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पंजाब केसरी

Fri, 20 Dec 2019

पिनाक गाइडेड रॉकेट प्रणाली का सफल परीक्षण

बालासोर (ओडिशा), (भाषा): भारत के स्वदेश निर्मित पिनाक गाइडेड रॉकेट प्रणाली के उन्नत संस्करण का बृहस्पतिवार को ओडिशा के तट से सफलतापूर्वक प्रायोगिक परीक्षण किया गया, जिससे सेना की युद्धक क्षमता में इजाफा होगा। रक्षा सूत्रों ने यह जानकारी दी। उन्होंने बताया कि मल्टी बैरल रॉकेट लॉन्च प्रणाली को रक्षा अनुसंधान एवं विकास संगठन (डीआरडीओ) ने विकसित किया है जिसका प्रक्षेपण आज दोपहर यहां पास के चांदीपुर में प्रूफ एवं प्रयोगात्मक स्थापना टेस्ट रेंज से किया गया। डीआरडीओ के सूत्रों ने बताया कि इस शस्त्र प्रणाली को टाट्रा ट्रक पर रखा गया था जो अत्याधुनिक गाइडेंस किट से लैस है जिसमें उन्नत नौवहन और नियंत्रण प्रणाली शामिल हैं। इससे पहले मार्च में पिनाक गाइडेड प्रणाली का राजस्थान में पोकरण टेस्ट रेंज से तीन बार सफल प्रायोगिक परीक्षण किया गया था।

सूत्रों ने बताया कि स्वदेश निर्मित गाइडेड पिनाक प्रणाली से सटीक निशाने के लिए सेना की युद्धक क्षमता में बहुत इजाफा होगा। उन्होंने बताया कि दिन में परीक्षण के दौरान शस्त्र प्रणाली ने सटीकता के साथ लक्ष्य का भेदन किया। उन्होंने बताया, ''सभी परीक्षण के दौरान मिशन के सभी उद्देश्य पूरे हुए।' परिष्कृत प्रणाली में मार्क-I के लिए अधिकतम मारक क्षमता 40 किलोमीटर है जबकि मार्क-II के लिए 75 किलोमीटर है और यह 44 सेकंड में 12 रॉकेट दाग सकती है।

THE ECONOMIC TIMES
WWW.ECONOMICTIMES.COM

Fri, 20 Dec 2019

Upgraded version of Pinaka guided rocket system successfully test-fired from base on Odisha coast

The multi-barrel rocket launch system, developed by DRDO, was fired from the Proof and Experimental Establishment firing test range at Chandipur near here around noon, they said. The weapon system, mounted on a Tatra truck, is equipped with state-.

Balasore: An upgraded version of India's indigenously developed Pinaka guided rocket system was successfully test-fired from a base on Odisha coast on Thursday in a boost to the Army's artillery power, defence sources said.

The multi-barrel rocket launch system, developed by Defence Research and Development Organisation (DRDO), was fired from the Proof and Experimental Establishment firing test range at Chandipur near here around noon, they said.

The weapon system, mounted on a Tatra truck, is equipped with state-of-the-art guidance kit comprising an advanced navigation and control system, DRDO sources said.

Earlier in March, three successful trials of Pinaka guided rocket system were conducted from Pokhran test range in Rajasthan.

The indigenously developed guided Pinaka system is all set to significantly boost the capability of the artillery to hit the targets with precision and accuracy, the sources said.

During the trial carried out during the day, the weapon system achieved the desired accuracy by hitting the intended target with high degree of precision, they said.

"All mission objectives were met during the test," they said.

