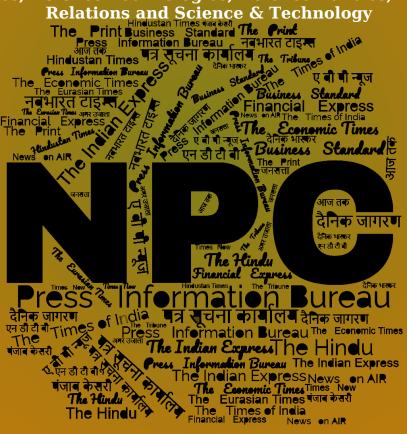
फरवरी Feb 2024 खंड/Vol.: 49 अंक/Issue: 28

08/02/2024

## समाचार पत्रों से चयित अंश Newspapers Clippings

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

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### **Defence News**

### Defence Strategic: National/International



**Ministry of Defence** 

Wed, 07 Feb 2024

## Raksha Rajya Mantri Shri Ajay Bhatt on a Visit to Riyadh for World Defence Show 2024

Holds talks with Saudi Defence Minister & Assistant Defence Minister to further consolidate bilateral cooperation in multifarious sectors

Bearing testimony to the growing defence ties between India and Saudi Arabia, Raksha Rajya Mantri Shri Ajay Bhatt is on a visit to Riyadh as head of the Indian delegation for the ongoing World Defence Show (WDS) 2024. The five-day show, which commenced on February 04, 2024, is showcasing the latest advancements in defence technology serving as a vital platform for international collaboration amongst the participating companies. On behalf of the Government of India, the Raksha Rajya Mantri extended his greetings to the leadership of Saudi Arabia for hosting the impressive event which culminates on February 08, 2024.

On February 06, 2024, the Raksha Rajya Mantri held a meeting with the Defence Minister of Saudi Arabia Prince Khalid bin Salman bin Abdulaziz Al-Saud on the sidelines of the show. They discussed various aspects of bilateral defence cooperation. Shri Ajay Bhatt also held talks with the Assistant Minister of Defence of Saudi Arabia Dr Khaled Al-Bayari, with whom he discussed ways to further strengthen the long-standing and multi-faceted defence cooperation between the two countries. The discussions centred around exploring avenues for collaboration in areas of mutual interest, including increasing the scope of joint training exercises, technology transfer and exchange of expertise.

In addition, the Raksha Rajya Mantri held a meeting with the Governor of Saudi Arabia's General Authority for Military Industries (GAMI) Ahmad Abdulaziz Al-Ohali. They discussed the way ahead towards collaborating in varied areas of defence production, Research & Development, besides niche technologies. He also visited the pavilion of Saudi Arabian Military Industries (SAMI) on the sidelines of WDS 2024.

Both sides in all discussions shared a deep understanding of the evolving security landscape and resolved to increase bilateral defence cooperation in multifarious sectors while also recognising the mutual benefits of a strong partnership in safeguarding regional security. Shri Ajay Bhatt expressed confidence that the India-Saudi Arabia partnership will continue to grow from strength to strength, contributing significantly to regional stability and global security.

The Raksha Rajya Mantri also interacted with the representatives of Indian defence companies participating in the Defence Show and congratulated them for their impressive cutting-edge technologies & innovative solutions. The participation by Indian defence companies will not only contribute towards an increase in footprint but further develop the defence industry in both countries by forming lasting partnerships.

Shri Ajay Bhatt also witnessed the signing of an MoU between Munitions India Limited and its local partner on the sidelines of WDS 2024. He also attended a Business networking event with leading Indian and Saudi business personalities in Saudi Arabia.

India's 'Aatmanirbhar Bharat' and Saudi Arabia's 'Vision 2030' are national programmes that can be mutually beneficial to both sides. Both initiatives prioritise technological advancements, indigenous capabilities and knowledge sharing. As highlighted by both sides, there is an immense potential for collaboration in these areas particularly in co-development and joint production of defence technologies. The visit has reaffirmed the inherent strength of bilateral ties, opened new avenues for cooperation and solidified shared commitments towards a safer and prosperous future.

https://pib.gov.in/PressReleasePage.aspx?PRID=2003345



**Ministry of Defence** 

Wed, 07 Feb 2024

# India's First Hypervelocity Expansion Tunnel Test Facility-- a Major Step in the Government's Path towards Atmanirbharata

A crucial step in the country's journey towards Atmanirbhar Bharat has been achieved with India's first Hypervelocity Expansion Tunnel Test Facility successfully established and tested by Indian Institute of Technology, Kanpur (IITK). This is a major achievement that puts India amongst a handful of countries with this advanced hypersonic testing capability.

