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हिन्दुस्तान

Wed, 09 Feb 2022

डीआरडीओ निजी क्षेत्र के साथ मिलकर रक्षा तकनीकों विकसित करेगा

By मदन जैड़ा

नई दिल्ली: रक्षा अनुसंधान एवं विकास संगठन (डीआरडीओ) भविष्य की रक्षा तकनीकों के विकास के लिए निजी क्षेत्र के साथ मिलकर काम करेगा। आम बजट में इसके ऐलान के बाद डीआरडीओ की ओर से इस दिशा में तैयारियां शुरू की जा रही हैं। इसमें कुछ ऐसी तकनीकों को चिह्नित किया जाएगा, जिनका अभी विदेश से आयात होता है।

आम बजट में सरकार ने आधुनिक रक्षा तकनीकों के निर्माण के लिए रक्षा अनुसंधान बजट का 25 फीसदी हिस्सा निजी क्षेत्र को देने की बात कही है। डीआरडीओ का करीब 11 हजार करोड़ रुपए का बजट है, जिसमें से ज्यादातर अनुसंधान के लिए आवंटित होता है। सूत्रों की मानें तो प्रस्तावित 25 फीसदी राशि सीधे निजी क्षेत्र या स्टार्टअप को नहीं दी जाएगी। इसके लिए निजी रक्षा कंपनी और डीआरडीओ के सहयोग से एक अलग से स्पेशल परपज व्हीकल (एसपीवी) का निर्माण किया जाएगा। एसपीवी एक निश्चित अवधि के भीतर नई रक्षा तकनीक और प्लेटफार्म विकसित करने पर कार्य करेगा। डीआरडीओ ने वैसे तो ऐसी तकनीकों की एक सूची तैयार कर रखी है, जिनका निर्माण देश में निजी क्षेत्र कर सकता है। दूसरा, सरकार ने करीब तीन सौ तकनीकों ऐसी चयनित की हैं, जिनका आयात अभी विदेशों से होता है। मगर, चरणबद्ध तरीके से 2025 तक इनका आयात बंद कर दिया जाएगा। इन्हें देश में ही विकसित और निर्मित किया जाएगा। इस योजना में इन्हीं तकनीकों के विकास पर ज्यादा फोकस किया जाएगा।

आर्मर्ड ड्रोन, रोबोट और पांचवीं पीढ़ी के लड़ाकू विमान विकसित होंगे

सूत्रों के अनुसार, देश में विकसित की जाने वाली इन आधुनिक तकनीकों में विभिन्न प्रकार के सैन्य प्लेटफार्म के अलावा आर्मर्ड ड्रोन, रोबोट, कृत्रिम बुद्धिमत्ता से संचालित होने वाले रक्षा यंत्र और पांचवीं पीढ़ी के लड़ाकू विमान भी शामिल हैं। इन तकनीकों को विदेश से आयात करने में हर साल सरकार को भारी राशि चुकानी पड़ती है। पिछले साल करीब 30 हजार करोड़ रुपए की रक्षा खरीद विदेश से की गई है।

रक्षा क्षेत्र में निजी कंपनियों की संख्या बढ़ रही

देश में रक्षा सामग्री उत्पादन में लगी कंपनियों की संख्या भी बढ़ रही है। सोसायटी ऑफ इंडियन डिफेंस मैनुफेक्चरिंग के तहत 527 रक्षा कंपनियां कार्यरत हैं। निजी क्षेत्र में गोला-बारूद से लेकर टैंक तक बनाए जाने लगे हैं। पिछले साल देश ने करीब दस हजार करोड़ रुपए का रक्षा निर्यात किया है। हालांकि, रक्षा आयात की तुलना में यह राशि महज एक तिहाई है।

<https://www.livehindustan.com/ncr/new-delhi/story-drdo-to-develop-defense-technologies-in-collaboration-with-private-sector-5769459.html>

National Science Day celebrations at NSTL Visakhapatnam on Febraury 28

Naval Science and Technological Laboratory (NSTL) Visakhapatnam is organising various events as part of National Science Day celebrations. The National Science Day is celebrated on 28 February, 2022. This day is celebrated to commemorate the invention of the ‘Raman Effect’ by Sir CV Raman. This invention happened on 28 February, 1928. On this occasion and to commemorate Azaadi Ka Amrit Mahotsav, NSTL Visakhapatnam is organising competitions.



Azadi Ka Amrit Mahotsav is an initiative of the Government of India to celebrate and commemorate 75 years of progressive India. This is an embodiment of all that is progressive about India’s socio-cultural, political, and economic identity. The official journey of “Azadi ka Amrit Mahotsav” commences on 12 March, 2021 which starts a 75-week countdown to our 75th anniversary of Independence and will end post a year on 15th August, 2022.

NSTL Visakhapatnam is organising events for students of various schools and colleges in and around Visakhapatnam. As part of this, quiz, essay writing, painting will be conducted and models will be exhibited. The quiz will be conducted on 10 February, 2022, at Manasi Auditorium, NSTL complex, from 1 pm. This is open for students from six to tenth standards and the students are requested to arrive by 12:45 pm. The registration for this event is through email nsd2022nstl@gmail.com. The final round will commence after the preliminary round.