The sophisticated system has a maximum range of 40 km for Mark-I and 75 km for Mark-II variant, and can fire a salvo of 12 rockets in 44 seconds, the sources said.

https://economictimes.indiatimes.com/news/defence/upgraded-version-of-pinaka-guided-rocket-system-successfully-test-fired-from-base-on-odisha-coast/articleshow/72883504.cms?from=mdr

THE FINANCIAL EXPRESS

Fri, 20 Dec 2019

Big success for DRDO! Made in India Pinaka missile system clears test again

The system tested today has the capability of striking into the enemy territory with high precision and has a range of 75 km

By Huma Siddiqui

Indigenous Pinaka Missile System which has been developed by Defence Research and Development Organisation (DRDO) was successfully flight-tested from the Integrated Test Range, Chandipur off the Odisha coast on Thursday.

For extending the range of Pinaka-II, a guidance system was fitted onboard in 2013, which to improve its accuracy is now using a new guided rocket with an Israeli designed Trajectory Control System (TCS). These were tested in 2013 and have a range of 65km in 2013 which has now been increased to up to 90km range system. The DRDO is working to have a rocket with a 120km range.

What was tested today?

The system tested today has the capability of striking into the enemy territory with high precision and has a range of 75 km. The Pinaka-II modified by the DRDO and has been integrated with the Navigation, Control and Guidance System which will help to improve the end accuracy and to enhance the range. The Navigation system of the missile is aided by the Indian Regional Navigation Satellite System (IRNSS).

All the objectives which included enhancing the range, accuracy and sub-system functionality was achieved during today's test and was fired from Pinaka launcher system in the deployment configuration. According to the DRDO, it was tracked by multiple range systems including Telemetry, Radars, Electro-optical targeting system (EOTS).

The Pinaka Missile System which is an indigenous weapon system and has gone through various modifications. And various DRDO laboratories have been part of this missile system like Armament Research & Development Establishment (ARDE), Research Centre Imarat (RCI), Defence Research and Development Laboratory (DRDL), Proof & Experimental Establishment (PXE) and High Energy Materials Research Laboratory (HEMRL).

What is the Pinaka system?

It is a complete system, with a single battery comprising six launcher vehicles, each with 12 rockets.

There are six loader-replenishment vehicles.

Three replenishment vehicles and two Command Post vehicles with a fire control computer and DIGICORA radar.

A Pinaka regiment has three batteries plus reserves.

https://www.financialexpress.com/defence/big-success-for-drdo-made-in-india-pinaka-missile-system-clears-test-again/1799010/

Fri, 20 Dec 2019

QRSAM successfully test-fired off Odisha coast

India on Thursday successfully test-fired a Quick Reaction Surface-to-Air Missile (QRSAM) off the coast of Balasore in Odisha

The missile was test-fired from the launch pad-3 at the Interim Test Range (ITR) at Chandipur at 4.20 pm.

Developed by the Defence Research and Development Organisation (DRDO), the missile has a strike range of 25 km to 30 km. It uses solid-fuel propellant and has the capability of engaging multiple targets.

The all-weather and all-terrain missile, which can be mounted on a truck and stored in a canister, is equipped with electronic counter measures against jamming by aircraft radars.

The first trial of the QRSAM was conducted on June 4, 2017.

https://www.defencenews.in/article/QRSAM-Successfully-Test-Fired-Off-Odisha-Coast-808474

THE HINDU BusinessLine

Fri, 20 Dec 2019

Why Mission Shakti may start a space tiff

India's ASAT test can't be justified as a 'peaceful' exercise, given the global fears of an imminent arms race in outer space

By Nivedita Raju

Prime Minister Narendra Modi's address on March 27, 2019 began with the declaration that India had "established itself as a global space power." This statement was premised on the notion that an anti-satellite (ASAT) test was "necessary" to demonstrate India's status as a space-faring nation. However, India has been internationally recognised for its space-faring prowess for decades, given its unique ability to manufacture innovative technology at economical rates evidenced by the increasing use of Indian launch services by foreign nations.

Some base this argument of 'necessity' on the need to prove Indian military capabilities. This, too, is untenable, as most space technology is dual-use, serving both military and civilian functions — such as space technology for surveillance and reconnaissance purposes.

