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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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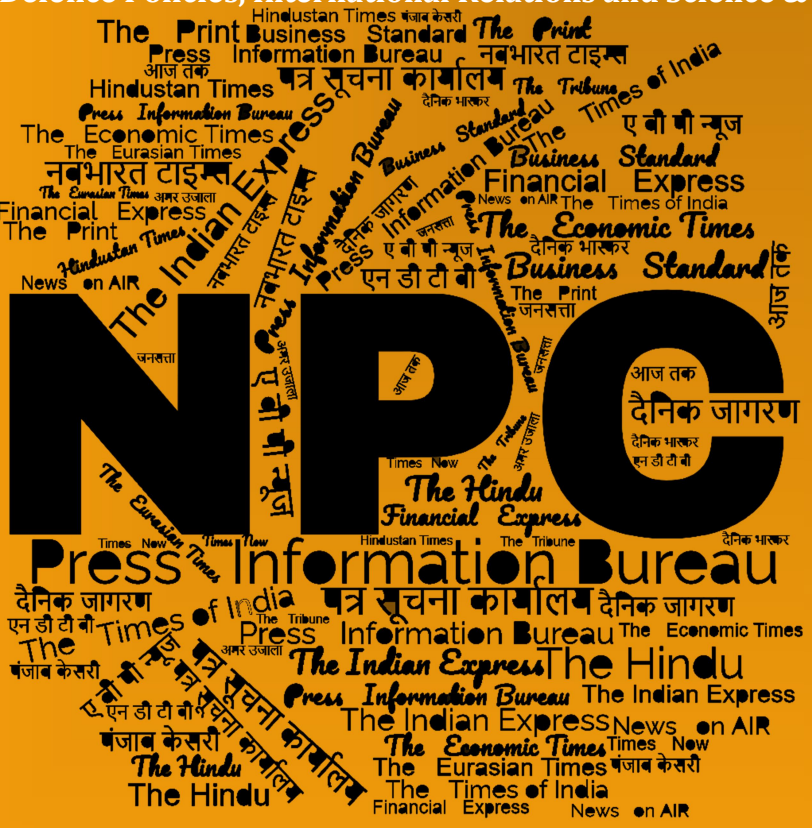

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DRDO Technology News

The Indian EXPRESS

Wed, 22 Feb 2023

BEL Signs MoU with DRDO for Advanced Medium Combat Aircraft Programme

Bharat Electronics Ltd (BEL) Tuesday announced that it has signed an MoU with Aeronautical Development Agency (ADA), a laboratory of Defence Research Development Organisation (DRDO), for the fifth generation Advanced Medium Combat Aircraft (AMCA) programme.

The MoU aims at leveraging the complementary strengths and capabilities of BEL and ADA, wherein both parties will cooperate for the development, production and supply of Internal Weapon Bay Computer and other line replaceable units (LRU) for the fighter aircraft.

BEL will also provide lifetime product support to the Indian Air Force (IAF) once the induction of the AMCA happens. An LRU is a component in an aircraft which can be replaced quickly at an operating location. An example of LRU is the flight management system.

The DRDO has finished the design of the AMCA and will proceed to the next step of Critical Design Review (CDR).

A CDR is a technical review to ensure that the system of an aircraft can proceed into fabrication, demonstration, and test and can meet performance requirements.

The internal weapons bay of the AMCA was also unveiled at the recently conducted Aero India show in Bengaluru. Internal weapons bay is a compartment in an aircraft to carry bombs.

The project cost of the AMCA is Rs 15,000 crore. The AMCA is a twin-engine fighter aircraft and the specifications are in line with the Fifth Generation aircraft technology with features like stealth, internal weapons, super cruise, serpentine air intake, etc. The aircraft has the capability to carry air-to-air and air-to-ground weapons.

https://indianexpress.com/article/cities/bangalore/bel-signs-mou-with-drdo-for-advanced-medium-combat-aircraft-programme-8459037/

JANES

Tue, 21 Feb 2023

DRDO Displays New EO/IR Payload

India's Defence Research and Development Organisation (DRDO) has developed a new electro-optic/infrared (EO/IR) payload for airborne intelligence, surveillance, and reconnaissance (ISR) roles.

Speaking to Janes at the Aero India 2023 show held in Bangalore from 13 to 17 February, a DRDO official said the new payload has been tested on the Tactical Airborne Platform for Aerial Surveillance-Beyond Horizon-201 (TAPAS BH-201) medium-altitude long-endurance (MALE) unmanned aerial vehicle (UAV).

The EO/IR payload – named Compact Airborne Multisensor Optronic Payload (CAMOP) – has been developed by the DRDO's Instruments Research and Development Establishment (IRDE). It was displayed at Aero India 2023.

CAMOP is configurable for all types of airborne platforms. It is a stabilised, compact, multisensor package capable of day and night operations. It comprises an eye-safe laser rangefinder, target illumination and pointer, and high-definition (HD) payloads. CAMOP has a recognition range of up to 40 km and weighs 55 kg.

The TAPAS BH-201 is a multimission UAV being developed with an endurance of 24 hours to carry out ISR roles for the Indian Armed Forces. The platform is still in developmental stage. The project was conceptualised in 2016 and its development is expected to be complete by 2023.

https://www.janes.com/defence-news/news-detail/drdo-displays-new-eoir-payload

TIMESNOW

Tue, 21 Feb 2023

Test-firing of Air-to-Air Missile 'Astra' Postponed

The test-firing of the indigenously-developed Astra air-to-air missile system which was scheduled to be carried out today off the coast of Odisha has been postponed for a later date.

