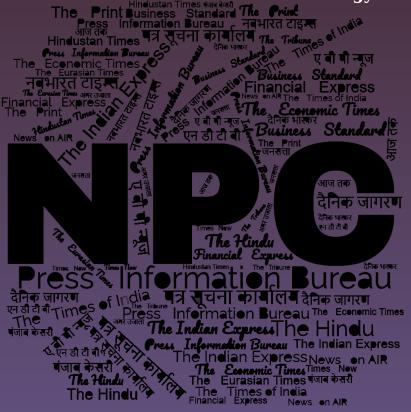
जुलाई July 2023 खंड/Vol.: 48 अंक/Issue: 124

04/07/2023

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

A Daily service to keep DRDO Fraternity abreast with DRDO Technologies, Defence Technologies, Defence Policies, International Relations and Science & Technology





रक्षा विज्ञान पुस्तकालय

Defence Science Library रक्षा वैज्ञानिक सूचना एवं प्रलेखन केंद्र

Defence Scientific Information & Documentation Centre ਸੇਟਰਾੱफ हाउस, दिल्ली - 110 054

Metcalfe House, Delhi - 110 054

CONTENTS

S. No.	TITLE		Page No.
	DRDO News		1
	DRDO Technology News		1
1.	DRDO ने की परमाणु मिसाइल सागरिका की टेस्टिंग, जानिए इसकी ताकत	आज तक	1
	Defence News		2-14
	Defence Strategic: National/International		2-14
2.	Government is Committed to Quality Assurance in Military Aviation: Defence Secretary	Press Information Bureau	2
3.	Vice Admiral Atul Anand Takes over as Additional Secretary of Department of Military Affairs	The Economic Times	3
4.	Strengthening India's Cyber Defence: Lt Gen MU Nair Takes Charge as NCSC	Financial Express	3
5.	New Combat Uniform for CRPF Personnel for Ease in Ops	The Indian Express	5
6.	China Builds a New Bridge Across Pangong, India Fortifies North Bank	Financial Express	5
7.	IAF Chief Visits Malaysia	The Print	7
8.	PM Modi to Host Virtual Summit of SCO	The Times of India	7
9.	Israel to Buy 25 More F-35 Stealth Jets in \$3 Billion Deal	The Hindu	9
10.	Abraham Accords Boost Israel's Defence Exports to Arab Countries	The Hindu	9
11.	China's Defense Minister and Russia's Navy Chief Meet for 1st Military Talks since Wagner Revolt	The Economic Times	11
12.	New CAC J-20 Potentially Powered by WS-15 Engines	Janes	12
13.	Taiwan Military Holds Live Fire Drills on Strategic Southern Coast	The Print	13
	Science & Technology News		14-15
14.	Mission Gaganyaan's Crew Module Recovery Divers: A Critical Step Towards India's Space Endeavour	Financial Express	14
15.	India, UK Electric Propulsion Technical Workshop Held in New Delhi	The Print	15

DRDO News

DRDO Technology News



Mon, 03 Jul 2023

DRDO ने की परमाणु मिसाइल सागरिका की टेस्टिंग, जानिए इसकी ताकत

भारत की परमाणु मिसाइलों में से एक K-15 सागरिका मिसाइल का हाल ही में सफल परीक्षण किया गया. यह परमाणु हथियार ले जाने में सक्षम है. पनडुब्बी से दागी जाने वाली इस मिसाइल की रेंज 750-1500 किलोमीटर है. भारतीय सेना के पास इसके दो वैरिएंट्स मौजूद हैं. पहली जमीन से दागी जाने वाली मिसाइल. दूसरी पनडुब्बी से दागी जाती है.

इसके अलावा दो वैरिएंट्स बनाए जा रहे हैं. फिलहाल इसका इस्तेमाल भारतीय नौसेना (Indian Navy) ही कर रही है. इसे डीआरडीओ ने डिजाइन किया है. जबिक भारत डायनेमिक्स लिमिटेड ने इसे बनाया है. इसकी गित इसे बेहद मारक बनाती है. यह 9260 किलोमीटर प्रतिघंटा की स्पीड से दुश्मन की ओर बढ़ती है.

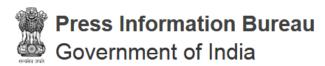
इस मिसाइल का वजन 6-7 टन होता है. लंबाई 33 फीट और व्यास 2.4 फीट है. यह उच्च तीव्रता का विस्फोटक या परमाणु हथियार ले जाने में सक्षम है. इसका दूसरा खतरनाक जमीनी वर्जन है शौर्य. यह एक हाइपरसोनिक सतह से सतह पर मार करने वाली मीडियम रेंज बैलिस्टिक मिसाइल है.

