

अप्रैल

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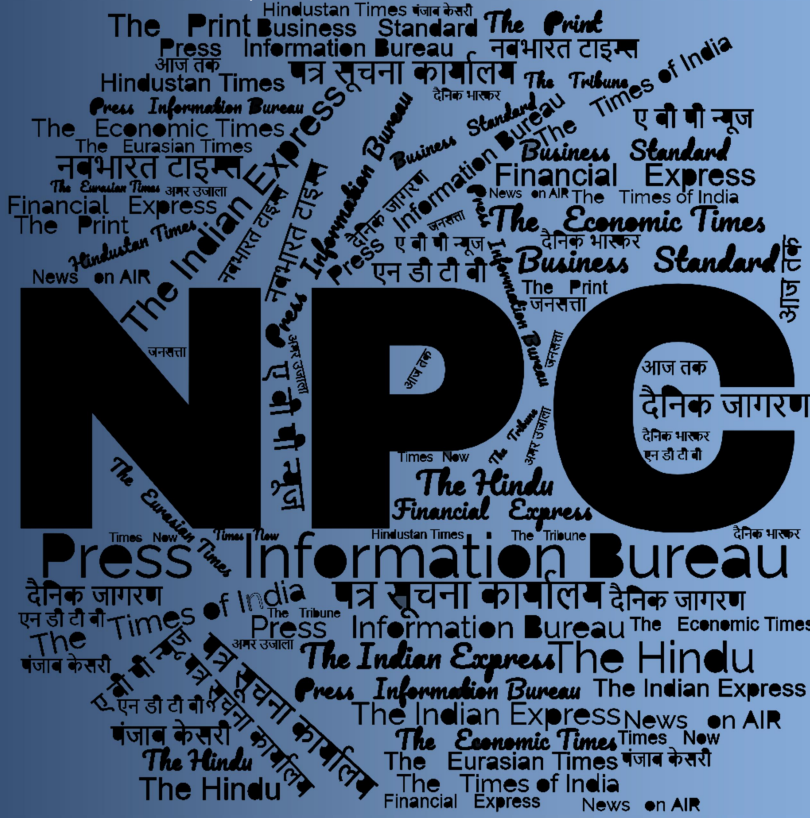
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DRDO News

DRDO on Twitter



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8:46 PM · Apr 10, 2023 · 13.3K Views



Press Information Bureau
Government of India

Ministry of Defence

Mon, 10 Apr 2023

Exercise Cope India 2023

Exercise Cope India 23, a bilateral Air Exercise between the Indian Air Force (IAF) and the United States Air Force (USAF) is being held at Air Force Stations Arjan Singh (Panagarh), Kalaikunda and Agra. The exercise aims to enhance mutual understanding between the two Air Forces and share their best practices.

The first phase of exercise has commenced today. This phase of the exercise will focus on air mobility and will involve transport aircraft and Special Forces assets from both the Air Forces. Both sides will field the C-130J and C-17 aircraft, with the USAF operating an MC-130J, as well. The exercise also includes the presence of Japanese Air Self Defence Force aircrew, who will participate in the capacity of observers.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1915316>

ThePrint

Mon, 10 Apr 2023

India-US Kick off Air Exercise in Northeast's Panagarh, IAF next in France, Greece

India and the US on Monday began their bilateral air exercise in the crucial Panagarh sector under the Eastern Command, home to the country's only mountain strike corps aimed at China.

The exercise will see transport aircraft and fighters in action.

While it will go on, India will also send its Rafale fighters to France later this month to take part in their multilateral air exercise that will see the participation of the country's NATO allies.

In addition to that, India will also be taking part in another multilateral exercise with Greece later this month which will also see the involvement of NATO countries and others. Asked whether the back-to-back exercises with the US and NATO countries were indicative of a new strategy, sources in the defence establishment said these were routine exercises that various arms of the Indian military undertake every year with friendly foreign nations.

Earlier this month, US NATO Ambassador Julianne Smith, while speaking on NATO and strengthening relationships with South Asia and the Indo-Pacific, had said the North Atlantic Treaty Organisation was ready to engage more with India if it was interested.

Meanwhile, talking about Cope India 23, the bilateral air exercise between the IAF and the United States Air Force (USAF), the force in a statement said the exercise aims to enhance mutual understanding between the two air forces and share their best practices.

The first phase of the exercise commenced from Air Force Station Arjan Singh (Panagarh) and will also cover air force stations at Kalaikunda and Agra. The phase that began Monday will focus on air mobility and will involve transport aircraft and special forces' assets from both air forces.

Both sides will field the C-130J and C-17 aircraft, with the USAF operating an MC-130J as well. The exercise also includes the presence of Japanese Air Self Defence Force aircrew, who will partake as observers.

