



CURRENT AFFAIRS



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IAF choppers to be pressed into service for anti-locust ops

Indian Air Force choppers will now be deployed to tackle the locust menace. The agriculture ministry is importing high-powered spraying equipment that will be fitted on five Mi-17 helicopters for IAF for spraying on locust swarms. “A high-power spraying equipment is being imported from EU to be fitted on five Mi-17 helicopters of the IAF. The close collaboration between different ministries, IAF, Army Aviation Corps and the industry will help us win against the worst locust attack in 27 years. An empowered committee is negotiating with helicopter companies and an agreement is expected soon, subject to DGCA clearance,” said a senior aviation ministry official. The aviation ministry had last month allowed the agriculture ministry use of spray drones to spray for anti-locust operations. “An inter-ministerial empowered committee conducted fast-track negotiations with bidders and work orders have been issued to five drone companies. The drone-squads will reach the hotspots — Barmer, Phalodi, Nagaur and Bikaner, early next week,” said the official. “In 2-3 years, as demand rises and drone prices fall, we hope to have village-based entrepreneurs who provide drone services for crop mapping, analytics, yield improvement advice and spraying. Just like people who loan out tractors, seeders and harvester-combines,” the official added.

Source: <https://timesofindia.indiatimes.com/>

CURRENT AFFAIRS

India's Two-Front War: Myths and IAFs' capability to fight

The scenario wherein India is engaged with its traditional opponent in the western sector and the Red Dragon opens up the eastern front, or vice versa is a 'sticky wicket' to play on. Questions have been asked, war games have been played and strategies have been built around this scenario to get a feel and predict the requirements so as to be prepared for addressal in future. If an analysis of the probable situation is to be done the first item needing attention is the reality and the efficacy of a two-front war. Is it possible to have one and how effectively can the opponent(s) run the campaign? Yes, a two-front war is a definite possibility in the Indian context nevertheless, the war envisaged, would be very difficult to coordinate and execute by the opponents. The worst-case scenario for India is, both, the western as well as eastern fronts being attacked simultaneously, thus forcing her to divide the war efforts. Any more coordinated effort by the enemies would require centralised command and control structures, aka WW II, which is envisaged not to be a possibility in the present situation. Thus, bereft of centralised command, the efficacy of a two-front attack and maintenance of the aim is diluted, giving India the edge. For India, it would now mean breaking down the war into three distinct major geographical theatres viz. the west theatre, encompassing the borders and sea we share with Pakistan, the north theatre, encompassing the border regions of Ladakh down south to the northwestern edge of Nepal and the northeastern theatre, encompassing border regions from the south-east of Nepal to all the way up to Arunachal and further down towards the south. The border regions of Nepal, approx 1500 km and that of Myanmar to the Far East is expected to be left off the main battle. This sounds rather rosy but in actuality would be a Herculean task for the centralised war room at Delhi to handle. Airpower which paves the way for all modern campaigns, need to match up to the challenges on all three fronts. Interestingly, in the context of traditional air warfare, Pakistan stands at a better position to threaten India, than China would. Adequacy of airbases all along the border and a tight network of air defence system provide Pakistan just the required platform for an ideal offensive and subsequent defence. China whereas, all along its area of interest, lacks adequate airbases, the few they have are at very high altitudes, penalising the take-off requirements and all up weight performance. The PLAAF would have to be broken down, to at least four elements along the entire border and reaching the Indian assets, overflying Nepal or Myanmar, would not only involve international complexities but also the use of multiple air refuelling for every mission. However, on its plus side, China has a robust long-range air defence for most of its bases and vital points, not to forget its wide battery of "second artillery corps". These missiles could and would prove a threat to India. China has an arsenal of 2500+, the surface to surface missiles of varying ranges and CEP (circular error of probability), with conventional warheads, which it would most certainly use against India in the opening wave. However, it needs to be said for IAF that a little care, planning and distribution of assets would render this threat to mostly a nuisance value, in the face of the enormity of the situation. Civilian targets addressed by these missiles are not being considered here, nor are nuclear warheads. It would be sacrilege to put in actual calculations involving range, warheads, CEP, target diversity & a few other factors, on an open platform, however, it is safe to say the IAF has adequate depth and diversity to nullify the effect of the Chinese SSBM (surface to surface ballistic missiles) rain, the logistics for it and the actual execution would no doubt be a massive task. The government approved fighter squadron strength for the IAF is 42.5 squadrons of which the existing number of squadrons are in the thirties. The air defence element is undergoing a revamp and looks pretty potent, notwithstanding, for a two-front war this element requires a rather large boost, especially for enemy targets of interest, not within a military zone. Gone are the days of base defence only, its time for Air Defence Umbrella for larger areas. India's missile force also needs work to be done on, at present, it is in a very juvenile state, a shade better than Pakistan's. In conventional warfare, however, the SSBMs don't really push much weight except for a few tactical ones, which could shape the immediate battlefield. The lift capability of the IAF, in the present state, is rather envious. During the last Ex Gagan Shakti in 2018 and related events of the time, the IAF had demonstrated this capability to the envy of our neighbours, interestingly enough, heavy lift capability of the IAF has increased since. As and when it happens, in the western theatre, it would be a conventional air war like it has been for the past three full fledged wars with Pakistan. A lot of offensive air action would be seen, to make sure the PAF keeps its head down during the advance of the Indian Army. Also, offensive missions against supplies lines and feeder mechanisms would be undertaken at the onset of hostilities, in addition, missions to suppress the Pak Air defence would be required. These would be closely followed by the actions over the battlefield where in our tactical fighters pound the Pak army. The entire offensive force would require a rock-solid defensive package, to give them cover from enemy fighters. The air battle here would be bloody and intense. The Rafales would welcome such a scenario to prove their multi-billion dollar worth. The other two theatres would be pretty different, the Indian air battle here would mostly involve a defensive posture. Fewer missions