शौर्य यह पारंपरिक और परमाणु हथियार दोनों ले जा सकती है. यह 50 किलोमीटर की ऊंचाई तक जा सकती है. इसकी रेंज 700 से 1900 किलोमीटर है. इसकी गति 9,500 किलोमीटर प्रतिघंटा है. यह अपने साथ 200 से 1000 किलोग्राम वजन के हथियार ले जा सकती है. ये दोनों ही मिसाइलें भारत के इंडियन रीजनल नेविगेशन सैटेलाइट सिस्टम पर चलती हैं. यानी दुश्मन को इनकी आने की जल्द पता नहीं चलेगा.

https://www.aajtak.in/science/story/drdo-test-fired-k-15-sagarika-slbm-nuclear-ballistic-missile-cds-1727771-2023-07-03

Defence News

Defence Strategic: National/International



Ministry of Defence

Mon, 03 Jul 2023

Government is Committed to Quality Assurance in Military Aviation: Defence Secretary

Workshop on QA Reforms in Military Aviation for Promoting Indigenous R&D and Manufacturing

Defence Secretary Shri Giridhar Aramane said that Government was committed to ensure Quality Assurance (QA) in military aviation and taking appropriate measures to remove obstacles in indigenization of Defence manufacturing industry. He was delivering keynote address at Workshop on "QA Reforms in Military Aviation for Promoting Indigenous R&D and Manufacturing", held on July 3, 2023 in New Delhi. The Defence Secretary was chief guest at the function organized by Directorate General of Aeronautical Quality Assurance (DGAQA), MoD and Society of Indian Defence Manufacturers (SIDM).

Defence Secretary further said that the country is progressing in line with PM's vision of Aatmnirbharata in defence. It is a challenge but systems are being put in place and measures are being taken to achieve it, he said. He urged the private sector to invest more in Aeronautical Quality assurance research and testing.

The aviation sector is a complex domain with advanced technology and critical considerations for fight safety and mission success. To address these risks, the global aviation industries operates under the airworthiness framework governed by state or government agencies. In India, the Technical Airworthiness Authority (TAA) consisting of DGAQA, which ensures airworthiness through quality assurance, and Centre for Military Airworthiness and Certification (CEMILAC) which ensures airworthiness of designs, provides airworthiness certification and quality assurance for all Indian aviation industries.

As part of Government of India's Make in India and Aatmnirbhar Bharat programs, DGAQA has been driving various initiatives to rope-in maximum number of Aerospace product manufactures to be prospective suppliers for Indian Defence requirements and be the contributors for national defence preparedness.

The primary objective of the workshop was to highlight the handholding initiatives undertaken by DGAQA, which facilitates the entry of Indian manufacturers into the defence aerospace manufacturing business. Additionally, the workshop aimed to identify any further requirements of support and assistance in order to enhance the potential for indigenous manufacturing. The

workshop was attended by senior officials of MoD, Indian Air Force, Army aviation, Naval Aviation, Indian Coast Guard, DRDO Labs, CEMILAC; and captains of Indian aviation industries.

https://www.pib.gov.in/PressReleasePage.aspx?PRID=1937082

THE ECONOMIC TIMES

Mon, 03 Jul 2023

Vice Admiral Atul Anand Takes over as Additional Secretary of Department of Military Affairs

Vice Admiral Atul Anand took over as Additional Secretary of Department of Military Affairs on Monday, the Defence Ministry said. The post was previously held by Lt Gen Anil Puri, who retired on February 28 this year, the ministry said in a statement.

Vice Admiral Anand was commissioned into the executive branch of the Indian Navy on January 1, 1988. He is an alumnus of the National Defence Academy (71st Course, Delta Squadron), Defence Services Command and Staff College, Mirpur (Bangladesh) and National Defence College, Delhi, the statement said.

He had also attended the Advanced Security Cooperation course at Asia Pacific Centre of Security Studies in Hawaii, US, it said.

A recipient of Ati Vishisht Seva Medal (AVSM) and Vishisht Seva Medal (VSM), Vice Admiral Anand has held several key appointments in his career, including the command of Torpedo Recovery Vessel INTRV A72, missile boat INS Chatak, corvette INS Khukri and missile destroyer INS Mumbai.

He also served as the Navigating Officer of the Indian Navy's ships -- Sharda, Ranvijay and Jyoti -- and was the direction officer of the Sea Harrier squadron INAS 300 and the executive officer of the destroyer INS Delhi, the statement said.

His important staff appointments include joint director, staff requirements; directing staff at Defence Services Staff College, Wellington; director, naval operations and director, Naval Intelligence (Ops), it said.

https://economictimes.indiatimes.com/news/defence/vice-admiral-atul-anand-takes-over-as-additional-secretary-of-department-of-military-affairs/articleshow/101465203.cms



Mon, 03 Jul 2023

Strengthening India's Cyber Defence: Lt Gen MU Nair Takes Charge as NCSC

In a significant development for India's cybersecurity landscape, Lt Gen MU Nair has assumed the role of National Cyber Security Coordinator (NCSC), succeeding Lt Gen (retd.) Dr Rajesh Pant. This transition signifies a change in leadership and a renewed focus on strengthening the nation's cyber defense capabilities.