The second phase of the exercise would be held in Kalaikunda and will see the participation of the fighters. On the Indian side, the IAF will field the Rafale, Tejas and Su-30 MKI while the Americans are expected to bring in their F-15s, and two of their B-1 bombers.

Closely after this, Indian Rafale fighters will take off for Orion, an exercise that is being hosted by France, involving many of its NATO and other important allies.

This would be the first time when Rafales will fly off to take part in an exercise.

Since the exercise will take place in the backdrop of the ongoing Russia-Ukraine war, the scenario simulated will be on what can be done when a larger military power attacks a smaller nation, sources said.

After this, the IAF will send in its Su-30 MKI for Iniochos-23, which is being hosted by Greece. Also participating will be the US, France, Italy, Jordan and Saudi Arabia among others.

<https://theprint.in/defence/india-us-kick-off-air-exercise-in-northeasts-panagarh-iaf-next-in-france-greece/1509587/>

THE TIMES OF INDIA

Mon, 10 Apr 2023

Two B1 Heavy Bomber Jets of US to Join Exercise in India for First Time

For the first time, two B1 heavy bomber jets of the US Air Force will be part of an India-US mega air exercise that began on Monday amid rapidly evolving regional security scenario and China's growing military muscle-flexing in the Indo-Pacific.

The American platforms at the exercise 'Cope India' that started off Kalaikunda will also include a fleet of F-15 E fighter jets, C-130 and C-17 transport aircraft.

The B1 bombers and F-15 E fighters will join the exercise later this week, Gen Kenneth S Wilsbach, the commander of the US Pacific Air Forces, told a small group of journalists. Two B1 bombers had joined the American exhibits at Aero India in Bengaluru in February but this will be for the first time that the aircraft will be part of an exercise in India.

Nicknamed "The Bone", the B-1B is a long-range, multi-mission, conventional bomber capable of carrying out missions worldwide from its bases in the United States, as well as from forward deployed locations.

The bomber carries the largest conventional payload of both guided and unguided weapons in the US Air Force and is considered the backbone of America's long-range bomber force.

Talking about the regional security scenario, the senior military commander said the objective of the US as well as other like-minded countries like India is to ensure a free and open Indo-Pacific.

Replying to a question, he said the People's Liberation Army (PLA) Air Force along with the PLA Navy has had significant advancements and modernisation of their forces over the last 15 to 20 years.

Gen Wilsbach said Chinese forces have taken a look at who they perceive as their challenges and their threats and are pursuing policies accordingly.

The air forces of the US and India are watching it very closely, he said.

Asked about China ramping up air assets along the Line of Actual Control in eastern Ladakh, he chose not to give a direct reply but noted that the main issues are adherence to rule of law and sovereignty.

The US military commander met Air Chief Marshal VR Chaudhari and discussed issues of mutual interest and means to further enhance cooperation between the two air forces.

Gen Wilsbach also called on Defence Secretary Giridhar Aramane.

He said the US will deploy two B1 bombers, four to six F-15 Es, one C-17 and two C130s.

The exercise is being held at Air Force Stations Arjan Singh (Panagarh), Kalaikunda and Agra.

It aims to enhance mutual understanding between the two air forces and share their best practices. The first phase of the exercise commenced on Monday.

The Indian Air Force said this phase of the exercise will focus on air mobility and will involve transport aircraft and Special Forces assets from both the air forces.

"We are in a unique part of history. The US's objective in the Indo-Pacific is a free and open Indo-Pacific," the US military commander said.

He said almost all the countries in the region share that goal.

"Certainly India is one of them. What you are seeing is unprecedented cooperation among like-minded countries that value free and open Indo-Pacific, that value democracy, that value that their citizens get to determine their future by voting for their leaders and taking their countries forward," he said.

"That is very positive. That is something happening in the Indo-Pacific. If you bring it down to strategic political, into the military, a lot of those like-minded nations are also working together in one way or the other," he said.

"For those countries which perhaps do not want it to be a free and open Indo-Pacific, they would like to impose their will, that could be problematic," he added.

The Indo-US defence ties have been on an upswing in the last few years.

In June 2016, the US designated India a "Major Defence Partner" paving way for sharing of critical military equipment and technology.

The two countries have also inked key defence and security pacts over the past few years, including the Logistics Exchange Memorandum of Agreement (LEMOA) in 2016 that allows their militaries to use each other's bases for repair and replenishment of supplies.

The two sides also signed COMCASA (Communications Compatibility and Security Agreement) in 2018 which provides for interoperability between the two militaries and provides for the sale of high-end technology from the US to India.

