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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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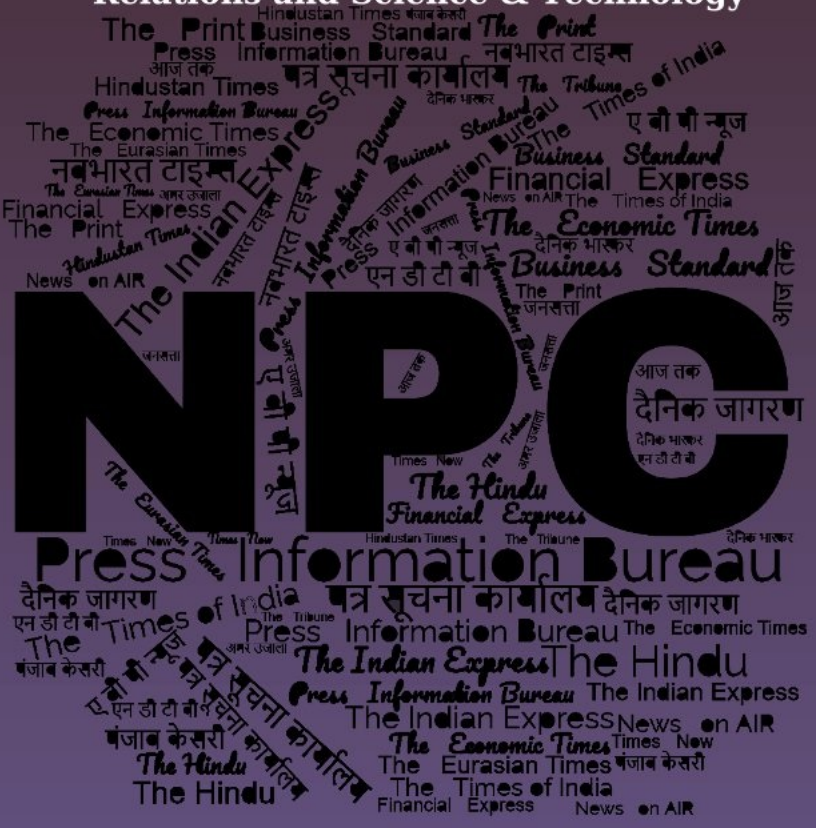

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DRDO on Twitter

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#DRDOUpdates | Greetings to @crpfindia on #CRPFDay. DRDO salutes your unwavering courage and sacrifices for the nation.
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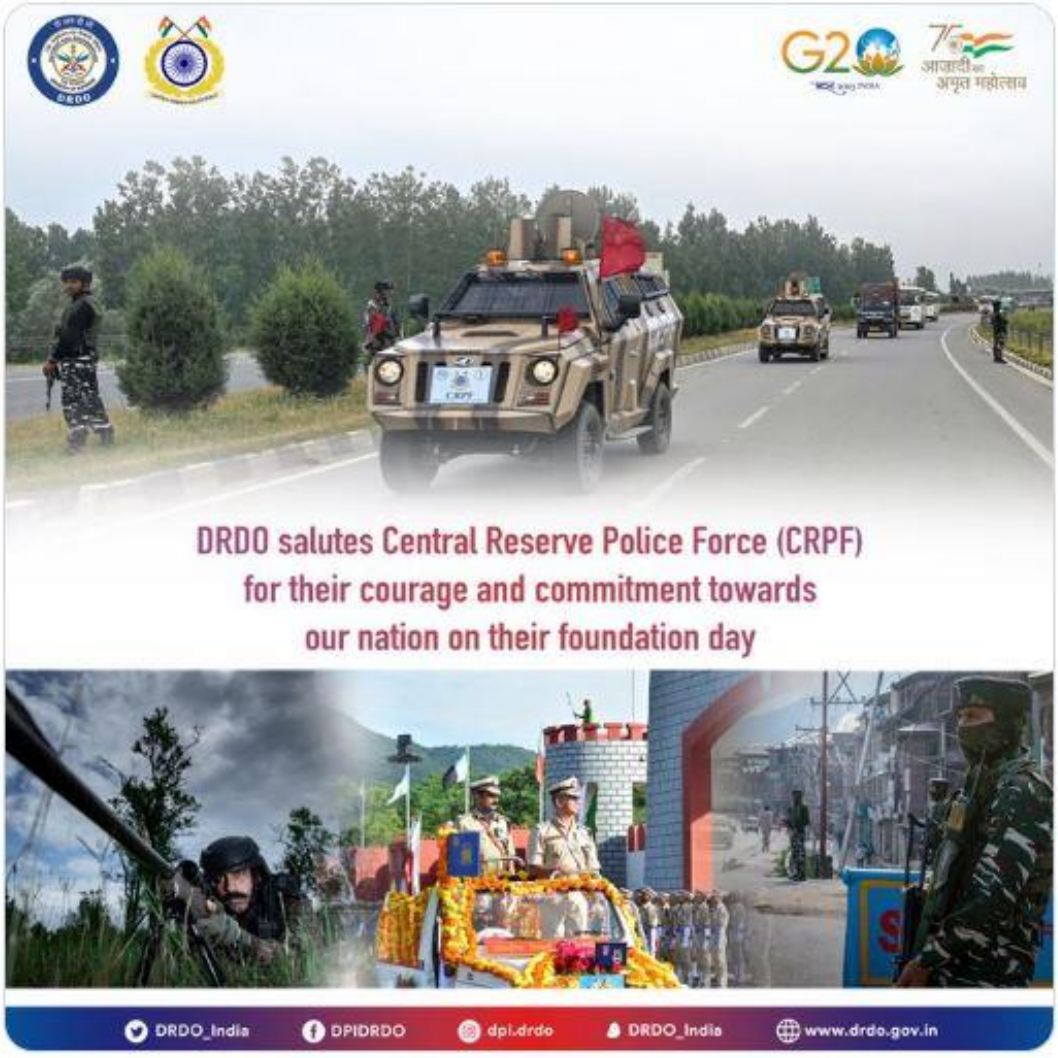