The state-of-the-art missile which was supposed to be launched from the Sukhoi-30 MKI fighter jet can strike targets beyond 100 kilometres of range, according to defence officials. It will be equipped on the indigenous LCA Tejas Mark1A fighter aircraft and the upgraded MiG-29 jets too, they added. Designed by the Defence Research and Development Organisation (DRDO), the beyond visual range Astra missile is capable of engaging targets of different ranges and altitudes, PTI reported quoting defence sources.

The sophisticated missile can fly towards the target at a speed of over 5,555 km per hour. The missile has a 15-kilogram high-explosive pre-fragmented warhead, the sources added. Earlier in September 2019, India successfully flight-tested the indigenously developed missile system, off

the coast of Odisha. The missile was launched from Sukhoi-30 MKI as a part of user trials by the Indian Air Force.

Last year, the Defence Ministry signed a contract worth Rs 2,971 crore with Bharat Dynamics Limited (BDL) to procure several batches of the Astra MK-I beyond visual range (BVR) air-to-air missiles and associated equipment.

The missiles are being procured for the Indian Air Force (IAF) and the Indian Navy, the ministry said. The Astra MK-I BVR AAM has been indigenously designed and developed by the DRDO based on the requirements issued by the IAF.

https://www.timesnownews.com/india/india-test-fires-astra-air-to-air-missile-system-off-odisha-coast-article-98129040

Defence News

Defence Strategic : National/International

NewsOnAIR

Tue, 21 Feb 2023

QRSAM: सेना ने खरीदे 5 स्वदेशी QRSAM, जानें क्या है इसकी खासियत

रक्षा क्षेत्र में आत्मनिर्भर होने के लिए डीआरडीओ भारतीय सेना के लिए नए-नए हथियारों और मिसाइलों पर काम कर रहा है। ऐसे में रक्षा मंत्रालय से हरी झंडी मिलने के बाद भारतीय सेना ने 5 स्वदेशी Quick Reaction Surface to Air Missile Weapon Systems (QRSAM) खरीदने का ऑर्डर दे दिया है। भारत इलेक्ट्रॉनिक्स लिमिटेड (BEL) 2024 तक भारतीय सेना को सभी पांचों हथियार प्रणालियों की आपूर्ति कर देगी। आपको बता दें कि एक QRSAM हथियार प्रणाली में एक Regiment Command Post Vehicle (RCPV) शामिल गया है, जो सिस्टम को पूरी तरह से नियंत्रित करेगा।

जानिए RCPV किस तरह से करता है काम ?

BEL के अनुसार एक RCPV तीन बैटरी इकाइयों से जुड़ा है। एक बैटरी यूनिट में एक battery command post vehicle और एक battery surveillance radar vehicle होता है। इसके अलावा एक

बैटरी इकाई चार लड़ाकू समूहों (CG) से जुड़ी हुई है। एक CG में एक multifunctional radar unit होती है, जो एक साथ 10 लक्ष्यों को निशाना बना सकती है। एक Multi Launch Rocket Vehicle छह QRSAM रॉकेट से लैस होता है। एक QRSAM हथियार प्रणाली में 72 QRSAM रॉकेट होते हैं। जबकि इसमें सिस्टम से रॉकेट ले जाने के लिए लॉजिस्टिक व्हीकल भी होता है।

दुनिया में सबसे उन्नत हथियार प्रणालियों में से एक

DRDO और भारतीय सेना ने सभी मौसम में rotatable truck-based launch platform पर लगे कनस्तर से स्वदेशी रूप से विकसित हथियार प्रणाली के छह राउंड उड़ान परीक्षण किये हैं। DRDO ने 3 से 7 जनवरी तक नागपुर में 108 वीं भारतीय विज्ञान कांग्रेस में भी इस प्रणाली का एक मॉडल प्रदर्शित किया था। यह दुनिया में सबसे उन्नत QRSAM हथियार प्रणालियों में से एक है।

किसी भी मौसम में किया जा सकता है प्रयोग

सेना और वायुसेना ने यूजर ट्रायल के दौरान इस हथियार प्रणाली का दिन और रात में भी परीक्षण करके मूल्यांकन किया है। मिसाइल प्रणाली में पूरी तरह से स्वचालित कमांड और नियंत्रण प्रणाली, सक्रिय सरणी बैटरी निगरानी राडार, सक्रिय सरणी बैटरी multi-function radar और लॉन्चर शामिल हैं। दोनों राडार में 360-डिग्री कवरेज के साथ search-on-move और track-on-move क्षमता है। इसे सभी मौसम में इस्तेमाल किया जा सकता है और इसकी 30 किलोमीटर की रेंज है।