The ASAT technology, on the contrary, was purely offensive in nature. It used "kinetic kill" technology, which employs the kinetic energy of the projectile to strike a target at high speeds and is solely intended to disrupt the functions of another space object (such as a satellite), or worse, destroy it entirely. India was not under any immediate threat, nor did the state have any urgency to exhibit offensive capabilities — except perhaps, the then upcoming elections.

Yet,Modi was quick to reassure that India's ASAT test "is not directed against anyone" and that "India has always been opposed to the weaponisation of space and an arms race in outer space…today's test does not violate any international law or treaty obligation to which India is a party."

Legal perspective

This conclusion on the legality of India's ASAT test is inaccurate, as there is no global consensus on the status of ASAT weapons. Weapons in outer space can be broadly classified into two categories: nuclear and non-nuclear. Non-nuclear space weapons can be further classified into kinetic weapons and non-kinetic. A significant risk of ASATs is that their use would likely lead to indiscriminate consequences, as rendering the target temporarily or permanently dysfunctional may impact other objects in the vicinity. These include those belonging to the state that launched the ASAT. Naturally, the question that arises is, why is the law unclear about the use of such a destructive weapon?

The Outer Space Treaty, to which India and most nations are party, stipulates that outer space and celestial bodies must be used "exclusively for peaceful purposes," and prohibits testing of weapons and conduct of military manoeuvres. The meaning of "peaceful purposes" here has been debated. Some interpret it as an outright ban on any form of military activity (thereby associating "peaceful" with "non-military"), while others interpret it as only excluding those military acts which are aggressive or contravene international law (equating "peaceful" with "non-aggressive").

Regardless, ASAT weapons are not expressly included within the purview of the Outer Space Treaty which, under Article IV, only bans states from "placing in orbit around the Earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction, installing such weapons on celestial bodies, or stationing such weapons in outer space in any other manner." This provision would not apply to ASAT weapons, since they only travel through outer space and are not fixed in a particular position. Additionally, they are not nuclear weapons, or weapons of mass destruction.

Show of force

Based on this, one could conclude that ASAT weapons are permissible. However, Article III of the Treaty, which is a more general clause, obliges states to explore and use outer space "in accordance with international law, including the Charter of the United Nations, in the interest of maintaining international peace and security and promoting international cooperation and understanding." This reference to the UN Charter is significant because it prohibits states from the threat or use of force unless acting in self-defence. Given that there was no imminent threat to justify self-defence, and that Mission Shakti was directed against India's own space object, the ASAT test would hardly constitute a legitimate use of force under international law.

Further, India's launch arguably disrupted international peace and security under Article III. The ASAT test is a destabilising act in a climate of heightened global tension and several regional conflicts. This display of force, in the wake of US President Donald Trump's promised Space Force and "American dominance" only contributes to the erroneous notion that the extension of conflict into space is unavoidable. It is a fact that no such dispute has occurred in over 60 years of the space age, and there is considerable scope for states to introduce measures to prevent one. But if India, with its advanced space capabilities, begins wanton testing of ASAT weapons, it could render conflict a self-fulfilling reality.

Numerous attempts at preventing an arms race in outer space have been made at the international level, beginning in 1981 with a United Nations General Assembly resolution addressing the very issue. Ironically, India too, has participated in these discussions. Instruments ranging from a draft code of conduct to a treaty preventing the placement of weapons in outer space the urgency with which other space-faring powers, including Russia and China, pursue this issue.

If legality of the ASAT itself is considered insufficient to demonstrate the errors of India's actions, the consequences of the ASAT test arguably violated Article IX, which restricts activities that cause "potentially harmful interference with the activities of other states." Furthermore, there is a general obligation to conduct activities, with "due regard to the corresponding interests of all other states." Hence, there is scope for a legal claim that India's actions resulted in creating debris that interfere with another state's activities in outer space.