9:34 AM · Jul 27, 2023 · **22.1K** Views

Defence News

Defence Strategic: National/International

The Tribune

Thu, 27 Jul 2023

Army Chief Visits Siachen, Reviews Military Readiness

A day after Defence Minister Rajnath Singh said India would not hesitate in crossing the Line of Control (LoC), Army Chief Gen Manoj Pande on Thursday visited the Siachen glacier and reviewed the operations preparedness of troops.

He also laid a wreath at the Siachen war memorial to honour the bravehearts who have made the supreme sacrifice at the world's highest battlefield. "Interacting with the troops, General Pande lauded them for their tenacity and perseverance under challenging conditions and also exhorted them to continue working with same zeal and motivation," an official spokesperson of the Army said.

Rajnath had on Wednesday, while participating in the 24th 'Kargil Vijay Diwas' at Dras, said no compromise would be made in protecting the sovereignty, unity and integrity of the country.

https://www.tribuneindia.com/news/j-k/army-chief-visits-siachen-reviews-military-readiness-529585

Thu, 27 Jul 2023

Goa Shipyard Inks MoU with BITS to Use AI in Shipbuilding and Defence Industry

Goa Shipyard Ltd (GSL), a Public Sector Undertaking (PSU) has entered into an agreement with BITS Goa to revolutionise' the shipbuilding and defence industry through implementation of artificial intelligence (AI) technologies.

The MoU was signed by GSL and BITS Goa Innovation, Incubation and Entrepreneurship Society (BGIIES) in the presence of P Ravindran, General Manager (Production), GSL and Suman Kundu, President of BGIIES.

"This strategic partnership brings together the research expertise of BITS Goa and the extensive experience of Goa Shipyard Limited in shipbuilding and defence. By leveraging AI-driven solu-

tions, they aim to enhance operational efficiency, optimize ship design processes, and strengthen defence capabilities," spokesperson of GSL stated on Wednesday.

Under this partnership, both parties will collaborate closely on research and development projects to harness AI's full potential in shipbuilding and defence applications over the period of next one year.

The shared expertise and resources will facilitate the creation of advanced AI algorithms, predictive maintenance models, autonomous systems, and more.

The joint efforts of GSL and BGIIES will undoubtedly have a far-reaching impact on the industry, reinforcing the shipyards position in the global market, the spokesperson added.

https://knnindia.co.in/news/newsdetails/state//goa-shipyard-inks-mou-with-bits-to-use-ai-in-shipbuilding-and-defence-industry

FINANCIAL EXPRESS
Read to Lead

Fri, 28 Jul 2023

Bharat Forge gets Nod for Defence Participation

Bharat Forge has been granted a licence by the ministry of home affairs for small arms and ammunition, which will enable it to participate in potential defence programmes in future. The small arms portfolio being developed by the group includes the assault rifle (AR) and light machine gun (MG), carbine and pistol.

These include the AR 7.62mm AR-MSF41, the light MG 7.62mm MG-MR and the CQB Carbine 5.56 X 45 mm F90. The Protective Carbine 5.56 X 30 mm was developed and manufactured for DRDO and Bharat Forge was the only private company manufacturing a complete weapon for DRDO. The lightweight 5.56 x 45 mm Carbine is being designed and developed by DRDO's ARDE lab and manufactured by Kalyani Group.

The company was also making the Caliber 9mm/45ACP pistol weapon in association with HS Produkt Croatia. Kalyani Strategic Systems. (KSSL), the defence arm of Kalyani Group, and Arsenal Joint Stock Company, Bulgaria signed an MoU in 2020 to form a strategic alliance for manufacturing small arms and ammunition.

The KSSL and Arsenal tie-up was for manufacturing capability in India for the "AR" 7.62 x 39mm Assault Rifle and "MG" 7.62 x 51mm Machine Gun series. Arsenal small arms have been in active operations in India for decades and have a proven record of performance.

Rajinder Singh Bhatia, chairman KSSL had said the strategic alliance would provide indigenously manufactured, desired high performance and economic solutions for the armed forces and further the 'Make in India' initiative of the government.

https://www.financialexpress.com/business/defence-bharat-forge-gets-nod-for-defence-participation-3190187/

FINANCIAL EXPRESS
Read to Lead

Thu, 27 Jul 2023

A Nation's Ascendancy: Indigenisation of Defence and Reforms Propel India Towards Self-Reliance

In the grand tapestry of global prowess, a nation's eminence in science, technology, and economics finds a tangible measure in its capacity to arm its forces and lessen reliance on foreign imports. Demonstrating a steadfast commitment to these tenets, the incumbent administration has taken momentous strides in advancing the indigenisation of defence technologies and manufacturing within India's borders.