The development of the facility was supported by the Fund for Improvement in S&T Infrastructure (FIST) of the Department of Science & Technology (DST) with a sum of Rs 4.5 Crores in 2018.

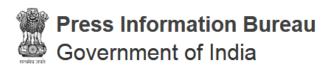
The facility was developed by the Hypersonic Experimental Aerodynamics Laboratory at the Department of Aerospace Engineering, IIT Kanpur and is capable of generating flight speeds between 3-10 km/s, simulating the hypersonic condition. Named S2, it was indigenously designed and developed and is a valuable test facility for ongoing missions of ISRO and DRDO including Gaganyaan, RLV and hypersonic cruise missiles.

The facility consists of 4 major sections--free piston driver, compression tube, shock /acceleration tube and test section with high vacuum system for generating and sustaining the hypersonic flow. The complete instrumentation of the facility; pressure sensors and associated equipment/instruments for acquiring and processing the data and the vacuum system with test section and associated instrumentation was acquired through the DST- FIST program.

Hypersonic research activities are fast growing in India and the implementation of Hypersonic Test Facility in India will enable more aerospace engineers and researchers to pursue hypersonic research. The research activities and data generated in the facility will serve as an input for optimization of existing vehicles as well as futuristic defense and Space Missions.

Establishment of such facility will position India globally for advanced experimental hypersonic research. It is a major capacity boost for India's space and defense sectors and puts India in a better position to develop advanced hypersonic technologies and systems fast-forwarding the Hon'ble PM's dream of a scientifically advanced nation.

https://pib.gov.in/PressReleasePage.aspx?PRID=2003620



**Ministry of Defence** 

Wed, 07 Feb 2024

#### Time for Building a Highly Capable Aatmanirbhar Defence Space Ecosystem, Says CDS Gen Anil Chauhan

CDS inaugurates DEFSAT 2024, a three-day Space Seminar & Exhibition in New Delhi Calls upon industry to work on counter-space capabilities as deterrent for safeguarding country's space assets.

Chief of Defence Staff Gen Anil Chauhan has stressed that as the country is going through Amrit Kaal, it is time for building a highly capable Aatmanirbhar defence space ecosystem. Inaugurating 'DEFSAT', a three-day Space Seminar and Exhibition at the Manekshaw Centre, Delhi Cantt on Feb 7, 2024, Gen Anil Chauhan underlined that from space augmentation to exploration, the Government has envisioned big targets for the nation.

Highlighting the vitality of Space for the mankind and also for the armed forces engaged in combat, CDS said that Space can be used as a force multiplier to enhance combat capabilities in traditional domains of land, air, sea and even cyber. He called upon all the stakeholders of defence space ecosystem to work on bolstering the Counter-Space capabilities as deterrent for safeguarding country's space assets.

Mentioning the major initiatives of the Government to capitalise space to strengthen armed forces capabilities, CDS mentioned about the 75 space related challenges as part of Mission DefSpace 2022 under the iDEX initiative. "Under this initiative, a total of five contracts have been signed and additional four contracts are at various stages of documentation. In the similar timelines, a feasibility study of 12 Make-I challenges is also being progressed," said Gen Anil Chauhan.

The CDS emphasized that the Government is encouraging all the stakeholders including start-ups for development of a dependable space ecosystem within the nation. "We probably had one Start Up in 2014 which has grown to 204 Start Ups in space sector with 54 additions in 2023 itself. In 2023, we as a nation invested \$123 mn in the sector bringing the total funding to \$380.25 mn," said Gen Anil Chauhan.

Underscoring that the Indian Space economy is currently estimated to be around \$8.4 billion, CDS said, the indigenous space economy is expected to grow to \$44 billion by the year 2033. "The government initiatives like Seed Fund Scheme, 0% GST regime, sharing of testing facilities, technology transfer have provided the rightful support to the private industry. This framework

along with alignment of demands and funding support provide the right environment for the private sector to grow," added Gen Anil Chauhan.

