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# समाचार पत्रों से चयित अंश Newspapers Clippings

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Sun, 16 Aug 2020

# In-Talk: India used laser weapons on Independence Day

*By Amit Cowshish*

On the occasion of Independence day, Prime Minister Narendra Modi addressed nation from the Red Fort in Delhi. As a protection for Narendra Modi, Indian Government installed laser weapons at different places. These weapons can identify drones in a 3 km radius and will defend against their attacks.

It is known that few neighboring countries started using drones to attack Indian bases and politicians. To counter these attacks, DRDO came up with a laser weapon system and it has been thoroughly tested. Most of the drone attacks happened in North India and Indian Government decided to use these laser weapons in most of the high priority meetings.



It is great to display these next generation weapons to the public along with stationing them as protection to the Prime Minister. In the past few months, Indian Government has invested lot of money on the defense systems and several organizations inside India are working immensely to improve the warfare infrastructure for the nation.

<https://www.telugubulletin.com/in-talk-india-used-laser-weapons-on-independence-day-90676>



**BHARAT SHAKTI**  
Self-Reliance in Defence

Mon, 17 Aug 2020

## Draft Defence Acquisition Procedure 2020: Bubbling with new ideas

*By Amit Cowshish*

With the release of the draft Defence Acquisition Procedure (DAP) 2020 on July 27, the exercise that started last August to review the existing acquisition procedure is almost complete. So is the exercise of reviewing the offset guidelines whose revised draft was released separately three days later.

Apart from the revised offset guidelines, the final version of DAP 2020 will also include a chapter on Simplified Capital Expenditure Procedure (SCEP) for recurring replenishment, repairs, and refits of in-service equipment/systems. The draft of this chapter has not been notified as of now, adding an element of suspense. The DAP 2020 will eventually replace the existing Defence Procurement Procedure (DPP) 2016.



Photo: BharatShakti/Rohit Pandita

Though the Ministry of Defence (MoD) was generous in seeking comments on revised drafts by August 10, the window is too small for the outsiders to sift through 710 pages of the two documents and make any major recommendations, more so because DAP 2020 itself is a revised and rechristened version of the draft DPP 2020 released earlier in March 2020 and takes into account the overwhelming response it elicited from ‘the entire spectrum of stakeholders’.

Apart from several procedural changes and a revamped offset policy, DAP 2020 is padded with an assortment of new ideas – such as integration of artificial intelligence with platforms and systems, use of indigenous high-end material and special alloys, and setting up of a Project Management Unit to support contract management – and as many as five new chapters, including the not-yet-notified chapter on SCEP.

The remaining four new chapters contain the procedure for procurement of defence materiel from the Defence Research & Development Organisation (DRDO), Defence Public Sector Undertakings (DPSUs) and the Ordnance Factory Board (OFB); acquisition of Information and Communication Technology (ICT) systems and products; taking platforms on the lease; and, post-contract management.

Amid these portentous changes, difficult to summarise because of the space constraint, changes made in at least four areas stand out: categorisation of defence procurement, processes linked with some of the stages in the procurement cycle, standard clauses of contract, and offsets.

The number of procurement categories is all set to increase to 11, of which six will form a distinct hierarchy. In descending order of preference, this hierarchy will comprise ‘Make (Indian –

Indian Designed, Developed and Manufactured), 'Buy (Indian)', 'Buy and Make (Indian)', 'Buy and Make', 'Buy (Global – Manufacture in India)', and 'Buy (Global)'. The penultimate category is proposed to be interposed in this hierarchy to encourage foreign companies to manufacture the equipment in India.

The 'Make' category, introduced in 2006 to promote indigenous design and development of futuristic equipment, and split into two sub-categories in 2016, will now have three sub-categories. While the first category envisages funding of the prototype development cost up to 70 per cent (reduced from the existing 90 per cent) by the government, the second category envisages self-funding by the industry. The third category now being introduced targets manufacturing of import substitutes by the Indian industry with or without collaboration with/transfer of technology from the foreign firms.

The ambit of the 'Make' category is being enlarged by introducing 'Innovation' as a separate category which would entail procurement of items developed under the Innovation for Defence Excellence (iDEX) scheme, with financing out of the Technology Development Fund (TDF), or by the Services through their internal organisations, such as the Base Workshops, Dockyards and Base Repair Depots.

The Strategic Partnership Model, introduced in 2016 'to encourage broader participation of the private sector, in addition to capacities of DPSUs/OFB, in manufacturing of major defence platforms' in four areas – aircraft, helicopters, submarines, and armoured fighting vehicles/main battle tanks – has been retained, seemingly without any modification.

Leasing has been introduced as a new category as 'an innovative technique for the financing of equipment' to possess and operate it without owning it, thereby avoiding 'huge initial capital outlays'. This should be useful where the asset is needed for a specific period in avoiding its under-utilisation if procured. It may also be useful to opt for leasing of equipment if it is required in limited numbers.

It is arguable whether the proliferation of the procurement categories is a move towards simplification of the procurement procedure, especially in view of the overlapping fundamental attributes of at least three categories – 'Buy and Make (India)', 'Buy and Make', and the Strategic Partnership Model – all of which envisage manufacturing in India by the Indian companies of the equipment/platform designed and developed abroad.

The requirement of indigenous content has been increased by 10 per cent and it now ranges from 50 per cent under most of the categories to 60 per cent under 'Buy (Indian)' category if the equipment to be procured under this category is not designed and developed indigenously. Only the Indian vendor participating in 'Buy (Global)' tender will be required to achieve indigenisation to the extent of 30 per cent. One will have to wait and see if the vendors are able to meet the increased levels of indigenisation.