for airfield busting and long-range interdiction would be flown, as compared to the battlefield strikes and shorter-range interdiction missions. It is to be appreciated that the same problems which plague the PLAAF, distance and altitude, causes problems for the IAF too. The Air defence of own assets would be one of the most important missions in these sectors. Since the Army is the one who would play a major role in most of the places in these sectors, from holding the 'chickens neck', to fighting the battle mainly in mountains, most IAF missions would be in support of our surface forces. Needless to say, the entire IAF has a task cut out in a dual front war. This scenario is generally practised by the IAF during regular intervals, the last exhaustive one being Ex Gagan Shakti, in the first half of 2018. During this exercise, the IAF demonstrated its capability and reinforced its concept of a two front war. Also practised during this, was the swing effort from front to front and very successfully too. The effort was lauded the world over including, surprisingly, from the state-owned Chinese media. Serviceability rates and launch sustainability rates achieved during the exercise surpassed the USAF efforts at times. The IAF had similar number of fighter squadrons then as it does now, give or take one odd here and there. So are the number of squadrons now sufficient and we never need to reach the magic figure of 42.5? The answer to the above is a big 'NO'. Like Sam Manekshaw in the 1971 Indo-Pak war, the IAF had adequate time to plan the entire orchestrated effort for the exercise, a privilege it won't have during actual action nowadays. The blueprint for the exercise was finalised at least two years ago, over the year prior, assets were developed, raised, maintained and nursed for use during the exercise. The capability was demonstrated with a dual message, for the country-to push for the assets so due to the airforce and for the world to take notice of the IAF as a major force. Since advance notice in case of a present-day armed conflict would be most likely absent or minuscule, the IAF may be caught in an embarrassing situation with the present strength of its assets. It is here when the entire 42.5 squadrons of fighters and other approved machinery of the IAF are required, maybe, even more with the ever-changing face of warfare. The build-up is slow but seems to be steady over the last few years, the S-400s, the Rafales, the Akash, the LCAs, the Chinooks, the Apaches, the Globe masters, the Hercules, the Prithivis, etc, are all looking good at giving the IAF the required edge, but what looks excellent over the last few years is the will to attempt and succeed. This is by far the biggest force multiplier.