Lt Gen Nair becomes the third individual entrusted with the prestigious position of India's cyber security chief, and with his huge experience and expertise, his background includes serving as the Signal-officer-in-Chief at the Army Headquarters, further enhancing his qualifications for the role.

A distinguished alumnus of the esteemed National Defence Academy, Lt Gen MU Nair has been honored with Ati Vishisht Seva Medal and Sena Medal throughout his illustrious career. His extensive professional journey encompasses crucial positions such as additional director general of signal intelligence, chief of staff of a corps, and command. With a profound understanding of cyber warfare, signal intelligence, and communication & information technology at both domestic and global levels, he brings invaluable knowledge to his new role. At the center of India's cybersecurity efforts lies the National Cyber Coordination Centre (NCCC), operating under the purview of the National Security Council Secretariat (NSCS). The NCCC plays a pivotal role in coordinating cybersecurity-related matters among various national agencies, aiming to generate vital situational awareness about existing and potential cyber threats. It promptly alerts relevant agencies during cyber attacks and facilitates improved cyber intelligence sharing.

Fundamentally, the NCCC ensures comprehensive screening of all metadata, fostering better coordination between different intelligence agencies and streamlining intelligence gathering. Working in collaboration with the Indian Computer Emergency Response Team (CERT-In), which oversees government, public-private, and private sectors, the NCCC strengthens the nation's cybersecurity landscape by promoting cooperation and collaboration.

Additionally, the establishment of the National Critical Information Infrastructure Protection Centre (NCIIPC) underscores India's commitment to safeguarding critical information infrastructure within the country. This dedicated entity assumes responsibility for protecting vital infrastructure against cyber threats, thereby fortifying the nation's cybersecurity posture and ensuring its resilience.

With Lt Gen MU Nair assuming the position of the new National Cyber Security Coordinator, India is poised to advance its cybersecurity capabilities and effectively address emerging challenges in the digital realm. His expertise and strategic vision are anticipated to pave the way for enhanced coordination, intelligence sharing, and response mechanisms to counter evolving cyber threats.

Overall, his appointment as the National Cyber Security Coordinator signifies a crucial milestone in India's cybersecurity journey, reinforcing the nation's commitment to bolstering its defenses and safeguarding critical infrastructure in an increasingly digital world. The stage is set for a comprehensive and robust approach to cybersecurity, driven by Lt Gen Nair's leadership and vision.

About National Cyber Coordination Centre

It is an organization that operates under the National Security Council Secretariat (NSCS) and collaborates with various national agencies to address cybersecurity-related matters.

Its main objectives include generating situational awareness of cyber threats, alerting relevant agencies during cyber attacks, and facilitating cyber intelligence sharing.

The NCCC also plays a role in screening metadata, enhancing coordination between intelligence agencies, and streamlining intelligence gathering.

It works alongside the Indian Computer Emergency Response Team (CERT-In) and the National Critical Information Infrastructure Protection Centre (NCIIPC) to ensure the protection of critical information infrastructure in India.

 $\frac{https://www.financialexpress.com/business/defence-strengthening-indias-cyber-defence-lt-gen-mu-nair-takes-charge-as-ncsc-3153747/$



Tue, 04 Jul 2023

New Combat Uniform for CRPF Personnel for Ease in Ops

The Ministry of Home Affairs (MHA) has asked Central Reserve Police Force (CRPF) personnel to procure their new combat uniform, which has been approved by the competent authority to provide more "comfort and sustainability" to them.

A senior CRPF officer told The Indian Express that the decision was taken after the field officers *posted in Jammu and Kashmir, Chhattisgarh and Northeast region" gave feedback to their seniors that they were having problems with their combat uniform.

"The matter was reported to an official in MHA, after which a committee of Central Armed Police Forces (CAPFs) was formed. The CRPF has decided to change (the uniform) and now other forces have also been asked to plan for a change," the officer said.

"After coordinating with the Northern India Textile Research Association and other experts, the CRPF has decided to change their combat uniform after almost 10 years. The Commando Battalion for Resolute Action (CoBRA) of CRPF already has a digital print, so they are not changing and also Rapid Action Force (RAF) (are not changing). We have asked all the other units to procure new 'cloth disruptive polyester and cotton with digital print design', which has 80% cotton and 20% polyester," another officer said.

The disruptive-pattern cloth will have "two up one down twill weave", said the officer. "The selvedge should be firm and straight. The cloth should be well-singed and the fabric should be 'heat set and fully shrunk'. Each pattern should show solid coverage and dyes used in the dyeing and printing should be free from banned amine," the officer said.

