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Wed, 16 Aug 2023

Former DRDO Chief V.S. Arunachalam no More

The former Scientific Advisor to Defence Minister and former Chairman of Defence Research Development Organisation, V.S. Arunachalam has passed away at the age of 87.

Dr. Arunachalam, a resident of Bengaluru, passed away in his sleep on Wednesday in the Bay Area of California in the United States of America. He is survived by his daughter, two sons and wife.

A recipient of the Padma Vibhushan, Dr. Arunachalam was the Chief Architect of many strategic programs like the Integrated Missiles Development Programme which included Agni, Prithvi, Akash and Nag, Light Combat Aircraft now called Tejas and Airborne Early Warning and Control System.

Dr. Arunachalam, who served under five Prime Ministers and many Defence Ministers, was undergoing treatment for acute pneumonia and Parkinson's. He had set up a Think Tank, Centre for Study of Science, Technology and Policy (CSTEP), in Bengaluru.

In 2015, he was awarded DRDO's Lifetime Achievement Award for his outstanding contribution to the field of scientific research and technology.

<https://www.thehindu.com/news/national/karnataka/former-drdo-chief-vs-arunachalam-no-more/article67202204.ece>



Thu, 17 Aug 2023

Former DRDO Chief V S Arunachalam Passes Away; PM Modi Condoles Loss of Veteran Scientist

Prime Minister Narendra Modi condoled the death of 87-year-old veteran scientist S Arunachalam. V S Arunachalam, a former DRDO director general, died in the US on Wednesday, his family said in a statement.

"With great sadness and a sense of immense loss, we would like to convey the demise of Dr V S Arunachalam. He passed away peacefully in his sleep surrounded by close family in California," the statement said.

"Dr. V.S. Arunachalam's passing away leaves a major void in scientific community and the strategic world. He was greatly admired for his knowledge, passion for research and rich

contribution towards strengthening India's security capabilities. Condolences to his family and well wishers. Om Shanti," PM Modi posted on X, formerly Twitter.

His distinguished career spanned across Bhabha Atomic Research Centre (BARC), National Aeronautical Laboratory, and Defence Metallurgical Research Laboratory.

Arunachalam helmed the Defence Research and Development Organisation (DRDO) and was the Scientific Advisor to the Defence Minister from 1982-92.

He was conferred the Shanti Swarup Bhatnagar Award (1980), Padma Bhushan (1985), and Padma Vibhushan (1990) for his contribution to engineering science and technology.

In addition to being the first Indian Fellow of the Royal Academy of Engineering (UK), Arunachalam served as a member of the advisory and editorial boards of several universities and foundations, including the Materials Research Society Bulletin.

He launched three major programmes: Light Combat Aircraft (LCA) under an autonomous body Aeronautical Development Agency (ADA); the Advanced Technology Vessel (ATV) Programme; and the IGMDP (Integrated Guided Missiles Development Programme) to develop a family of strategic and tactical guided missiles.

In 2015, Arunachalam was awarded DRDO's Lifetime Achievement Award for his outstanding contribution to the field of scientific research and technology.

<https://www.livemint.com/news/india/former-drdo-chief-v-s-arunachalam-passes-away-pm-modi-condoles-loss-of-veteran-scientist-11692245729323.html>

Defence News

Defence Strategic: National/International

THE ECONOMIC TIMES

Thu, 17 Aug 2023

Government Clears Rs 20,000 Cr Deal to Build Five Warships for Indian Navy

The government has cleared a Rs 20,000 crore deal to manufacture fleet support vessels (FSVs) which are urgently required by the Indian Navy.

Vizag-based Hindustan Shipyard Limited (HSL) will manufacture five of the 45,000-tonne warships, the largest ship of its class being built at the defence ministry-owned yard.