The CDS also inaugurated an Exhibition showcasing various technological advances made by private space industry partners through an exposition and product presentation at the venue.

The seminar organised by CENJOWS, a Think Tank with HQ IDS for promoting Jointness, Integration and Transformation in the Indian Armed Forces, along with Satcom Industry Association – India (SIA), aims at nurturing coordination and synergy between civil, commercial and defence space programmes, which is considered crucial to leverage the dual-use nature of the space sector.

https://pib.gov.in/PressReleasePage.aspx?PRID=2003444



Wed, 07 Feb 2024

## CDS Calls on Industry to Work on Counter-space Capabilities as Deterrent for Safeguarding Country's Space Assets

Calling upon industry to work on counter-space capabilities as a deterrent for safeguarding the country's space assets, Chief of Defence Staff (CDS) Gen. Anil Chauhan emphasised that the government is encouraging all the stakeholders including start-ups for the development of a dependable space ecosystem within the country.

"We probably had one start-up in 2014 which has grown to 204 start-ups in the space sector with 54 additions in 2023 itself. In 2023, we as a nation invested \$123 million in the sector, bringing the total funding to \$380.25 million," Gen. Chauhan said on Wednesday, addressing the three-day seminar and exhibition DEFSAT-2024, organised jointly by the Centre for Joint Warfare Studies and Satcom Industry Association-India (SIA-India).

Underscoring that the Indian space economy is currently estimated to be around \$8.4 billion, Gen. Chauhan said that the indigenous space economy is expected to grow to \$44 billion by 2033. "The government initiatives like seed fund scheme, 0% GST regime, sharing of testing facilities, technology transfer have provided the rightful support to the private industry. This framework along with alignment of demands and funding support provide the right environment for the private sector to grow."

Mentioning the government's major initiatives in the space domain towards strengthening the capabilities of the armed forces, the CDS referred to the 75 space-related challenges as part of Mission DefSpace-2022 under the iDEX initiative. "Under this initiative, a total of five contracts have been signed and an additional four contracts are at various stages of documentation. In similar timelines, a feasibility study of 12 Make-I (Make In India) challenges is also being progressed," Gen. Chauhan added.

Addressing the event, Australian Envoy in India Philip Green said that in today's interconnected world, Australia and India stand as natural and strategic partners in the pursuit of technological excellence and innovation. "Australia's robust satellite tracking capabilities, coupled with its thriving robotics industry and innovative growth trajectory, complement India's status as a tech giant. Together, we forge ahead, leveraging our shared strengths and mutual interests to drive advancements in space technology and deepen bilateral relations."

At the event, the SIA-India and Space Industry Association of Australia (SIAA) have formalised a Memorandum of Understanding (MoU) to deepen collaboration and drive mutual growth in the space industry.

https://www.thehindu.com/news/national/cds-calls-on-industry-to-work-on-counter-space-capabilities-as-deterrent-for-safeguarding-countrys-space-assets/article67821742.ece

### THE ECONOMIC TIMES

Wed, 07 Feb 2024

### Delhi to Host First ever EU-India Roundtable on Countering Terrorist Exploitation of Unmanned Aerial Systems

The first ever European Union (EU)-India Track 1.5 dialogue on countering the use of unmanned aerial systems (UAS) by extremists and non-state actors will take place in New Delhi on Thursday l.

The day-long EU-India roundtable seeks to better understand the range of current and emerging threats particularly involved with consumer-grade UAS technology. Participants from the EU and India will also discuss best practices regarding regulatory, tactical and investigative responses to addressing UAS threats in both regions.

Commercial UAS have been developing rapidly in recent years, both in terms of technological sophistication and consumer availability. Violent extremists have exploited these inexpensive and adaptable consumer devices for different purposes, including reconnaissance and violent attacks.

This roundtable is part of a series of ongoing counterterrorism engagement between the EU and India, building on recent activities under the EU project Enhancing Security Cooperation In and With Asia (ESIWA). In the field of counter-terrorism and preventing violent extremism (CT-PVE), activities have included a successful chemical, biological, radiological and nuclear (CBRN) risk management training for Indian security practitioners, and moderated expert discussions on countering online extremism.