Open House (exhibition of NSTL’s products) will be organized on 25 February, 2022, and 26 February, 2022 at Ramanath Secondary School, NSTL Residential Complex. During the open house, students will be permitted to witness the display of exhibits of weapons and systems that are developed by NSTL for the Indian Navy. The best models will be selected from the open house. For essay writing competitions, the schools are required to mail the essay writing scripts to NSTL Visakhapatnam. The evaluation for the essay writing competition will be done by an in-house judging panel. The winners in all three competitions will be awarded on National Science Day at NSTL Visakhapatnam.

B Mohan Rao, Scientist, and Chairman of National Science Day Celebration 2022, appealed to students in and around Visakhapatnam District to utilise this opportunity and know about how Defence Research and Development Organisation (DRDO) is strengthening the nation. A multimedia presentation on NSTL will be screened for the visitors. COVID 19 norms should be followed by the visitors.

<https://www.yovizag.com/national-science-day-celebrations-at-nstl-visakhapatnam-on-febraury-28/>



After BrahMos to Philippines, India to showcase Tejas to Malaysia

India’s indigenously developed Light Combat Aircraft (LCA) Tejas showcased its “superior flying skills” at the Dubai Air Show 2021 in November last year. And exactly after three months since then, it is gearing up to take to the skies for another international event.

The Indian Air Force's Light Combat Aircraft (LCA) Tejas will be showcasing its flying skills at the Singapore Airshow 2022 being held from February 15 to 18 at the Changi Exhibition Centre.

A word about the event. According to Experia, the organiser of Airshow, this year's Singapore Airshow will have eight flying displays and flypasts from four air forces and two commercial companies.

These include a debut appearance by the Indian Air Force's light combat aircraft or Tejas, Experia said. The single jet performance will feature "impressive stunts and manoeuvres"- said the organiser. Nearly 600 companies will also participate in the event.

The Republic of Singapore Air Force (RSAF) will present two performances this year, featuring a pair of AH-64D Apache attack helicopters and solo aerobatics by an F-16C fighter jet.



The United States Marine Corps' F-35B Lightning II – the stealth fighter will make another appearance. The US Air Force's B-52 Stratofortress will participate in a fly-by.

Indonesia's Jupiter Aerobatic Team returns after previously featuring in the 2018 edition of the airshow, and will present their six-plane formations and precision flying.

Amongst the commercial planes, demo flyovers by Airbus' A350-1000 and Boeing's wide-bodied B777-9 are expected there.

Now a word on Tejas, manufactured by aerospace giant Hindustan Aeronautics Limited. It is a single engine and highly agile multi-role supersonic fighter aircraft capable of operating in high-threat air environments. The LCA Tejas is a fly-by-wire (FBW) fighter with the ability to refuel in the air. Almost similar to a stealth fighter, it also has a glass cockpit with advanced digital cockpit, multi-mode radar, integrated digital avionics system and advanced composite material structures and a satellite-assisted inertial navigation system, making it a fourth-generation fighter.

It has the capability to transport air-to-ground bombs and attack systems that can be used to strike targets on land or at sea. It's a supersonic combat jet with a 50,000-foot service ceiling. Its wingspan is 8.20 meters, its length is 13.20 meters, and its height is 4.40 meters.

The aircraft is a potent platform for air combat and offensive air support missions while reconnaissance and anti-ship operations are its secondary roles.

While LCA Tejas has already proved its mettle and flying skills in Dubai last year, the Singapore airshow becomes significant as neighboring Malaysia would be expected to keenly watch the aircraft.

It is understood that the manufacturer HAL is competing to sell the Tejas to the Royal Malaysian Air Force (RMAF), as the RMAF is looking for a perfect replacement for its BAE Systems Hawk 108 and Hawk 208.

Thus, it is an opportune moment for HAL, as the fly-past of LCA Tejas could bolster the aircraft's export potential in Southeast Asia. Even at the Dubai Airshow, Tejas' aerobatic display was specifically aimed at the Malaysian audience. Tejas is in the last stages of development, but yet another of its USP is that it is already serving with the Indian Air Force.

Price of Tejas also perfectly matches with the RMAF expectations. What make the deal more realistic is that according to the HAL Annual report for 2020-21, HAL has signed MoU with Metals and Minerals Trading Corporation of India (MMTC), as channelizing partner for import of palm oil, for likely countertrade for sale of LCA Tejas to Royal Malaysian Air Force.

Royal Malaysian Air Force is looking for initial 18 aircraft plus 8 aircraft set to be purchased from 2025 onwards.

Malaysia has some budgetary and Forex issues and thus has expressed interest in a barter payment system by trading in Palm oil for 18 fighter jets it wants to purchase. India is the world's largest importer of palm oil, buying more than 9 million tonnes annually, mainly from Indonesia and Malaysia.