Source: <https://www.financialexpress.com/>

US plans to train fighter pilots of India, Japan, Oz in Guam amid China's growing belligerence in Indo-Pacific

The United States is contemplating to open its training facilities at the Anderson Air Force Base in Guam in western Pacific Ocean for the fighter jet pilots of India, Japan and Australia – ostensibly to step up military cooperation among the four nations to counter growing belligerence of China. The proposed National Defence Authorisation Act 2021 (NDAA 2021) presented by President Donald Trump's administration to the US Senate this week revealed its plan to set up training detachments for the fighter jet pilots of India, Japan and Australia at the Anderson Air Force Base in Guam. The move is intended to enhance the interoperability of the air forces of the US and its three other partners in the 'Quad' – a four-nation coalition re-activated in November 2017 to build a bulwark against China's hegemonic aspirations in Indo-Pacific. The move comes even as Trump's Secretary of State, Mike Pompeo, said that the US was bringing down number of its troops in Europe in order to re-deploy them in Indo-Pacific to make it sure that it is "appropriately postured" to counter the Chinese People's Liberation Army (PLA), in view of the growing belligerence of China, not only along its disputed border with India, but also in South China Sea. The US in December 2019 inked a Memorandum of Understanding (MoU) with Singapore for setting up a permanent training detachment for the fighter jets pilots of the city-state in Guam. Trump Administration has now proposed to assess the "merits and feasibility" of similar MoUs with other US "allies and partners in the Indo-Pacific region, including Japan, Australia and India". New Delhi is aware of the US plan. It was discussed when Trump and Prime Minister Narendra Modi held talks in New Delhi and agreed to deepen defence and security cooperation, including through advanced training and joint war-drills involving the army, navy and air forces of the two nations. The permanent training detachment for Indian, Australian and Japanese fighter jet pilots in Anderson Air Base will enhance the interoperability of the air forces of the US and its partners in the Quad and maximize preparedness to counter any threat in the Indo-Pacific, a source in New Delhi said. New Delhi late last month cold-shouldered the US President's offer to mediate between India and China to help them resolve the stand-off along their disputed boundary in eastern Ladakh. But when Trump and Modi spoke to each other over phone on June 2, the two leaders did discuss the situation along the Line of Actual Control (LAC) – the disputed boundary between India and China. Though the 'Quad' first came into existence in 2007, it soon fizzled out. But it had a low-profile re-launch in November 2017 and senior diplomats of the four nations participated in regular consultations and called for "free and open Indo-Pacific" tacitly opposing expansionist moves by China. It was elevated to the level of

Foreign Ministers in September 2019, with Pompeo and External Affairs Minister S Jaishankar joining their counterparts from Australia and Japan in a four-nation meet in New York. India of late quietly added a military heft to the Quad by inking an agreement on Mutual Logistics Support Arrangement (MLSA) with Australia. The agreement is intended to open up the military bases of India and Australia for each other's army, navy and air forces. India is also likely to sign a similar agreement with Japan soon. It had already signed the Logistics Exchange Memorandum of Agreement (LEMOA) with the US in August 2016. The US has of late been pushing for expanding the Quad into a Quad Plus, roping in other democratic nations in Indo-Pacific – obviously in response to China's renewed aggression in the wake of the Covid-19 pandemic.