In October 2020, India and the US sealed the BECA (Basic Exchange and Cooperation Agreement) agreement to further boost bilateral defence ties. The pact provides for sharing of high-end military technology, logistics and geospatial maps between the two countries.

<https://timesofindia.indiatimes.com/india/two-b1-heavy-bomber-jets-of-us-to-join-exercise-in-india-for-first-time/articleshow/99386748.cms>

THE ECONOMIC TIMES

Mon, 10 Apr 2023

Important to have India on Board: Ukraine's First Deputy Foreign Minister

India is a global leader and can help in addressing key global challenges and promoting peace, Ukraine's First Deputy Foreign Minister Emine Dzhaparova said on Monday and invoked Prime Minister Narendra Modi's message to Russian President Vladimir Putin in September last year that 'today's era is not of war'. After briefing Secretary (West) in the Ministry of External Affairs Sanjay Verma on the ground situation in Ukraine, Dzhaparova said she updated the Indian side on Ukraine's efforts to fight Russia's "unprovoked aggression" and invited New Delhi to join President Volodymyr Zelenskyy's peace formula and the grain initiative.

Dzhaparova said it is important to have India on board.

At the same time, she also said that Ukraine is not in a position to instruct India on its economic relations with other countries, in an apparent reference to New Delhi's energy ties with Moscow.

Dzhaparova's visit to India is the first from Ukraine after Russia began its invasion of the east European country on February 24 last year.

Replying to a question during a brief interaction with reporters after meeting Verma, Dzhaparova described India as a global leader and a 'Vishwaguru' which can play a role in addressing global challenges.

"I think India is a global player. It is really a 'Vishwaguru' of the world. We are feeling the pain by actually fighting for the values. This is about justice. Russia is questioning the very existence of my country. In our history of 1,500 years, Ukraine never attacked any country," she said.

"We never have this imperialistic and chauvinistic attitude towards our neighbours. We are victims of the unprovoked neo-colonial war.

"There is a need to promote peace and justice as your prime minister in Samarkand also said that 'it is not an era of war'. Would we support this? Purely and fully," she said.

The Ukrainian First Deputy Foreign Minister, referring to Russia, said, "Unfortunately, we have a country which questions the existence of other countries."

"On the question of India's involvement- as a leader of the global south as a country holding the G20 presidency- we hope that India will be involved and engaged in global issues and challenges, economic challenges, energy challenges and nuclear challenges to a great extent," Dzhaparova said.

In his bilateral meeting with Putin in Uzbekistan on September 16 in the Uzbek city of Samarkand, Modi said, "Today's era is not of war" and nudged the Russian leader to end the conflict.

She also noted that an invitation to PM Modi to visit Ukraine is already there and Ukrainian President Zelenskyy will also extend the same to the Indian leader.

Asked about India's economic ties with Russia, especially in the energy field, she said, "We are not in the position of instructing India in their economic ties with other countries..."

"I think that India should be pragmatic in diversifying the energy resources, in diversifying military contracts, in diversifying political interaction."

At the same time, Dzhaparova noted that "what we see in my country when you are dependent on Russia, they will always use this blackmail instrument."

Dzhaparova described her meeting with Verma as a "great" one and said the talks focused on a wide agenda of bilateral track including digital transformation.

On the situation in her country, she said it is "quite difficult", adding around 10,000 civilians were killed.

"I think it was an important conversation and I hope that our political dialogue will be much more intensified," she said.

In a tweet, Verma said he and the visiting dignitary discussed bilateral engagements and cooperation going forward.

"Pleasure to receive Ukrainian Deputy FM @EmineDzheppar. Perspectives shared. Discussed bilateral engagements and cooperation going forward. Wishing her a good trip. Her first as DFM, but a country she is familiar with," he said.

On her part, Dzhaparova said: "Updated on Ukraine's efforts to fight Russian unprovoked aggression. Invited India to join President Zelenskyy's PeaceFormula & GrainFromUkraine initiative. Important to have India on board."

Zelensky put forward the ten-point "peace plan" for ending the conflict that included punishing those responsible for the war crimes, withdrawing all Russian troops from Ukraine, and restoring his country's territorial integrity.

Under the plan, he also called for ensuring energy security, food security, and nuclear safety, adding a document confirming the end of the war should be signed by the parties when all the "anti-war measures" are implemented.

Following its invasion of Ukraine, Russia blocked maritime access to the Ukrainian ports that resulted in a total halt in the export of millions of tons of grains from that country, triggering a global food crisis.

Since the Ukraine conflict began in February last year, Prime Minister Modi spoke to Russian President Vladimir Putin as well as Ukrainian leader Volodymyr Zelenskyy a number of times.

In a phone conversation with President Zelenskyy on October 4 last year, Modi said that there can be "no military solution" and that India is ready to contribute to any peace effort.

