

अगस्त
Aug
2023

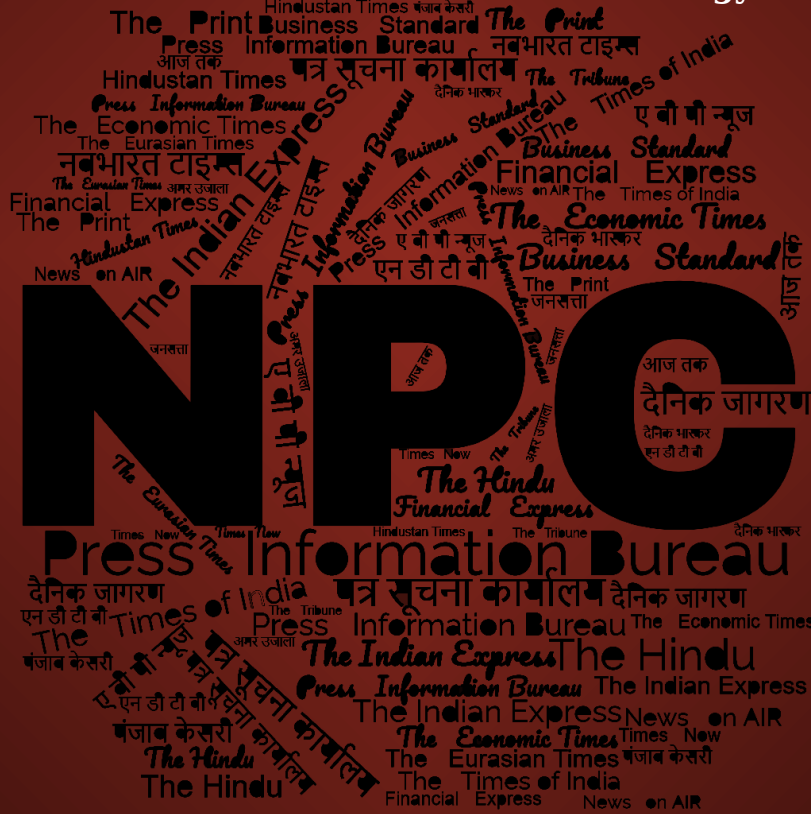
खंड/Vol. : 48 अंक/Issue : 144

01/08/2023

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

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India's Anti-Tank Guided Missiles HELINA and Dhruvastra Complete Trails: Induction Soon

India's indigenous Nag anti-tank guided missile (ATGM) has cleared all the trials, according to the reports.

Indigenously developed helicopter-launched Anti-Tank Guided Missile 'HELINA' has completed all the trials, according to the officials from the Ministry of Defence. The missile is guided by an Imaging Infra-Red (IIR) Seeker operating in the Lock on Before Launch mode. It is one of the most advanced anti-tank weapons in the world.

A variant of HELINA Weapon System called DHRUVASTRA is also being inducted into the Indian Air Force (IAF).

Earlier in 2022, Defence Research and Development Organisation (DRDO) successfully flight tested at high-altitude ranges as part of user validation trials. The flight test was jointly conducted by teams of scientists from DRDO, the Indian army and the Indian air force.

The flight trials were conducted from an Advanced Light Helicopter (ALH). The test involved the firing and engaging of a simulated tank target.

Post trials and validation from the army and IAF, the government is poised for induction into the Indian Army, the Defence Research and Development Organisation (DRDO).

Further, in continuation to validation trials conducted at Pokhran in Rajasthan, it also paves the way for its integration on the ALH.

The Nag ATGM is ready for induction into the Indian Army after completing all required flight and user trials. "We [DRDO] are now awaiting an order from the Indian Army," the official said.

According to the DRDO, the Nag missile is a fire-and-forget, third-generation ATGM.

According to the DRDO, the operational range of the Nag is up to 4 km and it is equipped with a tandem high-explosive anti-tank (HEAT) warhead.

The missile has a length of 1.834 m, a diameter of 0.158 m, and a weight of 44 kg. The Nag ATGM has also been mounted to helicopters. In this configuration, the ATGM system is known as HELINA.

<https://www.financialexpress.com/business/defence-indias-anti-tank-guided-missiles-helina-and-dhruvastra-complete-trails-induction-soon-3194246/>

साइबर-अंतरिक्ष युद्ध क्षमताओं को बढ़ा रहा DMA, तीन नए थिएटर कमान बनाने की दिशा में आगे बढ़ रही सरकार

सरकार तीन नए थिएटर कमान बनाने की दिशा में आगे बढ़ रही है। वहीं, सैन्य मामलों का विभाग (डीएमए) अपनी साइबर और अंतरिक्ष युद्ध क्षमताओं को और अधिक विस्तारित और उन्नत करने पर विचार कर रहा है।

प्रधानमंत्री नरेंद्र मोदी ने पांच साल पहले रक्षा साइबर एजेंसी सहित दो एजेंसियों के गठन को मंजूरी दी थी, ताकि इन डोमेन से खतरों से निपटने के साथ-साथ इस क्षेत्र में भारत की आक्रामक क्षमताओं को भी तैयार किया जा सके। इन एजेंसियों का नेतृत्व सेना के मेजर जनरल रैंक के अधिकारी करते हैं।