Source: <https://www.deccanherald.com/>

India's allies pitching in with weapons, ammunition

As Indian troops remain dug in at Ladakh in a prolonged standoff with China, allies are pitching in with commitments to deliver urgently needed weapons and ammunition for the armed forces. France has promised to deliver additional Rafale jets next month, an in-service Israeli air defence system is expected soon, precision artillery rounds will be sent by the US, and Russia will make early deliveries of ammunition and weapons worth \$1 billion. The commitments have been made after top-level bilateral talks and a key meeting in the capital at which it was decided that emergency financial powers will be given to the armed forces to prepare for a prolonged standoff in eastern Ladakh. The first set of cutting-edge Rafale fighter jets – equipped with perhaps the world's best long-range air-to-air missiles – is expected to reach India by July 27. As per the initial plan, four fighters were to reach the home base at Ambala next month but sources said that France has now made a commitment to send additional Rafales in the first batch. A total of eight aircraft are nearing certification but it is unclear how many additional fighters could be delivered early. Ferried by Indian Pilots The planes will be ferried by Indian pilots who have been trained in France and will be fully combat ready when they arrive at Ambala. Sources said that in support of early delivery, France has committed that it will deploy its aerial refuelers to ensure that the jets make it to India with just a single hop. Key defence supplier Israel – which showed its commitment as a reliable partner during the Kargil war too – is expected to deliver a much-needed air defence system that will be deployed along the border. Sources said that the unnamed air defence system is likely to come from the current holdings of the Israeli defence forces and would supplement the Ladakh sector. This would be useful as the Chinese side is said to have deployed its newly acquired S-400 air defence system in the sector as well. India's largest defence supplier Russia has pledged urgent delivery of weapons, ammunition and missiles that India asked for during the recent visit to Moscow by defence minister Rajnath Singh. A detailed list has been shared by India for several dozen requirements that would cost in excess of \$1 billion and a commitment has been received from Russia of delivery within weeks. Given that most land-based systems such as tanks and armoured carriers are of Russian origin, India is looking for a variety of ammunition that will be required in the event of a larger conflict. The air force is looking for urgent supply of air-dropped bombs and missiles while the army requires anti-tank missiles and man-portable air defence systems for the border. India's newest strategic partner – the US – has already been helping out with vital intelligence and satellite imagery that give military planners clarity on the border situation. Sources said that the US has invited India to share a list of all requirements with a commitment to be of assistance at the earliest. In particular, additional Excalibur artillery rounds have been ordered on an emergency basis. The precision attack rounds with a range of over 40 km are used in a variety of artillery guns in the Indian inventory, including the M 777s that are designed for mountain warfare. These rounds are known for their accuracy and damage potential and have been tried and tested by the army.

Source: <https://economictimes.indiatimes.com/>

First batch of six Rafale jets likely to arrive in India by July 27; to be based in Ambala

India is likely to receive by July 27 the first batch of six Rafale fighter jets which are expected to significantly boost the combat capability of the Indian Air Force, people familiar with the development said. The IAF has been on a high alert for the last two weeks in view of escalation in tension with China following clashes between troops of the two countries in Galwan Valley in eastern Ladakh in which 20 Indian Army personnel were killed. The two armies are locked in a bitter standoff in the region for seven weeks. On June 2, Defence Minister Rajnath Singh held a telephonic conversation with his French counterpart Florence Parly during which she conveyed that the Rafale jets will be delivered to India as scheduled notwithstanding the coronavirus pandemic in France. Military officials, on the condition of anonymity, said the arrival of the Rafale jets will significantly enhance the IAF's overall combat capability and will send a clear message

to India's "adversaries". When asked about the matter, the IAF did not comment. The first squadron of the aircraft will be stationed at Ambala air force station, considered one of the most strategically located bases of the IAF. India had signed an inter-governmental agreement with France in September 2016 for procurement of 36 Rafale fighter jets at a cost of around Rs 58,000 crore. The aircraft is capable of carrying a range of potent weapons. European missile maker MBDA's Meteor beyond visual range air-to-air missile and Scalp cruise missile will be the mainstay of the weapons package of the Rafale jets Meteor is the next generation of BVR air-to-air missile (BVRAAM) designed to revolutionise air-to-air combat. The weapon has been developed by MBDA to combat common threats facing the UK, Germany, Italy, France, Spain and Sweden Besides the missile systems, the Rafale jets will come with various India-specific modifications, including Israeli helmet-mounted displays, radar warning receivers, low-band jammers, 10-hour flight data recording, infra-red search and tracking systems among others The IAF has already completed preparations, including readying required infrastructure and training of pilots, to welcome the fighter aircraft. The second squadron of Rafale will be stationed at Hasimara base in West Bengal. The IAF spent around Rs 400 crore to develop infrastructure like shelters, hangars and maintenance facilities at the two bases Out of the 36 Rafale jets, 30 will be fighter jets and six will be trainers. The trainer jets will be twin-seater and they will have almost all the features of the fighter jets. The Congress had raised questions on the deal, including on rates of the aircraft, and alleged corruption, but the government had rejected the charges.