<https://newsonair.com/2022/02/08/after-brahmos-to-philippines-india-to-showcase-tejas-to-malaysia/>



Wed, 09 Feb 2022

India eyes 'debut contract' For LCA Tejas Fighter Jets with Malaysia after BrahMos success with the Philippines

By Sakshi Tiwari

Exactly three months after India's indigenously developed Light Combat Aircraft (LCA) Tejas showcased "superior flying skills" at the Dubai Air Show 2021, it is gearing up to take to the skies for another event.

The Indian Air Force Tejas will perform at the Singapore Air show 2022, which runs from February 15 to 18.

"The single jet performance will bring impressive stunts and maneuvers to Singapore's skies," the airshow organizers, Experia, said on February 7. "The air show will have eight flying displays and fly-pasts from four air forces and two commercial companies," it said.



File Image: IAF Tejas Fighters

The US military, the Indonesian Aerobatic Team, and the Singapore Air Force will also be part of the aerial display, according to the organizers. A total of over 600 firms are expected to attend the event.

While LCA Tejas has already proved its mettle and flying skills in Dubai last year, the Singapore air show becomes significant as neighboring Malaysia would be expected to keenly watch the aircraft.

The manufacturer Hindustan Aeronautics Limited (HAL) is competing against Turkey's Hurjet to sell the Tejas to the Royal Malaysian Air Force (RMAF).

As RMAF evaluates which of the two aircraft would be a perfect replacement for its BAE Systems Hawk 108 and Hawk 208, Turkish Aerospace Industries has started to court the Malaysian government.

It launched an office in Cyberjaya and a science park in Putrajaya, Malaysia. TAI General Manager Temel Kotil said, "that if the Hujurjet wins the tender, 15 of the 18 aircraft would be manufactured in Malaysia".

That said, the fly-past of LCA Tejas comes at an opportune moment as it could bolster the aircraft's export potential in Southeast Asia.

At the Dubai Air show, Tejas had showcased breathtaking aerial maneuvers grabbing the attention of the audience. "The aircraft maneuvered effortlessly, showing off its agility and versatility," the IAF had said after its demonstration at Dubai, adding that it is a testament to the rapid strides that the platform has achieved in recent times.

LCA Tejas For Malaysia

The tender was issued between June and October with the objective of replacing the Hawk 108 and Hawk 208 fighter jets as outlined in the Royal Malaysian Air Force (RMAF) Capability

Development 2055 or CAP55, said Senior Defense Minister Datuk Seri Hishammuddin Tun Hussein in November last year.

According to reports, the Malaysian government is now evaluating the aircraft pitched by foreign suppliers. The selected vendor will have to source or buy at least 30% of their products/services from Malaysian companies.

With Turkish Aerospace Industries promising to manufacture 15 out of the total 18 aircraft in Malaysia, the competition has been significantly leveled up. The assurance regarding joint production of aircraft conforms to Malaysian expectations of boosting its own domestic industry. However, India's HAL could also set up logistics bases in Malaysia.

In the backdrop of Turkish advancements, the LCA Tejas' fly-past becomes all the more significant. Even at the Dubai Airshow, Tejas' aerobatic display was specifically aimed at the Malaysian audience.

HAL's managing director, R. Madhavan, stated that the company is ready to upgrade the jet to meet Malaysian regulations, citing flaws in the competing aircraft, Hurjet.

Tejas is in the last stages of development and is currently serving with the Indian Air Force. Hurjet, on the other hand, is still in development and will not take off for another year. However, Turkey is likely to complete the construction of its advanced trainer aircraft as soon as possible.

Turkey has agreed to press forward with the first-phase mass production of the Hurjet, a jet trainer/light attack aircraft, according to a statement released by the Defense Industry Executive Committee following a meeting chaired by President Recep Tayyip Erdogan on January 12. The Hurjet is scheduled to fly for the first time in 2023, as previously reported by the EurAsian Times.

The RMAF is concerned about cost, as it plans to pay roughly \$900 million for 18 fighters, or \$50 million per fighter. Tejas is being sold for that price.

Somehow, this does put the LCA Tejas in a position of advantage over the Malaysian tender but the final decision lies with Kuala Lumpur.

In 2016, at the Bahrain Air Show, India first exhibited its LCA Tejas to potential overseas clients. Since then, HAL has been aggressively promoting this jet across Southeast Asia, West Asia, and North Africa. The state-owned aerospace company is said to be looking to develop logistics hubs in Malaysia, Vietnam, Indonesia, and Sri Lanka.

Apart from Malaysia, Argentina, Egypt, and the UAE have also shown interest in the Indian LCA. However, if HAL wins the offer, the Royal Malaysian Air Force (RMAF) could be the first overseas customer of Tejas.

LCA Tejas

The LCA Tejas is a fly-by-wire (FBW) fighter with the ability to refuel in the air. It also has a glass cockpit and a satellite-assisted inertial navigation system, making it a fourth-generation fighter.

It has the capability to transport air-to-ground bombs and attack systems that can be used to strike targets on land or at sea. It's a supersonic combat jet with a 50,000-foot service ceiling. Its wingspan is 8.20 meters, its length is 13.20 meters, and its height is 4.40 meters.