In 2020, the Army has asked Ministries of Defence and Home to issue guidelines to ensure that state police forces and CAPFs do not wear 'disruptive-pattern uniform', referred to as 'combat uniform', while on law and order duties.

On February 23, 2020, following violent clashes in Northeast Delhi's Jafrabad, pictures emerged of security personnel wearing combat-pattern uniforms closely resembling that of the Indian Army being deployed in the area. As the pictures and videos went viral on social media — some were posted on Twitter — word spread that the Army had been called out in the area.

https://indianexpress.com/article/india/new-combat-uniform-for-crpf-personnel-for-ease-in-ops-8699680/



Mon, 03 Jul 2023

China Builds a New Bridge Across Pangong, India Fortifies North Bank

After the violent Galwan clash between Indian and Chinese forces at the Pangong Tso which lies in eastern Ladakh and western Tibet — China is ramping up its military infrastructure, including new

bridges. While China is rushing to complete a bridge across the Pangong Tso, connecting the north and south banks, India is also building a black-topped road on its side on the north bank.

A critical look at the military infrastructure along the Line of Actual Control (LAC) in 2020 pushes the Indian establishment to ramp up its infrastructure on a war footing.

What was needed is to build roads, tracks, bridges, military garrisons, habitats and shelters for troops in areas unoccupied earlier. The urgency was acute as the Indian army planned to position multiple divisions of more than 50000 troops along the LAC.

China broke the status quo, bringing its military towards the contested patrolling points at LAC which prompted India to recalibrate its strategy against Chinese aggression.

In response, among the high-priority projects, India is building a road towards Finger 4 on its side. At LAC, India has been commanding till Finger 4 which extended to Finger 8. In 2020, Chinese troops unilaterally broke the sanctity which led to the Galwan clashes.

The area that is broadly marked as the north bank of Pangong Tso stretches along 135 km in various dimensions. Pangong Lake, situated at a height of almost 4,350m, is the world's highest saltwater lake with around 45 kilometers on the Indian side of the LAC.

While the construction is underway, the project is deemed as complex engineering over the treacherous mountain, capable of carrying military equipment. According to the official, the blacktopped road leading to Finger 4 will add the Indian army as an alternative for the Darbuk-Skyok-Daulat Beg Oldie Road through the Saser La.

The construction will link Sassoma along the Nubra river to Sasser La and Gapshan, further connecting the main 255-km long Durbuk-Shyok-DBO road along the LAC.

Indian defence entity, the Border Road Organization (BRO) is leading such strategic infra build-up along the LAC. The BRO is working on connecting the last mile in the eastern sector such as the Sela, Nechipu, and Sela-Chhabrela tunnels among other strategic passes.

So far, the BRO has completed 19 infrastructure projects in 2021 and 26 in 2022 in Ladakh alone and expects to complete 54 projects this year, as per the official data.

Under the strategic roadmap, India—China Border Roads (ICBR) plans the construction of over 1,400 km of strategic roads along the 3,488 km-long LAC under the three phases.

The last phase focuses on Arunachal Pradesh where the BRO has established repair points (FRPs) along the Line of Actual Control (LAC) to ensure efficient maintenance and repair, which shares 1,129 km of a total 3,488-km Sino-Indian border. The FRPs are crucial projects at LAC in repairing and functioning of military equipment.

Chinese roadmap

China has already built a bridge Pangong Lake which connects Peoples Liberation Army (PLA)'s Rutog military garrison to mountain ridges. Further south of the Depsang plains, the Chinese military has constructed military garrisons, which overlook the Indian military posts and patrolling.

Apart from building two bridges—main and secondary—China has established its air defence site located east of the Khurnak Fort.

China is also ramping up its connectivity project, which is a 22 km-long tunnel along the G-0177 expressway at Yuli, connecting to the G-216 highway in Tibet.

Failed talks

So far, India and China have held 18 rounds of military talks and 27 meetings of the Working Mechanism for Consultation and Coordination on India-China Border Affairs (WMCC).

However, the friction points remain on Depsang Plains and Demchok over the patrolling rights. Indian army has been patrolling in these areas until the Galwan clash which restricted the movement.

The 18th round of talks which was held on the Indian side of the Chushul-Moldo border meeting point along the LAC in Eastern Ladakh hit a deadlock over a 972 sq km plateau — Depsang.

Major issues revolve around Depsang over troop positions and patrolling rights as the PLA has attempted to block the area unilaterally which was earlier being patrolled by the Indian army.

https://www.financialexpress.com/business/defence-china-builds-a-new-bridge-across-pangong-india-fortifies-north-bank-3153434/

ThePrint

Mon, 03 Jul 2023

IAF Chief Visits Malaysia

Air Chief Marshal VR Chaudhari is currently on an official bilateral visit to Malaysia with an aim to expand bilateral defence ties.

The Indian Air Force said the visit of the Chief of Air Staff (CAS) is aimed at discussing areas of mutual interest and cooperation with senior officials of the Malaysian armed forces.