Damaging debris

Mission Shakti generated hundreds of pieces of debris; months later, approximately 50 fragments still remain in orbit. Every one of these fragments constitutes an individual space object over which India retains exclusive jurisdiction and control. These fragments are at great risk of colliding with each other, and possibly other satellites, which would result in the generation of even more debris. India was fully aware that the test would generate debris, and under Articles VI and VII, is responsible for the conduct of these fragments and liable for any damage caused. A separate treaty titled the Liability Convention, to which India is also a party, applies in two possible scenarios: either the space debris from Mission Shakti causes damage to an aircraft in flight or to the Earth's surface, or it damages another state's satellite.

The standard of liability differs in these two scenarios. The first imposes "absolute liability," which means there is no need for the affected state to prove damage. The second enforces "fault-based liability," in which the affected state would have to prove India was responsible for any damage. Neither of these two cases absolves India of liability, as Mission Shakti was an intentional launch. Therefore, if one of these fragments of debris collide with another state's space object in the future, that state is entitled to bring a claim for compensation against India under the Liability Convention.

Until an affected state brings such a claim, however, the intentional generating of debris continues to have unclear status in international law. Non-binding instruments, such as the Space Debris Mitigation Guidelines and the approved Guidelines for the Long-term Sustainability of Outer Space Activities, indicate there is growing consensus on the avoidance of intentional debris generation. Although these instruments are non-binding, they have the potential to develop into sources of customary international law.

If we consider India's act as genuinely intended to avoid conflict in space, rather than encourage it, then fervent commitments to stabilise international security are needed, beginning with enhanced transparency and confidence-building measures. A step further would be a concrete commitment to binding measures that prevent an arms race in space alongside other nations.

https://www.thehindubusinessline.com/opinion/columns/why-mission-shakti-may-start-a-space-tiff/article30331853.ece#

THE TIMES OF INDIA

Fri, 20 Dec 2019

Navy conducts anti-hijacking exercise

Kochi: The Southern Naval Command (SNC) of the Indian Navy, in collaboration with Indian Coast Guard (ICG), Cochin Port Trust (CPT) and all other stakeholders in coastal security, conducted a major anti-hijacking exercise off the port of Kochi on Wednesday. It was the first time such a large-scale exercise involving all stakeholders conducted in Kerala. The exercise, codenamed Apharan, saw participation of multiple agencies, including more than 12 ships and helicopters of the Navy, Coast Guard and CPT.

The exercise was aimed at streamlining the response mechanism/ preparedness to thwart any attempt by anti-national or militant elements to hijack a merchant vessel or attempted forced entry of a rogue/commandeered merchant vessel into Kochi harbour. Within the ambit of coastal security architecture, hijacking of a merchant vessel is one of the challenging scenarios, response to which requires synergy of resources, assets and efforts of all stakeholders, including the state government.

As part of the exercise, interception of a 'rogue' vessel outside Kochi port and Marine Commandos (Marcos) boarding onto the 'rogue'/hijacked vessel to neutralize the threat was carried out. Also, commandoes slithering down onto the vessel's deck from a Sea King helicopter was exercised.

The exercise was conducted under the aegis of the Commander-in-Chief, Coastal Defence (Flag Officer Commanding-in-Chief, Southern Naval Command), Kerala. The exercise provided an opportunity to all stakeholders to assess the preparedness of their respective organizations, identify gaps to address them on priority as well as to formulate an integrated crisis management plan for Kochi port.