The different foreign elements that make up the aircraft could be the only hurdle to its export. To export Tejas to other countries, India has to first obtain permission from foreign partners. However, with a friendly working relationship with partners and Malaysian need for an aircraft to combat Chinese threat, such hurdles should easily be overcome.

<https://eurasianimes.com/india-eyes-debut-contract-for-lca-tejas-fighters-with-malaysia/>

DRDO on Twitter





Wed, 09 Feb 2022

Explained: The BrahMos deal and India's defence exports

*Has the domestic defence manufacturing industry grown?
How is the Government making military export sales easier?*

By Dinakar Peri

The story so far: On January 28, Philippines signed a \$374.96 million deal with BrahMos Aerospace Pvt. Ltd. for the supply of shore based anti-ship variant of the BrahMos supersonic cruise missile. This is the first export order for the missile which is a joint product between India and Russia and also the biggest defence export contract of the country. This adds impetus to the efforts to boost defence exports and meet the ambitious target set by the Government to achieve a manufacturing turnover of \$25 billion or Rs.1,75,000 crore including exports of Rs.35,000 crore in aerospace and defence goods and services by 2025.

What is the BrahMos missile system?

The Philippines contract includes delivery of three BrahMos missile batteries, training for operators and maintainers as well as the necessary Integrated Logistics Support (ILS) package. The coastal defence regiment of the Philippine Marines, which is under the Navy, will be the primary employer of the missile system.

BrahMos is a joint venture between India's Defence Research and Development Organisation (DRDO) and Russia's NPO Mashinostroyeniya. The missile derives its name from the Brahmaputra and Moskva rivers. Beginning with an anti-ship missile, several variants have since been developed and it is now capable of being launched from land, sea, sub-sea and air against surface and sea-based targets and has constantly been improved and upgraded. The missile has been long inducted by the Indian armed forces and the Army recently deployed BrahMos along the Line of Actual Control (LAC) in Arunachal Pradesh.

The range of the BrahMos was originally limited to 290 kms as per obligations of the Missile Technology Control Regime (MTCR) of which Russia was a signatory. Following India's entry into the club in June 2016, plans were announced to extend the range initially to 450 kms and subsequently to 600 kms. BrahMos with extended range upto 450 kms has been tested several times since.

Which other countries are in discussion for the BrahMos missiles?

In addition to the deal signed last week by Philippines, there is another long pending deal under discussion for BrahMos missiles for the Philippines Army which could see progress in the near future, officials said. The procurement for Philippines Army (PA) is included in the Horizon 3 Modernisation programme of Philippines (Year 2023-2027), diplomatic sources had stated.



The BrahMos supersonic cruise missile with increased indigenous content test-fired from the Integrated Test Range, Odisha. | Photo Credit: -

While the first export order for BrahMos took a long time, the next order is likely to be concluded soon with negotiations with Indonesia and Thailand in advanced stages. There is reportedly interest for BrahMos from countries in West Asia as well.

Philippines is also looking at several other military procurements from India and South East Asia as the region has emerged as a major focus area for India's defence exports. For instance, Hindustan Aeronautics Limited (HAL) has received interest from Philippines Coast Guard for procurement of seven Dhruv Advanced Light Helicopters and eight Dornier Do-228 aircraft under the \$100mn Line of Credit (LoC) extended by India. Progress on this has been delayed due to the pandemic situation, officials said.

Kanpur based company MKU has supplied Bullet Proof Jackets (BPJ) to Philippines in the past and is now in the race for bigger contracts for BPJs and helmets. In addition, maritime domain and ship building is another potential area for Indian companies in the Philippines.

What is the status of defence exports?

From 2016-17 to 2018-19, the country's defence exports have increased from Rs.1,521 crore to Rs.10,745 crore, a staggering 700% growth. The value of exports of defence items including major items in Financial Year 2014-15 and 2020-21 was Rs.1,940.64 crore and Rs.8,434.84 crore respectively. As per data given by the Government, defence exports for 2020-21 stood at Rs.8434.84 crore and the export target for financial year 2021-22 was Rs.10,000 crore.

There have been a series of measures announced to incentivise and promote domestic defence manufacturing as well as efforts to boost exports which include simplified defence industrial licensing, relaxation of export controls and grant of No Objection Certificates (NOC), extending Line of Credit (LoC) to foreign countries to import defence products and empowering Defence Attaches in Indian missions abroad to promote defence exports. The draft 'Defence Production & Export Promotion Policy (DPEPP) 2020' is expected to be finalised soon.

In December 2020, the Cabinet Committee on Security (CCS) approved the export of indigenous Akash Surface to Air (SAM) missile systems which several countries in South East Asia and West Asia have expressed interest in.

To provide faster approvals for export of major defence platforms, a committee comprising of the Defence Minister, External Affairs Minister and National Security Advisor was set up. The Defence Ministry had said in December 2020, that "This Committee would authorise subsequent exports of major indigenous platforms to various countries. The Committee would also explore various available options including the Government-to-Government route."