"Security and terrorist threats are increasingly of an hybrid nature. The use of commercial drones are a case in point. If a relatively cheap device can carry and fly a pizza or biryani, then clearly, they can also be used for carrying more nefarious payloads, such as weapons or explosives" EU Ambassador to India Hervé Delphin said. "Sharing knowledge and experiences between us, the EU and India, is highly relevant and crucial to counter drones' threats that we each face, in this rapidly evolving field. This seminar testifies of EU and India general joint commitment to intensify dialogue and cooperation on security issues," he added.

Seizing the opportunity to exploit these relatively inexpensive and adaptable devices, terrorist organisations and individual violent extremists across the world have deployed 'off-the-shelf' drones. The swift rise of this phenomenon and the evolving technologies involved mean that threat assessments and mitigation strategies are recent and ongoing. Sharing information with peers is therefore vital in forging a common response to ensure our security and defence.

https://economictimes.indiatimes.com/news/defence/delhi-to-host-first-ever-eu-india-roundtable-on-countering-terrorist-exploitation-of-unmanned-aerial-systems/articleshow/107489920.cms

## THE ECONOMIC TIMES

Wed, 07 Feb 2024

## Armed with Missiles and Bombs, MQ9-B Drones to Bolster India's Surveillance Capability

Washington, The MQ9-B SkyGuardian Aircraft being sold to India by the US would be equipped with highly sensitive surveillance and lethal attack equipment including hellfire missile, and laser small diameter bombs, according to details sent by the Biden Administration to the US Congress. The Defence Security Cooperation Agency (DSCA) wrote a letter to the Congress last week informing it that the State Department has made a determination approving a possible Foreign Military Sale to the Government of India of MQ-9B Remotely Piloted Aircraft and related equipment for an estimated cost of USD 3.99 billion.

Addressed to Senator Ben Cardin, who is Chairman of the Senate Foreign Relations Committee, the letter was tabled on the Senate floor on Monday.

As per the letter, which has a significant classified section given the nature of the defence equipment and technology, the 31 SkyGuardian drones, manufactured by General Atomics Aeronautical Systems, along with the services and equipment is being sold to India at an estimated cost of USD3.9 billion.

The 31 MQ9-B SkyGuardian drones itself costs USD 1.70 billion, while the rest of the services including technology and equipment is estimated to cost USD 2.29 billion. In addition to 31 MQ-9B SkyGuardian drones, the proposed deal includes 161 Embedded Global Positioning & Inertial Navigation Systems (EGIs), 35 L3 Rio Grande Communications Intelligence Sensor Suites.

It includes 170 AGM-114R Hellfire Missiles, 16 M36E9 Hellfire Captive Air Training Missiles, 310 GBU-39B/B Laser Small Diameter Bombs (LSDB) and eight GBU-39B/B LSDB Guided Test Vehicles (GTVs) with live fuzes. These prices are subject to further negotiations by the Indian Government.

DSCA has informed Congress that MQ-9B Remotely Piloted Aircraft (RPA) is a weapons-ready aircraft designed for Medium-Altitude Long-Endurance (MALE); Intelligence, Surveillance, and Reconnaissance (ISR); Target Acquisition; and Strike Missions.

Further it is a highly modular, easily configurable aircraft that contains the necessary hard points, power, and data connections to accommodate a variety of payloads and munitions to meet multiple missions--including counter-land, counter-sea, and anti-submarine strike operations.

It will be equipped with MX-20HD gyro-stabilized, multi-spectral, multi-field-of-view (FOV) Electro-Optical/Infrared (EO/IR) targeting system, which provides surveillance laser illumination and laser designation through use of an externally mounted turret sensor unit and internally mounted master control.

Informing the Congress that the Ground Control Station (GCS) in the system can be either fixed or mobile, the US Government told the Congress that L3 Rio Grande capabilities meet rigorous mission requirements for small, manned and unmanned intelligence, surveillance, and reconnaissance (ISR) platforms.

The AGM-114R Hellfire missile in these drones would be equipped with a Semi-Active Laser (SAL) and can be launched from higher altitudes than previous variants because of its enhanced guidance and navigation capabilities, which include a Height-of-Burst (HOB) proximity sensor. With its multi-purpose warhead, the missile can destroy hard, soft, and enclosed targets.