सरकारी सूत्रों ने बताया, युद्ध में साइबर डोमेन के बढ़ते इस्तेमाल के साथ डीएमए साइबर एजेंसी को और विस्तारित करने और चुनौतियों से निपटने के लिए और अधिक ताकत रखने की संभावना पर विचार कर रहा है। उन्होंने कहा कि यूक्रेन युद्ध में साइबर डोमेन का बढ़ता इस्तेमाल देखा जा सकता है और हमारे अपने अनुभव भी हैं। उन्होंने आगे कहा कि इसी तरह हाल के दिनों में हमारे विरोधियों के बारे में उस डोमेन में कई अंतरिक्ष प्रक्षेपण और अन्य तैनाती की सूचना मिली है। हमें अंतरिक्ष क्षेत्र में भी अपनी क्षमताओं को मजबूत करने की आवश्यकता होगी ताकि थिएटर कमांडरों को खतरों का आकलन करने और उनसे निपटने में मदद मिल सके। उन्होंने बताया कि रक्षा साइबर एजेंसी द्वारा अपने स्वयं के सैन्य आईटी बुनियादी ढांचे के साथ-साथ अपने स्वयं के कर्मियों के खिलाफ कई साइबर हमलों को विफल कर दिया गया है। सूत्रों ने कहा कि रक्षा साइबर और अंतरिक्ष एजेंसियों के साथ बनाई गई नागरिक एजेंसियों ने भी पिछले कुछ वर्षों में अपनी क्षमताओं में भारी प्रगति की है। हालांकि, सूत्रों ने कहा कि बढ़ती वैश्विक गतिविधियों और इन डोमेन के तेजी से हथियारीकरण के साथ एजेंसियों की क्षमताओं का विस्तार और उन्नयन करने की आवश्यकता है। बल इन एजेंसियों में स्थायी या दीर्घकालिक साइबर और अंतरिक्ष विशेषज्ञ रखने पर विचार कर रहे हैं जो उन्हें लंबी अवधि के लिए अपनी विशेषज्ञता का इस्तेमाल कर मदद कर सकते हैं।

<https://www.amarujala.com/india-news/with-theatre-commands-coming-up-soon-indian-military-looking-to-expand-cyber-space-warfare-capabilities-2023-07-31>



With Theatre Commands Coming up Soon, Indian Military Looking to Further Expand Cyber, Space Warfare Capabilities

With the government moving towards the creation of three new theatre commands, the Department of Military Affairs (DMA) is looking towards further expanding and upgrading its cyber and space warfare capabilities.

Prime Minister Narendra Modi had cleared the creation of two agencies including the Defence Cyber Agency and Defence Cyber Agency five years ago to deal with threats from these domains as well as prepare India's offensive capabilities too in this sector. These agencies are headed by Major Gen-rank officers from the military.

“With the increasing use of the cyber domain in warfare as could be seen in the Ukraine war and also our own experiences, the DMA is looking at the possibility of further expanding the Cyber agency and have more strength to deal with the challenges,” government sources told ANI.

Similarly, in the recent past, a number of space launches and other deployments in that domain have been reported about our adversaries. We would also need to strengthen our capabilities in the space domain too to help the Theatre Commanders to assess the threats and tackle them, they said.

A number of Cyber attacks have been thwarted by Defence Cyber Agency against its own military IT infrastructure as well as own personnel.

The civilian agencies created along the Defence Cyber and Space agencies have also made enormous progress in their capabilities in the last few years, the sources said.

However, the sources said, with the increasing global activities and rapid weaponisation of these domains, there is a need to expand and upgrade the capabilities of these agencies.

The forces have been mulling about having permanent or long-term cyber and space specialists in these agencies which can help them utilise their expertise for the long term.

The agencies can also be put under Lt Gen-rank officers in view of the need for significant expansion in size.

The DMA under the Chief of Defence Staff has been tasked by the government to create Theatre Commands which would create meaner and leaner fighting formations to fight wars of the future.

The Theatre Command discussions are going on among the services and the structures are likely to be finalised soon with consensus among the services and top brass over almost all the issues.

<https://www.aninews.in/news/national/general-news/with-theatre-commands-coming-up-soon-indian-military-looking-to-further-expand-cyber-space-warfare-capabilities20230731163336/>



Tue, 01 Aug 2023

No Offset Obligation in Defence Deals Lapsed in 5 Years: Govt Tells Rajya Sabha

The total value of offset contracts linked to defence deals currently stands at \$13.21 billion, out of which foreign military contractors have submitted claims amounting to \$6.85 billion, the government told Rajya Sabha on Monday.

No offset obligation lapsed during the last five years, minister of state for defence Ajay Bhatt said in a written reply.

India's offset policy stipulates that in all capital purchases above ₹300 crore, the foreign vendor must invest at least 30% of the value of the purchase in the country to boost indigenous capabilities.

In the case of the ₹59,000-crore Rafale deal for 36 fighter planes, this was 50%.

The quantum of offset due so far is \$0.12 billion, Bhatt said.

“Penal action is taken against the defaulting vendors as per the relevant provisions of the defence offset guidelines under the applicable defence procurement procedure,” he added.

He was responding to a question from BJP MP Kirodi Lal Meena on the total value of offset contracts, offset obligations met so far and what was still due.

The ₹21,935-crore deal signed by the defence ministry with Airbus Defence and Space in September 2021 to equip the IAF with 56 C295 aircraft has an offset element of 30%, officials aware of the matter said.

Tata Advanced Systems Limited and Airbus are jointly executing the programme.

Sixteen of those planes will come from Spain in flyaway condition, while the remaining 40 are to be built in India.