In the last few years, India has put out a range of military hardware on sale which includes various missile systems, Light Combat Aircraft (LCA), helicopters, warship and patrol vessels, artillery guns, tanks, radars, military vehicles, electronic warfare systems in addition to other weapons systems.

<https://www.thehindu.com/news/national/the-brahmos-deal-and-indias-defence-exports/article38395523.ece>

Telangana Today

Wed, 09 Feb 2022

Editorial: Boost to defence exports

The deal for supply of BrahMos supersonic missiles to the Philippines, the first major military export, comes as a shot in the arm for India's efforts to become an exporter of defence hardware. This is also seen as a strategic move to outsmart China whose belligerent behaviour in the disputed South China Sea has soured the relations with the Philippines. The \$375-million agreement for supply of BrahMos, which has a range of 290 km and can carry a 200-kg warhead, is expected to pave the way for other Southeast Asian countries such as Vietnam and Indonesia to acquire the sophisticated missile system to balance China's aggressive moves. The Philippine Marine intends to use the BrahMos as a shore-based anti-ship missile, and the South China Sea is one of the

potential areas where the system could be deployed. A major advantage of BrahMos, the world-class weapon with a multi-platform and multi-mission role, is that its air variant can be launched from a fighter jet within minutes of being ordered and can hit the target 400 km away with accuracy. Given that some of the Southeast Asian countries are facing a threat from China and have active ongoing disputes with the Asian giant, it will be in the interests of India to help them with the supplies of modern weapon systems. The BrahMos deal is being seen as a game-changer as India's defence exports so far have been confined to items such as avionics, coastal surveillance systems, spares for radars, personal protective items and offshore patrol vessels.

India has been essentially known globally to be among the top five arms importers. Of late, however, the government is looking to reduce arms imports by boosting domestic production. New Delhi is seeking to boost defence exports to strengthen defence manufacturing and production. At present, India is the 24th largest arms exporter in the world and the target is to expand the defence manufacturing sector and become a bigger arms exporter generating a revenue of \$5 billion by 2025. The latest BrahMos sale enables India to ensure its place as a reliable defence partner to its Southeast Asian neighbours. Since the Galwan Valley clash of June 2020, India has been deepening its ties with the United States and with the allies of the US like Australia and now the Philippines. India is engaging in proactive defence diplomacy in response to China's naval incursions in the Indo-Pacific and also China's encroachments in the disputed land border with India. This deal will undoubtedly have an impact on the India-China, India-Asean as well as the Philippines-China relations. This provides the perfect leeway for India to develop a strong defence linkage and partnership with countries of the Asean region.

<https://telanganatoday.com/editorial-boost-to-defence-exports>

BW BUSINESSWORLD

Wed, 09 Feb 2022

\$1.5 bn proposal for kickstarting defence industrial corridors in UP, TN shot down

Stimulus package for cluster-specific technological hubs in each of the 11 nodes back on the drawing board

By Vishal Thapar

A Rs 11,000 Crore (\$1.5 Billion) funding proposal for kickstarting the two Defence Industrial Corridors in Uttar Pradesh and Tamil Nadu has been shot down, it is reliably learnt.

“The proposal was to fund technological hubs in each of the 11 nodes in the UP and Tamil Nadu Defence Industrial Corridors through a Central budgetary grant. It involved an allocation of Rs 1,000 Crore (\$133.3 Million) per hub for this purpose. This proposal was placed before the Empowered Financial Committee (EFC) for approval. But it's been turned down and the stimulus package for these corridors is back to the drawing board,” a source privy to the development disclosed to this reporter.

The Ministry of Defence proposal was dropped after it failed to impress Prime Minister Narendra Modi, it is learnt. External consultants had been engaged to help prepare the proposal, which envisaged creation an end-to-end ecosystem for Aerospace and Defence sector development covering design, engineering and manufacturing in each of the nodes or clusters.



Technology incubation hubs are at the heart of the Corridor concept

Six nodes have been notified for UP and five for Tamil Nadu. The Agra, Aligarh, Jhansi, Kanpur, Lucknow and Chitrakoot nodes make up the UP Corridor which is being driven by the UP

Expressways Industrial Development Authority (UPEIDA). The Tamil Nadu corridor, driven by the Tamil Nadu Industrial Development Corporation (TNIDC), comprises the Chennai, Coimbatore, Salem, Hosur and Tiruchirapalli nodes.

The technical hubs were proposed to be the heart of the respective nodes. “These were meant to serve as technology incubation centres through a cluster approach which could promote a specific line of technology in each of the nodes. These hubs were also meant to provide specialized common facilities like testing, validation and certification centres and industrial infrastructure to bring value to investments in the Corridors,” the source explained.

The rejection of the proposal on funding the nodes has forced a re-think on infrastructural stimulus to the Corridors.

Incidentally, in her Budget speech on February 1, Finance Minister Nirmala Sitharaman announced that an independent nodal umbrella body will be set up for meeting wide ranging testing and certification requirements. This body will not be exclusive to the Corridors.