Several changes have been made in the processes associated with various stages in the procurement cycle. Some of these do not seem to be substantive. For example, instead of the Services Capital Acquisition Plan Categorisation Higher Plan (SCAPCHC), the Acceptance of Necessity (AoN) will be accorded by the Services Procurement Board (to be set up) in respect of cases that fall under the financial powers delegated to the Vice Chiefs etc. At any rate, procedural changes can make a difference only if these are backed by quick decision-making.

Changes have been made in the Standard Contract Document by tweaking the text of a few existing clauses and introducing some new standard clauses like monitoring of projects based on contractual milestones, severability, and survival of specified clauses after termination or expiration of the contract. A new clause which aims at striking a balance between the intellectual property rights of the seller and MoD's rights to indigenise its components, assemblies, sub-assemblies, etc., may not go down well with the foreign companies who are extremely sensitive to IPR issues.

The revamped offset guidelines envisage large scale changes in avenues available for discharging the offset obligation, list of products eligible for offsets, discontinuation of offset

banking, multipliers, and many other aspects of the policy. However, procurements made under Inter-governmental Agreements or standing arrangements like the Foreign Military Sales (FMS) programme of the US Government will not entail offset obligation anymore.

Most of the procurements in the recent years being through this route, the proposed exemption – coupled with the emphasis on procurement from the Indian companies – will drastically reduce the number of contracts entailing offset obligation. It's time MoD reconsiders the need for continuing with the policy which, in any case, has not paid the expected dividends in the last fourteen years.

The additional content included in the document seems to make it more complex. In any case, the best of policies and procedures can come to naught because of procrastination in decision-making and disregard of financial viability of the decisions. The MoD will have to improve its track record on both these counts to make this complex document work.

*(Disclaimer: The views and opinions expressed in this article are those of the author and do not necessarily reflect the official policy or position of BharatShakti.in)*

<https://bharatshakti.in/draft-defence-acquisition-procedure-2020-bubbling-with-new-ideas/>



Mon, 17 Aug 2020

## Negative import list for defence: Govt's landmark announcement to help the private sector

*The defence ministry has set a goal of a turnover of USD 25 billion (Rs 1.75 lakh crore) in defence manufacturing in the next, five years that included an export target of USD 5 billion (Rs 35,000 crore) worth of military hardware*  
*By Raaj Nair*

India has embarked on the drive of self-reliance and indigenisation in the Defence sector with the focus via Make in India. The potential of the Indian industry along with the technological capabilities developed in-house is vital for achieving the objective of a strong and sustainable ecosystem in the Defence Sector manufacturing in the country.

The defence ministry has set a goal of a turnover of USD 25 billion (Rs 1.75 lakh crore) in defence manufacturing in the next, five years that included an export target of USD 5 billion (Rs 35,000 crore) worth of military hardware. With this as the overarching objective and the vision of PM Narendra Modi for India, Defence Minister Rajnath Singh on Aug 9, 2020, announced that India will stop import of 101 military systems and weapons



to begin with and subsequent additions to the list, year on year by the DMA under General Bipin Rawat in consultations with the Services and Ministry of Defence and External Affairs.

Besides aiming to produce key platforms and weapons in India, the government intends to focus on bringing down the percentage of imported components in indigenously developed weapon systems and defence equipment. The decision about the import list of weapons systems under a year-wise schedule was first announced by Finance Minister Nirmala Sitharaman in May 2020 while announcing reforms for the Private defence manufacturing sector that included increasing the FDI limit from 49 per cent to 74 per cent under the automatic route. 74% (FDI) under the automatic route is a positive policy amendment, although perhaps a

**The potential of the Indian industry along with the technological capabilities developed in-house is vital for achieving the objective of a strong and sustainable ecosystem in the Defence Sector manufacturing in the country. (Representational image)**

little late in coming, given the likely drop in overall defence capital spending especially post-breakout of the pandemic COVID19.

How this increase in FDI in the automatic route will affect existing preferred categories of defence procurement, like 'Indian Indigenously Designed Developed and Manufactured' or Indian-IDDM, remains to be seen and may require significant policy amendments to existing procurement procedures. In Indian-IDDM route, it is currently proposed that any order will require at least 50% indigenous content (IC) if the design is indigenous in addition to development and manufacture (an increase from 40% from the DPP 2016).

The announcement by the government stating that in any government contract over Rs. 200 crore, no foreign company can participate in the tendering process. It will offer an opportunity to the Indian defence industry to manufacture the items in the negative list by using their own design and development capabilities or adopting the technologies designed and developed by the Defence Research and Development Organisation (DRDO) to meet the requirements of the Armed Forces.

The negative import list includes wheeled AFVs, with an indicative embargo date of December 2021. The Army is expected to contract almost 200 of these at an approx cost of over Rs 5,000 crore. Similarly, the Navy is likely to place demands for submarines. It expects to contract about six at an approximate cost of almost Rs 42,000 crore. For the Air Force, it is decided to enlist 123 of LCA MK 1A The IAF at an approximate cost of over Rs 85,000 crore.

By supporting its domestic manufacturers, India can become the centre of excellence in the small arms sector. It will also reduce the import dependence of arms and ammunition. Domestic manufacturing of arms will also create jobs for Indians.

Promotion of local manufacturing requires enhanced co-operation between the military and the domestic defence industry, which simply has not acquired the traits of a collaborative partnership that propels the defence industry in the western world and the US. Mutual trust is missing, with all concerned parties working at cross-purposes with one another.

