

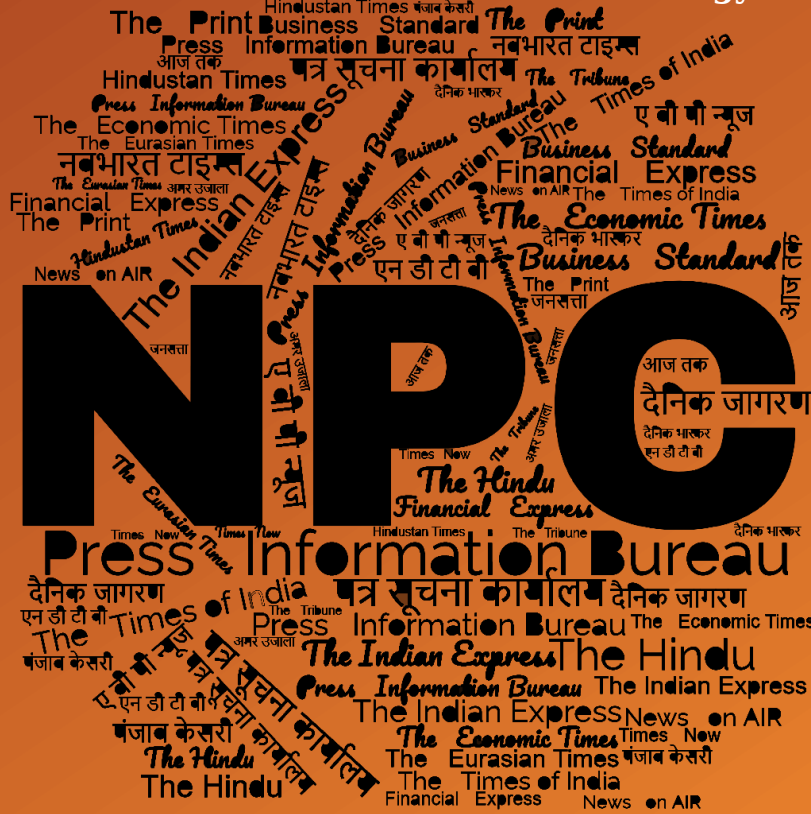
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Press Information Bureau
Government of India

Ministry of Defence

Mon, 13 Nov 2023

INS Sumedha Mission Deployed at Walvis Bay, Namibia

INS Sumedha in continuation with Indian Navy's mission-based deployment to West Africa and Atlantic made a port call at Walvis Bay, Namibia from 10-13 November 23. This port call is a manifestation of India's warm ties with Namibia, its commitment to enhance maritime security and demonstrate solidarity with friendly nations.

During the visit, the Commanding Officer paid courtesy calls on Namibian dignitaries and senior defence officers, including Navy Commander, Namibia Navy. Professional interactions aimed at exchanging best practices, cross deck visits and social engagements were also conducted with Namibia Navy during the ship's stay in harbour.

India and Namibia have enjoyed warm and friendly bilateral relations sharing common values of democracy, development and secularism. A number of bilateral arrangements for co-operation and military exchange exist between the two countries. As part of its defence cooperation, India, over the years, has extended training to a large number of Namibian military officers at various military institutions in India.

Indian Navy ships are regularly deployed as part of Indian Navy's mission of building 'Bridges of Friendship' and strengthening international cooperation with friendly countries as well as to address maritime concerns across the globe. The current visit seeks to accentuate India's solidarity with friendly countries and, in particular, strengthen existing bonds of friendship with Namibia.

INS Sumedha is the third of the indigenously developed Naval Offshore Patrol Vessel (NOPV) of Saryu class deployed for multiple roles independently and in support of Fleet Operations. The ship is equipped with several weapon systems, sensors, state-of-art-the-navigation and communication systems and Electronic Warfare system. Sumedha has undertaken various Fleet support operations, coastal and offshore patrolling, ocean surveillance and HADR missions in the past including the recently conducted Op Kaveri for evacuation of Indian diaspora from war hit Sudan in April 23.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1976709>

Mon, 13 Nov 2023

Defence Minister Discusses the Indo-Pacific over Phone with his U.K. Counterpart

Defence Minister Rajnath Singh on Monday held a telephonic conversation with the U.K. Secretary of State for Defence Grant Shapps, during which the two Ministers discussed a range of defence and security issues with particular emphasis on the Indo-Pacific.