"The CAS, Air Chief Marshal V R Chaudhari, is on an official bilateral visit to Malaysia. During his visit, he will be meeting various officials of the Malaysian Armed Forces with whom he will discuss areas of mutual interest and cooperation," the IAF tweeted.

Malaysia is among a handful of countries showing keen interest in procuring India's indigenously developed Tejas aircraft.

Tejas is a single-engine multi-role fighter aircraft capable of operating in high-threat air environments.

https://theprint.in/india/iaf-chief-visits-malaysia/1653090/

THE TIMES OF INDIA

Mon, 03 Jul 2023

PM Modi to Host Virtual Summit of SCO

Prime Minister Narendra Modi will host Chinese President Xi Jinping, his Russia counterpart Vladimir Putin, Pakistan's Shehbaz Sharif and other leaders of the SCO nations at a virtual summit of the bloc on Tuesday that is expected to focus on regional security situation and ways to boost connectivity and trade.

It will be Putin's first participation in a multilateral summit after a mercenary group launched a short-lived armed rebellion last week that rocked Moscow.

The summit of the Shanghai Cooperation Organisation (SCO) under India's presidency is also set to welcome Iran as the new permanent member of the grouping.

The situation in Afghanistan, the Ukraine conflict and enhancing cooperation among the SCO member countries are expected to figure in the summit, people familiar with the matter said, adding boosting connectivity and trade is also likely to be discussed.

The summit is also taking place against the backdrop of the over three-year eastern Ladakh border standoff between Indian and Chinese troops, and two weeks after Prime Minister Modi's high-profile visit to the US.

The SCO, comprising India, China, Russia, Pakistan, Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan, is an influential economic and security bloc and has emerged as one of the largest transregional international organisations.

India assumed the rotating chairmanship of the SCO at the Samarkand Summit of SCO on September 16 last year.

Heads of the two SCO bodies -- the secretariat and the SCO RATS (Regional Anti-Terrorist Structure) are also set to attend Tuesday's virtual summit whose theme is "Towards a SECURE SCO'.

The SECURE acronym was coined by Prime Minister Modi at the 2018 SCO summit and it stands for Security; Economy and Trade; Connectivity; Unity; Respect for Sovereignty and Territorial Integrity; and Environment.

Heads of six international and regional organisations have also been invited to the summit.

The organisations are the UN, the ASEAN (Association of Southeast Asian Nations), CIS (Commonwealth of Independent States), CSTO (Collective Security Treaty Organisation), EAEU (Eurasian Economic Union) and CICA (Conference on Interaction and Confidence Building Measures in Asia).

India's presidency of the SCO saw significant activities in a number of areas. New Delhi created five new pillars for cooperation in SCO. These are startups and innovation, traditional medicine, digital inclusion, youth empowerment and shared Buddhist heritage.

The special working group on startups and innovation and experts working group on traditional medicine were created on India's initiative.

"We intend to contribute substantially in both these areas," said one of the people cited above.

To further Prime Minister Modi's vision of Vasudhaiv Kutumbakom (world is one family), India emphasised on building greater people-to-people connect, the person said.

A number of signature events were held under the Indian presidency with the intention to further deepen people to people connect.

India's association with the SCO began in 2005 as an observer country. It became a full member state of SCO at the Astana summit in 2017.

India has shown a keen interest in deepening its security-related cooperation with the SCO and its RATS, which specifically deals with issues relating to security and defence.

The SCO was founded at a summit in Shanghai in 2001 by the presidents of Russia, China, the Kyrgyz Republic, Kazakhstan, Tajikistan and Uzbekistan. Pakistan became its permanent member along with India in 2017.

https://timesofindia.indiatimes.com/india/pm-modi-to-host-virtual-summit-of-sco/articleshow/101454736.cms



Mon, 03 Jul 2023

Israel to Buy 25 More F-35 Stealth Jets in \$3 Billion Deal

Israel has approved the purchase of a third squadron of F-35 stealth fighter jets in a deal worth \$3 billion, the Ministry of Defense said on Sunday.

The additional 25 aircraft manufactured by Lockheed Martin will bring the number of F-35s in Israel's air force to 75, the ministry said, adding that the deal will be financed through the defense aid package Israel receives from the United States.

Israel was the first country outside the United States to acquire the F-35. In May 2018 its air force chief said that Israel was the first to use the plane in combat.

The F-35 is also known as the Joint Strike Fighter and in Israel by its Hebrew name "Adir" (Mighty).