The aim of the offset policy is to develop the Indian defence sector to achieve self-reliance and cut dependence on imports.

In the case of the Rafale deal, the Defence Research and Development Organisation’s (DRDO) offset share worked out to 30%, while 20% was allocated to the private sector.

India, which has sharpened its focus on building its defence capabilities, was the fourth biggest military spender in the world in 2022 after the United States, China and Russia, the Stockholm International Peace Research Institute (Sipri) said in a report published in April.

India’s military spending stood at \$81.4 billion - 6% more than in 2021, and up by 47% from 2013, the report said.

In another report published in March, Sipri said India’s arms imports fell 11% between 2013-17 and 2018-22, but the country was still the world’s top importer of military hardware, and its share of the global arms imports was the highest during the last five years at 11%.

<https://www.hindustantimes.com/india-news/no-offset-obligation-in-defence-deals-lapsed-in-5-years-govt-tells-raja-sabha-101690802564171.html>



Mon, 31 Jul 2023

Navy’s Deep Dive to Boost Defence: Know All about AUV, India’s Ace Underwater Surveillance Vehicle

With an aim to make India self-reliant and secure its boundaries from enemies, the Ministry of Defence is taking several significant steps to boost the country’s defence system. In line with that, the Indian Navy has recently received an autonomous underwater vehicle (AUV), marking a significant milestone in the country’s underwater surveillance capabilities.

Designer of the vehicle

The underwater vehicle has been developed by the state-owned shipyard Garden Reach Shipbuilders and Engineers (GRSE) in association with a medium, small and micro enterprise, Aerospace Engineers Private Limited (AEPL).

Capability of the vehicle

The AUV, launched by Defence Research and Development Organisation Chairman Dr Samir V Kamat, is an autonomous vehicle that is capable of providing surveillance under water for a long period of time.

To explore deep under water, the designers of the vehicle have fitted a side-scan array radar on the vehicle that makes it capable of mapping the underwater ocean surface.

In addition to its underwater exploration capabilities, the vehicle has a modular architecture that allows it to carry various payloads. Instruments for scientific exploration, anti-submarine warfare systems, and mine-detection devices are some of these payloads.

Importance of the move

The Navy's move comes after Ukraine reportedly used British REMUS underwater vehicles to bomb the Russian Kerch bridge joining Crimea to the Russian mainland amid ongoing year-long war between the two nations. The REMUS underwater vehicles share the same features as the Indian Navy's AUV, like carrying various payloads.

While the militaries use the REMUS AUVs for mine detection and mine counter-measure missions, civilian use them to conduct underwater surveying and map the ocean floor.

The underground vehicle has a glorious track record and is known for its crucial discovery of underwater mines during operation Iraqi Freedom in 2003. In 2011, it again proved its potential by discovering the missing black-boxes of Air France flight AF447.

Other plan of GRSE

The Garden Reach Shipbuilders and Engineers (GRSE) is also looking forward to launching autonomous surface vessels for surface missions. The team at GRSE is working round the clock to complete the project by the end of this year.

<https://www.news9live.com/knowledge/navys-deep-dive-to-boost-defence-know-all-about-auv-indias-ace-underwater-surveillance-vehicle-2231644>



Tue, 01 Aug 2023

Indian Navy Chief Meets Oman's Royal Navy Commander to Fortify Defence Ties

In a significant effort to strengthen the existing defense cooperation between India and Oman, Admiral R Hari Kumar, Chief of the Naval Staff, arrived in the Sultanate of Oman for a three-day visit. The Indian Navy Chief was received by Rear Admiral Saif Nassir Al Rahbi, Commander of the Royal Navy of Oman (RNO), at his office in Al Murtafaa Garrison.

The meeting witnessed both naval leaders engaging in constructive discussions on a range of naval matters of mutual interest. The fruitful exchange of viewpoints underscored the shared commitment of both nations to enhancing maritime security in the Gulf region and collaborating closely on defense-related issues. India and Oman have been steadfastly fortifying their defense ties in recent years through joint military exercises, training exchanges, and defense equipment sales.

These bilateral efforts reflect their unwavering dedication to maintaining regional stability and safeguarding the interests of the Gulf Cooperation Council (GCC) and the Arab League. The joint maritime exercise, Naseem Al Bahr, conducted by the Indian Navy and the Royal Navy of Oman in the Gulf of Oman in 2022, showcased the seamless cooperation between the two countries' navies in bolstering maritime security.

The Navy chief's visit holds significant importance as it provides a crucial opportunity to strengthen existing defense relations and engage in high-level discussions with the esteemed military leadership of Oman.

The meeting coincided with the arrival of the Indian Navy's indigenously built destroyer, INS Visakhapatnam, in Oman's Muscat on Sunday, July 30th. As both nations strive to consolidate their bilateral defense ties, the Sultanate of Oman and India reaffirm their dedication to promoting peace, stability, and security in the Gulf region and beyond.

<https://newsonair.com/2023/08/01/indian-navy-chief-meets-omans-royal-navy-commander-to-fortify-defence-ties/>

The Tribune

Tue, 01 Aug 2023

Why Rafale could be IAF's Default MRFA Option

By Rahul Bedi

A HOST of recent developments have placed Dassault Aviation, France's principal combat aircraft manufacturer, in pole position to potentially secure the IAF's long-pending requirement for 114 multi-role fighter aircraft (MRFA) with its twin-engine Rafales.