The GBU-39B/B Laser Small Diameter Bomb (LSDB) All Up Round (AUR) to be installed in these drones are is a 250-pound OPS and semi-active laser guided, small autonomous, day or night, adverse weather, conventional, air-to-ground precision glide weapon able to strike fixed and stationary, relocatable, non-hardened targets from standoff ranges.

According to Congressional documents, the LSDB's laser guidance set enables the weapon to strike moving targets. It is intended to provide aircraft with an ability to carry a high number of bombs. Aircraft are able to carry four SDBs in place of one 2,000-pound bomb.

The Automatic Identification System (AIS) transponder provides maritime patrol and Search and Rescue (SAR) aircraft with the ability to track and identify AIS-equipped vessels over a dedicated very high frequency (VHF) data link. Notably, AIS is a key component of any maritime ISR network and offers maritime authorities with the ability to better coordinate air and sea search, rescue, surveillance, and interdiction operations.

At the same time, the Pentagon did not share all the information in the non-classified domain noting that the highest level of classification of defence articles, components, and services included in this potential sale is SECRET.

"If a technologically advanced adversary were to obtain knowledge of the specific hardware and software elements, the information could be used to develop countermeasures that might reduce weapon system effectiveness or be used in the development of a system with similar or advanced capabilities," it said.

The notification told Congress that a determination has been made that India can provide substantially the same degree of protection for the sensitive technology being released as the US Government. "This sale is necessary in furtherance of the US foreign policy and national security objectives," it said.

https://economictimes.indiatimes.com/news/defence/armed-with-missiles-and-bombs-mq9-b-drones-to-bolster-indias-surveillance-capability/articleshow/107501362.cms?from=mdr



Thu, 08 Feb 2024

#### Chinese Spy Ship to Reach Male, Indian Navy Keeps a Watch

A Chinese dual-use survey ship will enter Malé seaport for rotation of personnel and replenishment on Thursday afternoon even as India has decided that a civilian crew will replace the existing non civilian one from India for one Maldivian ALH helicopter in March. HT learns that civilian crew will replace the current ones for the second ALH and the Dornier in April and May. Maldivian President Mohammed Muizzu has made the replacement of the crew of the three aircraft, operated by India in the Maldives for relief and rescue, an election issue for the Majlis elections in April.

While the Muizzu government has made it clear that the Chinese ship Xiang Yang Hong 3 will only be allowed into Malé port for operational turnaround and will not be conducting any "research" in the Maldivian exclusive economic zone, the ship has both civilian research and military surveillance capabilities. The ship has been behaving suspiciously since it left its port of Sanya in China and the crew was pulled up by Indonesian Navy for switching off its transponder at least three times while crossing the Sunda Straits. Ships do this only when they do not want to be tracked.

Even though the Chinese ship has been monitored by the Indian Navy since it entered the Indian Ocean Region (IOR), Marine Traffic monitoring sites show that the vessel transponder has been switched off since it entered the Indo-Java sea around a fortnight ago.

According to people familiar with the matter, close monitoring of the ship shows that the vessel has not conducted any research or surveillance activity since it has entered IOR but the possibility of the same cannot be ruled out after the rotation and replenishment in Malé.

The same ship was expected to reach Colombo for maritime research on February 5 but the Sri Lankan government on December 22 decided to close its ports to any Chinese surveillance at New Delhi's request. The Narendra Modi government conveyed its serious concerns over Xiang Yang Hong 03's proposed research in Sri Lankan and Maldivian waters at the apex level to Colombo and Malé in 2022 itself.

The Chinese Navy has been extremely active in IOR in 2023 when around 23 warships including a conventional diesel electric submarine were deployed. In addition, around 11 Chinese research and survey ships were spotted in the region. China also had 11 satellite ballistic missile tracking ships in the region that year.

While the Xi Jinping regime claims that these ships are only carrying out surveys in support of Maldives and Sri Lanka, Indian intelligence inputs indicate that the PLA is charting Indian Ocean bed for new submarine routes through Sunda, Lombok and Ombai-Wetar straits. The main reason for new routes to IOR is that submarines have to surface if they come into Andamans Sea through Malacca Straits due to depth issues.

https://www.hindustantimes.com/india-news/chinese-survey-ship-to-enter-mal-port-today-101707332432786.html

## THE ECONOMIC TIMES

Wed, 07 Feb 2024

## China's Electromagnetic Warfare Game-changer: 'Nowhere to Hide' for Enemy Forces

Chinese researchers have revealed a significant breakthrough in electronic warfare technology, asserting that adversaries will find themselves exposed on the battlefield with no place to conceal. A team based in Beijing has successfully devised a method for continuous, broad bandwidth, real-time monitoring and analysis of the electromagnetic spectrum, which effectively unveils enemy forces during conflicts.