### **Exports**

If the domestic industry has to rely solely on local demand, the industry will have little incentive to invest in R&D and production facilities lack of economies of scale and under utilisation of manufacturing capacity. Hence, opening up of exports of defence products would give impetus to the enhanced participation by domestic Private sector. The SOP for grant of NOC for Defence Exports were issued by DDP on May 15, 2017 and have streamlined the procedure for grant of NOC to the private sector. Many countries in South America and the USA have a very large market potential for Small Arms and Ammunition in the private space besides the military and law enforcement agencies. A level playing field should be provided for the Private sector Arms and ammunition manufacturers especially ones made under IDDM category to export as compared to the automatic route usually to the PSU/DPSU/OFB.

As per the data available with the Ministry of Commerce & Industry, the item-wise export indicates that the list is topped by aircraft parts, followed by warships, naval crafts. The export of Arms and Ammunition has been comparatively low and needs greater focus. The details available in the annual reports published by the MoD for the past six years suggest that the value of exports by Defence Public sector Undertakings (PSUs), Ordnance Factory Boards (OFB) and Private Defence Industry (based on the NOCs issued) for the financial year 2016-17 was Rs. 1,495.27 crore, however, there has been a threefold year-on-year increase in the value of defence exports to Rs. 4,500 crore in 2017-18. The draft Defence Production Policy, 2018, has set a target of \$ 5 billion in defence exports by 2025. The Government has initiated various measures to achieve this highly ambitious target.

The strategy for Defence exports is likely to have certain noteworthy advantages for the country:-

### **Enhanced Military Cooperation**

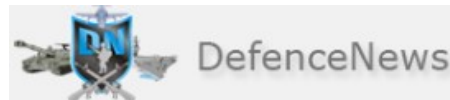
Defence products exports will contribute to strengthening diplomatic and economic partnerships and simultaneously lead to enhanced military cooperation. Besides, such exports have the potential

to open the doors for strategic partnerships that are of mutual benefit to the partners. Export financing by enhancing allotment of funds in defence “Line of Credit” for certain friendly countries may be considered to facilitate the purchase of critical defence equipment manufactured by the Indian defence industry. With the shift in the world order and polarisation happening in geopolitics, the first and foremost ripples would be felt in Trade and Security/Defence. In such times, military diplomacy between nations would be as important and strategic one if not more.

However, the proof of the pudding will clearly be in the implementation of these policies amendments and reforms and not merely in announcements.

*(The author is an Indian Navy Veteran. The views expressed are personal)*

<https://www.financialexpress.com/defence/negative-import-list-for-defence-govts-landmark-announcement-to-help-the-private-sector/2057169/>



*Mon, 17 Aug 2020*

## **Indigenisation of Indian defence industry a must**

History bears testimony to the fact that all nations with a strong military-industrial complex had a strong military force, resulting in a strong and vibrant foreign policy to stand comfortably amongst the comity of nations.

It was the military industrial set-up of Germany that enabled it to launch its offensive practically against the entire western world both in World War I and World War II. The real strength of the military industry of Germany was obtained through its capacity for self-reliance. This is now true of the United States, Russia, and China, which though not fully self-reliant in defence, wants to emulate the former two mentioned.



As for India, the most serious shortcoming in our defence set-up is our poor standing in the sector of defence indigenization. So backward is India in defence self-reliance that for the last 65 years it has not produced an acceptable rifle for the Infantry, or a main battle tank, a satisfactory field artillery gun (155mm), any fighter aircraft (except for HF24, which was grounded due to external political pressures on our government), advanced jet trainer engine, submarine, attack helicopter, or other major weapons support systems.

Hence, now, as Indian Army and Air Force started moving to forward locations, confronting the Chinese forces in Ladakh from April onwards, what caught everyone’s attention was Defence Minister Rajnath Singh’s visit to Russia and the scramble for an agreement on the immediate delivery of 12 SU30 MKIs and 22 MiG 29 fighter aircraft. This highlighted once again India’s near total dependence on imports of all major weapons systems, be it the fighter or transport aircraft, artillery guns, tanks, air defence radars or other tactical signal and communication equipment.

According to a report by Stockholm International Peace Research Institute (SIPRI), in the period between 2007 and 2011, India had met 80% of its defence needs by importing military hardware worth nearly US\$12.7 bn. The situation was further compounded with a fall in the value of rupee and other economic constraints, which forced India to cancel some of its major defence imports like the indefinite postponement of the \$20 bn 125 French Rafale fighter jets (MMRCA).

The matter is so serious that a number of Army Chiefs have clearly stated that India cannot sustain a war for even two weeks, because of the depletion of its war reserves. The only redeeming feature in India’s entire defence production is the progress made by the Naval Shipyards.

Situation has improved somewhat under the present government, and the Rafale deal has been revived, with the arrival of five of these aircraft; 31 more are supposed to come in the near future.



This should add, somewhat, to the dangerously depleting fighter squadron strength, which is down to 28 squadrons from the required 42. The Light Combat Aircraft now stands revived with 2 squadrons of Tejas on operational readiness after a wait of 30 years, though still powered by a foreign engine.

It goes without any doubt that the Indian military industry, consisting of nine PSUs like HAL, BEL, Naval Shipyards etc., along with 41 ordnance factories have not been able to meet even the basic demands due to late deliveries and cost overruns, which has forced the national defence set-up to depend on the foreign defence corporate sector, making us a puppet in their hands.

The Chinese along with India in the early 1960s, went in for Soviet weapons, when in 1963 India got its MiG 21s from Soviet Russia along with China. India further went for Sukhoi 7 in the late 1960s along with tanks, artillery guns and air defence radars. However, by the mid to the late 1980s, China literally stole a march on India when they, to the utter dismay of the Soviets, disregarded all rules and norms of intellectual property rights and went on to reverse engineer the Soviet MiG 21 and made it into their own F7M.

This was supplied to Pakistan as F7P and further to Bangladesh and Sri Lanka. Similarly, China got Su 27 from the Russians, while after some time we got the MiG 29s, followed by Su 30s and Su 30 MKIs. Once again, the Chinese resorted to their “creative adaptation” by making the Russian-supplied Su 27 into J11, by retaining the airframe but putting their own avionics and fire control system.