Lockheed Martin and engine manufacturer Pratt & Whitney have agreed to involve Israeli defense companies in the production of aircraft components, the Israeli ministry added.

https://www.thehindu.com/news/international/israel-to-buy-25-more-f-35-stealth-jets-in-3-billion-deal/article67034874.ece



Mon, 03 Jul 2023

Abraham Accords Boost Israel's Defence Exports to Arab Countries

Israel's defence exports doubled in less than a decade, reaching a record \$12.546 billion in 2022, according to the country's Ministry of Defence (MoD). Exact details of defence deals usually remain classified, but a breakdown of the information released by the MoD and its International Defence Cooperation Directorate (SIBAT) reveals novel trends that would have been deemed impossible not long ago.

About 24% of exports went to Abraham Accords countries, namely, the UAE and Bahrain, who maintain full diplomatic relations with Israel since the signing of the accords in September 2020, and Morocco, which joined the accords in December 2020. Sudan signed the Accords in January 2021 but has yet to establish full diplomatic relations.

These deals account for a substantial part of the dramatic rise in exports over the last three years (50% rise). They include, according to a I24 News report, the sale of Harop drones, manufactured by Israel Aerospace Industries (IAI), to Morocco, in July 2022, and the sale of Spyder portable aerial defence systems, manufactured by Rafael Advanced Defence Systems, to the UAE, according to a Reuters report from September 2022.

Road to the UAE

The initial stage of Israeli defence sales in the UAE began, according to Alex Fishman at the Yediot Aharonot daily, after the 2010 scandal of the assassination of Hamas operative, Mahmud Al-Mabhouh, in Dubai, in which a team of alleged Mossad assassins were caught on CCTV cameras tracking Al-Mabhouh extensively till his demise in his hotel room. To repair the damage to the

budding, unofficial relations with the UAE, Tamir Pardo, head of Mossad at the time, was sent to the Emirates to negotiate a rapprochement, which included authorisation for the sale of classified defence technologies, which the UAE had been hitherto prohibited from receiving.

What began clandestinely has come into the open since the Abraham Accords. In 2021, Rafael displayed at the Dubai Air Show, in what its spokesperson defined "a new era" in relations with the UAE. In February this year, Israel's SIBAT inaugurated its first pavilion at the IDEX defence expo in Abu Dhabi, in which representatives of over 30 Israelis firms were present.

In March, tensions mounted between the UAE and Israel after Emirati unease over anti-Palestinian comments made by members of Benjamin Netanyahu's government, but Israeli officials vehemently denied reports by Israel's Channel 12 that the UAE had suspended any defence deals.

Sales to Europe

Another trend in sales was the sharp rise in exports to Europe, which amounted to 29% of total exports. The newly perceived threat of Russian aggression led to sales of defence systems to Finland, Holland and Estonia. A landmark \$3.5 billion purchase of Arrow-3 hypersonic antiballistic missile system is currently in final stages of approval in the German Bundestag, with the first battery slated for operational use by 2025.

Asia topped the sales charts, purchasing 30% of total exports, continuing a well-established trend. The largest Asian client is India, which purchases an assortment of missile systems, radars, drones, communication, and surveillance technologies worth an estimated \$1.5-2 billion annually. As part of the Make in India initiative, firms such as IAI, Rafael, and Elbit Systems have partnered with Indian firms such as Bharat Forge, Tech Mahindra, Adani Group, and Tata Advanced Systems for joint development and manufacturing of advanced weapons systems in India.

Weapons diplomacy

The Israeli defence industries are of paramount importance in Israel, not only for allowing Israel to meet its security needs, but as a tool for "weapons diplomacy". It is widely surmised that the turnaround in Israel-India relations at the beginning of the millennia was a result of Israeli technology and munitions helping clinch victory for India in the Kargil War of 1999.

Today, cutting-edge technologies, such as IAI's Long-Range Artillery Missiles (LORA), are sold abroad, and even co-manufactured in India, but have not yet been purchased by the Israeli Defence Forces, due to the refusal of the Israeli Airforce leadership to allow the establishment of a Missile Corp., which would usurp some of their operational responsibilities.

Israel human rights activists criticise the MoD's authorisation of sales of military capabilities to countries with spotty human rights records, such as Myanmar, Sri Lanka and Morocco, but these objections garner no substantial support on either side of the political aisle in Israel. Even global breaking-news scandals such as the alleged illegal activities of the NSO Group cyber-arms firm and its Pegasus spyware did not create any long-term damage to the bottom line of defense sales, as security demands take precedence in the corridors of power.

Vital part

The defence industry is a vital part of Israel's all-important high-tech sector. Elite technological units such as Unit 8200 and the exclusive Talpiot programme, produce a large part of Israels start-up entrepreneurs, who leave the IDF with skills, professional networks, and cutting-edge experience that their foreign counterparts do not usually have. The MoD's Maf'at branch, modelled after the U.S. Department of Defence's DARPA, implements military technologies in civilian uses by forging ties with Israeli corporate and academic institutions.