This cutting-edge technology empowers the Chinese military to swiftly detect and target enemy signals, decode their physical characteristics almost instantaneously, and effectively neutralize them, all while ensuring uninterrupted communication for their own forces. As per reports in the South China Morning Post, scientists highlighted the importance of this development.

The details of this revolutionary technology were published in a peer-reviewed article in the Chinese academic journal Radio Communications Technology on January 17. Project leader Yang Kai, a professor at the Beijing Institute of Technology's school of information and electronics, along with his team, disclosed the groundbreaking findings.

Describing the new electromagnetic spectrum monitoring equipment as "small in size, high in performance, and low in power consumption," Yang emphasized its significance. The technology

marks a significant advancement, overcoming the previous limitations posed by immense data processing demands in combat situations.

The researchers believe this innovation will redefine the landscape of warfare, particularly in the ongoing rivalry between China and the United States over dominance in the electromagnetic spectrum. Recent incidents in the South China Sea have fueled speculation about a covert confrontation between naval forces of the two nations, underscoring the importance of electronic warfare.

While direct conflict remains absent, China appears to be making significant progress in this domain, with reports suggesting increased assertiveness from its military. Instances such as the successful interception of a US aircraft carrier strike group by China's advanced Type 055 destroyer demonstrate a level of capability previously deemed unattainable.

Despite skepticism surrounding China's claims, interviews with military personnel have shed light on significant developments in electronic warfare capabilities. Specific details remain limited, but research conducted by Yang's team provides valuable insights into China's advancements in this field.

The team's new equipment expands the frequency range of seamless detection and real-time monitoring, reaching into the gigahertz zone. This enhancement enables the Chinese military to detect and analyze signals across various frequencies, potentially disrupting wireless communications between US military units.

To achieve this expanded capability, scientists developed new signal processing chips capable of handling massive data flow. Additionally, the integration of artificial intelligence (AI) into the data analysis process enhances the military's ability to identify and counter enemy tactics effectively.

Yang's contributions extend beyond military applications, encompassing civilian technologies such as mobile phone communications and satellite links. His international expertise, including work at Bell Labs and involvement in telecommunications standards development, underscores the significance of China's advancements in this field.

The rapid progress in China's military electromagnetic technology is attributed to its leading position in the telecommunications industry, with major firms like Huawei investing heavily in cutting-edge wireless communication technologies. In contrast, the US relies primarily on European companies for equipment and technology, highlighting disparities in 5G network development.

https://economictimes.indiatimes.com/news/defence/chinas-electromagnetic-warfare-game-changer-nowhere-to-hide-for-enemy-forces/articleshow/107494144.cms



Wed, 07 Feb 2024

## Chinese Spies Hacked Dutch Defence Network Last Year - Intelligence Agencies

Chinese state-backed cyber spies gained access to a Dutch military network last year, Dutch intelligence agencies said on Tuesday, calling it part of a trend of Chinese political espionage against the Netherlands and its allies. It is the first time the Netherlands has publicly attributed cyber espionage to China, as national security tensions grow between the two countries.

"It is important to ensure that espionage activities of this nature committed by China become public knowledge since this will help to increase international resilience to this type of cyber espionage," Dutch Defence Minister Kajsa Ollongren said.

The agencies, known by their Dutch acronyms MIVD and AIVD, said the hackers had placed malicious software, or malware, that cloaked its own activity inside an armed forces network used by 50 people for unclassified research.

"MIVD & AIVD emphasise that this incident does not stand on its own, but is part of a wider trend of Chinese political espionage against the Netherlands and its allies," they said in their report.

China's embassy to the Netherlands did not immediately respond to a request for comment. Beijing routinely denies allegations of cyber espionage and says it opposes all forms of cyberattack.

Last April, AIVD said in an annual assessment that China posed the greatest threat to the Netherlands' economic security with espionage attempts targeting high-tech companies and universities.