They briefly reviewed the ongoing engagements and discussed possible cooperation in new domains, a Defence Ministry statement said. "Both Ministers explored ways and means to develop closer defence relations."

Mr. Shapps invited Mr. Singh to visit the U.K. in the near future.

<https://www.thehindu.com/news/national/rajnath-holds-talks-with-british-defence-secretary-shapps/article67529112.ece>

The Tribune

Tue, 14 Nov 2023

Defence Ministry Looking at 7,500 Specialist Trucks

The Ministry of Defence is looking to procure two types of trucks. One is a possible order of 2,500 trucks, each capable of carrying 2.5 tonne load and another for 5,000 trucks, each capable of carrying 7.5 tonne load. The MoD has issued a request for information (RFI), which is the first step of the tendering process.

Both the vehicles need to be capable of being used in high altitude, cross country, plains and deserts. The MoD is looking for Indian designed, developed and manufacturing trucks that can be modified for multiple use. For the smaller truck with 2.5 tonne load capacity the MoD also wants it to be troop carrier capable of carrying 14 soldiers with personal weapon and equipment. For the bigger truck that can carry 7.5 tonne load, the MoD wants its use across the three services, including troop carriage capable of carrying 34 soldiers with personal weapon and equipment. It could also be modified as wireless and signal equipment carrying vehicle.

<https://www.tribuneindia.com/news/india/defence-ministry-looking-at-7-500-specialist-trucks-562139>



Mon, 13 Nov 2023

India Showcases Cutting-Edge Aerospace Technologies at Dubai Air Show

The India Pavilion at the Dubai Air Show is abuzz with excitement as top Indian defense companies, including Bharat Electronics, Bharat Dynamics Limited, Mishra Dhatu Nigam Limited,

and Hindustan Aeronautics Limited, unveil the nation's latest advancements in aerospace technology. One of the main attractions at the Indian pavilion is the model display of the Twin Engine Deck Based Fighter (TEDBF), developed by the Defence Research and Development Organization (DRDO). TEDBF boasts several salient features, including its role as a medium-weight carrier-borne aircraft designed for both air defense and maritime strike missions. The aircraft supports automatic ski-jump take-off and arrested landing on aircraft carriers, featuring a moderate sweep delta-wing configuration with canards, diverterless supersonic intake, modern sensors, avionics systems, wing fold for compact stowage space on aircraft carriers, and advanced indigenous weapons. Additionally, the TEDBF incorporates Artificial Intelligence (AI) and Machine Learning (ML) based Health and Usage Monitoring Systems (HUMS) and a man-unmanned teaming capability.

Another highlight of the Indian pavilion is the Torpedo Advanced Light (TAL), an electrically propelled anti-submarine weapon developed by DRDO. Capable of launch from both ships and aircraft, TAL is designed for attacks on submarines in shallow and deep waters. Once in the water, it performs a pre-programmed search, detects, and homes in on the target submarine. The Indian Navy has already inducted the system, and mass production is underway by Bharat Dynamics Limited.

Bharat Electronics Limited (BEL) has unveiled a cutting-edge laser-based anti-drone system, emphasizing India's dedication to leading the way in modern defense technologies. This system serves as a crucial layer of security against the evolving threats posed by unmanned aerial vehicles, highlighting India's unwavering commitment to innovation in the aerospace defense sector.

In addition to its anti-drone innovation, BEL is offering a Software Defined Radio for encrypted submarine-based communications. The company's upgraded and miniaturized versions of the Weapon Locating RADAR (WLR) and Air Defence Fire Control RADAR (ADFCR) are the focal points of BEL's export strategy at the Dubai Airshow. This move underscores BEL's proactive approach to meeting global defense needs and solidifies its position as a key player in the international defense market during this edition of the Dubai Airshow.

Mishra Dhatu Nigam Limited (MDNL) provides tailor-made solutions for aerospace, defense, space, and other critical sectors. MDNL's Nickel and Titanium-based alloys deliver unparalleled strength to next-generation aircraft, meeting the high maneuverability and airframe strength requirements of modern aviation. The India Pavilion at the Dubai Air Show stands as a demonstration to the nation's commitment to pushing the boundaries of aerospace technology, fostering innovation, and securing its position as a global leader in defense advancements.