Source: <https://economictimes.indiatimes.com/>

Pandemic interrupted Gaganyaan training but mission will be followed up soon: MoS space Jitendra Singh

Union minister for department of space Jitendra Singh has said the private sector will be allowed to use facilities and assets of Indian Space Research Organisation (ISRO) and they will be provided a level-playing field in satellites, launches and space-based services. His comments came days after FM Nirmala Sitharaman broke ISRO's monopoly by allowing the private sector to access ISRO's assets to expand their technology base. Briefing about the country's achievements in space technology, Jitendra Singh said the PM's 'Atmanirbhar Bharat' roadmap towards self-relied India envisages the initiative to boost private participation in space activities. The private sector will be a co-traveller in India's space journey, he said. His remark came weeks after US private sector company SpaceX launched Nasa astronauts to the International Space Station with the help of its Falcon-9 rocket. Future projects for planetary exploration and outer space travel will be open for the private sector, the minister said. ISRO has on its launch schedule Aditya L-1 solar mission (scheduled this year), Venus mission in 2023, lunar polar exploration mission and Mangalyaan-2 (MOM-2) in 2024. But it remains to be seen whether ISRO will be able to meet these launch targets after the pandemic has severely affected its space activities. On the 'Gaganyaan' manned mission, scheduled to be launched by 2022, Singh said the selection of the astronauts was accomplished and their training in Russia had also started but it got interrupted because of the pandemic. He said the mission would be followed up soon. Though the two unmanned test flights with a 'humanoid' are scheduled before the actual mission, it remains to be seen whether ISRO will meet the 2022 deadline. Even during the pandemic, ISRO scientists have been engaged in search of best methods to provide essential medical devices, protective kits and other equipment, the minister said.

Source: <https://timesofindia.indiatimes.com/>

India-Japan Moon mission takes shape, ISRO to leadlander tech

Even as both the countries continue to battle Covid-19 pandemic, Japan, which will be launching a joint lunar mission with India — Lunar Polar Exploration (LPE) — that hopes to put a lander and rover on Moon's surface has, for the first time, spelled out details of the project that will see ISRO lead the lander development. As per details shared by Japanese space agency JAXA, the mission will be launched after 2023 — ISRO currently has its human spaceflight programme (Gaganyaan) scheduled for 2022 — and will involve a lander and a rover. JAXA diagrams show that the Japanese would be building the overall landing module and the rover, while ISRO would develop the lander system. The mission will be launched from Japan, and the designated launch vehicle is the H3 rocket, manufactured by Mitsubishi Heavy Industries. The first thinking of this mission was made public in 2017, during a multi-space agencies' meeting in Bengaluru and it was then also part of the inter-governmental discussions during PM Modi's visit to Japan in 2018. TOI had reported in September 2019, that the project had since moved forward and both agencies were keen on landing on Moon together. Now, a pre-project team established earlier this year is working on developing a comprehensive management plan for the collaborative mission; investigate the spacecraft system requirements and the various interface specifications in collaboration with ISRO. "...Analysis of observational data suggests the existence of water in the

polar regions of Moon. JAXA is working with ISRO to plan an international collaborative mission to obtain data on the quantity and forms of water resources present, in order to determine the feasibility of utilizing such resources for sustainable space exploration activities in the future," JAXA said. The mission's aim is to obtain actual data regarding the quantity of water from in-situ observations of areas where water is anticipated to exist, based on the available past observational data. It also seeks to understand the distribution, conditions, form and other parameters of the lunar water resources in the polar regions. "Through this mission, we also seek to improve the technology needed to explore the surface of low-gravity celestial bodies in order to support future lunar activities. These advancements include technology for mobility, lunar night survival and mining excavation," JAXA added. While recent observational data suggests that it is highly likely that water does not sublimate at 'permanently shadowed regions' (PSRs) — an example of a PSR would be an area that is lower than the surrounding ground, such as the inside of a crater — and remains near the lunar surface, the details about the water quantity, distribution and its form are still a mystery. The investigation area and observation points (waypoints) with unique environmental and geological conditions will be selected prior to landing. The lander will land at a location near the investigation area that has long sunlit hours, and deploy the rover. During operation, the rover will observe up to 2m underground, allowing the detection of possible water resources in the area. The rover will simultaneously observe the Moon surface. "Rover will be equipped to conduct observations of the chemical elements present in areas where water may possibly be distributed. If hydrogen is detected, the rover will mine the surface to collect samples. Samples will then be heated to vaporize the volatile substances in order to determine the chemical composition, analyze the quantity of water and conduct isotopic analysis," JAXA added.