The Indian FSV project was initially given a go-ahead in 2016 after the Indian Navy projected a requirement for ships that could carry fuel and other supplies for warships at sea. The ships are needed to support warships on long range patrol and can carry a variety of equipment, such as fuel,

ammunition and food supplies. They will be able to support ships of all classes, including the two Indian aircraft carriers.

The navy has a variety of new ships that are being planned, including next generation missile vessels and counter mine vessels. Three additional Scorpene class submarines are also expected to be ordered shortly.

The order will come as a boost for HSL, which has been struggling with getting orders from the government. The yard has delivered a missile tracking vessel and has carried out refit and upgrades of Kilo class submarines.

<https://economictimes.indiatimes.com/news/defence/government-clears-rs-20000-cr-deal-to-build-five-warships-for-indian-navy/articleshow/102781241.cms>



Wed, 16 Aug 2023

India's First Unmanned Aerial Systems Common Testing Centre to be Established in Tamil Nadu

India's first Unmanned Aerial Systems (Drone) Common Testing Centre under Defence Testing Infrastructure Scheme (DTIS) will be established in Tamil Nadu. According to a communication issued by the State government, this centre would be established over an area of about 2.3 acres at the SIPCOT Industrial Park, Vallam Vadagal near Sriperumbudur. The testing centre would enable the State to be a significant contributor to the self-reliance of the country in the aerospace and defence sectors.

TIDCO had floated an RFP for identifying industrial partners for establishing this testing centre as a joint venture in compliance to the guidelines of the DTI Scheme. A consortium of companies consisting of Keltron, Sense Image Technologies, Standards Testing & Compliance and Avishka Retailers had been chosen based on their response to the transparent bid process to partner with TIDCO for establishing the facility at an estimated cost of ₹45 crore.

T.R.B. Rajaa, Minister for Industries, Investment Promotion and Commerce, said, "Setting up India's first Unmanned Aerial Systems (Drone) Common Testing Centre here in Tamil Nadu showcases Chief Minister M.K. Stalin's commitment towards building a thriving defence and aerospace manufacturing ecosystem in the State."

He further said, "We are attracting investors in this sector by addressing the needs of the industry in an innovative manner. This testing centre will enable Tamil Nadu to become a preferred destination for aerospace and defence companies to set up their Indian operations. Many other suggestions were received at a round table held recently with representatives from these two sectors. We are committed to taking necessary action and positive outcomes will be seen soon," he added.

Tamil Nadu Industrial Development Corporation (TIDCO) is the nodal agency for the implementation of the Tamil Nadu Defence Industrial Corridor (TNDIC). As part of the implementation of the TNDIC, the government of Tamil Nadu has adopted a multi-pronged strategy. One of them is the creation of an enabling ecosystem including Common Testing Centres for the Aerospace and Defence Industry. Currently the non-availability of testing centres which can support the aerospace and defence standards outside DPSU/DRDO is an entry barrier for many organisations. TIDCO had planned to lower this barrier by establishing testing centres for multiple sub-domains which include Unmanned Aerial Systems (UAS). The testing for UAS (Drone) is

currently done component wise at different test centres which reduces the efficiencies of the organisations and also increases the cost. Such an integrated facility is available only with DRDO at Chitradurga, Karnataka, for its own use.

<https://www.thehindu.com/news/national/indias-first-unmanned-aerial-systems-drone-common-testing-centre-under-defence-testing-infrastructure-scheme-to-be-established-in-tamil-nadu/article67202641.ece>



Thu, 17 Aug 2023

Defence Ministry: 41 MSMEs, 20 Startups Supported under Technology Development Fund Scheme

The Defence Ministry's Technology Development Fund (TDF) scheme, which aims to encourage the participation of MSMEs and startups to design and develop various defence technologies indigenously, has so far supported 41 MSMEs and 20 startups. Launched in 2016 and executed by the Defence Research and Development Organisation (DRDO) under Make in India programme, the government has allocated Rs 260 crore under the scheme since its inception.

