mapping of the sky. China has researched the movement of stars and planets for

thousands of years while in modern times, it has pushed to become a leader in space exploration and science.

The announcement came on the eve of the flight by three astronauts — Tang Hongbo, Tang Shengjie and Jiang Xinlin — who will replace a crew that has been on the station for six months.

The launch is expected for late morning on Thursday. Tang is a veteran who led a 2021 space mission for three months. China has made major advance in its burgeoning space power and says it plans to send a crewed mission to the moon by the end of the decade while also pursuing other ambitions in space.

The program largely comes in competition with the United States but also seeks to draw in support from nations in Europe, Southeast Asia, South America and elsewhere. China built its own space station after it was excluded from the International Space Station, largely due to U.S. concerns over the control of the program by the People's Liberation Army, the military branch of the ruling Communist Party.

China's first manned space mission in 2003 made it the third country after the former Soviet Union and the U.S. to put a person into space using its own resources. American spending, supply chains and capabilities are believed to give it a significant edge over China for the time being. China has broken out in some areas, however, bringing samples back from the lunar surface for the first time in decades and landing a rover on the less explored far side of the moon.

Meanwhile, the U.S. aims to put astronauts back on the lunar surface by the end of 2025 as part of a renewed commitment to crewed missions, aided by private sector players such as SpaceX and Blue Origin. In addition to their lunar programs, the two countries have also separately landed rovers on Mars, and China plans to follow the U.S. in landing a spacecraft on an asteroid.

The new crew of the station will also need to conduct maintenance on its solar panels that have been hit by debris flying within the solar system, the official Xinhua News Agency reported. A large amount of those particles were created by China in the destruction of one of its own satellites by a missile it fired in 2007, in what was seen as a sign of strength against its competitors in the U.S. and its allies.

<https://www.hindustantimes.com/world-news/china-announces-plan-for-new-telescope-ahead-of-its-space-station-crew-launch-101698226697197.html>



Tue, 24 Oct 2023

China to Build the World's Largest 'Ghost Particle' Detector: What are Neutrinos and Why do they Need to be Detected?

China is building an enormous telescope in the western Pacific Ocean. Its job will be to detect "ghost particles", also known as neutrinos. The telescope will be the largest of its kind, scientists say in an article published in Nature earlier this month. Here's everything you need to know about neutrinos.

What is a ghost particle?

In order to understand what a ghost particle or neutrino is, you need to understand the importance of atoms.

Atoms make up our universe. Anything that has mass — you, me, the book on the shelf next to you and the cup of coffee you're drinking from — is made up of atoms.

For a long time, scientists thought atoms were the smallest particle in existence — before discovering that they are themselves comprised of even tinier “subatomic” particles: protons (which have a positive charge), electrons (negative charge) and neutrons (no charge).¹

Neutrinos are a type of lepton but, like neutrons, they do not have any charge.

They are among the most abundant particles in our universe — with trillions of neutrinos passing through you at any given second — and also among the tiniest. Neutrinos were long believed to be massless, until scientists found evidence that they do have a very small mass.

Neutrinos' weak charge and almost nonexistent mass have made them notoriously difficult for scientists to observe. They can only be “seen” when they interact with other particles.

The rarity of interactions with other particles makes them almost impossible to track. That's why they're called ghost particles — the vast majority skirt around undetected.

How do scientists detect ghost particles?

Ghost particles rarely interact with other particles. But rarely doesn't mean “never”. Sometimes they interact with water molecules, which is why China is building its ghost molecule telescope underwater.

Scientists have observed ghost particles in fleeting instances when the particles create byproducts after traveling through water or ice. These “muons” create flashes of light that can be detected by sophisticated underwater telescopes and offer one of the few ways to study the energy and source of neutrinos.

Right now, the largest neutrino-detecting telescope is the University of Madison-Wisconsin's “IceCube” telescope. Situated deep in the Antarctic, the telescope's sensors span around 1 cubic kilometer. China says its new telescope, called “Trident”, will span 7.5 cubic kilometers in the South China Sea.

Scientists say that its size will allow it to detect more neutrinos and make it “10,000 times more sensitive” than existing underwater telescopes.

Construction has already begun and is slated to finish within this decade, scientists say.

Why does the detection of ghost particles matter?

Okay, you might be thinking, that all sounds fine, but what's so special about neutrinos? Why should I care?

Here's the thing — scientists don't really know why the massively abundant neutrinos act the way they do. They defy established rules of physics.

And it's not clear where the particles come from. Scientists think they might have played a role in the early universe, right after the big bang. But this is just a hypothesis, nothing they've been capable of proving yet.

It's thought that a sound understanding of neutrinos will help solve a number of scientific mysteries — like the origin of the mysterious cosmic rays, which are known to contain neutrinos. Researchers believe that understanding the source of neutrinos will enable them to explain the origins of cosmic rays — something scientists have been trying to do for centuries.

There's evidence that neutrinos are essential for understanding the origins of our universe. The construction of Trident is set to bring us one step closer to that knowledge.

<https://indianexpress.com/article/explained/explained-sci-tech/china-largest-ghost-particle-detector-neutrinos-explained-8997219/>



Wed, 25 Oct 2023

ISRO to hold more tests for Gaganyaan in coming Months

After the successful Test Vehicle-D1 (TV-D1) mission on October 21, the Indian Space Research Organisation (ISRO) has lined up more test missions in the months ahead for the Gaganyaan programme.

Upcoming tests include the TV-D2 mission, the G-X unmanned orbital demonstration flight, an Integrated Air-Drop Test (IADT) and a Pad Abort Test, S. Unnikrishnan Nair, Director, Vikram Sarabhai Space Centre (VSSC), told *The Hindu*.

A crew module with service module will be used in the G-X mission. This unmanned mission, to be launched aboard a human-rated LVM3, will have 'Vyommitra' - the 'female' robot astronaut designed and developed by the ISRO Inertial Systems Unit (IISU) - on board. In this mission, ISRO will put to test control systems, a "reduced version" of the life support system for the crew, thermal protection systems and the parachute systems.

Meanwhile, the Test Vehicle (TV) development programme will continue parallelly. TV-D2 will be the second of four tests planned for demonstrating in-flight abort capability under different initial conditions with respect to the launch vehicle. Unlike TV-D1, TV-D2 will also have onboard a control system for re-orienting the attitude of the crew module once it separates.

The test vehicle will be the same, expendable version based on the L40 strap-on of the multi-purpose vehicle Geosynchronous Satellite Launch Vehicle (GSLV) used in TV-D1 mission. TV-D1 demonstrated the in-flight abort of the Crew Escape System (CES) at 1.2 Mach speed, which was followed by the separation of the crew module and its recovery from the sea.

At the same time, ISRO is also examining whether the TV-D1 crew module, recovered from the sea after a parachute-assisted splash-down, can be reused for future tests. The space agency is looking into this possibility, Dr. Unnikrishnan Nair said. The lead unit of ISRO for launch vehi-

cles, VSSC was responsible for the structural design and manufacture of the unpressurised crew module used for the test.

As the module had come into contact with salt water, only a detailed inspection can tell whether it can be reused and in what capacity. “We are working out a plan to reuse it. We need to open and clean it and see what can be done. Efforts will be taken to divert it for the appropriate test programme under Gaganyaan,” he said.

<https://www.thehindu.com/sci-tech/science/isro-to-hold-more-tests-for-gaganyaan-in-coming-months/article67458821.ece>