BEL और भारत डायनेमिक्स लिमिटेड के सहयोग से किया गया विकसित

इस मिसाइल को विकसित करने के लिए DRDO की परियोजना को जुलाई, 2014 में 476.43 करोड़ रुपये के बजट के साथ मंजूरी दी गई थी। मिसाइल प्रणाली को भारत इलेक्ट्रॉनिक्स लिमिटेड (BEL) और भारत डायनेमिक्स लिमिटेड के सहयोग से विकसित किया गया है। DRDO के अनुसार रक्षा से संबंधित सार्वजनिक उपक्रम BEL, BDL और private industry L&T के माध्यम से इस हथियार प्रणाली के तत्वों की आपूर्ति हुई है। संपूर्ण हथियार प्रणाली अत्यधिक मोबाइल प्लेटफार्मों पर कॉन्फिगर की गई है, जो वायु रक्षा प्रदान करने में सक्षम है।

QRSAM की क्या है खासियत

क्यूआरएसएएम हथियार प्रणाली की खास बात यह है कि यह अपने टारगेट की खोज शॉर्ट हॉल्ट पर आग के साथ चलते-फिरते कर सकती है। यह पहले किए गए गतिशीलता परीक्षणों के दौरान भी साबित हुआ है। इसका फुल फॉर्म क्विक रिएक्शन सरफेस टू एयर मिसाइल विपन सिस्टम (Quick Reaction Surface to Air Missile Weapon Systems) है। इसके अन्तर्गत स्वदेशी रेडियो

फ्रीक्वेंसी (आरएफ) सीकर, मोबाइल लॉन्चर, स्वचालित कमांड और नियंत्रण प्रणाली, निगरानी और मल्टी रोल रडार के साथ मिसाइल शामिल हैं।

बता दें कि सितंबर 2022 में सतह से हवा में मार करने वाली क्विक रिएक्शन मिसाइल प्रणाली (QRSAM) के तहत भारतीय सेना ने ओडिशा तट से दूर एकीकृत परीक्षण रेंज (ITR) चांदीपुर से छह सरलतापूर्वक मिसाइल टेस्ट किए।

https://newsonair.com/hindi/2023/02/21/qrsam-army-bought-5-indigenous-qrsam-know-what-is-its-specialty/

Tue, 21 Feb 2023

Indian Firm Run by Military & DRDO Veterans Develops Hack-proof Video Conference Solution for Indian Navy

Encryption (encoding a message to hide its true meaning) is a common feature that all digital communications services and applications claim to offer. However, when it comes to communication between the Armed Forces, an extra level of security and robustness is a must-have. With rapid leaps in quantum computing, it has become possible to intercept and decrypt (decipher the hidden contents of a message) even encrypted digital communications. Under such circumstances, it is necessary to have a secure means of communication that is not susceptible to even quantum computers' decrypting capabilities. Scytale Alpha, an Indian start-up run by a veteran fighter pilot and a former DRDO scientist supported by a team of technology and security experts, recently won the Innovation for Defence Excellence (iDEX) Open Challenge (IDEX SPRINT) for developing a 'Secure Audio-Visual Communication Suite' for the Indian Navy.

By involving MSMEs, start-ups, individual innovators, R&D institutes, and academia, Innovation for Defence Excellence (iDEX) under the aegis of India's Department of Defence Production (DDP) aims to create an eco-system that will help India achieve self-reliance and foster innovation in the defence and aerospace sectors.

Wing Commander Satyam Kushwaha (retired), Director, Scytale Alpha said that the Quantum Secure Solution that they have developed ensures secure audio-video-text communication that is immune to quantum computing-based attacks. "This is something we have developed from the bottom up. Free services also promise encryption, but our service is a paid one and only sold to Government and those working in the strategic, sensitive sectors," he said. Queried about the means of communication that this product would use, he said that it would work based on the internet or a restricted local network such as an intranet.

He explained to WION that their product is a portable, table-sized box that measures 3 feet by 3 feet and can offer an unlimited range for audio-video communications. The device can also be fitted onto ships and similar military platforms. The availability of space-based internet services

would further augment the reach and connectivity of this product, he said. After the company develops the customised hardware and software, the completed product is handed over to the customer and they enjoy full control over it, he adds. At the Aero India expo that took place in Bengaluru, Indian Defence Minister Rajnath Singh and the leadership of India's tri-services, as well as some Foreign Defence Services, experienced a live demonstration of the product.

https://www.wionews.com/india-news/indian-firm-run-by-military-drdo-veterans-develops-hack-proof-video-conference-solution-for-indian-navy-564275

ThePrint

Tue, 21 Feb 2023

Rajnath Speaks to British Counterpart Ben Wallace; Talks Focus on Future Growth of Defence Ties

Defence Minister Rajnath Singh on Tuesday spoke to his British counterpart Ben Wallace with a focus on ways to enhance bilateral defence industrial cooperation, especially in co-development and co-production of military hardware in India.

Singh, referring to industrial cooperation, said potential areas of cooperation were identified, but he did not elaborate on it.

The defence minister described the telephonic conversation as “cordial” and “positive” and said it was aimed at future growth of the bilateral defence relationship.

“It was a pleasure to speak with the UK Secretary of State for Defence, Mr. Ben Wallace. The conversation was cordial, positive and focused on future growth of the bilateral defence relationship,” he tweeted.

“We reviewed the ongoing defence cooperation and expressed satisfaction over the bilateral military-to-military engagements. Discussed a wide range of defence and security issues in our conversation including regional developments and the Indo-Pacific,” Singh said.

The defence minister said the discussions focused on ways to enhance defence industrial cooperation and the potential areas for it were identified.