Central to this mission is the harnessing of the nation's exceptional science, technology, and research talent base to cultivate novel capabilities in defence innovation. Notably, these initiatives bear the potential to fulfill not only the Armed Forces' requisites but also cater to the needs of friendly nations through the export of cutting-edge defence items.

Central Government's Vision: Make in India, Make for the World

Unyielding in its pursuit of the Make in India and Make for the World objectives, the Central Government has orchestrated a series of far-reaching reforms. Among these reforms are measures to augment Foreign Direct Investment (FDI), the corporatisation of the Ordnance Factory Board (OFB), and the establishment of defence corridors in key states such as Uttar Pradesh and Tamil Nadu. Such strategic endeavors beckon foreign original equipment manufacturers (OEMs) to invest, manufacture, and subsequently export from the Indian terrain.

Fostering Advancements: Economic Reforms in the Defence Sector

The Indian Aerospace & Defence landscape has borne witness to a steady stream of measures aimed at curbing the incongruent revenue expenditure versus capital expenditure ratio. As part of the larger Ministry of Defence (MoD), the Indian Armed Forces have been granted a substantial share of the budget, aligning with approximately 1.5-2.5 percent of India's Gross Domestic Product (GDP). It is noteworthy that the Indian Army, holding the distinction of being the second largest globally, commands a share surpassing 50 percent of the allocated Defence Budget.

However, the distribution of expenditures has painted a rather perplexing picture, wherein revenue expenditure, including salaries and allowances, eclipses capital expenditure devoted to equipment and infrastructure. Eager to redress this imbalance, the Government of India has been steadfast in its commitment to bolster capital outlay while concurrently ameliorating revenue expenditure.

By doing so, the Armed Forces stand poised to embark on a trajectory of modernisation, strengthening their defence capabilities, and concurrently diminishing dependence on foreign imports. This endeavor has been anchored upon the principles of transparency and fostering the active participation of the private sector, critical steps in charting a sustainable course forward.

Zeroing in on the Need for Modern Equipment

A noteworthy departure from the past comes in the form of the General Shekatkar Committee, convened in 2014 to recalibrate the expenditure pattern and amplify India's combat capability. The committee's report, presented in 2016, unequivocally underscored the pressing need for change.

As a result, the government unprecedented augmented the capital outlay by 19%, ensuring that the soldiers' access to necessary equipment remained unhampered.

Paving the Way for Investments: Liberalisation of FDI Policy

Bolstering modernisation has necessitated a transformative outlook towards the defence manufacturing sector. As such, the Indian government has embarked on liberalising the FDI policy, paving the way for increased FDI in the Defence Sector, now reaching up to 74 percent through the Automatic Route and up to 100 percent through the Government Route, wherever access to cutting-edge technology could be provided. This move facilitates ease of doing business and is geared to attract more investments to expedite modernisation.

To further stoke investments, the establishment of the Defence Investor Cell (DIC) in February 2018 has proven instrumental, providing a singular point of contact for all defence production-related inquiries from entrepreneurs and the industry. This venture has successfully navigated over 1,100 queries since its inception. Further still, the policy envisages forging long-term strategic partnerships between Indian defence majors and foreign military firms, wherein joint ventures shall spring forth to erect domestic manufacturing infrastructure and robust supply chains, culminating in the local production of military platforms such as submarines, fighter jets, helicopters, and armoured vehicles/main battle tanks.

Making Strides Towards Self-Reliance: Level-Playing Field for Indian Industry

Committed to fortifying the domestic defence industry, the Indian government has introduced import embargoes and orchestrated reforms in the offset policy. The issuance of three 'Positive Indigenisation Lists (PILs)' comprising 310 weapons and military platforms for the Defence Services highlights the intent for a phased embargo on imports. Enclosed within these lists are an array of high-tech weapon systems, from artillery guns and cruise missiles to helicopters and radars, among others, fostering orders worth over INR seven lakh crores in the next half-decade.

Furthermore, the reform in the offset policy under the Defence Procurement Procedure (DAP) 2020 has been calibrated to incentivise investment and technology transfer for defence manufacturing. Extending such incentives to private industries underscores the government's emphasis on attracting investment and facilitating technology transfers.

Defence Manufacturing Efficiency: Corporatisation of Ordnance Factory Board

A pivotal stride towards enhancing efficiency and productivity has been the corporatisation of the Ordnance Factory Board (OFB). Approved in May 2020, this restructuring effort has given rise to seven new Defence Companies, endowing OFB with functional and financial autonomy. By fostering managerial flexibility, this transformation has bolstered accountability and efficacy in Ordnance Supplies. The resulting swiftness has allowed the organisation to ascend as a significant player in India's defence preparedness, safeguarding workers' interests while empowering them to make a greater contribution.

Instituting Defence Testing Infrastructure Scheme (DTIS)

Recognising the capital-intensive nature of Defence Testing Infrastructure, the government formulated the Defence Testing Infrastructure Scheme (DTIS). Tailored to create six to eight Greenfield Defence Testing facilities within the nation, this initiative aims to facilitate easy access for domestic defence industries. The overarching goal of this venture is to bolster indigenous defence production, curtail imports of military equipment, and cultivate a self-reliant ecosystem.

As India charts its course towards self-reliance in the defence sector, the nation's unyielding commitment to indigenisation, economic reforms, and strategic measures to foster investments illuminates a beacon of self-sufficiency. With a level-playing field, bolstered capabilities, and a streamlined defence manufacturing ecosystem, India takes firm strides towards securing its defence preparedness and solidifying its position in the global arena.