The defence sector also allows Israel some much-needed diversity for its high-tech economy, allowing more job security through the volatile ebbs and flows of the tech industry.

https://www.thehindu.com/news/international/abraham-accords-boost-israels-defence-exports-to-arab-countries/article67037070.ece

THE ECONOMIC TIMES

Mon, 03 Jul 2023

China's Defense Minister and Russia's Navy Chief Meet for 1st Military Talks since Wagner Revolt

China's defense minister reaffirmed the country's military relations with Russia during a meeting on Monday with the head of Russia's navy, the first formal military talks between the friendly neighbours since a short-lived mutiny by Russian mercenary group Wagner. Minister of National Defense Li Shangfu told Russian Adm. Nikolai Yevmenov that China hoped for increased exchanges, joint exercises and other forms of cooperation that would take defense ties to "reach a new level," the Chinese Defense Ministry said after the two met in Beijing.

"The Chinese and Russian navies have close exchanges and frequent interactions," the ministry quoted Li as saying.

"It is hoped that the two sides will strengthen communication at all levels, regularly organise joint training, joint patrols and joint war games."

China operates the world's largest navy by number of hulls and vastly outstrips Russia's navy in both size and technical ability.

The countries' fleets have held a series of exercises and joint maneuvers since Russia's full-on invasion of Ukraine last year, as have their air forces.

The military cooperation embodies the Chinese and Russian governments' informal alliance to oppose the US-led liberal world order.

They align their foreign policies and positions at the United Nations, where Beijing has consistently provided diplomatic cover for Moscow.

While saying it is neutral in the Ukraine war, China has stood solidly beside Russia, accusing the US and NATO of provoking Moscow and of fuelling the bloodshed by helping arm Ukraine.

China has refused to condemn the invasion or to refer to it as one in deference to Moscow but also has said it would not provide Russia with military assistance or weapons for the conflict.

Since the abortive rebellion led by Wagner chief Yevgeny Prigozhin, China has said it backed Russian efforts to "stabilize the situation in the country."

The march on Moscow that Prigozhin launched and then called off last month posed the greatest challenge to President Vladimir Putin's two decades in power.

The recent developments have very much made Russia the junior partner in the relationship with China. War-related sanctions have made the Russian economy heavily dependent on energy purchases from China and India.

Putin, Indian Prime Minister Narendra Modi and Chinese leader Xi Jinping are set to meet on Tuesday at a virtual summit that will mark Putin's first multilateral meeting since the Wagner revolt rattled Russia.

The summit of the Shanghai Cooperation Organization, a security grouping founded by Russia and China to counter Western alliances from East Asia to the Indian Ocean is an apparent indication Putin still enjoys some support.

https://economictimes.indiatimes.com/news/defence/chinas-defense-minister-and-russias-navy-chief-meet-for-1st-military-talks-since-wagner-revolt/articleshow/101463985.cms



Mon, 03 Jul 2023

New CAC J-20 Potentially Powered by WS-15 Engines



A new variant of the CAC J-20 fifth-generation fighter includes design changes to improve low-observable characteristics and aerodynamics. This variant appears to have also been equipped with the new WS-15 powerplant. (Janes)

China appears to have flown a new variant of its Chengdu Aircraft Industries (Group) Company (CAC) J-20 fifth-generation stealth fighter with two new Shenyang WS-15 turbofan engines for the first time.

Information on Chinese social media suggest that this milestone event took place on 28 June. Janes assessed imagery of the flight and has geolocated the site of the flight to the CAC company airfield, Chengdu-Huangtianba. However, low quality of the images make it difficult to independently verify the installation of the WS-15 engine with the aircraft.

The shape of the engine nozzles is unclear. Despite the low quality of the imagery, the engines appear to lack the thrust vectoring control (TVC) paddles associated with the 166 kN-class WS-15 Emei engine.

An image of the 28 June event shows CAC officials with a banner that reads '-15', indicating an event linked to the installation of the engine with the J-20. Pictures of the aircraft also reveal visual changes to the airframe. The cockpit canopy has been designed to improve the aircraft's stealth characteristics. The canopy is flatter on the top and merges with a more pronounced hump behind the cockpit area leading to the main body of the airframe.

This change was initially revealed in December 2022. It is almost certainly intended to improve the aircraft's low-observable qualities and potentially aerodynamics. It is unclear what the designation of this new variant of the aircraft is.

https://www.janes.com/defence-news/news-detail/new-cac-j-20-potentially-powered-by-ws-15-engines

ThePrint

Mon, 03 Jul 2023

Taiwan Military Holds Live Fire Drills on Strategic Southern Coast

Taiwan's military carried out live fire drills on its strategically-located southern coast on Monday, firing missiles from highly mobile armoured cars to destroy targets close to shore in a simulation of repelling invading forces.

China, which views democratically governed Taiwan as its own territory, has ramped up military pressure over the past three years to try to assert its sovereignty claim, and the island's armed forces routinely practice seeing off a Chinese attack.