“We also discussed ways to enhance defence industrial cooperation and identified potential areas of cooperation. Also suggested that UK companies should become part of the India Growth Story and participate in co-development and co-production in India,” he added.

In a statement, the defence ministry said both ministers discussed a wide range of defence and security issues, including regional developments and the Indo-Pacific.

“The ministers briefly reviewed their ongoing defence cooperation and expressed satisfaction at their bilateral military-to-military engagements,” it said.

https://theprint.in/india/rajnath-speaks-to-british-counterpart-ben-wallace-talks-focus-on-future-growth-of-defence-ties-2/1388492/

FINANCIAL EXPRESS
Read to Lead

Tue, 21 Feb 2023

India and UK to Deepen Defence Relations; Rajnath Singh Invites UK Industries to Build in India

India and the UK are set to enhance defence industrial cooperation and work together in co-development and co-production of military platforms. In a telephonic conversation on Tuesday defence Minister Rajnath Singh and UK Secretary of State for Defence Ben Wallace talked about deepening of bilateral defence relationship, the Indo-Pacific and other defence and security related issues.

Singh invited the UK companies to become part of India's growth story and to also participate in co-development and co-production in India. Both sides reviewed the ongoing bilateral defence cooperation and identified a few potential areas of cooperation and discussed ways of further enhancing defence industrial cooperation.

Both countries last October had the inaugural meeting of the newly formed Joint Working Group in an effort to further defence cooperation. This has been set up to strengthen security and defence partnership through industrial cooperation. And as reported earlier the UK has issued its first Open General Export License in the Indo-Pacific region to India. This will help in shortening delivery times for defence procurement.

In 2022 Alex Ellis, British High Commissioner to India has stated that a stronger UK-India defence relationship is an essential element of the governments of both sides' Comprehensive Strategic Partnership.

Both countries are working towards establishing a portfolio of projects that can be done collaboratively, as these will help to support the development of new technologies and capabilities as has been agreed in the UK-India 2030 Roadmap released by the British government.

In critical defence technologies the UK is considered to be a world leader especially in jet engines development and electric propulsion technology and the UK has expressed its readiness to share this expertise with India supported by respective industries.

In 2022 the UK has offered advanced core technologies to India – capable of creating an indigenous, ITAR-free jet engine. These will be manufactured, owned and exported by India.

Both countries have established an Electric Propulsion Capability Partnership – and with the JWG in place this will help to set up a strong partnership between the navies of India and the UK for development of Electric Propulsion capability here in India. The roadmap has also committed to partner on India's indigenous combat air programmes – the Light Combat Aircraft (LCA)-MkII and Advanced Medium Combat Aircraft (AMCA).

https://www.financialexpress.com/defence/india-and-uk-to-deepen-defence-relations-rajnath-singh-invites-uk-industries-to-build-in-india/2988325/

FINANCIAL EXPRESS
Read to Lead

Tue, 21 Feb 2023

India Participates in UAE's International Defence Expo-IDEX; INS Sumedha to Participate in NAVDEX 23

A large defence delegation from India with representatives of public and private sectors as well as startups has reached Abu Dhabi to participate in the four-day IDEX 23 (International Defence Exhibition) between February 20-24. This the UAE's flagship defence expo.

The IDEX-UAE is considered to be a strategically important tri-service defence exhibition internationally as this the only international defence exhibition and conference which takes place in the MENA region and on display is the latest, state of the art technology available globally in the defence sector – across land, sea and air.

UAE & IDEX

Amidst the ongoing Russia-Ukraine war, the focus during this edition of IDEX in UAE is more on drones, robotics, cyber security platforms, maritime security, air defence systems and secure communications.

For the first time they have also launched IDEX Next_Gen – this is a space dedicated programme where the startups will get a chance to demonstrate their cutting edge technologies in not only the defence sector but also the naval sphere.

Indian Navy goes to UAE

Besides the Indian companies participating, Indian Navy has sent INS Sumedha to participate in NAVDEX 23 (Naval Defence Exhibition) and IDEX 23 (International Defence Exhibition). The ship's participation in two leading regional naval and defence exhibitions will showcase the strengths of India's indigenous ship building and underscore Prime Minister Narendra Modi's vision of 'Aatma Nirbhar Bharat'.

More about INS Sumedha

This indigenously built Saryu class Naval Offshore Patrol Vessels (NOPV) is third of the series and was commissioned into the Indian Navy in March 2014. This ship has been built at Goa Shipyard (GSL) and according to the Indian Navy is fitted with an impressive array of weapons and sensors. A potent platform it can carry an integral helicopter and also boasts of long endurance. It can also be deployed for different operational missions.

According to reports a number of naval ships and vessels from eight countries including UAE, China, Pakistan, Bahrain, Italy, Britain and Kuwait are taking part in NAVDEX.

The UAE launched the first IDEX almost three decades ago and since then the show has gained popularity not only in the region but across the globe.

Significance for India

India and the UAE have been working towards strengthening defence and security cooperation as the relations between the two countries were elevated to a 'Comprehensive Strategic

Partnership' in 2017 when Crown Prince of Abu Dhabi and present President of UAE, Sheikh Mohamed Bin Zayed Al Nahyan, was the chief at the Republic Day celebrations.

Prime Minister Narendra Modi has visited the UAE four times and the focus has been to elevate the relationship to a higher pedestal.