The Defence Industrial Corridors were launched in 2018-19 in UP as incentivized zones to promote the Make in India agenda in Defence and Aersopace. The aim was to attract investment of at least Rs 10,000 Crore in each Corridor.

UP announced the ‘Uttar Pradesh Defence & Aerospace Unit and Employment Promotion Policy’ in 2018 while Tamil Nadu promulgated the ‘Tamil Nadu Aerospace and Defence Industrial Policy’ in 2019 detailing incentives for the Corridors.

Tamil Nadu also engaged IIT Madras and the Defence Research and Development Organisation as knowledge partners. IIT Madras took up a feasibility study for developing Ulunderpet airstrip as an Aviation Technology Development Complex providing a flying academy, flight testing, UAV testing and aeromodelling facilities.

Even under the Offsets policy, a higher multiplier of 2.0x level has been assigned for investment in Defence Corridors.

According to a recent statement in Parliament, UP has signed 62 MoUs with an investment potential of Rs 8,638 Crore while Tamil Nadu claims potential investment of Rs 11,153 crore by 40 Industries.

Prime Minister Modi inaugurated the Jhansi node in UP in November 2021 and Defence Minister Rajnath Singh flagged off the first operational private sector facility in the UP Corridor, also in November. The latter facility specializing in metallurgy is owned by PTC Industry and is manufacturing parts for aircraft, UAVs, guns and submarines.

But despite the policy push and political backing, it appears that the ideation for kickstarting the project is back on the drawing board.

<http://www.businessworld.in/article/-1-5-Bn-Proposal-For-Kickstarting-Defence-Industrial-Corridors-In-UP-TN-Shot-Down/08-02-2022-419936/>

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Is there an arms race underway in Southeast Asia?

Fear of China is driving the region’s recent spate of military procurements – but it’s not the only factor.

By James Guild

In the last several years the Philippines, which has butted heads with China over maritime and territorial claims in the South China Sea, has contracted to purchase four warships from South Korea’s Hyundai Heavy Industries for a little under \$1 billion. Additionally, the country recently made headlines by announcing it had inked a \$375 million purchase of BrahMos missiles from India.

Indonesia, another country casting an eye toward Chinese territorial aggression, has likewise been upgrading its navy, with the procurement of three submarines and several new warships in

recent years. Viewed through a geostrategic lens, this could all be interpreted as evidence of an arms build-up among Southeast Asian countries looking to check an increasingly aggressive China. But a closer look at budgetary data shows it's not that cut and dried.

In the Philippines' most recent 2022 budget, defense actually took a bit of a haircut, with a budget of 222 billion pesos (\$4.3 billion) or about 4.4 percent of total government spending. This runs counter to recent trends where from 2015, defense as a percentage of government spending increased every year, peaking at 7.4 percent in 2019. In part, this is an artifice of pandemic spending quirks: the government increased overall spending and then reallocated funds away from the military and toward economic relief packages and the healthcare system, which makes the most recent numbers seem smaller.

But even so, the 2022 defense budget is less than the 239 billion pesos spent in 2018, well before the pandemic. Having said that, the allocation for capital expenditures has gotten a boost, with 39 billion pesos set aside for 2022 (compared to 24.3 billion in 2018). This paints a more nuanced picture, with overall spending not necessarily ramping up, but more funds being blocked out for targeted purchases of military hardware – including BrahMos missiles and warships.



Credit: Flickr/Vasilyev Serg

Indonesia's defense budget shows a more muscular trajectory. Defense outlays have risen steadily from 5.8 percent of central government spending in 2011 to 9.3 percent in 2017. As in the Philippines, the pandemic diverted funds away from the military and toward health and economic rescue packages, but only temporarily.

Military spending bounced back in 2021 and 2022, with defense accounting for roughly 7 percent of total central government expenditures in each year. The Ministry of Defense has been allocated a total of 271 trillion rupiah (\$18.8 billion) in the last two budgets combined. The Ministry of Finance is projecting a narrower than expected fiscal deficit, thanks, in part to booming commodity exports. So at least for the moment this stepped-up spending does not appear like it's going to break the bank.

It's also telling that other regional militaries which are in less direct conflict with China, such as Thailand and Singapore, have not ramped up military spending in the same way. Singapore, up until its last pre-COVID-19 budget in 2020, has reliably spent 3 percent of GDP on defense, with military spending as a percentage of the total budget actually decreasing from year to year. Thailand, which is currently tied up in a rather messy submarine procurement deal with China, has also not seen military spending jump up in any meaningful way. Defense as a percentage of total spending actually fell from 7.2 percent in 2016 to 5.9 percent in 2021. Capital outlays on new military hardware have remained relatively flat over the same period.

Does this mean there is an arms race shaping up in Southeast Asia, driven mainly by countries that feel threatened by China? Not necessarily. The Philippines' military has been notoriously under-funded for a long time, and the tragic sinking of the aging KRI Nanggala off the coast of Bali last year showed that, Chinese aggression or not, Indonesia needs to upgrade its submarine fleet. What we are seeing then is probably a confluence of several things, with countries like Indonesia and the Philippines needing to modernize their armed forces anyway and finding themselves extra motivated to do so under current circumstances.