In India, unlike China, manufacturing is separate from R&D and we can see very well how the defence PSUs in India would like to keep private manufactures out. And now the Chinese are boasting of J10, which is actually the reverse engineered Israeli Lavi, and the stealth J20 or fifth generation fighter at par with US F22.

In 1995, when former President Abdul Kalam was the senior advisor to the government, he propagated the requirement to involve private entrepreneurs in defence manufacturing. Though much effort went into this since then, nothing much came of it.

Now with the government talking of FDI with suitable offset arrangements—also suggested by the late President Abdul Kalam—it must be appreciated that defence manufacturing capability must come to India, and Indian manufacturing process should not only be able to sustain the supply for the demands forwarded by the three Services, but also be able to export defence equipment and arms to other countries, the way China is doing.

When we look at the official Chinese military budget announced in May 2020, it stands at \$178.6 bn, which is a 6.6% increase from the 2019 budget of \$177.5 bn, as against the Indian defence budget announced by Nirmala Sitharman of only \$65.86 bn. This should make us realise why we are in such a situation. We can begin by allotting at least 3% of our GDP to defence, from approximately 1.52% as it is now.

With this background, Ministry of Defence’s Draft Defence Production and Export Promotion Policy (DPEPP 2020) on 4 August came as a pleasant surprise. The draft DPEPP stated that its aim was to reduce dependence on imports and take forward “Make In India” through domestic design and development, as also promote export of defence products as part of the overall “Atmanirbhar Bharat” policy. This too was suggested by Abdul Kalam and Dr Kelkar.

The government must now involve all political parties to arrive at a consensus and invite major industrial houses to take up defence manufacturing to see the emergence of a strong and brave new India.

<https://www.defencenews.in/article/Indigenisation-of-Indian-defence-industry-a-must-922029>

## India's tense borders with Pakistan and China threaten plan to ban some weapons imports

- *The new curbs on \$47 billion worth of imports that include communication satellites, conventional submarines and light machine guns*
- *The new order also fails to clarify which agency will certify what will be considered indigenously made*

India's move to ban the import of some weapon systems and military hardware to boost local manufacturing is being hindered by its push to procure as much as \$2 billion in equipment to increase its defense preparedness as it faces a border stand-off with China and volatile relations with Pakistan.

The new curbs on \$47 billion worth of imports that include communication satellites, conventional submarines and light machine guns, announced Aug. 9, failed to address critical issues such as the certification of systems and locally-made components, and will not prevent the military from making emergency purchases of equipment from foreign vendors, defense experts say.

Prime Minister Narendra Modi's efforts to transform the world's biggest arms importer into a defense manufacturing powerhouse have remained a non-starter since the idea was first proposed in 2014. From a plan to produce indigenous equipment and systems worth \$100 billion by 2020, the target has been slashed in half and the deadline extended to 2027. Now the country is four months into a confrontation with China along its unmarked Himalayan border that's plunged relations between the two nuclear-armed neighbors to a four-decade low.

"There is very little that the negative list of ammunitions, and assorted material banned by the Ministry of Defense can do in addition to several measures already taken to localize defense production and reduce import dependency," said Amit Cowsish, a consultant with the New Delhi-based Manohar Parrikar Institute For Defence Studies and Analyses and a former financial adviser on acquisitions in the Ministry of Defense.

The skepticism is with reason. Similar policy declarations to stem imports were made by India in 2013, under then prime minister Manmohan Singh, and also by Modi's administration in his first term in 2018, didn't significantly increase the 'Made in India' products deployed by the military.

### Unclear Guidelines

The new order also fails to clarify which agency will certify what will be considered indigenously made, given locally made defense products and weapons systems may include imported parts.

In 2016, a self-propelled air defense system made by a state-run plant malfunctioned during a military exercise. An investigation revealed that an imported component had failed, according to two officials who asked not to be identified because they weren't authorized to speak to the media. The system couldn't be fixed because the local manufacturer didn't know how to repair the imported part, they said.

"Time and access to technology is fundamental to such efforts. Currently a large proportion India's defense industry is little better than system integrators," said Rahul Bedi, a New Delhi-based independent defense analyst. "A major dose of realism is needed."



A Light Combat Helicopter (LCH) developed by HAL, deployed to assist IAF for high altitude operations, flies over Ladakh region, in Leh. (PTI)

The negative list is also vague on the position of joint-ventures between Indian and foreign manufacturers and license produced weapon systems, he said. Many of the items that figure in the new banned list -- light combat helicopters, light combat aircraft, light transport aircraft and warships -- were already being procured indigenously.

Despite its drawbacks India's nascent defense industry is cautiously optimistic about the new policy.

"We are sure that this list will keep getting amended to add newer programs that lay a road map matching our nation's aspiration," said Jayant Patil, senior executive vice president (defence & smart technologies), Larsen & Toubro Limited.

<https://www.livemint.com/news/india/india-s-tense-borders-with-pakistan-and-china-threaten-plan-to-ban-some-weapons-imports-11597622079585.html>



Sun, 16 Aug 2020

## 'Atmanirbharta' in defense, old wine in new bottle?

*Rs 3.5 lakh cr worth defence projects were signed as part of the 'Make in India' mission; but none of the major ones ever took off in the last 6 years*

*By Gurbir Singh*

It was quite a splash in favour of self-reliance. Union minister for defense Rajnath Singh has unveiled a spread of initiatives that he said will reduce India's arms import bill, and boost our self-reliance. Launching the 'Atma-Nirbharta Week', the minister announced that 101 items over 5 years would be banned in favour of domestic production. The negative list reserved for local manufacture will have not only small arms, but a relatively sophisticated range from light military aircraft, to even long range cruise missiles.