A prime target is ASML, based in the southern city of Veldhoven - the world's dominant supplier of lithography machines for making computer chips.

In a separate report, also last April, the MIVD said China was illegally attempting to acquire Dutch space technology.

It was not clear from Tuesday's report what information the hackers were trying to obtain. The agencies said the damage was limited because the network was separate from the ministry's main system.

#### 'LAMB TO THE SLAUGHTER'

Last month, Reuters exclusively reported that the U.S. government had launched an operation to fight a pervasive Chinese hacking operation, dubbed "Volt Typhoon", that compromised thousands of internet-connected devices.

It was not clear from the report if the activity revealed by the MIVD and AIVD was connected.

The malware, known as Coathanger, appeared able to conceal its own presence, at least for a time.

The agencies named it after a snippet of code that contained a line from "Lamb to the Slaughter", a short story by British author Roald Dahl.

That line, "She took his coat and hung it up", describes the moments before a wife murders her unsuspecting husband with a frozen leg of lamb.

"Coathanger" remains on a device even after an update or reboot, and deletes itself from virus scan results.

The report assessed with "high confidence" that both the hacking and the malware were the work of "a state-sponsored actor" from China.

It said the implant had also been found on the network of a Western international mission as well as a handful of others, adding:

"The malware has been developed specifically for FortiGate devices, which are used by organisations as a firewall to protect their systems."

Fortinet, the maker of the firewall, which is used worldwide, did not immediately respond to a request for comment.

https://www.thehindu.com/sci-tech/technology/chinese-spies-hacked-dutch-defence-network-last-year-intelligence-agencies/article67820452.ece

### Science & Technology News



**Ministry of Science & Technology** 

Wed, 07 Feb 2024

### Women are Leading Prestigious Science Projects Like Aditya L1 Mission, Chandrayaan3 etc, Says Union S&T Minister Dr Jitendra Singh

Women now constitute 43% enrolment in STEMM (Science, Technology, Engineering, Mathematics & Medicine) streams at Higher Education level: Dr Jitendra Singh

No gender bias in promotions, clarifies Dr Jitendra Singh, the overall representation of Women in S&T jobs will soon improve

"In the coming years, this trend will eventually reflect in higher Women representation in S&T Institutions, Industry and Startups": Dr Jitendra Singh

Women are leading prestigious science projects like Aditya L1 mission, Chandrayaan3 etc, the Union Minister of State (Independent Charge) Science & Technology; MoS PMO, Personnel, Public Grievances, Pensions, Atomic Energy and Space, Dr Jitendra Singh said today.

Replying to a Starred Question in the Lok Sabha, the Minister said, women have started assuming leadership roles in Science projects. Cutting edge Space Research programmes like the Chandrayaan-3 and Aditya-L1 solar mission have women scientists in leading positions including Project Director.

Dr Jitendra Singh further informed the House that women now constitute 43% enrolment in STEMM (Science, Technology, Engineering, Mathematics & Medicine) streams at Higher Education level, who are in next few years expected to take up professional scientific roles.

In the coming years, this trend will eventually reflect in higher Women representation in S&T Institutions, Industry and Startups, said Dr Jitendra Singh.

Dr Jitendra Singh said, the common realisation is that in the Science fraternity the Women have already evolved from the participatory role to the leadership role.

Reassuring the House that there is no gender bias in promotions, he said, the overall representation of Women in S&T jobs will soon improve. "The number of Women scientists is still lower compared to the Males, to be precise it is 18.6%, the R&D projects run by Women are up to 25%, but the Higher Education enrolment has increased tremendously over the last few years, it has gone up to 43%, which means, tomorrow when these girls take over those positions, these proportionate number of working scientists will also go up further," he said.

Dr Jitendra Singh said, the WISE scheme was started during the tenure of Prime Minister Atal Bihari Vajpayee, it lay neglected during the interim and was extended as WISE - KIRAN (Knowledge Involvement in Research Advancement through Nurturing) Scheme by PM Modi when he assumed office in 2014. "This government has already been giving highest priority to

enhancing the role of Women in every sector. Prime Minister Modi has been reiterating this very often whenever he has a platform to speak," he said.

Dr Jitendra Singh said, the budget for WISE scheme has jumped thrice since 2014-15. In 2014, it had an outlay of Rs.44 crore, which has now ballooned to nearly Rs.135 crore, he said.