India has not yet condemned the Russian invasion of Ukraine and it has been maintaining that the crisis must be resolved through diplomacy and dialogue.

<https://economictimes.indiatimes.com/news/india/important-to-have-india-on-board-ukraines-first-deputy-foreign-minister/articleshow/99386442.cms>



Mon, 10 Apr 2023

As the Ukraine War Grinds on, Russia, India Seek Ways to Keep Defence Trade Afloat Premium

By Ksenia Kondratieva

A year after the Ukraine war began, there are growing speculations about the ability of Russia, hit by heavy western sanctions and faced with dwindling exports, to continue to supply defence systems to India, one of its most important defence customers. Such concerns are largely rooted in payment problems that India and Russia are yet to resolve, according to sources in the Russian government, defence, and banking sectors. However, experts believe the setbacks that Russian defence exports face due to sanctions could be outweighed by advantages Moscow may have once the war is over.

Countries that sanctioned Russia

Companies have responded by halting operations in Russia in various ways in over 140 instances. (Data as of February 6, 2023)

There were media reports last month that India may not get the delivery of the two remaining S-400 Triumf missile defence systems that it had ordered in 2018 for around \$5.4 billion. The reports cited the 34th Report of the Standing Committee on Defence (2022-23), presented in the Lok Sabha on March 21, where a representative of the Air Force suggested that the sharp decline in the budget estimate for the fiscal year was related to "some of our deliveries not taking place".

Russian officials refuted the media reports. “Russian-Indian defence cooperation is developing steadily in accordance with previously reached agreements and signed documents,” said the Federal Service for Military-Technical Cooperation (FSVTS), which oversees military-technical cooperation with foreign countries.

When The Hindu approached, the FSVTS, state-owned defence manufacturer Rostec, its agency for exports and imports of defence-related items Rosoboronexport and Concern VKO Almaz-Antey, the maker of S-400 systems, all refused to provide any additional comments and referred to the March statement. The Russian embassy in New Delhi, too, said there is nothing more to add at this point.

Money first

Off the record, however, officials admit payment remains an issue when it comes to trade with India.

Russia is currently fulfilling several major contracts previously signed with India, including, the S-400 systems and two Project 11356 frigates. There are more deals on the plate, including procurement of additional and modernisation of existing Sukhoi Su-30 MKI and upgrade of MIG-29s, where no final terms have been achieved. Several commenters suggested that such contracts will not be signed till the Ukraine conflict is over.

A source in the Russian defence industry said payments remain the key issue for the aircraft deals being negotiated. He noted that while India “doesn’t have many options” when it comes to fighter jets and helicopters, given both the budgets available and urgency in bringing Air Force strength to sanctioned 42 squadrons, the country’s push for increasing indigenous manufacturing is something Russian original equipment manufacturers (OEMs) account for.

India’s total imports from Russia rose by five times from \$8.5 billion in April 2022 to \$41.6 billion in February 2023, driven mainly by oil supplies. A source in the banking industry with direct knowledge of negotiations on payments said almost the entire amount of this \$41 billion has now accumulated in the vostro accounts opened by Russian banks with authorised dealer banks in India.

Russian authorities have not yet decided on how to use this money, the person added. There are several options and mechanisms being worked out, including investments within India as well as converting into third countries’ currency. But the most preferable way for Russia to get further payments would be roubles — something that India is not able to do, unlike some other countries. The person did not specify which countries pay Russia directly in roubles.

Aleksei Zakharov, research fellow at the School of International Affairs, Higher School of Economics, pointed out two key impediments in rouble payment: first, the concerns of the Indian financial sector which is overall slowly adopting new mechanisms, and second, lack of trust on the Russian rouble.

“India is hesitant about the rouble after it experienced a serious shock last year, and there is an understanding that it is almost impossible to evaluate it correctly. Therefore, the Indian side has no particular interest in trading in the Russian currency and Delhi tried to rely on payments in the rupees. But then, the question Russia faces is whether it needs such an overabundance in the rupees. There is a discussion about what to do with this overabundance and how to adapt to this currency; it turns out that it is not possible to take the profit out, instead it can only be reinvested”.

Agreed Alexey Kupriyanov, Senior Research Fellow at the Institute of World Economy and International Relations (IMEMO), Moscow. “Indian banks that are afraid to take risks and process the payments are simply losing money. If these excessive fears are overcome, it will greatly help to streamline the cooperation between countries.” “If there was something that Russia could buy from India for \$40 billion, there would be no problems — in that case, the existing rupee-rouble mechanism would be enough. But there is nothing that Russia can import at such a scale,” the banking source quoted above said.