This policy path can only be described as momentous. India imports 65 per cent of its defense needs. Independent arms think tank, the Stockholm International Peace Research Institute (SIPRI), estimates India's military spend for 2019 at \$71.1 billion. We are behind top-spending US (\$732 billion) and China's \$261 billion, but still ahead of Russia (\$65.1 billion) and Saudi Arabia (\$61.9 billion). The SIPRI figure is disputed as India's declared defense budget estimates for 2020-21 is \$62.85 billion, or about Rs 4.9 lakh crore. India has, however, remained the world's second largest arms importer for the 2015-19 period after Saudi Arabia, SIPRI's March 2020 report said.



(Illustration: Tapas Ranjan)

### A 'Make-in-India' repeat?

The Defense Minister's 'Atmanirbharta' statement has not been received with the wild applause it might have deserved. The reason for the skepticism: the same NDA government had in its first term unveiled a similar exercise called 'Make In India'. Everyone remembers it. Self-reliance in defense was one of its declared aims, but much of the programme has remained on paper.

The 'Make in India' website, pitching for investments says, "The opening of the Defense sector for private sector participation will help foreign Original Equipment Manufacturers (OEMs) to enter into strategic partnerships with Indian companies. Besides helping in building domestic capabilities, it will also bolster exports in the long term." The government site also claims: "Since 2014, the Ministry of Defense has signed more than 180 contracts with the Indian Industry, as of

December 2019. These contracts were valued over \$25.8 Bn approximately.” It is true that projects worth a humungous Rs 3.5 lakh crore were signed as part of the ‘Make in India’ mission; but none of the major ones ranging from new generation stealth submarines and mine-sweepers to fighter jets ever took off in the last 6 years.

The only one that appears to be close to fruition is for the manufacture of AK-203 assault rifles being produced at the Korwa Ordnance Factory, in UP in joint venture with Russia. Some of the major contracts stuck include the Rs 8,000 crore Light Utility Helicopter project aimed at replacing the Cheetah/Chetak fleet struggling at the technical evaluation stage, though the contract with Russia was signed in December 2015. Another worth Rs 32,000 crore for the production of 12 minesweepers between Goa Shipyard and Kangnam Shipyard of South Korea was scrapped in December 2018.

### **Local R&D has failed**

We have a large government-run defense R&D and production establishment, but considering India imports 65 per cent of its needs and accounts for 9.2 per cent of the world’s arms imports, there is obvious non-performance. The Defense Research and Development Organization (DRDO), Rahul Bedi in *The Wire* points out, has a network of 52 advanced laboratories, manned by 5,000 military scientists and engineers, and a support staff of around 25,000. And, despite a galloping budget that has shot up from Rs 13,501 crore in 2016-17, to Rs 19,021 crore in 2019-20, it has not much to show.

Then there is the Ordnance Factory Board (OFB) with a fiefdom of 41 establishments and a one lakh workforce, and 9 defense PSUs including Hindustan Aeronautics Ltd. Such a large infrastructure of R&D and production units should have achieved self-sufficiency quite a while ago; but as Bedi points out in his piece, even 80 per cent of the special high altitude winter clothing used by troops on the Siachen Glacier and on the Chinese border is imported.

Ajai Shukla, another well-known defense commentator, says the problem is “India allocates by far the highest percentage of its defense budget on personnel costs, with a hefty 59 per cent going on salaries and pensions. Even the US and the UK, which pay their soldiers relatively lavishly, spend only 38 per cent and 30.6 per cent on personnel costs. Thus, while China and the UK spend 41 and 42 per cent of their defense budgets on modernisation, and even Pakistan spends a healthy 37 per cent, India can spare no more than 25 per cent on equipment modernisation, ie. capital expenditure.

Military hardware and defense systems need constant upgrades. These involve a huge and focused investment year after year. If the new ‘Atmanirbharta’ mantra does not rise to the occasion, it will go the ‘Make in India’ way. Former Army Chief General (Retd) VP Malik, speaking at a conclave in Chandigarh, last December, plainly said the armed forces are always blamed for supporting imports, but they have no other alternative.

<https://www.newindianexpress.com/business/2020/aug/16/atmanirbharta-in-defense-old-wine-in-new-bottle-2183928.html>

## Indian envoy to China Vikram Misri sets stage for next round of Sino-Indian talks

By Dipanjan Roy Chaudhury

### Synopsis

**Chinese Ambassador to India Sun Weidong has said that India was “responsible for crossing the Line of Actual Control but the temperature is now coming down”.**

New Delhi: Indian ambassador to China Vikram Misri’s back-to-back meetings in Beijing last week on the prevailing tensions in Pangong Tso and Depsang Plains along the Line of Actual Control (LAC) have set the stage for next round of dialogue between the military commanders and diplomats of the two countries.

China remains adamant on its position on Pangong and Depsang, even as Misri held intense rounds of dialogue with the party and military officials. Misri’s engagements are likely to give direction to the next round of technical-level talks between the two neighbours.

During last Friday’s talks between Misri and PLA Major General Ci Guowei (director of the CMC’s Office of International Military Cooperation), the Chinese side echoed the views expressed by the Chinese diplomats earlier.

Chinese Ambassador to India Sun Weidong has said that India was “responsible for crossing the Line of Actual Control but the temperature is now coming down”. But, in reality, the Chinese army is present on Indian side of the LAC on the northern bank of Pangong Tso and continues to obstruct India’s patrolling in the Depsang Plains, according to officials.

The Chinese have also not diluted their build-up in other areas, they said. Misri briefed Ci on “India’s stance vis-à-vis the situation on the borders in eastern Ladakh”, according to the Indian Embassy in Beijing.