Defense spending, including capital outlays on upgraded hardware, is up in the countries where we would expect it to be. But not tremendously so. The thing to look for is whether these patterns remain in place next year, when governments start reining in their counter-cyclical pandemic spending. If defense budgets stay well-funded even as wider fiscal prudence sets in, that will tell us a lot about the underlying priorities and what's actually driving these spending decisions.

<https://thediplomat.com/2022/02/is-there-an-arms-race-underway-in-southeast-asia/>

Pak upgraded JF-17 no match for Indian S-400 and Rafale air strike power

The S-400 system is not only about shooting enemy planes from the skies. It is about giving trans-border visibility up to a depth of nearly 300 kilometres into the enemy plain territory.

By Shishir Gupta

After Pakistan Prime Minister Imran Khan returned from China, the acquisition of 50 JF-17 Block III fighters by Islamabad is being pitched to take on India's S-400 air defence system due to its stealth characteristics. This is nothing but domestic chauvinism on part of Pakistan which is totally devoid of facts.

The airframe of block III single-engine JF 17 fighter is said to be built with composite material to give its stealth features required to evade the air defence system of the adversary and target high-value assets. Even the indigenous Tejas fighter has 45 per cent composite material but does that mean that it can take on two S-400 systems which the Chinese PLA have deployed across Ladakh and Arunachal Pradesh respectively? The JF-17 is powered by the same Russian RD 33 engine, which is used by Indian MiG-29 air defence fighters and often suffer maintenance/spare parts issues.



With Rafale and S-400 under its belt, the Indian Air Force is by far the most advanced air force in the sub-continent and has the capability to even challenge China.

The S-400 system is not only about shooting enemy planes from the skies. It denies the PAF Trans frontier visibility by pushing his AWACS and Strategic Recce Systems (F 16 with DB 110 Recce Pod) back. This means that Pakistan Air Force cannot fly its airborne early warning systems and deep penetration radars as the S-400 missiles will take them down in the event of hostilities. As a result of which the Pakistani JF -17 fighters will be fighting without the support of AWACS and dated Chinese radars. The only exception to this scenario is high mountain terrain which is present only in union territories of Jammu and Kashmir and Ladakh.

The Indian Air Force has a multi-layered defence network and does not only rely on the S-400 system. It has front time fighters like Rafale, which have top of the line AESA radar and is armed with the deadliest Meteor 140-160km range beyond visual range air to air missile. This means that JF-17 will not even know when it got obliterated from the skies. The IAF has a 70km range medium range surface to air missile (MRSAM), the digital Pechora and Akash surface to air missiles to take on the enemy. Further, the S-400 system is always complemented by close-in weapon systems (CIWS) like Russian Pantsir or American Phalanx to take on the stand-alone missiles fired at the air defence network. Finally, the S-400 is not a static system but a dynamic weapon system that can be relocatable.

However, the clincher is the very fact that the Pakistan Air Force itself is not very confident about JF-17 fighter as compared to the American F-16. Not a single JF-17 crossed the Line of Control (LoC) or even launched a weapon during the Pakistani unsuccessful raid in the Rajouri-Mendhar sector on February 27, 2019, the day after Indian Air Force terminated the Jaish-e-Mohammed terrorist training camp at Balakot in retaliation to the Pulwama terror strike.

<https://www.hindustantimes.com/world-news/pak-upgraded-jf-17-no-match-for-indian-s-400-and-rafale-air-strike-power-101644288283140.html>

China helping Pak augmenting its nuclear capabilities: Thinktank

Islamabad [Pakistan], February 8 (ANI): China's aid to Pakistan in developing nuclear energy technology and assisting the country in the construction of nuclear power plants pose proliferation risks, reported a Canada-based thinktank, International Forum for Rights and Security (IFFRAS).

Pakistan refused to meet International Atomic Energy Agency (IAEA) Safeguards and due to this, Canada decided to terminate its nuclear energy cooperation with Islamabad in 1976.

Safeguards are activities by which the IAEA can verify that a State is living up to its international commitments not to use nuclear programmes for nuclear-weapons purposes and Pakistan denied to meet these guidelines.

Ever since that, China, as part of its regional balance of power strategy in the South Asian region, has been enabling Pakistan to augment its nuclear capabilities.

This move undermines China's commitment to the Nuclear Suppliers Group (NSG), a group of nuclear supplier countries that seek to prevent nuclear proliferation.

Not only this, it also enables Pakistan to devote more of its 'unsafeguarded nuclear infrastructure' to fissile material production for nuclear weapons, reported the thinktank.

According to IFFRAS, It did not take much time for China to reach out to Pakistan with their assistance in further developing Islamabad's programme once Pakistan was denied help from Canada.

The think tank said that in the garb of addressing Pakistan's electricity shortages, China has been assisting the country to build its nuclear energy program.

In September 1986, China and Pakistan signed an agreement to facilitate the transfer of civil nuclear technology.