This issue is likely to be discussed on April 17-18, when a delegation from Russia travels to New Delhi for a meeting of the India-Russia Intergovernmental Commission on Trade, Economic, Scientific, Technological and Cultural Cooperation (IRIGC-TEC). The Commission will meet in person for the first time after a five-year break — the last session, the 23rd (the first meeting took place in 1994) was held in 2018 in Moscow.

“The two sides agreed to work together to unlock the full potential of India-Russia bilateral trade and economic relations, including through addressing the trade deficit and market access issues,” India’s Ministry of External Affairs stated back in March after Minister S. Jaishankar held a virtual meeting with Denis Manturov, Russia’s Deputy PM and Minister of Trade and Industry.

Trade diversification was the focus of the business forum organised by the Russian side in New Delhi on March 29-30. However, defence is the mainstay of the trade between the countries and Russia’s defence industry is facing renewed challenges in recent years.

Declining share

Russian defence exports dropped by 46% in 2022 from the year before. “It is clear that a significant part of the weapons are produced for domestic consumption, for the needs of the armed forces, but even in these conditions, we have already sold \$8 billion worth of weapons in the world markets,” Russian President Vladimir Putin said late last year. According to Dmitry Shugaev, the head of the FSVTS, Russia exported weapons worth \$14.6 billion in 2021. Russia exports weapons to Syria, Iraq, Egypt, India, China, Algeria and Kazakhstan.

According to the latest report by the Stockholm International Peace Research Institute (SIPRI), a Swedish think tank, Russian arms exports remained stable between 2008-12 and 2013-17, but fell by 31% between 2013-17 and 2018-22. The annual volumes of arms exports started reducing significantly after 2019, SPIRI noted.

This is both due to Western sanctions, particularly the U.S. defence sanctions expanded in 2017 through the Countering America’s Adversaries Through Sanctions Act (CAATSA), aimed at restricting Russia’s ability to raise export revenues, as well as increasing pressure on Russian trade partners, experts note. As a result, Russia’s share of global arms exports fell from 22% in 2013-2017 to 16% in 2018-22, while that of the U.S. increased from 33% to 40% in the same period. SIPRI data show Russia’s share of arms imports to India fell from 69% in 2012-17 to 46% in 2017-21, while Moscow still remained the key defence supplier to New Delhi. These figures, however, should be put in the context.

Grey zone

Apart from sanctions-related issues outlined above, experts point out that a large chunk of Russia’s defence exports are in a “grey zone” with no data available — and access to any trade data was restricted further by the Russian government since the beginning of the Ukraine

invasion. Another important factor is that India's requirement has changed, and there are certain specific systems that Russia is not able to supply.

Moreover, all foreign players in the Indian defence market were impacted by its policy shift under India's Atma Nirbhar Bharat and Make In India initiatives, according to Mr. Kupriyanov of the IMEMO. "India is striving to increase weapons exports and domestic production. The situation where India imports defence items worth billions is no longer valid. Therefore, all the players are looking for new ways and new opportunities in the Indian market — through joint ventures, through setting up such enterprises where R&D would be distributed between partners, or by including Indian domestic manufacturers into OEM's global production chains," he said.

Post-war possibilities

While he admitted the situation is not very favourable for Russia, sooner or later the conflict will end. "Russia is likely to emerge from the conflict having a range of weapons that are tested in combat and that are significantly improved and upgraded based on their real-time performance. This will give Russia a great advantage in terms of defence exports," Mr. Kupriyanov added.

Rostec chief Sergey Chemezov, earlier this year, noted that some of the performing weapons during the Ukraine war, were T-90M tanks, Iskander missiles and various types of multiple launch rocket system (MLRS) as well as combat aircraft such as Ka-52 and Mi-28 helicopters, Su-35S and Su-57 fighters, Cube and Lancet drones. At Aero India in Bangalore, Rosoboronexport chief Alexander Mikheev said Russia has showcased its reconnaissance and strike drone Orlan and long-duration UAV Orion-E, which could be of interest to both military and civilian customers.

He noted that with the increased role of UAVs not just in the battlefield, but for securing critical infrastructure sites, the demand for both UAVs and radar complexes able to detect them could give a boost to Russia's export portfolio.

But for the big business to take off, the conflict should come to an end first.

<https://www.thehindu.com/news/international/as-the-ukraine-war-grinds-on-russia-india-seek-ways-to-keep-defence-trade-afloat/article66720278.ece>

ThePrint

Tue, 11 Apr 2023

U.S., Japan, South Korea Defence Officials to Meet on Friday, Japan says

Japan announced on Tuesday it will hold trilateral defence talks with the United States and South Korea on Friday in Washington to discuss regional issues including North Korea's nuclear and missile threats.