Misri’s outreach to CMC and the meeting with Liu Jianchaou, deputy director of the office of the CPC central committee foreign affairs commission, came against the backdrop of the five rounds of corps commanderlevel talks not making any headway due to PLA’s intransigence. The Depsang situation was discussed at major general-level talks on August 8.

India and China remain engaged through both diplomatic and military channels to ensure complete disengagement. This is in accordance with the agreement of the Special Representatives of India and China that early and complete disengagement of the troops along the LAC and de-escalation from India-China border areas in accordance with bilateral agreement and protocols and full restoration of peace and tranquility was essential for the smooth overall development of bilateral relations, officials said.

Several meetings of WMCC led by the two Foreign Ministries have discussed the implementation of the ongoing disengagement process and further steps to ensure it is completed at the earliest. Further meetings at both military as well as diplomatic level are likely to happen in the near future, MEA spokesperson announced on Friday.

There are indications that China wants to hold meetings at the level of political leadership as a way forward. Foreign Ministers, NSAs and leaders of the two sides will be part of SCO meets and Summit in September and October in Russia. But it is not clear if respective Ministers and leaders



Ambassador of India to the People’s Republic of China Vikram Misri meets Major General Ci Guowei, Director of the Office of International Military Cooperation of the Central Military Commission.

will hold standalone bilateral interactions on the sidelines of the SCO meetings. The second round of the Special Representatives meeting planned at the end of July, after their first dialogue early June, has been delayed due to the slow pace of the disengagement process.

“The current impasse in Ladakh is likely to be a prolonged affair with the Chinese side continuing to blame Indian troops for ‘adventurism that seriously violated agreements on border issues’ and Indian side rightly demanding complete disengagement along the India-China border areas. The current dialogues at the military and diplomatic levels are unlikely to yield results. President Xi Jinping would like a summit level meet and later project that India agreed to vacate the Chinese areas to justify his stance to the domestic audience. However, world-over anti-Chinese sentiments are increasing and the Chinese actions in Hong Kong as also in Xinjiang may compel China to change its approach. The Chinese action in Ladakh was aimed at changing the status quo and now a reset in India-China ties is inevitable and necessary,” former Deputy NSA S D Pradhan told ET.

The complexities of the current impasse were explained by Misri in his address at Beijing’s India House on the occasion of Independence Day. “Indians both in the country and in China are facing the twin challenges of a pandemic and aggression at the border. Citizens have to be united to face the challenge. Referring to the twin challenges, Misri said facing up to them would require both effort and sacrifices.

<https://economictimes.indiatimes.com/news/defence/indian-envoy-to-china-vikram-misri-sets-stage-for-next-round-of-sino-indian-talks/articleshow/77582723.cms>



Sun, 16 Aug 2020

## **Be prepared for threats in Indian Ocean: Eastern Naval Command Chief**

*Vice Admiral Jain congratulated the personnel of Navy ships Jalashwa, Airavat and Shakti for bringing back over 3,500 Indians from many nations as part of Operation Samudra Setu during the Covid-19*

Visakhapatnam: A ceremonial parade comprising platoons of naval personnel from various ships, submarines, establishments and Defence Security Corps was held at the Eastern Naval Command (ENC) in the Command Gymnasium here on Saturday.

Vice Admiral Atul Kumar Jain, Flag Officer Commanding-in-Chief, ENC, inspected a 50-man armed guard parade at the event, which was attended by all flag officers and commanding officers of various ships and establishments in Visakhapatnam.

Speaking on the occasion, Jain conveyed the need to remember the sacrifices of the brave warriors who fought for freedom and those who laid down their lives in service of the motherland. He reminded everyone of the challenging times the country is facing, primarily due to the coronavirus and the security situation.

Jain highlighted various administrative measures, such as the setting up of wellness centres, awareness campaigns and quarantine centres for the naval community, and said they helped check the spread of Covid-19.

He also reminded the personnel on parade of the tense security situation, especially against the backdrop of the India-China standoff in Ladakh, and added that with the changing security dynamics, maritime security in the Indian Ocean Region (IOR) is vital, and everyone in the ENC must be prepared to face traditional and non-traditional asymmetric threats.

Jain congratulated the personnel of Navy ships Jalashwa, Airavat and Shakti for bringing back over 3,500 Indians from many nations as part of Operation Samudra Setu during the Covid-19 pandemic. He also appreciated the efforts of the Naval Dockyard personnel for their innovation for

in-house deployment and manufacturing of portable multi-feed oxygen manifolds, lung resuscitators, remote monitoring facility for ICU Patients, and preparation of masks and hand sanitisers.

In another event at the 'Victory at Sea' War Memorial on Beach Road, Vice Admiral Kalidoss Srinivas AVSM, NM, VSM, project director, Ship Building Centre, Visakhapatnam, paid tributes to those who sacrificed their lives to defend the nation. Two minutes of silence were observed as a mark of respect to the brave warriors.

At NSTL, its director hoisted the tricolour on the occasion of Independence Day. He appealed to employees to change their lifestyles to fight the coronavirus crisis, and urged scientists and officials to reduce the delay in ongoing research projects.

<https://www.newindianexpress.com/states/andhra-pradesh/2020/aug/16/be-prepared-for-threats-in-indian-ocean-eastern-naval-command-chief-2184034.html>

# hindustantimes

Mon, 17 Aug 2020

## India not to give in to any PLA demand over disengagement.

### Restore status quo ante is the mantra

*Despite a number of meetings at both military and diplomatic level, the Xi Jinping regime is adamant on its positions and posture on LAC with all dialogues showing hardly any progress*

*By Shishir Gupta*

New Delhi: With the People's Liberation Army (PLA) drawing up optical fibre cables to the transgressions spots at Pangong Tso and Gogra-Hot Springs, the Indian Army has decided to stay put at dominant positions on the ridge-lines of the Kugrang River till such time China does not restore status quo ante on the Line of Actual Control (LAC).