Camouflaged Taiwan army Humvees roared around the coastal drill area in Pingtung county's Fangshan near the far southern tip of the island, before firing off U.S.-made TOW anti-tank missiles to destroy static targets near the shoreline.

"Most of the drills we carried out today involved live artillery because the defence exercise needs to be similar to actual combat, allowing our army to be confident and have the capability to protect our homeland," Defence Ministry spokesperson Sun Li-fang told reporters.

Pingtung, which looks out on the Taiwan Strait, South China Sea, Pacific Ocean and Bashi Channel that separates Taiwan from the Philippines, is a highly strategic spot to watch Chinese military activity, and a potential landing site in an invasion.

Taiwan holds its most important drills, the annual Han Kuang exercises, at the end of this month, with a focus on combating a blockade and preserving the fighting ability of its forces.

Those drills are expected to see air force jets operating at civilian airports, including the island's main international airport at Taoyuan, to practice using their facilities in case air bases are rendered unusable in a war.

China practised precision strikes and blockading the island in drills around it in April after Taiwan President Tsai Ing-wen met U.S. House of Representatives Speaker Kevin McCarthy in Los Angeles.

Beijing has never renounced using force to bring the island under its control. Taiwan rejects Beijing's sovereignty claims and has vowed to defend its freedom and democracy.

https://theprint.in/world/taiwan-military-holds-live-fire-drills-on-strategic-southern-coast/1652449/

Science & Technology News



Mon, 03 Jul 2023

Mission Gaganyaan's Crew Module Recovery Divers: A Critical Step Towards India's Space Endeavour

The first batch of crew recovery team members for Mission Gaganyaan, India's ambitious human spaceflight programme, recently completed Phase-1 of their training. Conducted at the Indian Navy's Water Survival Training Facility (WSTF) in Kochi, the training equipped the team with essential skills and knowledge required to recover the crew module in diverse sea conditions.

Training Highlights

The training programme spanned two weeks and immersed the team, which included Indian Naval Divers and Marine Commandos, in a comprehensive curriculum. The state-of-the-art facility facilitated hands-on recovery training, enabling the team to familiarize themselves with various aspects of the mission. This included understanding the mission's protocols, handling medical emergencies, and gaining proficiency with different aircraft and their associated rescue equipment. Furthermore, the training validated the standard operating procedures (SOPs) collaboratively developed by the Indian Navy and the Indian Space Research Organization (ISRO).

According to the Indian Navy, Dr Mohan M, Director of the Human Space Flight Centre at ISRO, witnessed the culmination of the training during a recovery demonstration and personally interacted with the team. This interaction underscored the significance of the crew recovery team's role and the commendable efforts invested in their training. Their successful completion of Phase-1 marks a crucial milestone in India's quest to become a spacefaring nation capable of manned missions.

How will this training help in the future?

Having acquired the necessary skills and knowledge, the team trained at the WSTF will now actively participate in the recovery of upcoming test launches planned by ISRO in the months ahead. These launches will serve as essential stepping stones toward the eventual realization of the Gaganyaan mission, which aims to send Indian astronauts into space. The crew recovery team's dedication and expertise will ensure the safe retrieval of the crew module and contribute significantly to the overall success of the mission.

The completion of Phase-1 training by the crew recovery team for Mission Gaganyaan represents a pivotal moment in India's space exploration journey. By leveraging the expertise of Indian Naval Divers and Marine Commandos and their rigorous training at the WSTF, India's space programme takes another firm step towards achieving its vision of manned space missions. The team's crucial

role in test launches emphasizes the nation's commitment to innovation and progress in the field of space exploration.

https://www.financialexpress.com/business/defence-mission-gaganyaans-crew-module-recovery-divers-a-critical-step-towards-indias-space-endeavour-3152787/

ThePrint

Tue, 04 Jul 2023

India, UK Electric Propulsion Technical Workshop Held in New Delhi

An India-UK electric propulsion technical workshop was held in New Delhi to foster collaboration, exchange knowledge, and explore the exciting possibilities in the field of electric propulsion, the Ministry of Defence said.

For exploring the exciting possibilities in electric propulsion, the workshop was organised in the national capital today.

The day-long workshop was co-chaired by Rajeev Prakash, Joint Secretary (Naval Systems) from the Indian side, and Commodore John Voyce, Naval Base Commander Portsmouth from the UK side, the press release of Ministry of Defence read.

The workshop provided an important venue for academics, researchers, and industry professionals from both countries to gather, share views, and engage in meaningful discussions about developing electric propulsion for ships.

The interaction and discussions provided a comprehensive understanding of the subject matter, paying the way for collaboration and exchanging ideas, the press release added.

During the workshop, both sides expressed their commitment to forging strong defence ties and exploring avenues for joint research, technology transfer, and strategic partnerships.

https://theprint.in/world/india-uk-electric-propulsion-technical-workshop-held-in-new-delhi/1653482/