The three countries last week expressed deep concern over North Korea's "malicious" cyber activities to support its weapons programmes in a joint statement issued in Seoul.

<https://theprint.in/world/u-s-japan-south-korea-defence-officials-to-meet-on-friday-japan-says/1510748/>

'New US Bases in Philippines for Territorial Defence, not Offensive Actions,' says Prez Marcos as China Fumes

No “offensive actions” will be allowed on Philippines military bases that have been opened up for US troops, President Ferdinand Marcos has warned.

Last week, Manila, the capital of the Philippines, announced four more locations for the US military’s use on top of the five that have already been agreed upon under the 2014 Enhanced Defense Cooperation Agreement (EDCA).

Marcos’ clarification comes after China cautioned that an expanded military deal between the Philippines and the US could endanger regional peace while accusing America of a “zero-sum mentality.” The president said that China’s reaction was “not surprising” and assured that the country is only shoring up its territorial defence.

He said, “We will not allow our bases to be used for any offensive actions. This is only aimed at helping the Philippines whenever we need help.”

“If no one is attacking us, they need not worry because we will not fight them,” he added.

The four new bases are located in the hotly contested region of the South China Sea.

Incidentally, the comments came amid China’s military exercise in Taiwan.

What is the Enhanced Defense Cooperation Agreement?

EDCA is an agreement between the Philippines and US that allows the latter to access a selected number of military bases on Filipino land on a rotational basis. The locations are nominated by the government of the Philippines.

Under EDCA terms, US is authorised to access facilities like runways, fuel storage, and military housing.

As mentioned before, both countries inked a deal to increase the number of military bases US can use. A statement released by EDCA read, “The United States and the Philippines have stood shoulder-to-shoulder as friends and allies for more than seven decades, unwavering in our treaty commitments and our shared vision for a more peaceful, secure, and prosperous region.”

President Marcos’ pro-US sentiment

The EDCA was initially stalled by former President Rodrigo Duterte, who favoured closer ties with China.

However, Marcos, who succeeded Duterte in June, has adopted a more US-friendly foreign policy and sought to accelerate the implementation of the EDCA.

Marcos has insisted he will not let Beijing trample on Manila’s maritime rights.

<https://www.firstpost.com/world/new-us-bases-in-philippines-for-territorial-defence-not-offensive-actions-says-prez-marcos-as-china-fumes-12434122.html>

Russia Plans Air Defence Reform, to Bolster Defences near Finland – Commander

Russia plans to overhaul its air defence forces after gaining new experience in the war in Ukraine and will also bolster its air defences to counter Finland's accession to the NATO military alliance, a commander in Russia's aerospace forces said.

Since Russia invaded Ukraine on Feb. 24 last year in what it calls "a special military operation", the fighting has descended into a grinding artillery war with extensive use of drones and missiles, testing the air defences of both Russia and Ukraine.

In an interview published on Monday with the Red Star newspaper, Lieutenant General Andrei Demin, deputy commander-in-chief of aerospace forces, said air defence forces had faced a number of challenges in the face of Ukrainian strikes.

Russia, he said, had added more than 50 mobile radar stations and A-50 early warning and control aircraft patrolled 24 hours a day while missile and anti-aircraft installations in regions next to Ukraine had been bolstered. In Ukrainian regions under Russian control, air defence units had been set up to defend key installations, Demin said, while Russia had ramped up production of the RLK-MC anti-drone system. Reforms "are undoubtedly planned and will be implemented," Demin told the defence ministry's newspaper. "The purpose of the upcoming changes is the development of the armed forces, aimed at improving the air defense system of the Russian Federation."

Demin said that Russia would also bolster its defences after Finland, which shares a 1,300-km (800-mile) border with Russia, joined NATO.

"In these conditions, the air defense forces are working out issues of protecting the state border in the north-west of the country in accordance with the increased threat level," Demin said.

<https://economictimes.indiatimes.com/news/defence/russia-plans-air-defence-reform-to-bolster-defences-near-finland-commander/articleshow/99382900.cms?from=mdr>



Tue, 11 Apr 2023

Russia Unleashes 'Tank Hunter' Unit to Obliterate Western MBTs; Ukraine Warns about Moscow's 'FABulous' Bombs

By Ashish Dangwal

Ukraine has warned about the newly modified Russian FAB-500 aerial bombs that pose a grave threat to the country's air defense systems. This warning comes as Ukraine plans to launch a

fresh counter-offensive to recapture key territories in the upcoming months. In recent weeks, Ukrainian military leaders have hinted at possibly launching a new counter-attack on Russian forces. But there is limited information regarding specific targets and details of the operation. Ukraine military officials have now warned that Russian forces are using upgraded FAB-500 aerial bombs against areas close to the front lines.