Sharing the data in a written reply to a question in the Lok Sabha earlier this week, Ajay Bhatt, Minister of State in the Defence Ministry noted that out of the amount allocated, Rs 64.35 crore was disbursed as a grant-in-aid to industries for the development of defence technologies.

According to the scheme, two types of funding mechanisms are available. First, the DRDO share of the project cost is paid in a maximum of five instalments in the form of reimbursement upon successful achievement of milestones by businesses. Second, advance funding of the project subject to a maximum of five milestones of the project.

Meanwhile, over 30,000 defence items by defence public sector units (DPSUs) and services on the Srijan portal were offered to the industry including MSMEs to become partners in the indigenisation process, Bhatt had informed Parliament last month. The value of defence production had crossed Rs 1 lakh crore for the first time ever during FY23.

Moreover, the Defence Ministry had nearly doubled its online procurement of goods and services from MSMEs and other sellers in the financial year 2022-23 from the previous fiscal via the Government e-Marketplace (GeM) marketplace. The ministry had bought goods worth Rs 28,732.9 crore in FY23, up by 90.4 per cent from Rs 15,090.8 crore worth of goods and services bought in FY22.

In February this year, SIDBI — the principal financial institution in the country to promote and finance MSMEs had signed a memorandum of understanding (MoU) with the Society of Indian Aerospace Technologies and Industries to “facilitate mutual co-operation between the institutions for the overall benefit of MSMEs in aerospace and defence and other sectors.” SIATI is the industry body for enterprises including MSMEs in the aerospace sector.

<https://www.financialexpress.com/industry/sme/defence-ministry-41-msmes-20-startups-supported-under-technology-development-fund-scheme/3212691/>

On Independence Day, BRO Begins Work on Key Road in Ladakh Sector

In a fresh infrastructure push at forbidding heights, the Border Roads Organisation (BRO) on Tuesday started the construction of a high-altitude road in Ladakh's Demchok sector to provide connectivity to one of the military's farthest outposts in the sensitive sector, Fukche, which is three km from the contested Line of Actual Control (LAC), officials aware of the matter said on Tuesday.

At its highest point, the new road will roll over an altitude of 19,400 feet, and, when ready, it will be the highest motorable road in the world. The existing highest- motorable road in the world has also been built by the BRO. India reactivated an airstrip at Fukche, located at a height of 13,000 feet, in November 2008 --- a development that led to protests by the Chinese. The airstrip had till then been out of use for decades after the 1962 India-China war.

“On the occasion of 77th Independence Day @BROindia starts construction on yet another strategic road, Road Likaru-Mig La-Fukche. This road will pass through an altitude of 19,400 feet and will be the world's highest motorable road surpassing the Umling La Pass,” the BRO wrote on X (formerly Twitter).

The development comes at a time when India and China have been locked in a military standoff along the LAC in the Ladakh sector for more than three years, and negotiations are still on to resolve outstanding problems.

Despite four rounds of disengagement from the Galwan Valley, Pangong Tso, Gogra (PP-17A) and Hot Springs (PP-15), the Indian and Chinese armies still have tens of thousands of troops and advanced weaponry deployed in the Ladakh theatre.

Problems at Depsang in Daulet Beg Oldi sector and Charding Nullah Junction (CNJ) in Demchok sector are still on the negotiating table.

Two years ago, the BRO created a world record by constructing and blacktopping the world's highest motorable road at Umling La in Ladakh at an altitude of 19,024 feet.

In a report from Ladakh, digital platform News9 reported that an all-woman unit of the BRO began the construction of the Likaru-Mig La-Fukche road. Colonel Ponung Doming is commanding the five-member team of the women combat engineers that is supervising the road construction, the report added.

The 1,800 special guests, among the 25,000 people who attended the 77th Independence Day celebrations at the Red Fort on Tuesday, included 50 workers from the BRO.

The construction of the Likaru-Mig La-Fukche road began at a time when the Nyoma advanced landing ground in Ladakh is being upgraded to support fighter operations, the officials said. The airstrip at Nyoma was reactivated in September 2009. It was also out of use for decades after the 1962 India-China war.