Joining the dots, a cross-section of military veterans, defence analysts and industry officials have posited that backed by growing Rafale sales to India and Dassault's inclination to transfer fighter and related technology to it, the IAF could well end up with Rafale as its default MRFA option.

If so, it would be an ironical redux of the Ministry of Defence's stillborn 2007-08 tender for 126 Rafales — of which 108 were to be licence-built by Hindustan Aeronautics Limited — that was scrapped in 2015 due to contractual, political and bureaucratic snafus.

A review of these emerging dealings with regard to the possible induction of additional Rafales into the IAF is instructive on multiple counts. At the outset, Dassault will supply 26 Rafale-M (Marine) fighters to the Indian Navy (IN) for deployment aboard INS Vikrant, its newly commissioned aircraft carrier. The multi-role carrier-borne fighter's (MRCBF) 'commonality' with the 36 Rafales, which the IAF had imported in 2016 for \$9 billion, had influenced the IN's choice following user trials in 2022, which featured the rival Boeing F/A-18 Block III 'Super Hornet' fighter.

The delivery of these 26 fighters over the next two-three years would total an inventory of 62 Rafale variants in India's arsenal, not an insignificant number. Hence, increasing this quantity further, according to some retired senior fighter pilots, to meet the IAF's requirement for 114 MRFA makes 'immense operational, commercial and logistical sense.'

Dassault, they said, had already established a Rafale flight training and Maintenance, Repair and Overhaul (MRO) facility at Ambala Air Force Station, which would go a long way towards reducing the overall costs for any additional buys. Importantly, acquiring tried-and-tested Rafales

would hasten fighter inductions by dispensing with trials and boost the IAF's declining fighter squadrons, whose number has depreciated to around 29 from a sanctioned strength of 42.

They added that acquiring extra Rafales would also streamline the IAF's diverse fighter catalogue, which currently features seven aircraft types, sustaining all of which is an enduring logistical nightmare and a costly affair for the force.

In a related development that could enhance Dassault's MRFA bid, the French manufacturer is believed to be in advanced negotiations to acquire 51 per cent stake of its partner Anil Ambani in Dassault Reliance Aerospace Limited (DRAL) joint venture in Nagpur. India permits 100 per cent foreign direct investment in individual cases and Dassault is reportedly keen on acquiring DRAL, which, if effected, would augment its chances of bagging the MRFA deal.

At present, Dassault owns 49% of DRAL, formed within days of India confirming the IAF's 36 Rafale purchase, to discharge the 50% offset obligation of the inclusive contractual price in accordance with MoD's procurement procedures.

Initially, DRAL was tasked with producing components for Dassault's Falcon business jets and only recently, it had begun producing sub-assemblies like engine doors and canopies for Rafales. But as per media reports, a domestic financial resource crunch had curtailed DRAL's manufacturing capabilities, rendering it vulnerable to a buyout.

Meanwhile, the MRFA procurement envisages the importing of a squadron of 18 shortlisted fighters in flyaway condition from amongst seven models proposed by overseas original equipment manufacturers (OEMs) in response to the IAF's April 2018 Request for Information (RFI). The remaining 96 platforms would be built indigenously by a collaborative venture between the qualified OEM and a domestic strategic partner (SP) from either the private or public sector, with progressively enhanced levels of indigenisation in the all-encompassing deal valued around \$25 billion. The MRFA tender is expected imminently, industry sources said, with the selected platform required to complete 30-35 years of squadron service or flying time of 6,000 hours, with at least one midlife upgrade. Senior IAF officers estimated that MRFA numbers could increase to around 200 units for the IAF alone, in addition to possible export options, resulting in the platforms' cost amortisation. The six other OEMs which had responded to the IAF's MRFA RFI are Eurofighter Typhoon, Sweden's Saab (Gripen-E), Russia's United Aircraft Corporation and Sukhoi Corporation (MiG-35 'Fulcrum-F' and Su-35 'Flanker-E') and the US' Boeing and Lockheed Martin (F/A-18 and upgraded F-21).

However, in the light of the ongoing war in Ukraine, evaluating the two Russian fighter types for eventual IAF acquisition was, justifiably, irrational, considering the grave spares and components crisis the force is facing with regard to its fleet of 260 multi-role Sukhoi-30 MKIs and 50-odd upgraded MiG-29M fighter-bombers.

Alternatively, shortlisting the Typhoon would only mean adding to the IAF's continuing logistic challenges, whilst the US' F-18 and F-21 — a retrofitted F-16 — had been rejected by it on multiple capability counts during trials conducted 2010 onwards for the binned MMRCA contract. Saab's Gripen-E, on the other hand, was a single-engine platform, and though the MRFA RFI had not specified any preference for single or dual power packs, the IAF's intrinsic preference for the latter remains unstated.

Hence, by the process of elimination, Rafale was more than favourably placed in the MRFA sweepstakes, due not only to its operational superiority over its competitors, as acknowledged by the IAF — and now by the IN — but also the host of multiple ancillary factors.

There was also the abandoned contractual template for the MMRCA contract, which, industry officials said, could easily be 'tweaked' to suit an analogous MRFA purchase by resolving earlier

glitches and shortening negotiations. These anomalies had centred on insistence by the MoD that Dassault shoulder eventual quality control responsibility for the 108 Rafales licence-built by HAL. This unwarranted conditionality had emerged as the deal-breaker for the MMRCA deal and led to the IAF procuring just 36 Rafales in flyaway condition, all of which were delivered by late 2022.