In a recent broadcast, the Air Force spokesperson for the Ukrainian Armed Forces, Yuriy Ihnat, said that the Russian military has begun turning FAB-500 high-explosive aerial bombs into cruise missiles. As per a report from *Ukrainska Pravda*, a Ukrainian online newspaper, the Russian military is utilizing these bombs from a range beyond the reach of Ukrainian air defense systems. According to the news source, Ihnat added that Ukraine believes Russia may be getting ready to increase the production of these weapons, which will incorporate wings and GPS navigation.

The commander of the Ukrainian military's air force, Mykola Oleshchuk, issued a similar warning on using these bombs.

Oleshchuk warned in a Telegram post that Russia is increasingly employing 500-kilogram guided air bombs along the entire front line.

Furthermore, it was reported that Sergei Shoigu, the Minister of Defense of the Russian Federation, was recently inspecting the facility where a manufacturing line was established to produce these types of bombs.

Russian planes avoid entering the Ukrainian air defense systems range and carry out remote strikes on the front line and nearby cities. According to Oleshchuk, utilizing F-16 fighter jets would enhance Ukraine's capability to counter these bombs effectively.

Ukraine has asked its Western partners, particularly the United States, to give it modern fighter jets to strengthen its defenses. The war-torn country has particularly requested F-16 "Fighting Falcon" fighter jets. Nevertheless, the Biden government has refused to provide them to Kyiv.

Equipped with air-to-air missiles that can cover distances of up to 180 kilometers, the F-16 can deter hostile aircraft from approaching Ukrainian borders and the front line, thereby reducing the probability of deploying guided aerial bombs and other air-based weapons, Oleshchuk noted.

Moscow To Deploy 'Tank Hunters'

A senior Russian defense official stated in an interview published on April 10 that Russia is assembling tank-killer groups to counter NATO MBTs that Kyiv has received from its Western allies. In an interview with Russian media, Evgeny Arifulin, the director of a military training center located in central Russia near Nizhny Novgorod, stated that Yunus-Bek Yevkurov, the Russian Deputy Defense Minister, had given the directive to establish the units.

Arifulin said that the Russian military has developed "instructional guidelines" to accomplish this objective, which is currently being executed at the training facility. Russian President Vladimir Putin predicted that Ukraine could get around 400 tanks produced in the West in late March. The German Ministry of Defense announced last month that 18 Leopard 2 A6 tanks and ammo and spare components had arrived at their destination.

The Russian military is creating specialized groups whose primary responsibility is eliminating Western-made tanks. According to the Russian military official, the latest step is a comprehensive and organized effort being implemented at the national level.

In addition to training the ‘tank hunters,’ the facility also provides training in various other fields, such as artillery firing and operation of missile systems, Arifulin remarked. The facility can train up to 700 soldiers simultaneously, the official noted.

Arifulin highlighted that the Russian military’s attention is primarily directed toward countering Western armored vehicles.

He also mentioned that the military has thoroughly studied all types of tanks, including the American M1 Abrams, German Leopards, British Challengers, and French Leclercs.

“Tank hunter” group members are being coached by seasoned instructors who have participated in numerous battles in recent years, including the ongoing military operation in Ukraine.

It was also noted that these groups only consist of a few soldiers, most of whom are equipped with anti-tank guided missile launchers and mostly use reconnaissance drones.

The Kremlin has repeatedly warned Western countries that providing weapons to Kyiv makes them a direct participant in the ongoing conflict.

Regarding the supply of tanks to Ukraine, Dmitry Peskov, the Kremlin Press Secretary, remarked that these tanks would suffer the same fate as the rest of Ukraine’s military equipment and wouldn’t have any impact on the outcome of the fighting.

<https://eurasianimes.com/russia-unleashes-tank-hunter-unit-to-obliterate-western-mbts/>

Science & Technology News



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“TDB-DST Approves Support to M/s MLIT-18 Technology Private Limited; the Company Aims to Commercialize Machine Vision and Robotics System for Automation in Manufacturing Industry”

“IIT Kanpur incubated startup gets TDB-DST funding; TDB aids startup for ₹ 4.12 crores for commercializing Machine Vision and Robotics System for Automation in Manufacturing Industry”

Innovative solutions that unite Artificial Intelligence and Robotics are going to be the key stone for next generation industrial revolution. The Government of India under the leadership of Hon'ble Prime Minister organized "RAISE-2020" to focus Artificial Intelligence (AI) as the key for digital economy and started many programs with a vision to ‘Make AI in India and Make AI

work for India'. To support this Government initiative, Department of Science & Technology has implemented the National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS), which is implemented through 25 Technology Innovation Hubs across India.