Source: <https://timesofindia.indiatimes.com/>

Japan halts deployment of Aegis Ashore missile defence system

Japanese Defence Minister Taro Kono said that he had suspended plans to deploy two U.S.-made Aegis Ashore air defence radar stations designed to detect and counter North Korean ballistic missiles. Kono told reporters that Japan was halting the deployment due to technical issues as well as cost. The two proposed Lockheed Martin Co radar sites, one in the northern prefecture of Akita and the other in Yamaguchi prefecture in southern Japan, had also faced opposition from local residents. With radars more powerful than the ship-based version of Aegis that Japan already operates, the planned stations were meant to help counter recent missile advances by North Korea and relieve pressure on Japan's stretched navy. "I made a decision to suspend the process... For the time being, Japan will continue to counter (the threat) with Aegis-equipped ships" said Kono. North Korea, which is threatening military action against South Korea unless it stops defectors from sending leaflets and other material to the North, last year tested a series of new ballistic missiles with irregular trajectories that Japan said appeared designed to penetrate Aegis defences. The two planned Aegis Ashore systems would cost about 439 billion yen (\$4.1 billion) for operation and maintenance for the next 30 years, according to defence ministry documents. That price tag comes as Japan faces an economy weakened by the coronavirus pandemic and unprecedented stimulus spending that is putting pressure on government finances. According to the plans, the sites were to be initially armed with SM-3 Block IIA interceptor missiles designed to shoot down warheads in space. Japan, however, will have to pay to test those interceptors at a U.S. military test site in Hawaii before deployment, further adding to the cost of the Aegis Ashore system. Tests for the SM-3 Block IIA missiles alone could cost at least \$500 million, sources with knowledge of the programme told Reuters last year.

Source: <https://timesofindia.indiatimes.com/>

India to urge Russia to rush delivery of S-400 system

India will press Russia to consider expediting the delivery of the S-400 Triumf anti-missile system during defence minister Rajnath Singh's three-day visit to Russia starting. The urgency comes amid heightened tensions along the India-China border. Moscow is believed to have delayed delivery of the \$5.4-billion system to December 2021 due to Covid-19 constraints. India had completed large payments for the system last year. China, which also enjoys strong defence ties with Russia, has already acquired the S-400 system from its northern neighbour and this fact may have added to India's concerns. Besides, sources said, armed forces have been told to be ready for all eventualities. The government has begun the process of filling up gaps in defence preparedness, making good pending purchases, shoring up supplies and improving inventory profile based on worst-case scenarios, including a two-front fight. According to people aware of the details, Russia appears to have bunched the delivery of India's S-400 with a couple of other countries. New Delhi is keen to explore if a delinking of delivery is possible and a faster schedule can be worked out

given the historical military relationship between the two countries. Reliability of supplies is the other key issue on top of Singh's agenda. There are two parts to the segment — one, speed up availability of spares for existing Sukhoi and MiG fleets and second, gain an assurance that Indian supplies will not be impacted in changing political environment. ET has learnt that this issue was discussed in detail at the highest level after India lost 20 soldiers to violence on the Line of Actual Control (LAC) with China. At that point, it was felt that a quick reach-out to Russia was necessary for defence preparedness. While the Moscow Victory Day parade was a planned event, there were doubts of a ministerial-level representation because of the Covid-19 pandemic. However, after consultations with Prime Minister Narendra Modi, it was decided that Singh must undertake the visit as that was the best opportunity to engage the Russian government at this critical juncture. Chinese defence minister Wei Fenghe is also likely to be present at the event. Beijing has been pushing Moscow to deepen defence cooperation and obtain access to high-end Russian technology, especially in making jet engines. China, in fact, has been quite keen to develop its defence industry on the back of Russian capabilities. Singh is slated to have a separate bilateral meeting with his Russian counterpart Sergei Shoigu during his visit. Much of these issues will be discussed at length with him, especially on hastening deliveries for weapon systems and spares. He is also to meet deputy prime minister Yury Borisov, who also deals with military and aerospace affairs.