Even geopolitically, Indian diplomats and security officials conceded that it was less 'arduous' conducting materiel commerce with Paris than with Washington as the former was more flexible and pragmatic than the latter, especially with regard to transferring hi-tech military knowhow.

<https://www.tribuneindia.com/news/comment/why-rafale-could-be-iafs-default-mrfa-option-530880>

THE TIMES OF INDIA

Mon, 31 Jul 2023

US is Hunting for a Malicious Chinese Computer Code, here's why

The USA's intelligence officials are on high alert due to a malicious computer code that is targeting one of America's most critical infrastructures, including communication-grade power grids, water supply systems, and military bases. This code not only poses a threat to the United States but also targets other countries.

Military operations have been severely affected by this malicious virus, causing disruptions in the American economy, military deployments, and supply chain operations. The impact is primarily felt in facilities used by civilians as well as military bases situated near the affected areas.

But how can we be sure that this software was sent by Chinese hackers and members of the People's Liberation Army (PLA)? The current administration believes that the attacks bear the hallmarks of the PLA, suggesting their interest in gaining an advantage in military operations during potential conflicts with the Chinese army. Additionally, the involvement of the United States in the Taiwan protest has strained relations with China, possibly fueling their desire to launch cyber attacks.

The USA has always been concerned about its security, and this cyber attack with malicious software comes at a time of heightened tension between China and opposing forces such as India and the United States. There is little doubt that China possesses advanced intelligence capabilities within its Information Technology infrastructure, exemplified by Chinese ventures like WeChat, TikTok, and ByteDance, which wield substantial control over social media and internet-related activities. It is crucial for the United States to fortify its IT infrastructure to counter China's malicious malware attacks effectively.

The essential institutions of the United States, including banks, schools, colleges, and government organizations, are now endangered by these malware attacks. Hence, it is imperative for the United States, being a global force, to take swift action against China's malware attacks.

<https://timesofindia.indiatimes.com/etimes/trending/us-is-hunting-for-a-malicious-chinese-computer-code-heres-why/articleshow/102251392.cms>

China's Xi Examines Western Theatre Command with Focus on 'Air Defence'

Chinese leader Xi Jinping visited the Western Theatre Command headquarters in China's Sichuan province on Monday. The Western Theatre Command is responsible for securing China's boundaries with India, Myanmar, Laos and Vietnam.

Xi is also the general secretary of the Communist Party of China (CPC) Central Committee and chairman of the Central Military Commission (CMC).

In Sichuan, he was inspecting the air force of the Western Theater Command of the People's Liberation Army (PLA), ahead of China's Army Day on August 1.

Xi stressed the need to enhance military preparedness and ensure airspace security by thoroughly carrying out regular air defence. While referring to the Communist Party's sense of control over military affairs, Xi said that the party must maintain leadership over the armed forces in ideological, political, and organisational terms.

Senior military official He Weidong took part in the inspection.

What does it mean?

Of the five theatre commands in China, the Western Theatre Command is assigned to take care of mountainous/high-altitude offensive and defensive campaigns, and related mobilisation endeavours on the India-China Line of Actual Control front.

For the past three years, the use of Unmanned Aerial Vehicles, such as quadcopter drones for functions such as delivering food and water to the PLA men, has increased. These UAVs increasingly perform intelligence and surveillance operations, acquiring targets, and engaging in swarm tactics to disengage enemy lines.

The Chinese leader's latest visit underlines the technological advancements undertaken by Beijing and the subsequent furtherance of the same in the immediate future.

<https://www.wionews.com/world/chinas-xi-visits-western-theatre-command-with-focus-on-air-defence-621021>

THE ECONOMIC TIMES

War Comes to Russian Business After Drones Strike Moscow's Financial Centre

Economic sanctions have been the biggest headache for Russia's business elite since the start of the war in Ukraine, but a drone strike in the heart of Moscow's financial district is forcing companies to think about their employees' safety.

An explosion early on Sunday rocked the Moskva-Citi business district, several miles west of the Kremlin and home to several skyscrapers, in what Russia's defence ministry said was a thwarted Ukrainian drone attack, the second in a week.

Nobody was hurt and there was only minor damage, but such attacks are uncomfortable for the authorities who have told the public that Russia is in full control of what they call its "special military operation" in Ukraine.

Tech giant Yandex, which has offices dotted around the Russian capital including in Moskva-Citi, asked staff to vacate offices at night, when strikes on the Russian capital have tended to occur.

"Taking into account the situation, we ask you not to be in the office at night (from 1 a.m. to 6 a.m.)," Yandex said in a message to employees. "The restriction applies to all Moscow offices. Take care!"

Yandex, which like many technology companies has relatively flexible working hours, declined a Reuters request for comment.

Many companies in Russia continue to allow employees to work in hybrid mode, split between home and the office, following the lockdowns imposed during the coronavirus pandemic.

Kremlin spokesman Dmitry Peskov said on Monday Ukrainian attacks on Moscow and other Russian targets were "acts of desperation" and that Russia was taking all measures possible to protect against strikes.

Kyiv typically does not claim responsibility for specific incidents on Russian territory, and did not claim the latest attack, though President Volodymyr Zelenskiy said the war was "gradually returning to Russia's territory - to its symbolic centres".

Two drones reached the Kremlin in May, the most high-profile incident, but other attacks have targeted buildings near the defence ministry's headquarters on the Moscow River and the capital's exclusive Rublyovka suburb, home to much of Russia's political, business and cultural elite.