While India has been focused on improving connectivity to areas near the India-China border for several years, the ongoing standoff in eastern Ladakh saw the country move ahead faster with infrastructure projects including roads, bridges and tunnels.

<https://www.hindustantimes.com/india-news/bro-begins-construction-of-world-s-highest-motorable-road-in-ladakh-s-demchok-sector-101692124385333.html>

Wed, 16 Aug 2023

Exercise 'Tarang Shakti' Rescheduled with Aim to Align with Participating Nations' Schedules: Defence Officials

Tarang Shakti, a multi-national exercise slated to be held by the Indian Air Force with friendly foreign nations, later this year, has been rescheduled and will be held next year with an aim to better align with the schedules of participating nations, Defence officials said on Wednesday.

This is also aimed at ensuring maximum participation, they said.

The Defence officials told ANI that Exercise Tarang Shakti, which had originally been planned for the latter part of this year, has been rescheduled and will be held next year.

A final date of which is however not finalised yet.

"This is to better align with the schedules of the participating friendly foreign countries and to ensure maximum participation. This would also enable the inclusion of certain Air Forces who have evinced an interest in the exercise," they added.

Defence officials further said that the exercise is expected to provide a unique learning experience for Indian pilots.

India has participated in many of such exercises including the French Orion exercise held at the Mon De Marsan air base in France.

Indian Air Force, with Rafale fighter jets, had also participated in the Bastille Day flypast over the Champs Elysees, Paris, last month, where Prime Minister Narendra Modi attended as the chief guest.

<https://www.aninews.in/news/national/general-news/exercise-tarang-shakti-rescheduled-with-aim-to-align-with-participating-nations-schedules-defence-officials20230816204932/>

Wed, 16 Aug 2023

Defence Secretary Giridhar Aramane Meets US Congressional Delegation

Defence Secretary Giridhar Aramane on Wednesday held a meeting with US Congressional delegation in Delhi.

Taking to X, formerly known as X, Ministry of Defence Principal Spokesperson A Bharat Bhushan Babu stated., "Defence Secretary Shri @giridhararamane, today held a meeting with the US Congressional Delegation in South Block, New Delhi."

The US Congressional delegation included US Representative Ro Khanna, US Representative Mike Waltz, US Representative Ed Case, US Representative Kat Cammack, US Representative Deborah Ross, US Representative Jasmine Crockett, US Representative Rich McCormick and US Representative Shri Thanedar.

The US Congressional delegation also met Prime Minister Narendra Modi. He called strong bipartisan support from the US Congress "instrumental" in further elevating India-US comprehensive global strategic partnership.

Taking to X, formerly known as Twitter, PM Modi stated, "Glad to receive a Congressional delegation from US, including co-chairs of India Caucus in the House of Representatives, Rep. @RoKhanna and Rep. @michaelgwaltz. Strong bipartisan support from the US Congress is instrumental in further elevating India-US Comprehensive Global Strategic Partnership."

The eight-member US Congressional delegation included US Representative Ro Khanna, Democratic co-chair of the India Caucus, US Representative Mike Waltz, Republican co-chair of the India Caucus, US Representative Ed Case, US Representative Kat Cammack, US Representative Deborah Ross, US Representative Jasmine Crockett, US Representative Rich McCormick and US Representative Shri Thanedar.

Welcoming the delegation to India, PM Modi conveyed his appreciation for the "consistent and bipartisan support" of the US Congress for India-US ties. He recalled his recent State visit to the US at the invitation of US President Joe Biden.

"Prime Minister fondly recalled his historic State Visit to the US in June at the invitation of President Biden during which he had an opportunity to address a Joint Session of the US Congress for a second time," Prime Minister's office said in a press release on Wednesday.