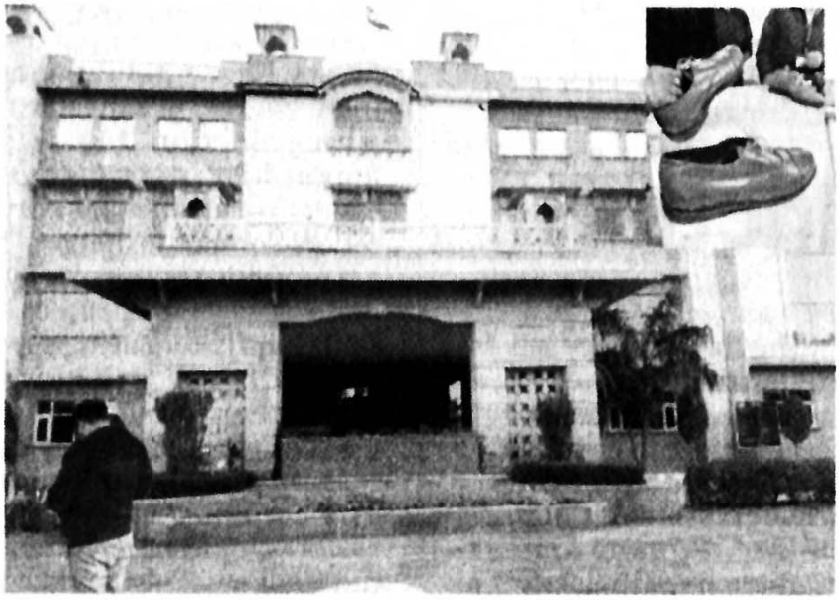
https://timesofindia.indiatimes.com/city/kochi/navy-conducts-anti-hijacking-exercise/articleshow/72876506.cms

The Statesman
PEOPLE'S PARLIAMENT. ALWAYS IN SESSION

Fri, 20 Dec 2019

Now comfort footwear to adorn Army men; FDDI sets up institute

DEBAJYOTI CHAKRABORTY
JODHPUR, 19 DECEMBER



Footwear Design and Development Institute (FDDI) in Jodhpur is setting up an Institute of Excellence (IoE), the country's first unique research and development laboratory, to develop specialised shoes for Indian Army posted in extreme conditions like deserts in Rajasthan, Ladakh, mining areas and border areas.

The Union Ministry of Commerce and Industry has announced in 2017 to set up seven institutes of FDDI in Jodhpur (safety and medicated), Noida(material research and testing , UP), Rohtak in Haryana (sports shoes), Kolkata (leather goods), Chennai (material testing and research), Rai Bareilly (retailing) and Hyderabad (design).

Neeraj Pachar, spokesperson of FDDI in Jodhpur told The Statesman that the construction work of the Centre of Excellence (CoE) building has just started from this month and within a year work will be completed.

The Central government has already sanctioned Rs.126 crores for setting up these seven projects, out of which FDDI, Jodhpur has been provided a grant of Rs.20 crores.

The building is being set up in sprawling 25 acre picturesque campus in Mandore.

"We have already tied up with University of Nottinghamshire in United Kingdom for training and designing of footwears. Our defence personnel has to move in extreme weather conditions like the desserts in Jaisalmer or Ladakh. Here in this Research and Development (R&D) laboratory we will try to make both

hardy and at the same time comfortable shoes for easy movement of our soldiers,"he added. Mahesh Kumar, senior faculty member of FDDI, Jodhpur said that besides safety shoes also medicated shoes will be developed.

" Speciality shoes for health related problems like for diabetic patients, blister foot, other orthopaedic medical problems etc will also be addressed and developed. Besides safety footwear research, the institute will also undertake medicated footwear research.Due to lifestyle problems these days there is an immense scope in this sector too ,"he added.

The construction work of the IoE has started from this month and the equipment have already reached from Italy and Germany.

Footwear and leather is the seventh biggest sector in India in terms of foreign revenue earning.

But the biggest challenges that the domestic industry have been facing are that the industry is reluctant to higher designers, the business is not organised and mostly family run business and lastly no land allocated for the space to set up footwear industry start up sector by both the central and state government and no offers and sops to attract the prospective investors, experts said.