'REALLY SCARY'

Reuters spoke to several people, who asked not to be identified, in order to gauge the business community's reaction to the incident, with some expressing fear and concern, while others remained unfazed.

"I can say that for myself it has of course become more worrying for me and my colleagues," said one person who works in Moskva-Citi. "Somewhere in the back of my mind it was always understood that Citi could be one of the targets."

One employee at a company with an office in a Moskva-Citi skyscraper said working there felt "weird", but that staff were not being sent to work remotely.

Another, who works for a bank, said most staff had been told to work from home.

Some said business was continuing as normal and that everything was calm.

One financial services professional said he did not think the attack would deter people from going to Moskva-Citi.

The attack damaged a high-rise building reported to house government offices. Reuters on Sunday saw glass panels blown out in one high-rise building and glass, debris and office documents littering part of the pavement below.

Video footage from the incident showed a bright orange explosion, accompanied by a deafening bang.

A Telegram channel run by the Russian online media group Mash broadcast photos of the damage done to the digital ministry's headquarters.

Mash reported that the ministry's staff had been asked to be resilient, but that most employees would be permitted to work from home temporarily.

The ministry did not respond to a request for comment.

For one employee at a large Russian company, the attack was a "really scary" warning.

"No one is safe, I'm afraid now."

<https://economictimes.indiatimes.com/news/defence/war-comes-to-russian-business-after-drones-strike-moscows-financial-centre/articleshow/102286094.cms>



Mon, 31 Jul 2023

China, UAE Set for Joint Air Force Training in Military First, as Beijing Forges Closer Middle East Ties

The air forces of China and the United Arab Emirates will train together for the first time next month, according to the Chinese defence ministry.

The "Falcon Shield 2023" exercises will take place in China's northwestern Xinjiang Uygur autonomous region, the ministry said in a brief statement on Monday.

China has focused on forging closer economic and military ties with countries in the Middle East, such as the UAE, as part of its post-pandemic diplomatic outreach.

Although the United States still maintains a much larger footprint in the region, China's anti-piracy operations, building of commercial ports and growing arms sales are proof of its intention to play a bigger role in regional geopolitics beyond energy trade.

At the first China-Arab States summit in December – where Chinese President Xi Jinping delivered a keynote speech – the 21 members of the Arab League and Beijing agreed to more cooperation between their militaries, including on international peacekeeping, maritime security, and combined exercises and training.

"This is the first combined air force training between China and the UAE," Monday's defence ministry statement said. "It aims to deepen pragmatic exchange and cooperation between the two militaries and to promote mutual understanding and trust."

It did not mention the size of the UAE contingent, the duration or scope of the training.

Xinjiang has hosted combined military exercises before. In 2016, the infantries of China and other members of the Shanghai Cooperation Organisation bloc trained in its mountainous area of Korla.

The following year, China trained in Xinjiang with Pakistan's air force, including exercises to improve combat logistics, night coordination and defence against electromagnetic interference.

The UAE, a traditional US ally, has taken part in many military drills with American forces, including the annual Iron Union exercise, the latest edition of which took place in May.

The Emirati military also uses many US weapons and equipment, such as the Thaad anti-missile system and AH-64 Apache attack helicopters.

The main China-made arms used by the UAE are combat drones such as the Wing Loong 1 and the Wing Loong 2. These are made by Chengdu Aircraft Industry Group, an aerospace firm indirectly owned by the Chinese government.

In 2017, the UAE also bought Blue Arrow 7 anti-tank missiles from China for use on its Wing Loong 2 fleet, according to the Stockholm International Peace Research Institute.

The UAE army had been planning to buy CR500 Golden Eagle helicopter drones made by Norinco, a Chinese state-owned defence contractor, a report on the Breaking Defence news website said in 2021, citing an unnamed official at the International Defence Exhibition and Conference (IDEX) – a biennial event held in Emirati capital Abu Dhabi.

At IDEX 2023 in February, the UAE signed up to buy several L-15 advanced training jets from China.

<https://www.scmp.com/news/china/military/article/3229485/china-uae-set-joint-air-force-training-military-first-beijing-forges-closer-middle-east-ties>



Mon, 31 Jul 2023

North Korea Showcases Hwasong-18 Ballistic Missile at Parade

North Korea has for the first time displayed its Hwasong-18 intercontinental ballistic missile (ICBM) at a public event. The weapon was showcased at a parade on 27 July to mark the 70th anniversary of Korean Armistice Agreement.

The Hwasong-18 is a nuclear-capable ICBM that has been test-fired twice thus far. The weapon was last launched on 12 July from the outskirts of Pyongyang. It flew for about 1,000 km before splashing down in the Sea of Japan (East Sea). Ahead of this firing, the Hwasong-18 was tested in April 2023.

In its statement to mark the latest test in July, state-owned Korean Central News Agency (KCNA) referred to the Hwasong-18 as a weapon that is operated by the country's strategic force as part of a mission to “deter and respond to threats of nuclear war”. The ICBM has also been described as a weapon that features a solid-fuel propulsion system.

Footage from the parade on 27 July confirms that the Hwasong-18 is deployed onboard a nine-axled transporter-erector-launcher (TEL). It has a diameter of about 2 m, is estimated to weigh about 1.5 tonnes, and is likely equipped with a three-stage solid-fuel rocket motor system.

Besides a single-warhead payload, the Hwasong-18 is also likely able to accommodate multiple independently targetable re-entry vehicles (MIRVs), which would allow the weapon to be deployed against several objectives per launch.