Prime Minister's Office in a press release said, "Prime Minister and the US delegation highlighted that the India-US Comprehensive Global Strategic Partnership is based on shared democratic values, respect for rule of law and strong people-to-people ties." Earlier in June, PM Modi travelled to the US for a State visit.

External Affairs Minister S Jaishankar on Wednesday met US Congressional delegation and discussed the transformation underway in India. The two sides exchanged views on advancing the bilateral partnership between India and US.

Taking to X, formerly known as Twitter, Jaishankar stated, "A good interaction with US Congressional delegation today. Glad they could join as we celebrated #IndependenceDay. Discussed the transformation underway in India, especially its outcomes of better governance. Shared our aspirations and expectations for Amritkaal. Also exchanged views on our advancing bilateral partnership. Shared perspectives on the global situation and our collaboration on multilateral, regional and global issues."

Two members of the United States Congressional delegation visited the Mumbai headquarters of Western Naval Command, the sword arm of the Indian Navy said on Monday.

The delegation included Representatives Ro Khanna and Deborah Ross accompanied by Vikram Krishnamoorthy, Under Secretary of the Ministry of External Affairs, India. According to a statement released by the Indian Navy, the delegation interacted with Vice Admiral Sanjay Bhalla, AVSM, NM, Chief of Staff, Western Naval Command (WNC) and other Flag and senior officers of the Command.

During their visit, the delegation was given a presentation on the roles, responsibilities and activities of WNC and a tour of the indigenous destroyer INS Kochi. The delegation also visited Mazgaon Dock Shipbuilders Ltd., where they were apprised of the indigenous ship-building capabilities of MDL.

"India and US are parties to the annually conducted Maritime Security Dialogue and India - US Naval cooperation has grown substantially over the last two decades. The relationship between the two navies is spread over a wide canvas, which includes the annual bilateral exercise 'Malabar', multilateral exercise 'RIMPAC', high-level delegation visits, Subject Matter Expert Exchange

(SMEE) and goodwill visits by naval ships. Both navies are committed to ensuring maritime security in the Indian Ocean Region and therefore cooperation in the maritime domain is the most enduring and key facet of engagement between the two countries," the statement read.

"The current visit by the US Congressional delegation contributes to improving understanding and strengthening the relationship between the two countries," it added.

<https://www.aninews.in/news/world/asia/defence-secretary-giridhar-aramane-meets-us-congressional-delegation20230816231735/>

THE ECONOMIC TIMES

Wed, 16 Aug 2023

Boeing Begins Production of Apache Helicopters for Indian Army

Defence major Boeing has said it has started the production of Apache Helicopters for the Indian Army at its state-of-art facility in the US (Mesa, Arizona).

The Indian Army's AH-64E Apache helicopters, renowned for their advanced technology and exceptional performance, are poised to enhance operational readiness and fortify defence capabilities. The production process builds upon an ongoing collaboration with Tata Boeing Aerospace Limited (TBAL), which plays a pivotal role in the manufacturing of AH-64E fuselages at its cutting-edge facility in Hyderabad, India.

Earlier this year, TBAL delivered the first AH-64 Apache fuselage to the Indian Army.

"We are pleased to reach yet another significant milestone, highlighting Boeing's unwavering commitment to support India's defence capabilities," said Salil Gupte, President of Boeing India.

"The AH-64's state-of-the-art technology and battle-tested performance will elevate the Indian Army's operational effectiveness and amplify its defensive capabilities", read the press release.

The company's accomplishments encompass the successful delivery of 22 AH-64E Apaches to the Indian Air Force in 2020.

Boeing entered into a contract to produce six additional AH-64Es for the Indian Army, with deliveries anticipated in 2024.

Christina Upah, Vice President of Attack Helicopter Programs and Senior Boeing Mesa Site Executive, emphasized, "The AH-64E continues to be the world's premier attack helicopter".

The company's engagement with over 300 local Indian companies, in conjunction with its joint venture focusing on manufacturing key components, reflects Boeing's vision for a resilient and interconnected aerospace ecosystem in India.