Even though PLA's air activity over Ladakh and occupied Aksai Chin has become negligible, the Chinese army is present in strength across the 1,597-km LAC in Ladakh and showing no signs of any de-escalation. "While we can see the Chinese intent to turn transgressions into intrusions in both the friction spots, the Indian Army has been directed to foil this PLA design even if it means sitting on the forward

positions for time to come," said a senior military commander.



The PLA is sitting on green top of finger four feature on Pangong Tso. (AP photo)

National security planners are quite clear that the May transgressions by PLA in the Ladakh sector had the approval of Chinese Central Military Commission (CMC), headed by General Secretary Xi Jinping, as it involved both the Tibetan as well as Xinjiang Military district with troops being inducted from outside the Western Theatre Command.

Deciding to put an end to Chinese unchecked expansionism, the Indian Army draws parallel to the 1984 Operation Meghdoot to claim Saltoro Ridge and Siachen Glacier. "We are used to sitting on heights since 1984. Even 36 years later, a full Indian brigade is sitting on the heights and guarding all the ingress points to Siachen glacier from any Pakistani attack. Any unilateral change in ground position on LAC is unacceptable to the Indian Army," said an Indian diplomat.

While Chinese diplomats talk about peace and tranquillity on the LAC, their interlocutors are making unacceptable demands on the Indian Army like asking removal of an old administrative

base in Pangong Tso or coming down from heights in Kugrang ridgeline. It is these demands that are couched in diplomatic jargon of meeting India “half-way.”

Despite a number of meetings at both military and diplomatic level, the Xi Jinping regime is adamant on its positions and posture on LAC with all dialogues showing hardly any progress.

Prime Minister Narendra Modi in his Independence Day speech virtually made it clear that India was ready for two front aggression—from the Line of Control with Pakistan to LAC expansion by China. The speech was also signal to both the neighbours that India will not back down and stand up to aggression on its own. And in both the cases, the border flare-ups have been coupled with the progress (in this case regress) in bilateral ties.

“Whether China wants the \$80 billion bilateral trade with India which is hugely tilted in favour of Beijing to steadily come down is a call that Xi Jinping’s military ambition has to take. The ball is in the Chinese court,” summed up another Indian diplomat.

<https://www.hindustantimes.com/india-news/india-not-to-give-in-to-any-pla-demand-over-disengagement-and-de-escalation-restore-status-quo-ante-is-the-mantra/story-2GR8fbhawl8SjAGUX7eObN.html>

## NewsIn Asia

Mon, 17 Aug 2020

# Strategic importance of Modi’s plan to develop India’s islands

*The increasing challenge from expanding China and India’s wish to be the net security provider in the Indian Ocean Region combine to make India develop its islands militarily*

*By P.K.Balachandran*

In his Independence Day address from the Red Fort on Saturday, India’s Prime Minister Narendra Modi said that priority will be given to the “development” of some of India’s 1,300 islands. Lakshadweep, he said, would get optical fiber connectivity in the next 1,000 days.

Modi did not clarify whether the development he envisaged was economic or military or both. However, it is likely to be predominantly military for two reasons: Firstly, the Andaman and Nicobar Islands (ANI) and Lakshadweep are of great strategic importance. Secondly, the government’s 2017 plan to develop tourism in the ANI has flopped. According to *Hindu Business Line* (Jan 21, 2020), the private sector has found the requirement to build 4-star hotels, each costing Rs.320 million (US\$ 4.2 million), to be unprofitable in the absence of infrastructure facilities in the earmarked locations.



The Andaman and Nicobar Islands straddle Duncan’s Passage and the Ten Degree Channel. The Preparis Channel and Six Degree Channel are located to the north and south of the Island chain, respectively. According to Sujan Chinoy, Director General at the Manohar Parrikar Institute of Defense Studies and Analysis (IDSA) New Delhi, these channels or passages are important trade routes for any shipping destined for Southeast and East Asia.

“The 572 islands (in ANI), out of which only 38 are inhabited, comprise 30% of India’s Exclusive Economic Zone (EEZ). The Six Degree and Ten Degree Channels in the Andaman Sea which lead to the Malacca Strait are vital to the sea lanes of communication (SLOCs) along which flows global commerce, including energy trade, between Asia, Africa and the Pacific. The ANI are at the intersection of the Indian Ocean and the South China Sea, and further to the Pacific Ocean, an important fulcrum of the strategic concept of the Indo-Pacific,” Chinoy says in a paper dated June 26, 2020, in the IDSA journal.



The ANI has often been referred to as India's "unsinkable aircraft carrier" in the East IOR, he points out. Close to 80% of China's seaborne trade passes through this region. The possibility of this being throttled raises the specter of the 'Malacca Dilemma' for China, he adds.

This explains China's increasing activity in the IOR. "China has steadily expanded its maritime presence in the Indian Ocean littoral through a continuous deployment of its naval forces, arms sales, creating bases and access facilities, ramping up military diplomacy, cultivating special political relations with littorals, and lavishly disbursing developmental finance for strategic ends. It has used the alibi of anti-piracy operations in the Gulf of Aden to ramp up the scale and frequency of its presence, without consideration for the threat perceptions of India," Chinoy points out.

Going further he says: "An egregious example is the deployment of a submarine which berthed in Colombo in Sri Lanka in 2014, ostensibly on its way for so-called anti-piracy operations. China has also steadily enhanced its Operational Turnaround (OTR) in the Indian Ocean and developed new bases, including at Gwadar and Djibouti.