FDDI, Jodhpur has been set up in 2013 by the Union Ministry of Commerce and Industry. Under FDDI Act 2017 it has been brought under an Institute of National Importance.

It offers courses in Bachelor Degree Programmes (4 years), B.Des. Footwear Design and Production and B.Des. Fashion Design. The Indian footwear market is growing at a rate of 12 percent per annum and is expected to touch US$ 11.5 billion in 2022 from $6 billion in 2014.

DefenceNews

Fri, 20 Dec 2019

Gujarat ship breaking firm wins INS Viraat in e-auction

The e-auction of retired Indian Naval Ship (INS) Viraat is said to have been won by a Gujarat-based shipbreaking firm for Rs 26 crore. The firm said that it is now awaiting a response from the Indian Navy and the central government to clear the next rounds of negotiation before handing over this historic vessel for demolition.

"We have won the e-auction held on Tuesday for Rs26 crore. The amount doesn't include other taxes like customs and GST. We are now waiting for response from the government agencies who will proceed with the deal. If everything happens as per the procedure we will be towing the ship from Mumbai, where it is presently docked, to Alang Ship Breaking Yard," confirmed Mukesh Patel, chairman of Shri Ram Shipping firm which won the auction.

Patel said that board of directors of MSTC (Metal Scrap Trade Corporation Limited) along with Indian Navy, among others agencies, will be deciding the next course of action to take the deal further. The officials of MSTC couldn't be reached out for comments. Originally commissioned as HMS Hermes of the British Royal Navy in 1959, INS Viraat is known as the oldest serving warship in the world.

After serving the Indian Navy for 30 years, INS Viraat was decommissioned in 2017. In these years, it spent 2,250 days and sailed 5,88,288 nautical miles in the sea. The ship was deployed for peace-keeping operations in Sri Lanka in 1988, Kargil War in 1999. Soon after it was decommissioned, several states had expressed desire to purchase it and convert into a heritage ship. However, for the last two years, no concrete plan came out. In 2018, the Maharashtra government had also announced to convert the vessel into a maritime museum with recreational facilities.

https://www.defencenews.in/article/Gujarat-ship-breaking-firm-wins-INS-Viraat-in-e-auction-808475

The Tribune
VOICE OF THE PEOPLE

Fri, 20 Dec 2019

India, US to expand defence ties, regional cooperation

Ink new agreement on science and technology

Sandeep Dikshit

New Delhi: The second India-US two plus two meeting held in Washington on Wednesday saw progress in closer ties in three areas — defence interoperability, people to people and regional cooperation — besides inking a new agreement on science and technology.

The simultaneous meeting of Defence and Foreign Ministers of both countries is seen as a high watermark that aims to translate the strategic convergence between the two countries into tangible outcomes.

In defence, the meeting touched five areas: Enhanced exercises, greater information sharing, expanded defence trade, placement of liaison officers and defence enabling agreements.

It decided to match cooperation between the Armies and Air Forces to the level achieved by the navies that included a recent group sail in South China Sea and has been bolstered by secure hotlines with a secure communications agreement (COMCASA).

As Defence Minister Rajnath Singh pointed out, the meeting dwelt on further developing the military liaison relationship in tune with India's expanded concept of a maritime domain stretching from the east coast of Africa to the India-Pacific.

These include a link between the naval headquarters and US INDOPACOM and posting an Indian liaison officer at the US Navy's Central Command.

A hotline between Singh and his US Secretary of Defense is already operational. The theme of a free, open and inclusive Indo-Pacific region girded the discussions.

The other aspect in defence is pushing more US products in the IAF.

Under the rubric of regional cooperation, the meeting decided to jointly train peacekeepers in the Indo-Pacific, expand judicial training to countries in the Indo-Pacific, capacity building in third countries, disaster relief and addressing the health of oceans. The meeting was satisfied with "tangible results" in the Quad meeting of cyber experts and a counter-terrorism tabletop exercise which is aimed at "aligning like-minded powers behind the principle of a free and open Indo-Pacific".