Revolutionizing Defence Procurement: Driving Towards Self-Reliance

In steadfast pursuit of the "Atmanirbhar Bharat" vision, the Indian government has unswervingly championed the procurement of defence equipment from domestic sources. A key outcome of this approach has been the fortification of private domestic manufacturers, including Micro, Small and Medium Enterprises (MSMEs) and start-ups, who now stand eligible to bid on projects alongside Public Sector Undertaking (PSU) shipyards. These transformative reforms have galvanized domestic defence acquisitions with heightened transparency, ushering in an era of competitive spirit underscored by principles of fairness, transparency, and equal opportunities for all.

Fostering Indigenous Design and Development: A Thrust Towards Self-Sufficiency

In line with its commitment to encouraging start-ups and promoting the indigenous design and development of defence equipment, the government has introduced the "Buy Indian-IDDM" (Indigenously Designed, Developed, and Manufactured) category as the most favored choice for procurement. The novel "Buy Global – Manufacture in India" category under the Defence Acquisition Procedure (DAP) 2020 has further bolstered domestic design capabilities in the defence sector. This innovative category facilitates the outright purchase of equipment from foreign vendors, followed by indigenous manufacture in India through subsidiaries, joint ventures, or Indian agencies, further catalyzing the nation's self-reliance agenda.

Swift Amendments and Streamlined RFPs: Enhancing Efficiency

To expedite the procurement process and remove bottlenecks, the government has implemented faster approvals for amendments to contracts. The earlier impediment of prolonged decision-making for the extension of Delivery Period (DP) cases, requiring consultation with the Integrated Financial Advisor (IFA), has been resolved. Now, Competent Financial Authorities (CFAs) may approve all DP extension amendments, including Liquidated Damages (LD), without IFA consultation, promoting more expeditious decision-making.

Additionally, the simplification of Request for Proposal (RFP) documentation for shipbuilding and repairs has reduced overall requirements from Original Equipment Manufacturers (OEMs), streamlined procurement time, and fostered greater transparency. The prescribed format for calculating Indigenous Content (IC) has been elucidated for ease of bidder calculation, while categorization has been made more accessible for bidders.

Devolution of Financial Powers: Empowering Field Formations

In a strategic move to align procurement with the unique needs of India's armed forces, the government has embarked on empowering service headquarters and field formations. The delegation of procurement powers to Service Headquarters (SHQs) and the enhancement of financial powers of Vice Chiefs up to INR 500 crore has engendered quicker decision-making, optimal planning, and heightened operational preparedness of the services.

The devolution of emergency and special emergency financial powers to the armed forces for ammunition and spares procurement, along with special powers granted to SHQs, further amplifies operational readiness and resource utilization.

Terrain-Specific Equipment: Enhancing Acquisitions

Conscious of the imperative to acquire equipment tailored for diverse terrains, the government commissioned a study by the Manohar Parrikar Institute for Defence Studies and Analyses (MP-IDSA) on 'Designing and Equipping the Armed Forces with Terrain Specific Equipment.' The forthcoming implementation of the study's recommendations will ensure the acquisition of terrain-specific equipment, leading to reduced timelines, optimal utilization, and cost-effectiveness.

Major Process Reforms: Advancing Self-Reliance

The drive towards self-reliance in defence manufacturing has spurred the Indian government to introduce several pivotal policies and initiatives. Digitization of processes has streamlined procurement and bolstered transparency. Checks and balances to restrict imports, coupled with incentives to promote exports and foster a conducive environment for Foreign Direct Investment (FDI), have catalyzed the domestic defence industry's growth. Simplification of industrial licensing processes and provisions for the Make-I and Make-II Capital Acquisition Procedures have been integral to this transformative approach.

Promoting Innovation through R&D: An Era of Collaboration

Defence Research and Development (R&D) in India has undergone a paradigm shift, expanding its scope beyond government labs and research centers. In an unprecedented move, the government has opened up defence R&D to industry, start-ups, and academia, reserving a substantial 25 percent of the defence R&D budget to spur the development of cutting-edge technologies. The Defence Research and Development Organisation (DRDO) has identified nine thrust areas for focused research, paving the way for innovative solutions in defence technology. The government has created the Defence AI Council (DAIC) and Defence AI Project Agency (DAIPA) to foster AI adoption in defence, with an AI roadmap in place to streamline development. Initiatives like the Technology Development Fund (TDF) and the new patent policy have been introduced to support industries, MSMEs, and start-ups in their R&D endeavors.

Driving Change at the Grassroots

Acknowledging the significance of connectivity and economic vitality in remote border regions for national security, the government has unveiled transformative initiatives. The Vibrant Villages Programme (VVP) and the Border Roads Organisation's (BRO) strategic measures are propelling economic development and cross-border trade, bolstering border security and regional relations. In conclusion, the Indian government's resolute drive towards self-reliance in defence is manifesting through a comprehensive series of reforms, innovative policies, and strategic initiatives. As the nation's domestic defence industry gains momentum, fueled by collaboration, innovation, and streamlined processes, India's trajectory towards self-sufficiency in defence manufacturing becomes ever more promising. The cumulative impact of these transformative endeavors is poised to redefine India's position as a formidable global player in the defence sector.

https://www.financialexpress.com/business/defence-a-nations-ascendancy-indigenisation-of-defence-and-reforms-propel-india-towards-self-reliance-3189809/

news nine

Thu, 27 Jul 2023

What is S-550 Missile Defence System? Know all about Russia's Alpha Response to Space, Hypersonic Warfare

Amid the ongoing year-long war between Russia and Ukraine that has claimed several lives, including civilians and soldiers from both countries, Russia is focusing on the development of new air defence systems. According to reports, the country is strategically working on the development

of the S-550 missile defence system, which is believed to be capable of neutralising any object flying in its range, even in space.