With annual sourcing exceeding \$1 billion from India, Boeing's role as a catalyst for growth extends beyond the technical realm.

The company employs over 5,000 individuals within India and collaborates with over 13,000 supply chain partners, fostering community engagement and implementing citizenship programs that touch the lives of over 500,000 individuals.

<https://economictimes.indiatimes.com/news/defence/boeing-begins-production-of-apache-helicopters-for-indian-army/articleshow/102766462.cms>

Germany and Spain in Contest for \$4.8 Billion Indian Submarine Deal

Two European defence manufacturing giants are seeking to win a Rs 40,000 crore (\$4.8 billion) order to build submarines in India as the South Asian nation looks to strengthen its navy to counter China's expanding naval presence in the Indo-Pacific region.

Indian officials are currently evaluating competing bids to build six of the vessels in the country, senior Indian officials aware of the developments said, asking not to be named because discussions are private. One bid is from Germany's Thyssenkrupp AG along with Mumbai-based Mazagon Dock Shipbuilders Limited, with the other was submitted by Spain's Navantia in partnership with private shipyard Larsen & Toubro, the people said.

India's Navy will go for the best and largest transfer of technology that is being offered, the people said. When announcing the tender in July, the Ministry of defence said it expected substantial technology transfer to Indian shipyards apart from providing the submarines with air independent propulsion — a technology that helps conventional vessels stay underwater for longer.

India is looking for a reliable alternative for military hardware as supplies from Russia, its biggest source of weapons, is mired in a protracted war in Ukraine and faces sanctions from the US and its allies. India, which is part of the so-called Quad grouping that includes Japan, US and Australia, is also projecting itself as a manufacturing hub and pushing for technology transfers to build complex defence platforms such as fighter aircraft and submarines.

India's Ministry of defence, Larsen & Toubro, and MDL did not respond to requests for comment. Thyssenkrupp confirmed the bid and referred to a June 7 statement while Navantia didn't respond to an emailed request for comment.

As Beijing has ramped up its naval capacity in recent years, India's aging fleet of submarines is no longer seen as enough to discourage China's presence in the Indian Ocean.

India's navy needs a minimum of 24 conventional submarines, the government in New Delhi has said, but currently has only has 16. Of these, most are more than 30 years old and likely to be decommissioned in the next few years.

Last July, India's Ministry of defence issued a tender inviting global defence manufacturers to design, develop and manufacture conventional diesel-electric-powered submarines with either government-owned Mazagon Dock Shipyard Limited or Larsen & Toubro, one of India's biggest construction companies.

The aim is to progressively build homemade capabilities to "manufacture complex weapon systems," India's Ministry of defence Ministry said when announcing the global tenders.

https://www.business-standard.com/india-news/germany-and-spain-in-contest-for-4-8-billion-indian-submarine-deal-123081600196_1.html

Wed, 16 Aug 2023

PLAAF Developing New Combat Methods for UAVs

The Chinese People's Liberation Army Air Force (PLAAF) has been developing new combat tactics and methods of operation for unmanned aerial vehicles (UAVs), including remote take-offs and landings at locations far from home base airfields and potential manned-unmanned teaming (MUM-T).

According to a report by the state-owned broadcaster, China Central Television (CCTV), on 12 August a PLAAF UAV unit in the Western Theater Command (WTC) has been conducting these trials using Aviation Industry Corporation of China (AVIC) Wing Loong II (Gongji-2 or GJ-2) multirole medium-altitude long-endurance (MALE) UAVs.

The Wing Loong IIs were used in a recent exercise in the “deserts of northwest China” to conduct “reconnaissance and strike training in a realistic combat scenario”, CCTV said.

During the exercise, the UAV operators were tasked with operating the Wing Loong IIs at long ranges using mobile ground control stations (GCSs), according to CCTV. Imagery of the three-vehicle GCS showed the employment of a satellite communications (satcom) antenna. Janes assesses that this supports long-range flights and navigation.