<https://ddnews.gov.in/sci-tech/india-showcases-cutting-edge-aerospace-technologies-dubai-air-show>



Mon, 13 Nov 2023

Dubai Airshow 2023: India's LCA Tejas, Pakistan's JF-17, China's J-10C Aircraft to Compete for Spotlight

The Dubai Airshow 2023 is gearing up for a notable face-off as India's Tejas fighter jets prepare to compete with China's J-10C and Pakistan's JF-17 Thunder Block-3 fighter aircraft for attention. Taking place from November 13 to 17 at the Dubai World Central, this airshow is renowned as one

of the world's premier aviation events, providing a platform for a diverse range of commercial, business, and military aircraft.

India, China, and Pakistan are set to showcase their domestically-produced aircraft, showcasing their capabilities on the global stage. While India's Tejas and China's J-10C are indigenously manufactured, Pakistan's JF-17 is a collaborative effort between the Pakistan Aeronautical Complex and China's Chengdu Aerospace Corporation.

Despite their differences, these neighboring nations aim to highlight their locally manufactured aircraft, asserting their positions in the international aviation arena.

The Indian Air Force confirmed on November 8 that the indigenous LCA Tejas aircraft has arrived at the Al Maktoum International Airport in Dubai, ready to impress audiences at the Dubai Air Show. The Tejas will participate in static displays and aerial performances throughout the event.

On the other hand, the Pakistani Air Force has not officially confirmed the participation of the JF-17 Thunder Block-3, but the Dubai Air Show's website includes it in the lineup of showcased planes, indicating its potential involvement in the flying display for direct comparison with Indian fighter aircraft. The Chinese J-10C fighter jet, represented by seven multi-role jet fighters from the Chinese Air Force's August 1 Aerobatics Team, will make its appearance at the Dubai Air Show. This marks the first display of the PLAAF's Aerobatics Team at the show since 2017, with the J-10C making its first public appearance in the Middle East since a significant upgrade in 2018.

The rivalry between India's Tejas and Pakistan's JF-17 is notable, with the latter often withdrawing from international air shows where direct comparisons were expected. Despite this, both countries aim to showcase their aircraft's capabilities.

Rahul Manohar Yelwe, a Senior Research Fellow, highlighted the fundamental objective of participating in international exhibitions, emphasizing the technological superiority of Tejas with components from Israel, the West, and India, compared to the JF-17 relying primarily on Chinese components.

While India is still in the developmental phase of its Tejas Mk1A, Pakistan is showcasing the JF-17 Block III variant in Dubai. Yelwe noted that the Dubai Air Show serves as a crucial platform for both countries to target low-income countries seeking cost-effective aircraft.

China's participation with the J-10C in the Middle East market is strategic, presenting opportunities in the aftermath of the United States imposing sanctions on Russia. Yelwe suggested that middle-income and low-income countries may find advanced Chinese fighter jets appealing due to simplified procurement processes and the absence of political conditions attached to their purchase.

In summary, the Dubai Airshow 2023 is set to host a compelling showcase of indigenous fighter jets from India, China, and Pakistan, each vying for global attention and market opportunities.

<https://www.moneycontrol.com/news/business/dubai-airshow-2023-indias-lca-tejas-pakistans-jf-17-chinas-j-10c-aircraft-to-compete-for-spotlight-11732221.html>

The Tribune

Tue, 14 Nov 2023

India, Russia Review Ties

India and Russia on Monday carried out a review of their ties with a focus on ongoing cooperation in areas of energy, connectivity and defence and ways to further expand it. "They held detailed

discussions on bilateral issues, including political, trade, economic, energy, connectivity, defence and consular issues. They also shared perspectives on regional and global issues of mutual interest,” said MEA spokesperson Arindam Bagchi about the meeting which was co-chaired by Foreign Secretary Vinay Kwatra and Deputy Foreign Minister Andrey Rudenko.

Various issues relating to India-Russia ‘Special and Privileged Strategic Partnership’ figured at a meeting held under the framework of foreign office consultation between the two sides, added Bagchi in a post on X.

<https://www.tribuneindia.com/news/india/india-russia-review-ties-562101>



Mon, 13 Nov 2023

China, Pakistan Navies to Hold First Joint Maritime Patrol

China and Pakistan are conducting the 3rd edition of the Sea Guardian-3 bilateral Naval exercise in the Northern Arabian Sea with Chinese official media reporting that the two sides will also hold their maiden joint maritime patrol. The exercise is scheduled from November 11 to 17.