Potentials of S-550

The S-550 is an anti-missile and anti-space system of the Russian defence force with improved capabilities and a greater range compared to the S-400 and S-500. The Russian Aerospace Forces is likely to receive this defence system by 2025. The test launch of the S-550 has been conducted following the order of the country's president.

According to the Ria Novosti news agency, and quoted by Military Watch Magazine, the S-550 would become the world's first mobile special operation missile defence system, which would be capable of effectively destroying intercontinental range ballistic missiles as well as space attack weapons. It can advance with a velocity of up to 20 times the speed of sound.

The new guided defence system will have more advanced capabilities as compared to the US THAAD and AEGIS air defences equipped with the 3M-3 Block IIB missiles. The missile defence system will make Russia capable of destroying low orbit space craft such as US military x-37.

Advance features of S-500

Advanced features include its extremely high situational awareness, its 600 km engagement range, its capacity to intercept satellites and ICBMs as well as hypersonic and space targets, and its ability to network with older air defence systems like S-400s to increase situational awareness. Each launcher only carries two missiles instead of four since the S-500's missiles are significantly larger than the S-400's. It is anticipated that the S-550 will use the same missile launcher arrangement.

https://www.news9live.com/knowledge/what-is-s-550-missile-defence-system-know-all-about-russias-alpha-response-to-space-hypersonic-warfare-2227621

THE ECONOMIC TIMES

Thu, 27 Jul 2023

India, Japan Explore Collaboration in Semiconductors and other Critical Technologies

India and Japan on Thursday explored possible collaboration in critical and emerging technologies such as semiconductors, besides ways to expand cooperation in areas of defence equipment and technology. In their wide-ranging talks, External Affairs Minister S Jaishankar and his Japanese counterpart Yoshimasa Hayashi emphasised the crucial role of a strong and enduring partnership between India and Japan in ensuring a free, open, and prosperous Indo-Pacific.

The two sides also highlighted the importance of achieving the target of five trillion Yen Japanese investment in India in the period 2022-27, according to the Ministry of External Affairs (MEA). The talks took place hours after Hayashi arrived here on a two-day visit with an aim to review and bolster Indo-Japan strategic ties. In a tweet, Jaishankar described the discussions at the 15th India-Japan Strategic Dialogue as "warm and comprehensive".

"Our talks covered enhancing political, defence and security, economic and commercial, connectivity, critical technology and people-to-people domains. Our convergence is visible in a

range of activities and commitments, from East Asia and ASEAN to South Asia and East Africa," he said. Jaishankar said views were exchanged on counter-terrorism and non-proliferation. "Also shared perspectives on Indo-Pacific and the G20," he added. The MEA said the two ministers engaged in "comprehensive discussions" covering a wide range of issues of bilateral, regional, and global significance. "The ministers emphasised the importance of achieving the target of JPY (Japanese Yen) 5 trillion Japanese investment in India in the period 2022-27," it said in a statement.

It said the India-Japan foreign ministers' strategic dialogue reaffirmed the commitment of both sides to strengthen their special strategic and global partnership. "They explored potential areas of collaboration in critical and emerging technologies, including semiconductors; resilient supply chains; and digital public infrastructure, among others," it said. The MEA said the ministers also expressed satisfaction at the strengthening of the defence and security cooperation, including regular exercises and staff talks between all three services. "In this context, they discussed way forward to deepen defence equipment and technology cooperation," it said. "The ministers exchanged views on regional and global issues of interest. They emphasised the crucial role of strong and enduring partnership between India and Japan in ensuring a free, open and prosperous Indo-Pacific region that is inclusive and rules-based," the MEA said.

It said Jaishankar and Hayashi also discussed cooperation under multilateral and plurilateral frameworks, including the Quad. "They agreed on the need for early reforms of the UNSC. They also exchanged views on their respective G20 and G7 presidencies," the MEA said.

Noting the celebration of 2023 as the 'Year of India-Japan Tourism Exchanges' with the theme of 'Connecting Himalayas with Mount Fuji', the ministers acknowledged the importance of people-to-people exchanges. They also discussed ways to promote the movement of skilled human resources from India to Japan. "The meeting further deepened bilateral cooperation and set the stage for enhanced collaboration on regional and global issues," the MEA said. It is Hayashi's second visit to India in the last five months. In May, Prime Minister Narendra Modi and his Japanese counterpart Fumio Kishida held talks on the sidelines of the G7 summit in Hiroshima. The two leaders deliberated on ways to synergise efforts to combat pressing global challenges under India's G20 presidency and Japan's leadership of the G7 advanced economies

https://economictimes.indiatimes.com/tech/technology/india-japan-explore-collaboration-in-semiconductors-and-other-critical-technologies/articleshow/102181111.cms?from=mdr

WION

Fri, 28 Jul 2023

The Typo Saga: British Defence Ministry Accidentally sends Classified Emails to Russian Ally

Another case has been reported where important government e-mails are getting delivered to the wrong address because of a typo. Britain's defence ministry has launched a probe after officials unintentionally forwarded secret emails to a close Russian ally due to a typing error.