In addition to the Hwasong-18, North Korea also showcased the Hwasong-17 ICBM and several new strike-capable unmanned aerial vehicles (UAVs).

<https://www.janes.com/defence-news/news-detail/north-korea-showcases-hwasong-18-ballistic-missile-at-parade>

Russia Outnumbers the US 10-to-1 in Tactical Nukes. Now what?

Rarely has a movie timed the zeitgeist as perfectly as *Oppenheimer*, the story of a man, and all humanity, becoming “death, the destroyer of worlds.” Real life seems hell-bent on imitating art these days.

The blame for the global spike in nuclear anxiety belongs mainly, but not exclusively, to Russian President Vladimir Putin. Surely the situation brought about by his invasion of Ukraine and his recurring rattles of the atomic saber must also change how the US thinks about its own atomic strategy. But how exactly?

Putin has, over the past 500 days or so, destroyed each of the norms that developed during the Cold War to prevent an atomic arms race and Armageddon. First, he’s broken the nuclear taboo, by casually threatening the use of such diabolical weapons. Second, he’s undermined the consensus against nuclear proliferation, by demonstrating that foregoing nukes — as Ukraine did in the 1990s — leaves a nation vulnerable to people like him. Third, he’s chipped at the barrier between bad and good uses of fission, by turning the Ukrainian nuclear power plant at Zaporizhzhia, occupied by his troops since last March, into a potential weapon of war.

Russian television, propaganda, intelligentsia and society have taken their leader’s cue and normalized atomic intimidation, sometimes with apocalyptic hysterics. Sergei Karaganov, once an esteemed Russian defense-policy pundit, launched a particularly disturbing debate by asserting that the way to restore the West’s diminished fear of Russia’s power was for the Kremlin to drop tactical atomic bombs — not on Ukraine, but on eastern European countries that belong to NATO. The US-led West, Karaganov is sure, won’t dare to retaliate.

No matter that Karaganov doesn’t speak for the Kremlin, or that other Russian voices tried to temper his Dr. Strangelove logic. What matters is that in the space of a year the tone of nuclear geopolitics has deteriorated in ways not even the pessimists, like me, considered possible. This year, Putin also suspended New START, the last remaining arms control treaty between the US and Russia. And he placed tactical warheads in his neighboring quasi-vassal state of Belarus.

The growing importance of such tactical warheads, designed to win battles rather than incinerate nations, is what worries me most. Russia has more than 1,900 tactical nukes, roughly ten times more than the US. (The limitations of the START treaties applied only to longer-range “strategic” nukes.) And those are the weapons Putin has been menacing with. He appears to think that such “limited” nuclear warfare can compensate for his army’s revealed shortcomings in conventional warfare. And he seems to assume that tactical warheads, because they’re smaller, would blur the line at which the US would retaliate with its own nuclear strikes.

This assumption is unfathomably dangerous. It’s true that the US and its allies, in order to try to control escalation spirals, have decided to punish Putin for first use of a tactical nuke “only” with a debilitating conventional strike against Russian forces, probably those in Ukraine. But Putin or his successors, faced with catastrophic defeat and demise, would then have even more incentive to use additional tactical nukes. How would the West respond to those subsequent strikes, especially if they irradiate, or even hit, NATO territory?

The reality — and the factor that Karaganov willfully ignored — is that game theory cannot reliably forecast or quantify the risks of escalation once even the first warhead detonates. One

scientific simulation modeled how a single Russian tactical strike, in the space of less than an hour, escalates into a full nuclear exchange that leaves 44 million dead and 57 million injured, not counting the radiation fatalities that come later. As US President Joe Biden put it, “I don’t think there’s any such thing as an ability to easily use a tactical nuclear weapon and not end up with Armageddon.”

At first glance, the logic of deterrence might suggest that the US should try to close this gap in tactical nukes vis-a-vis Russia as part of the ongoing “modernization” of its atomic arsenal. Only \$6 billion of the \$756 billion that the Congressional Budget Office projects America will spend over the next decade on upgrading its nuclear forces is slated to go to tactical weapons, and only \$3 billion to their modernization. That’s after the Biden administration canceled a program to build tactical nukes launched on cruise missiles from ships. Given what Putin is up to, isn’t that unwise?

Not really. That, at least, is the near-consensus among many in the nuclear know. It’s a mistake to think that enemy powers could trade tactical strikes indefinitely, says Daryl Kimball, head of the Arms Control Association in Washington, DC. The damage would be so devastating so quickly that the conflict would either end or escalate to strategic nukes and Armageddon. So there’s no military rationale for having more than a few dozen tactical weapons.

The distinction between strategic and tactical nukes isn’t helpful, adds Jeffrey Lewis, a nonproliferation expert at the Middlebury Institute of International Studies at Monterey. The categories were created when the Soviets and Americans started negotiating about arms control during the Cold War, and wanted to include or exclude specific weapons they had. The logic of deterrence instead remains the same no matter the weapon: You need to persuade your adversary that any resort to nuclear warfare will never succeed and will be answered with unacceptable destruction.

This suggests that the US already has the appropriate strategy for situations such as Putin’s war of aggression and nuclear bluster. It is, first, to maintain conventional military prowess so overwhelming that Putin could never gain anything from dropping a tactical nuke — the US would obliterate his forces with non-nuclear firepower. Second, it is to remind Putin that any apocalyptic turn, including nuclear launches at the West, would be answered in kind. The Cold War logic of “mutual assured destruction” still holds.