China supplied Pakistan with various nuclear weapon delivery systems, such as the export of the solid-fuelled, short-range DF-11 (M-11) ballistic missile in the early 1990s.

This sale equipped Pakistan with a reliable nuclear-capable delivery system amidst the development of a nuclear warhead, which it first tested in 1998.

This export was carried out by a Chinese state-owned enterprise (SOE) named, China Precision Machinery Import-Export Corporation (CPMIEC), which markets and sells missiles abroad on behalf of other state-owned firms.

Between 1994 and 1995, a separate SOE, China Nuclear Energy Industry Corporation (CNEIC), shipped 5,000 ring magnets to Dr A.Q. Khan Research Laboratories is a facility in Pakistan which is immune to international nuclear safeguards.

Ring magnets are key components that stabilize centrifuges used in uranium enrichment.

This transfer from a subsidiary of China National Nuclear Corporation (CNNC), which is China's largest nuclear energy SOE, to one of the primary research organizations working on Pakistan's nuclear weapon program was a certain proof that the export was an intentional contribution to Islamabad's growing nuclear weapons programme.

In 2017, Wuhan Sanjiang shipped components with applications in missile transporters and launchers to an entity connected to Pakistan's nuclear and missile work.

Most recently, on September 8, 2021, PAEC and CZEC signed, 'The Framework Agreement on Deepening Nuclear Energy Cooperation, which would enable technology transfer for uranium mining and processing, nuclear fuel supply and setting up research reactors, reported the thinktank. (ANI)

<https://www.aninews.in/news/world/asia/china-helping-pak-augmenting-its-nuclear-capabilities-thinktank20220208183114/>



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Israeli Defence Forces disclose their AI war strategy

IDF has been at the forefront of using technology to improve coordination among different units deployed on various frontlines.

By Sarath Kumar Nair

The Israel Defence Forces has disclosed their AI war data factory and strategy at Tel Aviv University's Blavatnik Virtual AI week. The speed at which a new weapon can be created using Data and AI is totally different when compared with physical jets and submarines, Brig General Aviad Dagan, Director of the IDF's Digital Transformation Administration, said.

"Data and AI can actually win wars... not only arms, physical jets and submarines," he said.

IDF has been at the forefront of using technology to improve coordination among different units deployed on various frontlines. IDF currently uses digital networking in the cloud between all forces – from headquarters to frontline command centres to troops in the field. Israeli military plans to enhance its edge architecture by building mini-clouds or networks for its arms and smaller subdivisions. This will help the units to process and receive data at faster rates compared to the current network.

A wide variety of data points gathered by sensory detection of an enemy will provide the IDF with the ability to evaluate who the enemy was, check the various options to respond to the threat, analyse how much fuel is needed by the drones or other units- and then quickly dispatch the most viable targeting order, Dagan said.

<https://analyticsindiamag.com/israeli-defence-forces-disclose-their-ai-war-strategy/>

THE TIMES OF INDIA

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ISRO's first launch this year on February 14; PSLV-C52 to launch Risat-1A

By Chethan Kumar

Bengaluru: The Indian Space Research Organisation (Isro) on Tuesday said the launch of the Polar Satellite Launch Vehicle — PSLV-C52 — mission is scheduled at 5:59am on February 14 from the first launch pad of the Satish Dhawan Space Centre in Sriharikota. This will be Isro's first launch this year.

"The PSLV-C52 is designed to orbit an earth observation satellite (EOS-04), weighing 1710kg into a sun synchronous polar orbit of 529km," Isro said.

The EOS-04 or Risat-1A is a radar imaging satellite designed to provide high quality images under all weather conditions for applications such as agriculture, forestry & plantations, soil moisture and hydrology and flood mapping.

The PSLV-C52 mission, Isro said, will also carry two small satellites as co-passengers which includes one student satellite (INSPIRESat-1) from Indian Institute of Space Science & Technology (IIST) in association with Laboratory of Atmospheric & Space Physics at University of Colorado, Boulder and a technology demonstrator satellite (INS-2TD) from Isro, which is a precursor to India-Bhutan Joint Satellite (INS-2B).

"The countdown process of 25 hours and 30 minutes leading to the launch would commence at 4:29am on February 13 after authorization by the Launch Authorization Board," Isro added.

As reported by TOI earlier, teething troubles with multiple (at least 20) indigenous modules on the Risat-1A, among other issues, had seen the space agency postpone the launch scheduled in the last quarter of 2021.

Isro has now overcome the issue and the launch will kickstart proceedings in 2022 which is scheduled to see multiple PSLV and GSLV missions including some high-profile projects such as the Chandrayaan-3 and Aditya-L1.

However, the most immediate mission after the PSLV-C52 would be the mission that will put into orbit another earth observation satellite — EOS-06 or Oceansat-3 — along with BhutanSat, a joint satellite being built by India and Bhutan as part of New Delhi's space diplomacy.

<https://timesofindia.indiatimes.com/india/isros-first-launch-this-year-on-february-14-pslv-c52-to-launch-risat-1a/articleshow/89431177.cms>



Representative image