Exercise objectives included searching, detecting, identifying, and attacking multiple targets during a single sortie, CCTV said.

“This kind of remote control is a new combat pattern developed by the [unit] this year,” according to CCTV. A unit member told the broadcaster that “when needed, the ground station can connect with the aircraft from anywhere and complete tasks including take-off and landing as well as other missions”.

<https://www.janes.com/defence-news/news-detail/plaaf-developing-new-combat-methods-for-uavs>

THE TIMES OF INDIA

Thu, 17 Aug 2023

China's Defence Minister in Belarus as Tensions with NATO Mount

China's defence chief arrived in Belarus for a three-day visit to strengthen ties with the staunch Russian ally as Nato member states bolster border security with the nation.

Defence minister Li Shangfu, who is aiming to intensify military ties with nations across the globe, flew from Russia and was welcomed Wednesday in Minsk by his counterpart, Viktor Khrenin.

The visit coincides with increased calls from Poland and the Baltic region to tighten border security, citing the presence of Russian mercenaries that have decamped to Belarus as well as Minsk's renewed attempts to provoke tensions by sending migrants to the frontier.

A Polish official said Warsaw hopes the risk of disrupting trade with the EU will deter China from stirring up tensions over the border.

The border to Belarus is the passage point between a main freight line for goods flowing between China and the EU. Still, the official said the visit is a sign that China is no longer in the background with respect to the Ukraine war.

<https://timesofindia.indiatimes.com/world/europe/chinas-defence-minister-in-belarus-as-tensions-with-nato-mount/articleshow/102781572.cms>



Thu, 17 Aug 2023

"Playing with Fire on the Taiwan Question...," Warns China's Defence Minister

Days after Beijing condemned Taiwan's Vice President William Lai for making stopovers in the United States calling him a "troublemaker", China's Defence Minister Li Shangfu on Tuesday cautioned against "playing with fire" when it comes to Taiwan, Chinese Defence Ministry reported.

In an apparent attack at the US, Li cautioned any attempts to "use Taiwan to contain China," and said it would "surely end in failure," China's defence Ministry said in a statement and Xinhua news Agency quoted.

Speaking at the Moscow Conference on International Security, Li Shangfu has said reunification of Taiwan with the mainland was "inevitable."

"Li mentioned that the Taiwan question is China's internal affair that brooks no external interference. "The reunification of China is an inevitable historical trend," The Chinese Defence Ministry said in an official statement.

"Playing with fire on the Taiwan question and attempting to 'contain China with Taiwan' will undoubtedly end in failure," The statement quoted Li as saying.

Li's comments echoed previous statements by Chinese officials but the location of his speech was significant and symbolic given Moscow's ongoing invasion of Ukraine, as per CNN.

Meanwhile, Li's comments on Taiwan come on the heels of a backlash from Beijing as Taiwan's Vice President William Lai, a front-runner in the island's upcoming presidential race, made planned stopovers in the United States during travel for an official visit to Paraguay.

China's foreign ministry condemned the stopover on Sunday, calling Lai a "troublemaker through and through."

In a speech to supporters at a lunch banquet in New York, Lai portrayed Taiwan's long-term survival as something the international community should take an interest in.

"When Taiwan is safe, the world is safe, and when there is peace on the Taiwan Strait, there will be world peace," front-runner in the island's upcoming presidential race, Lai said, according to Taiwan's presidential office.

"No matter how great the threat of authoritarianism is to Taiwan, we absolutely will not be scared nor cower, we will uphold the values of democracy and freedom."

It said China firmly opposes any official interaction between the US and Taiwan and any "Taiwan independence' separatists to the US."

In a pre-recorded message to the same Moscow conference, Russian President Vladimir Putin accused the US of adding “fuel to the fire” of global conflicts, including through its support of Ukraine.