The issue of the wrong address was first reported by The Times, which further mentioned that a "small number" of emails were sent to Mali because of the accidental omission of an "i" from an email address.

The mails that were meant for the Pentagon were sent to an address ending with the West African country's ".ml" domain, instead of the US military's ".mil". As quoted, a ministry spokesperson

said: "We have opened an investigation after a small number of emails were mistakenly forwarded to an incorrect email domain. We are confident they did not contain any information that could compromise operational security or technical data."

"All sensitive information is shared on systems designed to minimise the risk of misdirection. The MoD constantly reviews its processes and is currently undertaking a programme of work to improve information management, data loss prevention, and the control of sensitive information," the spokesperson added.Recently, the same typo was the reason for millions of US military emails, containing highly sensitive information, being redirected to Mali. But the UK-based report argued that the scale of the British mishap was not as extensive as that of the US.

Putin promises African leaders free grain

Mali was among the African nations, that will get free grain from Russia. Russian President Vladimir Putin on Thursday told African leaders he would gift them tens of thousands of tons of grain despite Western sanctions, which he said made it harder for Moscow to export its grain and fertilisers.

At a Russia-Africa summit in St Petersburg, Putin said, "We will be ready to provide Burkina Faso, Zimbabwe, Mali, Somalia, Central African Republic and Eritrea with 25-50,000 tonnes of free grain each in the next three to four months."

https://www.wionews.com/world/the-typo-saga-british-defence-ministry-accidentally-sends-classified-emails-to-russian-ally-620103

Outlook

Fri, 28 Jul 2023

North Korean Leader Kim Jong-Un Shows Missiles to Russian Defense Minister

Ahead of celebrations of the seventieth anniversary of the Korean War armistice, Kim Jong-Un showed new missiles and defense systemst to Russian Defense Minister Sergei Shoigu in Pyongyang on Wednesday. The celebration of North Korea's Victory Day which marks the end of 1953 hostilities between the two Koreas is attended by Russian and Chinese delegations this year.

Russia and China continue to be staunch allies of North Korea, while the two Koreas are still technically at war as a peace deal was never reached after the cessation of hostilities in 1953. They will be in attendance at a military parade to mark North Korea's Victory Day on Thursday.

Ahead of the parade, Kim Jong-Un showed the new missile systems to Shoigu during a friendly tour in Pyongyang. He showed the Russian defense chief the new Hwasong Intercontinental Ballistic Missile (ICBM), which was successfully tested in April. The country's first missile system of this range, it uses solid propelllants instead of liquid-fuelled ones, which enable it to launch quicker. Also on display were two new drone designs, one which closely resembled the primary offensive strike drone used by the United States Air Force, as reported by NK News, a specialist sites which focuses on North Korea.

The tour came amidst accusations that Pyongyang has been supplying weapons to the Russian war effort in Ukraine, a claim denied by both Moscow and Pyongyang. North Korea's state broadcaster, KCNA said that Shoigu and Jong-Un discussed "matters of mutual concern". In their friendly talk, they also discussed a range of topics from national defense to the current international security en-

vironment.
Shoigui, the head of the Russian delegation in Pyongyang handed over an autographed letter to Kim-Jong Un from Russian President Vladimir Putin. KCNA claimed that Putin called the North Korean military the most powerful in the world in the letter.

The Chinese delegation led by Politburo member Li Hongzhong also handed over a letter from Chinese president, Xi Jinping. In turn, Kim Jong-Un thanked the Chinese delegation for their aid and told Mr. Li the Korean people will never forget the fact that the brave soldiers of the Chinese People's Volunteers shed blood to bring about the war victory". In 1950, Beijing sent troops to aid the North Korean war effort against South Korea and it's partners.

This visit by the delegations is a significant one. It marks the first hosting of foreign guests by North Korea since the pandemic. The last time that North Korea welcomed foreign dignitaries was also at the military parade back in 2018. Since then, they had cut off trade and diplomatic relations with the rest of the world, even their staunch allies in Russia and China in early 2020. However, this year, both nations will be in attedance at the extensive military parade on Thursday, a display of North Korea's military might and continued existence in the international world.

https://www.outlookindia.com/international/north-korean-leader-kim-jong-un-shows-missiles-to-russian-defense-minister-news-306047

Fri, 28 Jul 2023

Taiwan's Annual Han Kuang Military Exercises Thwart Simulated Chinese Invasion

Taiwan's annual Han Kuang military exercises thwarted a feigned invasion off the northern coast of Taiwan, showcasing the country's defence capabilities in the face of mighty China. During the exercises, Taiwan's defenders swiftly mobilised, engaging in fierce countermeasures to repel the attacking forces. While some critics may deem the exercise scripted, it signifies a turning point in Taiwan's approach to its military preparedness.

On the third day of the annual Han Kuang military exercises on Wednesday, Taiwan's armed forces staged a simulated helicopter attack on Taoyuan International Airport. This marked the first instance in the exercises' nearly 40-year history that the military has practiced defending the crucial airport.

The simulated invasion exercises indicate a shift towards a more serious approach to its military readiness as the island nation takes necessary steps to bolster its capabilities and respond to the growing threats from China. "Today we have shown that we will do our utmost to defend and protect our country," the commanding officer reportedly told media personnel. "We are confident that through these exercises we will be ready to respond to any situation," the officer added.