Source: <https://economictimes.indiatimes.com/>

India requests quick delivery of missiles, ammo from Russia; Amethi factory to launch before summit

India has requested a quick delivery of missiles, ammunition and assault rifles from Russia under the emergency purchase route during a visit by a top delegation to Moscow led by Defence Minister Rajnath Singh. The requests — which include spares for the army — are believed to have been looked at positively by Russia, with an assurance that quick deliveries would be made, considering the tense situation on the border with China. Sources said that the two sides also discussed the project to manufacture Kalashnikov rifles at a factory in Amethi under a joint venture approach with OFB and it has been agreed that the facility would be launched by the time Prime Minister Narendra Modi and President Vladimir Putin meet for a summit tentatively planned for October this year. It is learnt that India has requested in particular for Iglu S anti air missiles, assault rifles and ammunition for various Russian origin systems — things that would be needed if the border conflict with China is extended over the coming weeks. Earlier this month, the government had given emergency procurement powers to the three armed forces, in which orders worth Rs 500 crore could be undertaken at the earliest to meet urgent requirements. As reported, after his meeting with the Russian Deputy Prime Minister Yury Borisov, Indian Defence Minister Rajnath Singh had said that an assurance has been given that weapon systems requested by India would be delivered at the earliest. "All our proposals have received positive response from the Russian side. I am fully satisfied with my discussions," the minister had said, without getting into details. Besides the emergency purchases, the Amethi Rifle factory is a priority area for both sides and has already been delayed by almost a year due to differences on the pricing mechanism. As first reported by ET, a costing committee has now been set up by the defence ministry to take the project ahead. The point of contention has been the Ordnance Factory Board (OFB) that has fixed an unusually high cost for technology transfer and manufacturing.

Source: <https://economictimes.indiatimes.com/>

On MoU between ISRO and ARIES

A Memorandum of Understanding (MoU) between Indian Space Research Organization (ISRO), Bengaluru and Aryabhata Research Institute of Observational Sciences (ARIES), Nainital for cooperation in the field of Space Situational Awareness (SSA) and Astrophysics was signed by Shri.R.Umamaheswaran, Scientific Secretary, ISRO and Prof. (Dr.) Dipankar Banerjee, Director, ARIES through video at ISRO Headquarters and ARIES Headquarters on 4th June 2020. Dr.A.K.Anilkumar, Director, Directorate for Space Situational Awareness & Management (DSSAM), Dr.P.Sreekumar, Satish Dhawan Professor, ISRO, Shri.Deva Arul Daniel, Associate Director, DSSAM, Ms.Bulbul Mukherjee, Associate Director, DSSAM, Dr.V.Girish, Deputy Director, Space Science Programme Office (SSPO) and Shri.C.V.S.S.Sowmitra, Deputy Programme Manager, DSSAM were present from ISRO side. Faculty members, chairs and co-chairs of ARIES, Dr.Brijesh Kumar, Dr.Amitesh Omar, Dr.Kuntal Misra, Dr.Manish Naja, Dr.T.S. Kumar and Dr.Santosh Joshi were present from ARIES side. Space objects orbital tracking, analysis and space weather studies are important aspects in Space Situational Awareness & Management to safe guard Indian space assets from critical conjunction threats from space debris. Future endeavors in space exploration depends on R&D in Astrophysics, solar sciences and space environment. Self-reliance in these areas is key to the progress of Indian space arena. This MoU will pave the way for

future collaborations between ISRO and ARIES in establishing optical telescope observational facilities for space object tracking, R&D studies in space weather, astrophysics and Near Earth Object (NEO).