As many as 2,153 women scientists have benefitted under the WISE-KIRAN Scheme in the last five years and the current year.

Women in Science and Engineering-KIRAN (WISE-KIRAN) scheme of the Department of Science and Technology (DST) is fulfilling its unique objectives of providing opportunities to women scientists and technologists including those who had a career break. The scheme promotes girls, women researchers and women institutions in the field of Science & Technology (S&T) through different programmes.

One of the flagship programmes 'Women Scientist Scheme (WOS)' under the WISE-KIRAN Scheme provides different opportunities to unemployed women scientists and technologists, especially those who had break in their careers, to pursue research in frontier areas of Science and Engineering. There are three major components of WOS, namely, i) Women Scientists Scheme-A (WOS-A) that supports women for conducting research in Basic & Applied Sciences, ii) Women Scientists Scheme-B (WOS-B) encourages them to carry out research that entails S&T interventions for societal benefit and iii) Women Scientists Scheme-C (WOS-C) enables them to become Intellectual Property Rights (IPR) professionals after one year of training.

Different programmes under the WISE-KIRAN scheme have pan-India spread and do not differentiate between rural and urban beneficiaries. However, another unique programme 'Vigyan Jyoti' that aims to encourage meritorious girls to pursue higher education and careers in STEM (Science Technology Engineering Mathematics) caters to girls from rural set-ups.

The Department of Science and Technology started some new programmes under the WISE-KIRAN Scheme during 2023-24. A new programme 'WISE Fellowship for Ph.D. (WISE-PhD)' is started to support women researchers to pursue Ph.D. in Basic and Applied Sciences. On the other hand, the WISE Post-Doctoral Fellowship (WISE-PDF) programme promotes women scientists to carry out Post-Doctoral research in Sciences & Engineering. Another programme 'WISE-SCOPE' allows women scientists to address societal challenges through S&T interventions in 5 thematic areas of societal relevance. Further, the WIDUSHI Programme extends support to senior women scientists to harness their potential for the betterment of science and society. In addition, the WISE Internship in Intellectual Property Rights (WISE-IPR) programme provides training to young women in the field of Intellectual Property Rights. These new programmes under the WISE-KIRAN Scheme aim to bring gender parity across the STEM fields.

https://pib.gov.in/PressReleasePage.aspx?PRID=2003613



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#### Bharatiya Antariksh Station to be Assembled in Multiple Phases by ISRO

India's space ambitions are reaching new heights as the Indian Space Research Organisation (ISRO) sets its sights on constructing the Bharatiya Antariksh Station (BAS), a modular space station planned to be assembled in multiple phases.

The Union Minister of State for Science & Technology, Dr. Jitendra Singh, revealed that the BAS is currently in the conceptualisation phase. Isro is meticulously studying the overall architecture, including the number and types of modules and docking ports required for the ambitious project.

The proposed space station, which is expected to have a mass of around 25 tonnes, will initially feature a basic design with a crew command module, habitat module, propulsion module, and docking ports.

This preliminary model is slated for establishment by 2028, with developmental tests beginning as early as 2025. The larger, final version of the space station is targeted for completion by 2035, marking a significant milestone in India's space exploration journey.

Isro's chief, S Somanath, speaking at the International Space Conference 2024 in Gandhinagar, outlined the country's visionary goals for its space program. He emphasised that the Gaganyaan mission, expected to launch by 2026, will not only demonstrate India's capability to send humans into space but also test technologies crucial for the success of the BAS, such as life support systems and spacecraft re-entry mechanisms.

The construction approach for the BAS draws inspiration from the International Space Station, which was assembled piece-by-piece in orbit due to the impracticality of launching a fully-built station from Earth. Similarly, the BAS will be constructed incrementally above the Earth's surface.

The establishment of the Bharatiya Antariksh Station is poised to enhance India's presence in space research and exploration significantly.

It will provide a unique platform for conducting scientific experiments in microgravity and foster advancements in space technology, potentially leading to economic activities based on lunar resources by 2040, as envisioned by Prime Minister Narendra Modi.

https://www.indiatoday.in/science/story/bharatiya-antariksh-station-to-be-assembled-in-multiple-phases-by-isro-2498873-2024-02-07