The exercise comes just a day after the 2+2 Ministerial dialogue between India and the U.S. where maritime security in the Indo-Pacific was in focus and New Delhi announced its decision to become a full-member of the Bahrain-based US-led multilateral grouping Combined Maritime Forces (CMF), of which Pakistan is also a member. The exercise also comes days after Russia and Myanmar held their first naval exercise in the Andaman Sea.

China’s People’s Liberation Army (PLA) Navy has deployed a Type-093 Song class diesel-electric submarine for the exercise and defence sources said the exercise is likely to see submarine rescue drills as well.

“China and Pakistan will conduct their first joint maritime patrol. The two sides will also exchange observers. The Chinese observers will participate with a Pakistani anti-submarine patrol aircraft,” the official Chinese Army English news portal eng.chinamil.com.cn reported on Monday.

In addition to the conventional submarine, the PLA Navy has deployed guided-missile destroyer Zibo, guided-missile frigates Jingzhou and Linyi along with two shipborne helicopters and supply ship Qiandaohu, lead ship of the Type 903 replenishment ships. Pakistani Navy has deployed nine vessels along with three shipborne helicopters, four fighter jets and one maritime patrol aircraft.

In May, China wrapped up delivery of four Type 054A/P guided missile frigates to the Pakistani Navy. Hangor-class submarines are also being built simultaneously in China and Pakistan, Chinese official media Global Times reported. The Chinese Navy has seen massive expansion in recent years becoming the world’s largest Navy by numbers. This coincided with its increasing forays into the Indian Ocean Region beginning with the deployment of ships for anti-piracy operations in the Gulf of Aden in 2008.

<https://www.thehindu.com/news/international/china-and-pakistan-navies-hold-drills-in-arabian-sea-to-conduct-first-maritime-patrols/article67528374.ece>

A Look at Chinese Assets Participating in Crucial Pakistan Naval War Game

Amid rising tensions in the Middle East and growing competition in the Indo-Pacific, all-weather allies China and Pakistan are conducting their largest-ever naval exercise in the Indian Ocean Region (IOR) to “enhance interoperability” between their navies in dealing with “security threats”.

The exercise kicked off in the northern Arabian Sea a day after India and the United States discussed security threats posed by Beijing and pledged security cooperation in the face of aggression by the Russia-China axis. It follows Russia’s first maritime exercise with Myanmar in the Anadaman Sea.

China’s People’s Liberation Army (Navy) has sent a destroyer and two modern frigates, a conventional attack submarine and a submarine support ship for the third edition of Sea Guardian. Let’s have a look at the capacity of military assets deployed by China near Karachi near the western Indian coast.

DESTROYER ZIBO

Commissioned in 2020, Zibo is an upgraded version of the Type 052D general purpose destroyer. It is capable of striking at adversaries in the air, surface and under the water. Considered among the world’s biggest and most capable destroyers, Zibo is equipped with a single 130 mm gun, two 32-cell vertical launch systems (VLS) to fire cruise, anti-ship, and anti-submarine missiles, and five different types of radars.

Its radar can detect and track stealth aircraft and it can fire 24 short-range missiles in one go. This destroyer is considered the latest offering of the Type 052D series and is believed superior to many western destroyers. As per reports, the destroyer can intercept 96 out of 100 anti-ship missiles cruising up to a speed of Mach 4.

It is fitted with torpedo tubes and anti-submarine rocket launchers to hit enemy submarines. The extended hanger of Type 052DL destroyers can accommodate a helicopter, a Harbin Z-9 from China or a Russia-made Kamov Ka-28. The destroyer is manned by 280 crew members.

FRIGATES JINGZHOU & LINYI

Known of their versatility and cost-effectiveness, Jingzhou and Linyi are among China’s 30-odd most deployed class of medium-sized frontline ships, Type 054A. According to Chinese media, the Type 054As are fitted with advanced weapons and sensors and fire HQ-16 medium-range surface-air missiles from 32-cell vertical launch system (VLS).

The YJ-83 (C-803) supersonic anti-ship cruise missiles onboard this frigate can take down air targets in the range of 83-250 kms. Fired from two launchers fitted mid-ship, the missiles can carry a conventional warhead weighing up to 165kg.

It features a main single-barrel 76mm gun and two 30mm close-in weapon systems (CIWS) that can target hostile aerial targets up to a range of 3km. The two CIWS systems can fire 4,600 to 5,800 rounds per minute at threats in close proximity.