India-UAE Maritime Cooperation

In an effort to enhance interoperability between the naval forces of India and the UAE, the inaugural edition of bilateral exercise Zayed Talwar of the two navies took place in 2018 and the second edition was conducted in 2021. Several Indian Naval ships have made port calls to the UAE in an effort to promote maritime cooperation.

https://www.financialexpress.com/defence/india-participates-in-uaes-international-defence-expo-idex-inssumedhato-participate-in-navdex-23/2988054/

TIMESNOW

Tue, 21 Feb 2023

Exclusive: India's Defence Major iComm Signs Deal with UAE to Make Country 'Aatmnirbhar' for Small Arms

In a historic move and a major push towards Prime Minister Narendra Modi's Aatmnirbhar Bharat vision, MEIL group company iComm on Tuesday became the first Indian private company to sign a Transfer of Technology agreement with UAE's Caracal to manufacture firearms for local market.

Sources close to development told Times Mow that iCOMM will locally manufacture CARACAL's complete line of small arms for the Indian market, powering the 'Make in India' initiative.

Among the arms to be manufactured are CARACAL EF pistol, modern CMP 9 submachine gun, CAR 814, CAR 816 and CAR 817 tactical rifles, CAR 817 DMR tactical sniper rifle, CSR 50 anti-material sniper rifle, CSR 338 and CSR 308 bolt action sniper rifles and the CSA 338 semi-automatic sniper rifle, officials informed.

The signing took place at the ongoing IDEX 2023 in Abu Dhabi, UAE, one of the largest tri-service defence exhibitions in the world.

Sumanth P, Managing Director of ICOMM, said, "India's Defence industry is on a strong path to develop its sovereign manufacturing capabilities. This agreement exemplifies the commitment shown by CARACAL to aid India's ambitions towards making the defence sector self-sufficient."

The Indian Government seriously took up the indigenisation of Defence manufacturing, allowing the private sector to manufacture weapons, breaking the age-old view to ensure no disruptions in the supply chain. Our entry into small arms production is a proud moment for us, added.

CARACAL's complete line of small arms will be produced in ICOMM's world-class design, development and manufacturing centre in Hyderabad. ICOMM is one of the largest companies

manufacturing missiles & sub-systems, communications & EW systems, radars, electro-optics, composites, loitering munitions, shelters, drone & counter-drone systems.

https://www.timesnownews.com/india/exclusive-indias-defence-major-icomm-signs-deal-with-uae-to-make-country-aatmnirbhar-for-small-arms-article-98124510

THE HINDU

Wed, 22 Feb 2023

A New Chapter in Defence and Tech Premium

By Manoj Joshi

Earlier this month, the U.S. and India inaugurated their initiative on critical and emerging technologies (ICET). The promise of this initiative, if fulfilled, could have a transformative impact on India-U.S. relations.

Since the 1960s, India has made many attempts to jump on the U.S. technology bandwagon. But all of them have failed, primarily because of the mismatch between the two countries on the purposes for which they collaborated. The ICET is perhaps better positioned. Unlike the earlier iterations, it comes at a time when India, too, has developed technological and managerial capacities and is emerging as a major economic power. Under ICET, the two sides have identified six focus areas of co-development and co-production: strengthening innovation ecosystems, defence innovation and technology cooperation, resilient semiconductor supply chains, space, STEM talent, and next generation telecom.

On the eve of the dialogue, National Security Adviser Ajit Doval said that the big need was to convert intentions and ideas into deliverables. This is where there has usually been a slip.

American aid

Since the 1950s, the U.S. has played a significant role in India's development efforts and quest for technological capability. A major driver of the process was the Cold War which persuaded the U.S. to provide sweeping assistance in a range of areas to India. While the Soviet Union emerged as a major player in areas like steel, heavy electricals, petroleum and mining, the U.S. focused on modernising engineering and management education, science and technology (S&T), and agriculture.

Among the more consequential areas of cooperation was in nuclear energy where the U.S. helped build India's first reactors for research and power. An entire generation of Indian nuclear scientists were trained in the U.S., including some who subsequently helped in making nuclear weapons. But this cooperation was abruptly ended after India's first nuclear test in 1974. The same could be said, though in a somewhat different manner, for India's space programme.

The massive aid provided by the U.S. to modernise Indian education, especially engineering and management, should have led to a growing industrial sector, but the Indian economy stalled in the 1960s and India ended up with a system where IIT and IIM graduates ended up benefiting the U.S. economy. The one area in which India did get lasting and important benefits was agriculture where American S&T helped trigger the Green Revolution and end an era of food shortages.

The Bangladesh War of 1971 and the 1974 nuclear tests led to a three-decade estrangement and a draconian American technology denial regime whose prime target was India, all in the name of non-proliferation.

There was a brief respite when, following the Soviet invasion of Afghanistan, the Gandhi-Reagan Science and Technology Initiative led to the 1984 India-U.S. MoU on sensitive technologies, commodities and information. This was the outcome of a new American willingness to promote Indian S&T and the arms industry. In 1987, the U.S. agreed to assist India's Light Combat Aircraft (Tejas) programme and allowed the sale of front line GE 404 engine to India. However, broader cooperation stalled because the U.S. was unwilling to let go of its non-proliferation agenda.

After the Soviet collapse, the U.S. pushed for the unconditional extension of the non-proliferation treaty and began to arm-twist countries to sign a Comprehensive Nuclear Test Ban Treaty. At this stage, India realised that there was no option but to come out as a declared nuclear weapons power.