To further enable this, Technology Development Board has now entered into an agreement with the company M/s MLIT-18 Technology Private Limited for "Commercialization of Machine Vision and Robotics System for Automation in Manufacturing Industry". The board has pledged a support of ₹4.12 Crores out of the total project cost of ₹5.89 Crores. The company is incubated at the Startup Incubation and Innovation Centre, Indian Institute of Technology, Kanpur.

The company has indigenously developed solutions which will be a direct substitute to the Quality Assurance and Inspection system for industrial automation in manufacturing industries and railways. In the project under TDB support, the company has proposed an import substitute for many major automation solutions like wagon inspection, thermal detection in mining industries, sieve analysis and pre-delivery inspection in automobile industry. The working system is already deployed at the customer sites like Ultratech (Aditya Birla), Birla copper unit, Mahindra Igatpuri etc. The entire design, algorithm and assembly in the developed product is indigenous. The company has a manufacturing site at Maharashtra for the realization of AI and robotics systems in the automation industry and railway.

Speaking on the occasion, the promoters of the company, Shri Manish Choudhary and Shri Girish Nair stated that the support and assistance from TDB will enable the company for indigenization of the technology across various industries in India and contribute to the Atmanirbhar Bharat initiatives of the Government in AI and Robotics field.

Sh. Rajesh Kumar Pathak, Secretary, TDB said that, "We at TDB strongly believe that Artificial Intelligence after Fire and Electricity is one such invention which will have massive impact on common people. The technology under the project based on the AI and Robotics system may find diverse applications across sectors such as manufacturing industries, railway system, defence, aerospace and many others. Further, this will contribute to the idea of 'Make AI in India and Make AI work for India' of the Hon'ble Prime Minister."

<https://pib.gov.in/PressReleasePage.aspx?PRID=1915395>



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Scientists Develop Eco-friendly 3D Printed Polymer Parts from Terrestrial Insects

An international team, including researchers from India, has successfully developed a method of using a compound from terrestrial insects to manufacture eco-friendly polymer composite parts with the 3D printing method. The researchers, including those from Sri Ramakrishna Engineering College in Tamil Nadu, used Chitosan derived from chitin, a compound found in the exoskeletons of arthropods such as insects, as well as in sea creatures such as the shells of crabs. The 3D printing technology is a form of manufacturing which has become popular in recent

times due to its ability to produce complex shapes and geometries difficult to achieve using traditional manufacturing techniques.

As a result, the demand for raw material for 3D printing is on the rise. It is crucial to ensure responsible usage of raw materials for 3D printing to meet the UN Sustainable Development Goal 12, i.e., promoting sustainable consumption and production patterns.

Terrestrial insects are a potential source of chitosan due to their abundance, accessibility, and relatively high chitin content in their exoskeletons.

There are several potential benefits to extracting chitosan from terrestrial insects, including sustainable and eco-friendly production.

Insects are a sustainable source of chitosan, as they can be easily farmed and harvested in large quantities without contributing to environmental pollution.

In contrast, traditional sources of chitosan such as shrimp and crab shells can be unsustainable and have negative environmental impacts.

The study, published in the *Journal of Polymers and the Environment*, investigated the feasibility of developing an environmentally friendly composite material using 3D printing technology,

The team, including researchers from Saveetha Institute of Medical and Technical Sciences, Tamilnadu, found that the addition of chitin and chitosan, derived from terrestrial insects, to the polylactic acid (PLA) matrix led to a decrease in strength and stiffness, which worsened with increasing concentrations of chitin and chitosan. PLA is the most widely used plastic filament material in 3D printing.

The composite material with 0.5 per cent by weight chitin reinforcement had the lowest tensile and flexural strength compared to other composites produced using additive manufacturing, the researchers said.

The reduction in strength and stiffness of the chitin/PLA and chitosan/PLA composites, in comparison to neat PLA, was attributed to the decreased interfacial bonding between the reinforcement and matrix, they said.

The chitin/PLA and chitosan/PLA composites demonstrated enhanced ductility relative to neat PLA, with the 0.1 weight per cent chitin composite showing the highest ductility, the degree to which a material can sustain stress.

The study concluded that chitin and chitosan could contribute to toughening the PLA composite.

The team also found that the density of the composites increased with increasing concentrations of chitin and chitosan.

The Chitin/PLA and Chitosan/PLA composites exhibited good thermal stability, and could have potential applications for food product packaging based on their compressive properties, the researchers added.

Other researchers in the study are from Singapore Institute of Technology, Newcastle University in Singapore, Mahidol University in Thailand, and Universiti Teknologi Malaysia.

<https://www.deccanherald.com/science-and-environment/scientists-develop-eco-friendly-3d-printed-polymer-parts-from-terrestrial-insects-1208238.html>