Source: <https://www.ISRO.gov.in/>

Briefing by Secretary, DOS/Chairman, SIRE

Opening up of the space sector is part of the larger vision of transforming India to become self-reliant through a set of socio-economic reforms. The reforms in the space sector are aimed at tapping the potential of entire country for unlocking its potential by enabling private enterprises and start-ups to undertake end-to-end space activities. In addition, the reforms are also aimed at mitigating the large and upfront investments required to set up facilities for undertaking space activities through sharing of such existing facilities under ISRO. An open and inclusive space sector will result in accelerated growth, job creation as well as innovations and will enable Indian Space Industry to be a significant player in global space economy. Under these reforms, an autonomous nodal agency called Indian National Space Promotion and Authorisation Center (IN-SPACE) is being established under Department of Space as a separate vertical for permitting and regulating the activities of private industry in space sector. IN-SPACE will act as a national nodal agency to hand-hold and promote private endeavours in space sector and for this ISRO will share its technical expertise as well as facilities. IN-SPACE will have its own independent Directorates for Technical, Legal, Safety & Security, Monitoring as well as Activities Promotion for assessing the private industry requirements and further coordinating the activities. The private industry will also be offered opportunities to undertake R&D activities and be co-traveller in advanced inter-planetary missions. This is planned through a series of Announcement of Opportunities. Opportunities in Human Space Flight Programme is already announced. The role of NewSpace India Ltd. (NSIL), a CPSU under DOS is being re-defined to transform the approach of supply driven model to demand driven model for space based services. NSIL will be strengthened and empowered to off-load operational activities of ISRO in the areas of launch vehicle & satellite production, launch services as well as space based services. NSIL will execute these activities through Industry Consortiums. This will allow ISRO to allocate more time and resources for R&D endeavours. ISRO will continue to carry out its present activities with greater emphasis on development of advanced technology, missions and capacity building besides supporting private endeavours in space sector. A new Navigation Policy is also being proposed. Suitable changes in Remote Sensing Data Policy as well as SATCOM policy are also on the anvil. These changes are aimed at aligning these policies to an open and inclusive space sector. A webinar on Space Sector Reforms will be conducted shortly wherein more details on IN-SPACE mechanism and application requirements, Announcement of Opportunities and role of NSIL will be shared with all stake holders.

Source: <https://www.ISRO.gov.in/>

First four Rafale jets likely to arrive in India by last week of July

The first four of 36 Rafale jets are expected to land in India by last week of July as the coronavirus pandemic delayed their scheduled delivery by around 11 weeks, official sources said. The first batch of the Rafale jets was scheduled to arrive in India by the first week of May. India had signed an inter-governmental agreement with France in September 2016 for procurement of 36 Rafale fighter jets at a cost of around ₹ 58,000 crore. The aircraft is capable of carrying a range of potent weapons. European missile maker MBDA's Meteor beyond visual range air-to-air missile and Scalp cruise missile will be the mainstay of the weapons package of the Rafale jets. Meteor is the next generation of BVR air-to-air missile (BVRAAM) designed to revolutionise air-to-air combat. The weapon has been developed by MBDA to combat common threats facing the UK, Germany, Italy, France, Spain and Sweden. Besides the missile systems, the Rafale jets will come with various India-specific modifications, including Israeli helmet-mounted displays, radar warning receivers, low-band jammers, 10-hour flight data recording, infra-red search and tracking systems among others. The IAF has already completed preparations, including readying required infrastructure and training of pilots, to welcome the fighter aircraft. The first squadron of the aircraft will be stationed at Ambala air force station, considered one of the most strategically located bases of the IAF. The Indo-Pak border is around 220 km from there. The second squadron of Rafale will be stationed at Hasimara base in West Bengal. The IAF spent around Rs 400 crore to develop required infrastructure like shelters, hangars and maintenance facilities at the two bases. Out of 36 Rafale jets, 30 will be fighter jets and six will be trainers. The trainer jets will be twin-seater and they will have almost all the features of the fighter jets

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