There was another round of sanctions after the 1998 nuclear tests, but by this time the U.S. had begun to get a measure of the challenge it was facing from China. It now decided to play the India card, but to do this, there was need to spit out the nuclear proliferation pill stuck in our joint throats. This is what was done with the India-U.S. nuclear deal of 2008, which is the basis of our current engagement with the U.S.

But despite India's growing proximity to the U.S. since then, there has not been significant movement in actual deliverables by way of technology development and co-production. The much-touted Defence Technology and Trade Initiative has little to show for it.

India has steadily advanced in status as a friend of the U.S. and has purchased U.S. weapons and systems worth billions of dollars. It is now deemed to be a Major Defence Partner, though not a Major Non-Nato Ally, a much more useful designation that Pakistan still retains. The course has not been problem-free — witness the pressure India faced under CAATSA and on account of its oil trade with Russia.

Ambitious goals

The ICET has set up a range of ambitious goals which mean a great deal for India. Some of them are aspirational, others political. A few are over the top, such as the belief that the U.S. will help India to develop advanced jet engines. As of now, all that is on the table is the possible licence manufacture of GE-404/414 engines for the LCA. This is not new. But cutting edge jet engines are the crown jewels of the U.S., which the country will not part with. A similar approach will be taken in other areas where the U.S. jealously guards its technological prowess, knowing that it is a major component of its global power status.

After presenting the Union Budget, the Finance Minister said in an interview, "This is a golden opportunity for India. We should really not miss the bus this time." The remark is truer of the technology and industrialisation bus that the ICET could be.

https://www.thehindu.com/opinion/op-ed/a-new-chapter-in-defence-and-tech-through-icet/article66536085.ece

JANES

Tue, 21 Feb 2023

EDA to Fund Separate European Future Airlift Projects

The European Defence Agency (EDA) is to fund two separate projects to develop future European airlift capabilities.

The European Union's (EU's) Permanent Structured Cooperation (PESCO) organisation announced the move in late January, saying the projects are geared at developing medium and strategic airlift capabilities for the 2035+ timeframe.

"The EDA will support two PESCO projects focused on shaping future European airlift capabilities, for both mid-sized and outsized cargo, following a request from their project co-ordinators. [The] EDA is tasked to assist with harmonisation of the requirements for two platforms: the Future Medium-Size Tactical Cargo (FMTC) and the Strategic Air Transport For Outsized Cargo (SATOC)," PESCO said.

As noted in the announcement, both the FMTC and SATOC were launched in the fourth wave of PESCO projects, and are co-ordinated by France and Germany, respectively. The FMTC also includes Germany, Spain, and Sweden as project members, while SATOC sees France, the Czech Republic, and the Netherlands as partners.

Janes first reported the launch of the FMTC programme in June 2022, with the effort geared at developing a replacement for the current fleet of Lockheed Martin C-130 Hercules, Airbus Defence and Space (DS) CN235/C295, and Leonardo C-27J fleets after 2035. This new medium-lift transport aircraft would operate alongside the Airbus DS A400M, which has recently entered service.

https://www.janes.com/defence-news/defence/latest/eda-to-fund-separate-european-future-airlift-projects

news nine

Tue, 21 Feb 2023

North Korea's Missile Tests Endanger Thousands from Neighbouring Nations

North Korea secretly conducted six nuclear weapon tests at the Punggye-ri site in the hilly North Hamgyong Province between 2006 and 2017, according to the US and South Korean governments.

A Seoul-based human rights group said in a report on Tuesday that radioactive materials spread through groundwater from an underground nuclear test site might expose thousands of North Koreans, as well as those in South Korea, Japan, and China, news agency Reuters reported.

The radioactive materials may have spread to eight nearby cities and countries where more than a million North Koreans reside and where groundwater is used for drinking and other daily activities, according to the study conducted by the Transitional Justice Working Group. It was additionally warned that nearby South Korea, China and Japan might be at risk from smuggled agricultural and fishing items coming from the North.

For the study, which was supported by the National Endowment for Democracy, a non-profit organisation funded by the U.S. Congress, the group, which was formed in 2014,

The group, which was formed in 2014, collaborated with nuclear and medical experts and defectors and used open-source intelligence, as well as publicly available government and United Nations (UN) reports, as per the study supported by the National Endowment for Democracy — a non-profit organisation funded by the U.S. Congress.

Hubert Young-hwan Lee, the group's chief and a co-author, said "this report is significant in showing that North Korea's nuclear tests could threaten the right to life and health of not only the North Korean people, but also of those in South Korea and other neighbouring countries".

After the North's earlier nuclear tests, China and Japan increased their radiation monitoring and voiced worries about possible exposure but did not openly provide information on contaminated food. North Korea has dismissed concerns about potential health risks raised by many outside experts, claiming that there were no leaks of hazardous materials following previous nuclear tests without providing evidence.

https://www.news9live.com/world/north-koreas-missile-tests-endanger-thousands-from-neighbouring-nations-au1779-2057611

INDIA TODAY

Tue, 21 Feb 2023

North Korea Fires Two More Ballistic Missiles into its Pacific 'Firing Range'

North Korea launched two more ballistic missiles off its east coast on Monday, with the powerful sister of leader Kim Jong Un saying North Korea's use of the Pacific as a "firing range" would depend on the behaviour of U.S. forces.