China has used similar rhetoric in its own official comments about the conflict, despite maintaining that it remains a neutral party and a proponent of peace.

Li on Tuesday also told attendees that China’s military was “a firm force in maintaining world peace,” and that Chinese leader Xi Jinping aimed to stabilize global security in “a world of chaos.”

“We are willing to work with other militaries to strengthen mutual trust in military security strategies and practical cooperation in various specialized fields,” Li added, according to Xinhua.

Notably, China’s ruling Communist Party claims the self-governing democracy of Taiwan and has vowed to take control of it, by force if necessary. It has repeatedly castigated American interactions with the island, with which Washington does not have official diplomatic ties, including for the sale of US arms to Taipei, CNN reported.

On the other hand, the US maintains an unofficial relationship with Taipei after formally establishing diplomatic relations with Beijing in 1979, but is bound by law to provide the democratic island with the means to defend itself, CNN reported.

During a speech in New York, Lai declared Taiwan will “never back down” to threats from China.

“No matter how great the threat of authoritarianism is to Taiwan, we absolutely will not be scared nor cower, we will uphold the values of democracy and freedom,” he said.

China has in recent years ramped up its military intimidation of the island, including following meetings between Taiwanese leaders and US lawmakers.

Some analysts have suggested that China was watching Western reaction to Russian aggression in Ukraine with an eye to understanding possible responses to any potential, future moves against Taiwan, according to CNN.

<https://www.aninews.in/news/world/asia/playing-with-fire-on-the-taiwan-question-warns-chinas-defence-minister20230817030730/>

Science & Technology News

THE TIMES OF INDIA

Thu, 17 Aug 2023

Chandrayaan-3 Landing Module to Detach Today

ISRO completed another lunar-bound manoeuvre early wednesday to guide chandrayaan-3 into a 153km x 163km orbit, setting the stage for the separation of the landing module comprising vikram (the lander) and pragyana (the rover) from the propulsion module.

“Today’s successful firing, needed for a short duration, has put Chandrayaan-3 into an orbit of 153 km x 163 km, as intended. With this, the lunar-bound manoeuvres are completed. It’s time for preparations as the propulsion module and the lander module gear up for their separate journeys,” Isro said.

— isro (@isro)

This leaves only seven more days before the landing module attempts to land on the lunar surface on August 23. After Wednesday's manoeuvre, Isro will perform another manoeuvre for lander separation on Thursday, following which Vikram will have to be again put into an elliptical orbit. Isro will again carry out manoeuvres to put the landing module to achieve this.

The de-boost manoeuvres will eventually put Vikram in an orbit where the Perilune (closest point to Moon) is 30km and Apolune (farthest point from Moon) is 100km. The final landing will be attempted from this orbit.

Once the 30km x 100km orbit has been achieved, the most critical part of the landing, the process of reducing the velocity of the lander from 30km height to the final landing, as Isro chairman S Somanath had said earlier, will begin.

Isro will also have to overcome the phase where the spacecraft's horizontal orientation needs to change to a vertical one, before Vikram makes the final descent on August 23.

As of Wednesday, Chandrayaan-3 has completed 33 days. After the launch on July 14, Chandrayaan-3 completed five Earth-bound manoeuvres between July 15 and 25, which raised its altitude to more than 1.2-lakh-km at the farthest point from Earth, the trans-lunar injection (TLI) on August 1, which put it in a path towards Moon at an altitude of nearly 3.6-lakh-km before the Lunar Orbit Insertion (LOI) put it in an elliptical orbit around Moon on August 5.

Since LOI, Chandrayaan-3 remained in an elliptical orbit, with multiple lunar-bound manoeuvres reducing its Apolune (farthest point to Moon) progressively before Wednesday's manoeuvre put it into a circular orbit.

<https://timesofindia.indiatimes.com/india/chandrayaan-3-in-circular-orbit-vikram-set-to-separate-tomorrow/articleshow/102756988.cms>