For anti-submarine operations, the frigate is equipped with two six-tube rocket launchers and two 324mm torpedo launchers. Its rockets, capable of carrying a 34kg non-nuclear warhead, can strike targets up to 1.2km beneath the water surface.

It can support a single medium-sized helicopter.

SUBMARINE SUPPORT VESSEL

The Chinese flotilla also comprises a Yangchenghu submarine support vessel with hull number of 847. It set sail from China's Hainan naval base in mid-September. Touted as a "comprehensive rescue ship", Yangchenghu is attached to the PLA's Northern Theater Command.

Along with the vessels is China's first indigenous diesel-electric powered Type 039 submarine, as per reports.

Speaking at the inauguration, Rear Admiral Liang Yang said the exercise will focus on dealing with contemporary traditional and non-traditional threats in the Indian Ocean Region and to enhance bilateral cooperation.

The nine-day drill will include several training programs like formation maneuvering, VBSS (visit, board, search and seizure), helicopter cross-deck landing, joint search and rescue, joint anti-submarine operations, main gun shooting, and professional exchanges.

"The Sea Guardian-3 joint exercise aims to enhance security cooperation between the two sides, consolidate and develop the China-Pakistan all-weather strategic cooperative partnership, and improve the level of actual combat training between the two militaries," as per a Chinese Defence Ministry statement, translated into English from Mandarin.

As per the statement, 9 ships, including Shah Jahan and INS Saif, 3 carrier-based helicopters, 4 fighter jets, a fixed-wing anti-submarine patrol aircraft are taking part from the Pakistani side.

<https://www.indiatoday.in/world/story/china-ships-in-pakistan-naval-war-game-a-look-at-chinese-navy-in-pak-2462436-2023-11-13>



Mon, 13 Nov 2023

US, Japan, South Korea Defence Chiefs to Share North Korea Missile Data in Dec

Defence chiefs from South Korea, Japan and the United States have agreed to start as planned a real-time data sharing scheme on North Korean missiles in December, South Korea's defence ministry said on Sunday.

US Defence Secretary Lloyd Austin met his South Korean counterpart Shin Won-sik in Seoul on Sunday with Japanese defence minister Minoru Kihara joining the meeting online.

The ministers discussed strengthening their three-way cooperation in the face of "severe security environments", Kihara told reporters. It was the first time for the three ministers to hold such a gathering, he said.

"We confirmed that we are steadily making adjustments, bringing the process to the final stage," Kihara added.

US President Joe Biden agreed with South Korean President Yoon Suk Yeol and Japanese Prime Minister Fumio Kishida at an August 18 summit that by the end of this year the three countries would share North Korea missile warning data in real time.

The ministers also condemned growing military cooperation between North Korea and Russia as a violation of UN resolutions, the South Korean defence ministry said in a statement, and also stressed the importance of peace and stability across the Taiwan Strait.

Separately, General Charles Q Brown, chairman of the US Joint Chiefs of Staff, held talks with his South Korean counterpart in Seoul on Sunday, the South Korean military said.

In his first visit to South Korea since he took office in October, the top US general discussed the "continuous provocations" of North Korea including missile launches, and reaffirmed the United States' commitment to the defence of South Korea, the South Korean joint chiefs of staff said in a statement.

<https://www.deccanherald.com/world/us-japan-south-korea-defence-chiefs-to-share-north-korea-missile-data-in-dec-2767634>

Science & Technology News

THE TIMES OF INDIA

Mon, 13 Nov 2023

NISAR Testing Gains Pace, ISRO Looks at 2 Launches in November-December

Isro, which has its eyes set on multiple big missions — in-orbit Servicer Mission, Lunar sample return mission, Docking in Space (SPADEX), Mars Lander Mission to name some — following Chandrayaan-3, is looking to launch at least two more missions this year.

While SPADEX is key to India's ambitions of establishing a space station by 2035 as envisioned by the PM, lunar sample return missions will be critical in finally putting humans on Moon, for which the PM has set a 2040 goal. The 'lunar hop' performed by Chandrayaan-3 lander Vikram is seen as a precursor for the sample return mission, which will still need a lot of work.

Isro chairman S Somanath told TOI: "Aside from these, there will be specific committees looking at various missions that need to be implemented as part of the goals set by the PM."

PSLV, GSLV Launch

He added that the space agency is targetting November-December for at least two more launches, one on its workhorse, the PSLV, and the other on the GSLV-Mk2.