The launches come just two days after North Korea fired an intercontinental ballistic missile (ICBM) into the sea off Japan's west coast, prompting the United States to hold joint air exercises with South Korea and separately with Japan on Sunday.

North Korea's state media confirmed it fired two projectiles from a multiple rocket launcher, aiming at targets 395 km (245 miles) and 337 km (209 miles) away.

"The 600 mm multiple rocket launcher mobilised in the firing ... is a means of tactical nuclear weapon," capable of "paralysing" an enemy airfield, North Korea's KCNA state news agency said. Analysts said the warning about the Pacific being a North Korean firing range from leader

Kim's sister, Kim Yo Jong, could signal plans to fire more missiles further, possibly in the direction of the U.S. territory of Guam.

Japan's defence ministry said the two missiles launched on Monday at around 2200 GMT, reached maximum altitudes of about 100 km and 50 km.

Japanese Prime Minister Fumio Kishida said he had requested an emergency U.N. Security Council meeting over the tests, and Jiji news agency said the gathering was set for 2000 GMT.

But prospects for a new round of U.N. sanctions appear slim given the previous vetoes by Russia and China amid the Ukraine crisis and a Sino-U.S. feud over a Chinese balloon in American skies.

South Korea's military condemned the launches as a "grave provocation" that should stop immediately. President Yoon Suk-yeol's office said it held a National Security Council meeting to review the tests and discuss countermeasures.

South Korea's foreign ministry announced sanctions on four individuals and five entities linked to North Korea's weapons programmes over the latest ICBM and missile tests, in what it called its fastest-ever such response to the North's provocations.

The ministry said its nuclear envoy had phone calls with his U.S. and Japanese counterparts during which they agreed that North Korea's provocations cannot be justified and it would face "consequences of self-indulgence".

The U.S. Indo-Pacific Command highlighted the "destabilising impact" of North Korea's unlawful weapons programmes, while U.N. spokesman Stephane Dujarric urged Pyongyang to halt such provocations banned under Security Council resolutions, and resume denuclearisation dialogue.

TENSIONS RISING

North Korean leader Kim's sister warned against increased presence of U.S. strategic military assets following the joint air drills with its Asian allies over the weekend.

"The frequency of using the Pacific as our firing range depends upon the U.S. forces' action character," she said in a statement carried by KCNA.

The United States and South Korea are set to hold simulated nuclear tabletop exercises aimed at improving operations of U.S. nuclear assets this week, as well as annual springtime Freedom Shield field training in March.

North Korea's foreign ministry said last week it would respond to the exercises with "unprecedentedly persistent, strong counteractions".

"Tension on the peninsula is likely to reach its peak in coming months as North Korea is accelerating its military actions with higher frequency, and her statement indicates that it would continue impromptu missile tests using the Pacific as its shooting range," said Yang Moo-jin, a professor at the University of North Korean Studies in Seoul.

Hong Min, a senior fellow at the South's Korea Institute for National Unification, said Kim's mention of the Pacific suggested the North would fire longer-range missiles more often.

Monday's missile launch is the North's third known weapons test this year after it fired an unprecedented number of missiles last year, including ICBMs capable of striking anywhere in

the United States. Kim Yo Jong also criticised some South Korean experts who questioned the reliability of the ICBMs saying Saturday's "sudden" test required nine hours of preparations, calling them "disgusting" and "stupid".

The launch took place "at the most appropriate time" considering weather conditions and after U.S. and South Korean scout planes went away, she said.

"They had better rack their brains to take measures to defend themselves, instead of doubting or worrying about other's technology," she said. "We affirm once again that there is no change in our will to make the worst maniacs escalating the tensions pay the price for their action."

https://www.indiatoday.in/world/story/north-korea-fires-two-more-ballistic-missiles-into-its-pacific-firing-range-2337415-2023-02-21

Science & Technology News

Tue, 21 Feb 2023

Gaganyaan Programme: ISRO इसी साल लॉन्च करेगा दो मिशन, केंद्रीय मंत्री ने बताया प्लान

India Gaganyaan Programme ISRO Missions: भारतीय अंतरिक्ष अनुसंधान संगठन (ISRO) गगनयान (Gaganyaan) कार्यक्रम के तहत इस साल के अंत में दो शुरुआती मिशन लॉन्च करेगा, जिसके बाद 2024 में भारत के पहले मानव अंतरिक्ष-उड़ान मिशन को अंजाम दिया जाएगा. यह जानकारी केंद्रीय मंत्री जितेंद्र सिंह (Jitendra Singh) ने दी.

समाचार एजेंसी पीटीआई के मुताबिक, केंद्रीय विज्ञान-प्रौद्योगिकी राज्य मंत्री और पृथ्वी विज्ञान राज्य मंत्री (स्वतंत्र प्रभार) जितेंद्र सिंह ने कहा कि 2023 के मिशन के दूसरे हिस्से में 'व्योममित्र' नामक एक फीमेल रोबोट को अंतरिक्ष में ले जाया जाएगा.