Drawing lessons from Ukraine's experience

Taiwan is learning valuable lessons from the events in Ukraine. Observing the failure of Russian troops to take control of Kyiv from an airport base, Taiwan focuses on safeguarding its most vulnerable points, including northern beaches, the main international airport, and seaports.

The conflict in Ukraine shatters the belief that China would never attack Taiwan, leading to a reassessment of the island's defense strategy.

China's ambitious military plans

China, under President Xi Jinping's leadership, is actively strengthening its air and naval forces, with an aim to become a world-class military power by 2035. The clock is ticking for Taiwan, and China's coercive diplomacy aims to pressure the island into capitulation, avoiding the need for military force. Frequent airspace incursions by Chinese military aircraft create a "new normal," adding to Taiwan's security concerns.

Taiwan's measures to bolster defence

Recognising the urgency, Taiwan takes significant steps to enhance its defence capabilities. These measures include extending military service from four months to one year, revamping military strategy to tackle cyber-attacks, investing in mobile missile systems, and constructing the country's first home-built submarine.

Despite these efforts, Taiwan faces challenges such as under-trained conscript soldiers and outdated military doctrine. Even in the face of China's overwhelming economic and military strength, Taiwan's people remain resilient and defiant. Over 70 per cent of Taiwanese express a willingness to fight to defend their island home, indicating that China's coercive tactics have not yet succeeded in undermining Taiwan's determination to resist.

https://www.wionews.com/world/taiwans-annual-han-kuang-military-exercises-thwart-simulated-chinese-invasion-619971

JANES

Thu, 27 Jul 2023

IDEF 2023: Unirobotics Remote Weapon Stations to be Fitted on Turkish OPVs, USVs

Turkey-based Unirobotics' remote weapon stations (RWSs) will be integrated on the Turkish navy's offshore patrol vessels (OPVs) and unmanned surface vessels (USVs), Unirobotics board member Cem Kurter confirmed to *Janes* at the 16th International Defence Industry Fair (IDEF) held in Istanbul.

Among the RWSs displayed by Unirobotics at IDEF 2023, the Trakon Targan, developed in partnership with Havelsan, will be integrated on the Hisar-class OPVs under construction at Istanbul Naval Shipyard for the Turkish navy.

Targan is designed for naval platforms to protect against air and surface targets. It is armed with the CANiK M2 QCB 12.7 mm heavy machine gun (HMG). Targan can also be equipped with an Mk-19 40 mm automatic grenade launcher.

The RWS is compatible with Havelsan's Advent combat management system and can be controlled via its own operator console. It features an electro-optical (EO) system integrated on an independently stabilised gimbal. The EO has an elevation axis of -15°/+55° and an azimuth axis of -20°/+20° without aiming the gun.

Unirobotics' Trakon Lite RWS, which was also on display at IDEF, will be integrated on Dearsan Shipyard's Salvo USV, O Barbaros Okan, Dearsan business development manager, told *Janes* . Negotiations between Dearsan and Unirobotics commenced in 2022 and the contract for the integration was signed two months ago, Okan added.

The Trakon Lite RWS is armed with the CANiK 12.7 mm HMG. It is designed as a lightweight and cost-effective RWS. The entire system including the gun weighs around 148 kg.

https://www.janes.com/defence-news/news-detail/idef-2023-unirobotics-remote-weapon-stations-to-be-fitted-on-turkish-opvs-usvs

Science & Technology News

Hindustan Times

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ISRO Completes Two more Hot Tests for Gaganyaan

During tests, the thrusters were operated in both continuous and pulse mode, in sync with the mission profile, Isro official said. The Indian Space Research Organisation (Isro) has successfully carried out two more hot tests on the Gaganyaan Service Module Propulsion System (SMPS) at the ISRO Propulsion Complex (IPRC) in Odisha, the space agency said on Thursday.

These tests, conducted on Wednesday, marked the second and third hot tests in the Service Module-System Demonstration Model (SM-SDM) phase-2 series. SMPS is designed and developed by the Liquid Propulsion System Centre (LPSC) in Bengaluru and Valiamala, Thiruvananthapuram. The first hot test was conducted on July 19.During tests, the thrusters were operated in both continuous and pulse mode, in sync with the mission profile, Isro official said.

"The initial hot test, which lasted for 723.6 second, focused on demonstrating orbital module injection, and the calibration burn of 100 N thrusters and liquid apogee motor (LAM) engines. The calibration burn was essential to identify and isolate any non-operational engines. The LAM engines and reaction control system (RCS) thrusters performed as expected." Isro said in a statement.

The space agency added, "The latter hot test, with a duration of 350 seconds, aimed to demonstrate the circularisation of the Orbital Module to achieve the final orbit." Isro's Gaganyaan project envisages demonstration of human space flight capability by launching crew of three members to an orbit of 400km for a three-day mission and bring them back safely to earth, by landing in Indian sea waters. The project is accomplished through an optimal strategy by considering inhouse expertise, experience of Indian industry, intellectual capabilities of Indian academia and research institutions along with cutting edge technologies available with international agencies.