"The PSLV will launch the Xposat and also have POEM (PSLV Orbital Experimental Module) carrying scientific and commercial payloads onboard. We'll announce these features soon. The GSLV will launch the Insat-3DS satellite, which is almost ready. The vibration tests have begun today (Friday)," Somanath said.

Xposat is India's first dedicated polarimetry mission to study various dynamics of bright astronomical X-ray sources in extreme conditions, while Insat-3DS is a weather satellite built as part of the Indian National Satellite System to provide meteorological services.

NISAR Tests On

However, the GSLV-Mk2 launch is also important for Isro as it gets the launch vehicle ready for the \$1.5 billion NASA-Isro Synthetic Aperture Radar (NISAR), a low Earth orbit (LEO) observatory being jointly developed by NASA's Jet Propulsion Laboratory (JPL) and Isro.

"NISAR is undergoing full integrated tests. There are antenna, acoustics, full-scale tests, etc that will have to be carried out. We will be ready for launch by the first quarter of next year," Somanath said. Once launched — January to March 2024 — and put into the intended orbit, it will take 90 days for NISAR's science operations to begin.

The synthetic aperture radar (SAR) payloads mounted on integrated radar instrument structure (IRIS) and the spacecraft bus are together called an observatory.

The observatory will map the entire globe in 12 days and provide spatially and temporally consistent data for understanding changes in Earth's ecosystems, ice mass, vegetation biomass, sea-level rise, groundwater and natural hazards including earthquakes, tsunamis, volcanoes and landslides.

"It will carry L and S dual band SAR — the first dual frequency radar imaging mission in L-Band & S-Band using an advanced technique to provide space-borne SAR data with high repeat cycle, high resolution, and larger swath," according to Isro.

<https://timesofindia.indiatimes.com/india/nisar-testing-gains-pace-isro-looks-at-2-launches-in-nov-dec/articleshow/105173633.cms>



Tue, 14 Nov 2023

To Keep Gaganyaan Crew Module Upright after Splashdown, ISRO Plans Tests in 2024

The Indian Space Research Organisation (ISRO) will conduct an experiment in a crew module to ensure it remains upright after splashing down in the sea.

The basic crew module in the TV-D1 mission on October 21 this year turned upside down while being recovered by naval divers in the Bay of Bengal. The TV-D1 mission was part of preparations for ISRO's first human spaceflight Gaganyaan mission scheduled in 2024-25.

The uprighting system is among multiple systems to be tested during the second test mission (TV-D2) scheduled next year before a full-fledged unmanned test flight into space for the crew module on the LVM3 rocket part of the Gaganyaan mission, said TV-D1 mission director S Sivakumar.

"The two stable positions are upright and upside down. Now, to avoid the upside-down situation in the real crew module, there will be an uprighting system that will be like gaseous balloons – similar to airbags in cars," Sivakumar said.

"If the crew module is going to topple, the balloon system will restore the upright position. In this particular crew module, we wanted to see if it could remain stable. We found that when there is a

lateral wind and disturbance due to sea waves it becomes unstable, and so it was near an upside-down position,” he said.

The crew module will also have redundancy systems to compensate for the failure of the primary crew module uprighting system, he said. “The recovery aids like the beacons had to work well underwater and the sea water dye should get ejected to mark the region of the landing,” he said.

“We are targeting the next test vehicle mission sometime in the first quarter of next year. The crew module with the control systems will simulate crew seat systems and suspension systems, the uprighting system etc. Also in the crew escape system we will use both low and high altitude escape motors unlike in D1 where we have used only the high altitude escape motors,” Sivakumar said.

Sivakumar said that the first test of the crew module and crew escape system in the TV D1 mission has been deemed a success although all “three elements — the test vehicle, the crew escape system and the crew module are new.”

The TV-D1 mission’s biggest success was the deployment at a desired angle of the drogue chutes (which bring the crew module from a height of 17 km at a speed of 150m/sec to a height of 2.5 km from the surface of the sea at a speed of 63 m/sec) after the release of crew module from the escape system, he said.

“We have tried to generate some fundamental data. All the parachutes and crew escape system are newly designed for Gaganyaan,” said Sivakumar. After the TV-D1 mission, a second demonstration flight next year will involve a crew module that would more closely simulate the final one. “We will be simulating the crew seats, control and floatation system etc in the test vehicle D2 next year,” he said.

<https://indianexpress.com/article/technology/science/to-keep-gaganyaan-crew-module-upright-after-splashdown-isro-plans-tests-in-2024-9024211/>