What complicates the longer-term picture is that a new arms race is also underway. China, a relatively small nuclear power with about 410 warheads, plans to rapidly increase its stockpile to 1,000 this decade, with an ultimate goal of reaching parity with the US and Russia. That doesn’t mean China is a destabilizing factor yet. Its president, Xi Jinping, has done more than anybody else so far to restrain Putin, by telling his nominal “friend” face-to-face not to use a nuke, lest he lose Beijing’s support.

But China’s ambitions make arms control, never easy, fiendishly difficult. Even in the previous situation of two nuclear superpowers and seven middling or minor powers, the game theory of disarmament and nonproliferation negotiations has stretched human cognition to its limits. China joining the US and Russia as an atomic superpower will turn that constellation into a “three-body problem” — the kind that’s been driving scientists crazy ever since Isaac Newton tried and failed to go from modeling the earth and moon to considering those two and the sun as well.

For starters, should the US view Russia and China as separate threats, or potentially as one combined adversary? In that case, America would need to scale up its arsenal dramatically. That would be economically ruinous. It would also make the Chinese even more paranoid about US intentions, prompting them to accelerate their production.

Then there's the prospect of proliferation. As North Korea adds to its nuclear stockpile, South Koreans become more likely to build their own nukes. If Iran crosses the atomic threshold and makes its own warheads, Saudi Arabia, Turkey and others in the region will eventually follow.

The surprising conclusion for the US, nonetheless, is that America already has the right strategy and should stick to it. That, too, is leadership — not to let wannabe tsars and tin-pot dictators provoke a superpower into runaway arms races. With the so-called Global South watching, it behooves Washington to demonstrate that it — not Beijing or Moscow — is the responsible actor in world affairs.

For purposes of deterring Russia, China and all other adversaries, the US doesn't actually need all the nukes it already has, Jon Wolfsthal, the nuclear specialist on the National Security Council during the administration of Barack Obama, told me. So "modernization" is mainly about updating existing systems, from the warheads to the triad of delivery mechanisms on land, at sea and in the air. And that's about right.

Beyond that, the US must signal that it'll always stay open to negotiations, with Russia, China or any combination of countries. In time, and under different leaders in Moscow and other capitals, these talks could progress to encompass a global nuclear freeze, and eventually even the worldwide prohibition of nuclear weapons.

Until then, the US is right to deter, with conventional military superiority and the nuclear arsenal it has. Admittedly, even that thought doesn't provide much comfort. The dirty secret of deterrence is that it works until it fails, and when it fails, it fails spectacularly.

Hence the anxiety ever present since 1945, when Robert Oppenheimer tested the first atomic bomb. While building it, the scientists worried that the blast might set off a chain reaction that would destroy the whole world, Oppenheimer tells Albert Einstein at the end of the new movie in cinemas now. "What of it?", asks Einstein. "I believe we did," replies Oppenheimer. And then the atoms start splitting.

<https://economictimes.indiatimes.com/news/defence/russia-outnumbers-the-us-10-to-1-in-tactical-nukes-now-what/articleshow/102278382.cms>

Science & Technology News

The Statesman

Tue, 01 Aug 2023

Chandrayaan-3 Leaves Earth's Orbit, 'Next Stop: the Moon', Says ISRO

A week after its flawless launch from Sriharikota, Chandrayaan-3 has finished its orbit of the earth and is on its way to the moon for the mission's next stage, according to a late-night statement from the Indian Space Research Organization (ISRO). "Next stop: the Moon," ISRO tweeted on Tuesday morning.

After finishing its rotations around the Earth, Chandrayaan-3 has now turned toward the Moon. ISRO successfully injected the spacecraft into a translunar orbit using a perigee-firing at ISTRAC. Moon is the next station. After the spacecraft was successfully inserted into the translunar orbit, ISRO tweeted that the Lunar-Orbit Insertion (LOI) is scheduled for August 5, 2023, when it will

reach the moon. Chandrayaan-3 would attempt soft landing on the lunar surface on August 23. Indian Space Research Organisation (ISRO) has said.

The lunar injection took place on Monday between 12 and 12.30 am, according to officials.

According to ISRO officials, the Chandrayaan-3 mission is proceeding according to plan, and the spacecraft's health is at this time normal.

Chandrayaan-3, India's third lunar mission, was successfully launched into orbit by ISRO on board Launch Vehicle Mark-3, formerly known as the Geosynchronous Satellite Launch Vehicle (GSLV) Mk-III, on July 14 afternoon at Sriharikota, Orissa.

After a 40-day journey, the spacecraft is anticipated to touch down softly near the lunar south pole, making India the fourth nation and the first one to do so.

The orbit of the spacecraft was gradually raised by five times following the July 14 launch of the Chandrayaan-3 mission to the Moon.

In order to demonstrate end-to-end capability in safe landing and wandering on the lunar surface, Chandrayaan-3 is a follow-up mission to Chandrayaan-2. It consists of a Lander and Rover.

The lander and rover configuration will be propelled by the propulsion module up to a 100 km lunar orbit. To examine the spectral and Polarimetric data of Earth from the lunar orbit, the propulsion module is equipped with the Spectro-Polarimetry of Habitable Planet Earth (SHAPE) payload.

<https://www.thestatesman.com/india/chandrayaan-3-leaves-earths-orbit-next-stop-the-moon-says-isro-1503206969.html>