The people-to-people aspect saw both sides agreeing on new exchange programmes for parliamentarians and young innovators (besides 2 lakh Indian students currently studying in the US contributing about $7 billion to US economy.

Both Singh and External Affairs Minister S Jaishankar had bilateral meetings with their respective counterparts.

To work for free, open Indo-Pacific region

- In defence, the meeting touched five areas: Enhanced exercises, greater information sharing, expanded defence trade, placement of liaison officers and defence enabling agreements
- India and the US have reaffirmed their commitment to work together in support of a free, open and inclusive Indo-Pacific

https://www.tribuneindia.com/news/india-us-to-expand-defence-ties-regional-cooperation-14410

THE TIMES OF INDIA

Fri, 20 Dec 2019

India, US vow to deepen defence bond

By Chidanand Rajghatta

Washington: Pledging not to allow the "noise and silliness" in the domestic political sphere to distract the US from developing a key strategic relationship, top cabinet principals of the Trump administration and the Modi government agreed to deepen cooperation between the two countries to address regional and global threats and advance maritime security under an overarching commitment "to work together in support of a free, open, and inclusive Indo-Pacific region."

China was barely mentioned in public in exchanges and comments between the two sides in what was termed as a high-level 2+2 dialogue between the two sides involving foreign affairs and defence principals – S Jaishankar and Rajnath Singh on the Indian side and Mike Pompeo and Mike Esper on the US side. But it was unmistakably the elephant – or dragon - in the room as the two countries rolled out a raft of formal and informal agreements in keeping with the US pledge to support India's rise as a global player.

Despite continuing differences and wrinkles on issues relating to work visas and natural movement of people, a readout from the US side on the talks said both delegations also welcomed "new initiatives to further strengthen people-to-people ties, including new exchange programs for Parliamentarians and young innovators, increased judicial cooperation, the expansion of university research partnerships, and a new bilateral Science and Technology Agreement. Looking to the future, the two sides pledged new cooperative efforts in the areas of water management, oceans, and space, it added. But it was defence and security ties that seemed to underpin the high-level exchanges, that – astonishingly - included a courtesy call by the two ministers on President Donald Trump at the White House Oval Office on a day he was impeached by the House of Representatives.

The two sides discussed ways to expand what they called their "21st century defence partnership, " welcoming the "unprecedented levels of cooperation between the US and Indian militaries, made possible through enhanced exercises such as the first-ever tri-service Tiger Triumph exercise (which will become an annual event), greater information sharing, expanded defence trade, placement of liaison officers, and defence enabling agreements, including a recently concluded agreement called the Industrial Security Annex (ISA) to promote defence collaboration between our private sectors. "

One measure of the expanded defence ties is evident from the fact that whereas India previously dealt mainly with the US Pacific Command on maritime issues, the scope of such liaison and cooperation has now expanded to include the US Centcom and Africa Command, whose remit extends west of India.

In a joint statement they said they intend to maintain regular communication on emerging developments through the newly established secure communication lines between the Foreign and Defence Ministers of the two countries. Although China has superseded Pakistan as India's principal security concern, Pakistan's coddling of terrorism remains a concern with the two sides calling for concerted action against all terrorist networks, including al-Qaida, ISIS/Daesh, Lashkar e-Tayyiba, Jaish-e-Mohammad (JeM), Haqqani Network, Hizb-ul Mujahideen, TTP and D-Company.

"The Ministers called on Pakistan to take immediate, sustained and irreversible action to ensure that no territory under its control is used for terrorism against other countries in any manner, and to arrest and prosecute the perpetrators of crossborder terrorist attacks, including 26/11 Mumbai and Pathankot. India appreciated US support at the United Nations for terrorist designations, including of JeM leader Masood Azhar, and the United States welcomed changes in Indian law that will facilitate further cooperation on terrorism designations, " the joint statement said.