इस वजह से हो गई मिशन में देरी

केंद्रीय मंत्री ने कहा कि इन मिशन को भारत की स्वतंत्रता के 75वें वर्ष में लॉन्च करने के बारे में सोचा गया था लेकिन कोरोना के उबरने के कारण इन कार्यक्रमों में दो से तीन साल की देरी हुई. उन्होंने कहा कि महामारी के कारण रूस में उस समय चल रहे हमारे अंतरिक्ष यात्रियों के

प्रशिक्षण को रोक दिया गया था. हालात थमने के बाद उन्हें ट्रेनिंग पूरी करने के लिए वापस भेज दिया गया.

मंत्री जितेंद्र सिंह ने कहा, "इस साल की दूसरी छमाही में गगनयान कार्यक्रम के तहत दो शुरुआती मिशन भेजे जाएंगे. पहला मिशन पूरी तरह से मानव रहित होगा और दूसरे में व्योममित्र नाम की फीमेल रोबोट भेजी जाएगी." उन्होंने कहा कि मिशन प्रकिया को पूरा करेंगे.

'आत्मनिर्भर भारत का सबसे अच्छा उदाहरण'

केंद्रीय मंत्री ने बताया कि दोनों मिशनों का उद्देश्य यह तय करना है कि गगनयान रॉकेट उसी रूट से सुरक्षित वापस लौट आए, जहां से वह उड़ान भरेगा. उन्होंने कहा कि अगले वर्ष भारतीय मूल का व्यक्ति अंतरिक्ष में जाएगा. उन्होंने कहा कि भारतीय नागरिक राकेश शर्मा पहले ही अंतरिक्ष में जा चुके हैं लेकिन वह मिशन सोवियत रूस ने लॉन्च किया था जबकि गगनयान एक भारतीय मिशन है. केंद्रीय मंत्री ने कहा, "गगनयान मिशन आत्मनिर्भर भारत का सबसे अच्छा उदाहरण होगा. भारत की अंतरिक्ष यात्रा के इतिहास में यह मील का पत्थर साबित होगा."

बता दें कि 2018 में प्रधानमंत्री नरेंद्र मोदी अपने स्वतंत्रता दिवस वाले संबोधन में 10 हजार करोड़ रुपये की लागत के गगनयान मिशन की घोषणा की थी.

https://www.abplive.com/news/india/gaganyaan-programme-isro-to-launch-2-missions-in-2023-union-minister-jitendra-singh-tells-plan-2340645

THE TIMES OF INDIA

Wed, 22 Feb 2023

ISRO Announces Opportunities for 13th Cycle Observations of Astrosat

ISRO has made an Announcement of Opportunity (AO) soliciting proposals for the 13th cycle observations from Astrosat, India's first space observatory mission. "In this AO cycle, 55% of observing time is available for Indian AO proposals and 20% of observing time is for International AO proposals. Rest of the time in this cycle is allotted for calibration, targets of opportunity and the AstroSat long term key proposals (ALTKP)," ISRO said.

The AO is open to Indian scientists or researchers residing and working at Indian institutions, universities or colleges here for 55% of the time and to non-Indians and NRIs working at space agencies, institutes, universities and colleges around the globe and involved in research in the area of astronomy for 20% of the time.

"The percentage of observing time for executing AO proposals during October 2023 to September 2024 is 87% and is termed as 13th AO cycle," Isro said. Pushing for ALTKP, the

space agency said it encourages key science projects targeting specific science problems demanding long term AstroSat observations from teams of users.

"Long term key projects are solicited to enhance the science output of AstroSat. The proposal may consist of multiple sources and or require multiple monitoring observations extending over one or more AO cycles. Co-ordinated observations with other observatories are encouraged," ISRO said.

https://timesofindia.indiatimes.com/city/bengaluru/isro-announces-opportunities-for-13th-cycle-observations-of-astrosat/articleshow/98136980.cms

THE HINDU

Tue, 21 Feb 2023

Brain-Inspired Image Sensor can Detect Miniscule Objects: IISc Study

Researchers at the Indian Institute of Science (IISc) in a new study have shown how a brain-inspired image sensor can go beyond the diffraction limit of light to detect miniscule objects such as cellular components or nanoparticles invisible to current microscopes.

Their novel technique, which combines optical microscopy with a neuromorphic camera and machine learning algorithms, presents a major step forward in pinpointing objects smaller than 50 nanometers in size, said the institute.

Measuring roughly 40 mm (height) by 60 mm (width) by 25 mm (diameter), and weighing about 100 grams, the neuromorphic camera used in the study mimics the way the human retina converts light into electrical impulses, and has several advantages over conventional cameras.

"Such neuromorphic cameras have a very high dynamic range (>120 dB), which means that you can go from a very low-light environment to very high-light conditions. The combination of the asynchronous nature, high dynamic range, sparse data, and high temporal resolution of neuromorphic cameras make them well-suited for use in neuromorphic microscopy," said Chetan Singh Thakur, Assistant Professor at the Department of Electronic Systems Engineering, IISc, and co-author.

In the current study, the group used their neuromorphic camera to pinpoint individual fluorescent beads smaller than the limit of diffraction, by shining laser pulses at both high and low intensities, and measuring the variation in the fluorescence levels. As the intensity increases, the camera captures the signal as an "ON" event, while an "OFF" event is reported when the light intensity decreases. The data from these events were pooled together to reconstruct frames.

https://www.thehindu.com/news/national/karnataka/brain-inspired-image-sensor-can-detect-miniscule-objects-iisc-study/article66536497.ece