Isro scientists said that during the latest test, the LAM engines operated in continuous mode, while the RCS thrusters were fired in pulse mode. Three more hot tests are scheduled to demonstrate deboosting requirements and off-nominal mission scenarios. These tests will further validate and refine the performance of the propulsion system, ensuring its readiness for the upcoming Gaganyaan mission.

https://www.hindustantimes.com/india-news/isro-successfully-conducts-hot-tests-on-gaganyaan-service-module-propulsion-system-for-upcoming-mission-101690484567301.html

INDIA TODAY

Thu, 27 Jul 2023

Isro PSLV-C56 Launch on Sunday: What all is India Sending to Space this Time?

The Indian Space Research Organisation (ISRO) is set to launch the PSLV-C56, a significant mission following the Chandrayaan-3, on Sunday.

The launch will take place at 6:30 am from the first launch pad of the Satish Dhawan Space Centre in Sriharikota, Andhra Pradesh.

What is PSLV-C56 mission?

The PSLV-C56, configured in its core-alone mode similar to the previous PSLV-C55 mission, will carry the DS-SAR satellite as its primary payload.

This 360 kg satellite, developed under a partnership between Singapore's Defence Science and Technology Agency (DSTA) and ST Engineering, will be launched into a Near-equatorial Orbit (NEO) at an inclination of 5 degrees and an altitude of 535 km.

The DS-SAR satellite is equipped with a Synthetic Aperture Radar (SAR) payload developed by Israel Aerospace Industries (IAI). This advanced technology allows the DS-SAR to provide all-weather day and night coverage, capable of imaging at a 1m-resolution at full polarimetry.

Once operational, the DS-SAR will support the satellite imagery requirements of various agencies within the Government of Singapore. Additionally, ST Engineering plans to use the satellite for multi-modal and higher responsiveness imagery and geospatial services for their commercial customers.

Alongside the DS-SAR, the PSLV-C56 will also carry six co-passenger satellites.

These include VELOX-AM, a 23 kg technology demonstration microsatellite; ARCADE, an experimental satellite; SCOOB-II, a 3U nanosatellite flying a technology demonstrator payload; NuLIoN by NuSpace, an advanced 3U nanosatellite enabling seamless IoT connectivity in both urban and remote locations; Galassia-2, a 3U nanosatellite that will orbit at low earth orbit; and ORB-12 STRIDER, a satellite developed under an international collaboration.

This mission marks another significant achievement for ISRO, which has a success rate of 94% with its PSLV launches.

The PSLV-C56 mission not only showcases India's prowess in space technology but also strengthens international collaborations in space research and exploration.

Where is Chandrayaan-3?

Isro has confirmed that Chandrayaan-3 successfully completed its fifth orbit-raising maneuver on July 25 and is now in a 71351 km x 233 km orbit around Earth.

The next firing, the TransLunar Injection (TLI), is planned for August 1, 2023.

https://www.indiatoday.in/science/story/isro-pslv-c56-launch-on-sunday-what-all-is-india-sending-to-space-2412407-2023-07-27

Hindustan Times

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How to Deal with Metastatic Cancer: Study

The study explores how the body's lymph nodes serve as the first defence against sickness, but majority of metastatic tumours start in lymph nodes as well.

The body's lymph nodes serve as one of its first lines of defence against sickness. From these biological police stations, immune cells are sent out to repel invaders. However, the majority of metastatic tumours also start in lymph nodes.

"It's paradoxical," Cold Spring Harbor Laboratory (CSHL) Assistant Professor Semir Beyaz says. "The cancer goes right in, but the immune cells aren't doing anything. It's important to understand what's going on because this is how cancer takes the whole body hostage." Beyaz joined with collaborators from Massachusetts General Hospital to investigate. They found that breast cancer cells trick the immune system with help from a molecule called MHC-II. Future therapeutics targeting this molecule may help slow the cancer's spread and improve patient outcomes.

"MHC-II acts like breast cancer's passport," Beyaz says. "It convinces the lymph node to let the cancer in and protect it. From there, it's mayhem." In other places, like the intestine, MHC-II helps destroy abnormal cells before they become a problem. But breast cancer's version of MHC-II doesn't carry the red flags immune cells recognize. So, the lymph node treats it like a false alarm. Beyaz explains:

"Cancer hijacks the lymph node—the police station. The detectives just say, 'Welcome. Here's a comfy couch. Here's a coffee.' Cancer bribes the neighboring cells. Then it grows. This is what MHC-II is doing in lymph node metastasis."

The team found that, in mice, higher levels of MHC-II on a subset of cancer cells led to greater immune suppression in lymph nodes. This caused worse metastasis and shorter survival. When they switched off MHC-II production in cancer cells, lymph nodes awoke to the threat. As a result, the cancer couldn't spread as fast, and the mice lived longer. "If you get rid of MHC-II in cancer cells, you curb the invasion," Beyaz explains. "The lymph nodes stop suppressing the immune response and reduce cancer's colonizing abilities."

Beyaz now hopes to reveal exactly how cancer adapts and spreads. Understanding these mechanisms could bring us closer to new metastasis-blocking therapeutics. But, he cautions, the effectiveness of any potential drug will depend on where cancer first develops. "For example, in the gut, we see the opposite of what's happening in breast cancer," Beyaz explains. "There are context-specific rules, and this tells us there is no one cure-all."

Over 300,000 people in the U.S. will be diagnosed with breast cancer this year alone. While a long journey lies ahead, Beyaz thinks this research may someday have clinical implications that lead to better therapies and improve patients' lives.

https://www.hindustantimes.com/lifestyle/how-to-deal-with-metastatic-cancer-study-101690439637261-amp.html