Strikingly, both sides downplayed prospective big-ticket defence purchases by India, with Defence Secretary Mike Esper expressing satisfaction over current rate of defence trade ($18 billion annually) while emphasizing improved interoperability and better understanding. Nor was there a big to-do about India's imminent purchase of the Russian s-400 missile defence system that Washington disapproves of and is trying to dissuade India from buying. The emphasis was more on what US and India could do together.

"It's not just about equipment, hardware, software, what it (greater defence trade) does is it gets to the improved interoperability between our two countries and our two militaries, a better understanding of the way to work and fight better together if called upon to do so, " Esper said.

https://timesofindia.indiatimes.com/india/us-india-agree-to-expand-defence-and-security-cooperation-beyond-pakistan-and-china/articleshow/72891597.cms

The Tribune
VOICE OF THE PEOPLE

Fri, 20 Dec 2019

Pact on producing military equipment

TRIBUNE NEWS SERVICE

NEW DELHI, DECEMBER 19

India and the US have signed an important agreement that paves way for private military equipment manufacturing companies of either country to work together to co-develop and co-produce systems, weapons and cutting-edge surveillance platforms.

The Industrial Security Annex (ISA) was signed at a meeting between Indian Defence Minister Rajnath Singh and US Secretary of Defense Dr Mark T Esper. This was inked on the sidelines of 2+2 ministerial dialogue to review the security, defence and strategic partnership between India and the US.

In the US, Rajnath Singh said he hoped ISA would enable smooth transfer of classified technology and information between private entities of USA and India.

India and US are looking at three joint projects. These include air-launched unmanned airborne systems (UAS), lightweight small arms technology and innovations in the field of intelligence, surveillance, targeting and reconnaissance (ISTAR). The ISA will lay down the foundational framework for the companies to work together.

"The ISA provides the framework for pursuing co-development and co-production linkages in the defence manufacturing sector," Rajnath Singh said in his opening remarks to the media in the US after the dialogue. India has pledged legal safeguards for US firms working on latest technologies with Indian companies.

Two sides will also move forward in their engagement in the area of defence innovation

India's stated priority is to take this partnership beyond the acquisition of platforms and equipment to significant transfer of defence technology and increased investment by US Defence companies in India.

"The two sides concluded the Industrial Security Annex during the visit," a spokesperson for the Ministry of Defence said.

Priority initiatives have been identified for execution under the Defence Technology and Trade Initiative (DTTI) programme. The two sides also concluded a standard operating procedure for this process. These measures are expected to provide momentum to collaboration between the private defence industries of both India and the US. The two sides also agreed to move forward in their engagement in the area of defence innovation, the statement added.

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Indo-Russian military exercise concludes in Pune

Pune: The Air Force component of 'Ex INDRA 19', a joint exercise between India and Russia, successfully ended on Thursday at the Air Force station in Lohegaon here.

As a part of the exercise, the Indian Armed Forces and their Russian counterparts undertook joint air, land and sea operations.

The tri-service exercise was conducted simultaneously at Pune, Goa and Gwalior, a defence release stated.

The exercise provided "operational exposure" and an opportunity to enhance the IAF's operational capability, "synergise joint operations" and improve interoperability with Russian Federation Air Force (RFAF) to operate under the UN mandate.

"Several airborne and ground assets of the IAF, including Su-30 MKI, Jaguar, Mirage-2000, indigenously developed Light Combat Aircraft (Tejas), IL-76, AEW&C, AN-32, Mi-17V5, indigenously developed Air Defense system AKASH and Air Defence radars, were used during the operation," the official release said.

The Russian Air Force contingent comprising 80 personnel from various branches, interacted with their Indian counterparts and shared their branch specific work experience, it stated.

During the closing ceremony, the chief guest Air Officer Commanding of the Air Force station, Air Commodore Rahul Bhasin V M congratulated all the participants for successfully completing the exercise.

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