This broad-based trend in the evolution of China's presence is also reflected in the Andaman Sea and the Bay of Bengal, where Chinese naval and survey vessels have been on the prowl and have occasionally entered India's EEZ without prior intimation. China's economic and strategic engagement with Bangladesh, Myanmar, Thailand and Malaysia in the Bay of Bengal/Eastern Indian Ocean has been noticeable in recent years."

The diplomat-turned researcher notes that there have been suggestions for coordinated surveillance of Malacca, Sunda, Lombok, and Ombai Wetar Straits through the collaborative use of the ANI and Australia's Keeling (Cocos) Islands. Similarly, there have also been recommendations about collaborative anti-submarine warfare (ASW) efforts in the Indian Ocean in which the ANI could play a critical role.

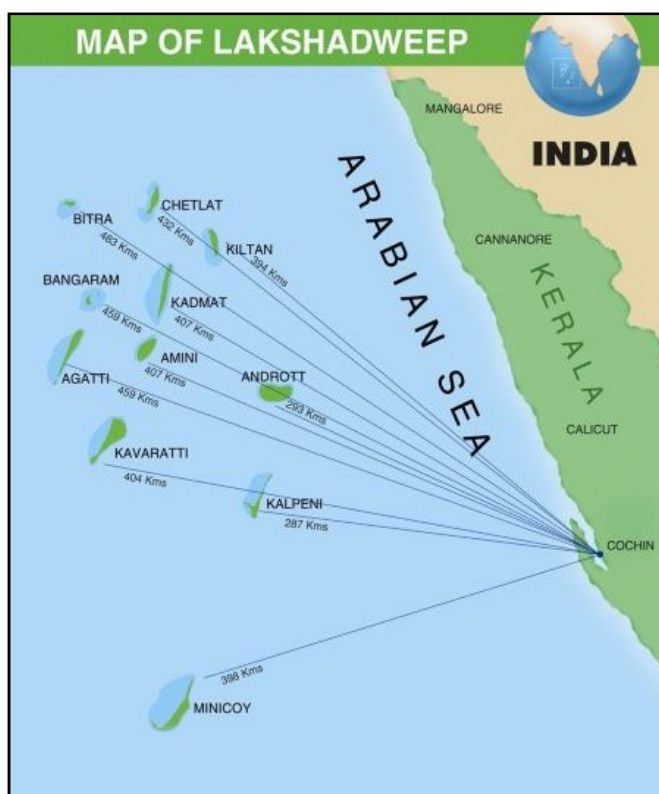
In her paper Smriti Chaudhury (*Ladakh To Andamans – How India Is Boosting Its Defense Capabilities In Andaman & Nicobar Islands To Thwart China? July 29, 2020*) notes that the runways at the naval air station INS Kohassa at Shibpur in North ANI had been extended to support large aircraft.

She points out that in 2016, India and Japan discussed a joint project to enhance infrastructure in the islands, including a proposal to install a Sound Surveillance Sensors (SOSUS) chain to improve India's underwater domain awareness. The plan was to integrate India's undersea sensor chain with the existing US-Japan "Fish-Hook" SOSUS network meant specifically to monitor People's Liberation Army-Navy (PLAN) submarine activity in the South China Sea and the Indian Ocean Rim.

### **Lakshadweep's Strategic Importance**

Located approximately 300 km from the Indian west coast state of Kerala, the Lakshadweep archipelago comprises 36 islands giving India around 20,000 sq. km of territorial waters and an Exclusive Economic Zone (EEZ) of approximately 400,000 sq.km.

India plans to convert the present naval outpost in Lakshadweep into a fully-fledged operational base, able to project power and provide sea denial and command of the sea capabilities, especially



in relation to Pakistan, Mauritius, the Seychelles and the Maldives, says Balaji Chandramohan (*Future Directions*, 30 August 2018).

He points out that forward air bases on these islands, around 300 km from the Indian mainland, would give aircraft an extended combat radius. "The Indian Navy's surveillance missions received a shot in the arm with the opening of a Naval Detachment (NAVDET) at Androth Island, situated in the Lakshadweep archipelago. The NAVDET would extend the Indian Navy's presence at Androth by providing a communication network to connect with the mainland."

Chandramohan notes that India, Sri Lanka and the Maldives already have a trilateral maritime security co-operation. From Lakshadweep, India will work closely with the network of 26 radar emplacements deployed across the atolls of the Maldives, which will be linked to the Indian Southern Command.

The aim is to keep a tab on Chinese maritime activity in the East IOR, he says. "China's advancing interests in the Indian Ocean Region, which are evident from its increasing naval presence and the establishment of its first overseas military base in Djibouti, lend added urgency to the need for a reconfiguration in India's military approach to the Lakshadweep island of Kavaratti."

Prakash Gopal of the Australian National Centre for Ocean Resources and Security (ANCORS), University of Wollongong, warns that the high cost of India's naval expansion plans coupled with New Delhi's inconsistent policies might prevent the building of a 200-ship naval fleet over a 15-year period to fulfil its stated role as a "net security provider" in the IOR.

"With some major domestic projects reportedly being shelved or curtailed, there is bound to be further uncertainty in the ranks of Indian firms. Lucrative as it may be, most firms are hesitant to invest in a sector beset with red tape, governmental apathy, and policy inconsistencies. This does not augur well for India's long-term security preparedness," Gopal says.

<https://newsin.asia/strategic-importance-of-modis-plan-to-develop-indias-islands/>

## Business Standard

Mon, 17 Aug 2020

### Rajnath approves proposal to expand NCC in 173 border, coastal districts

*The defence ministry's statement said Singh has approved the NCC proposal "for a major expansion scheme"*

New Delhi: Defence Minister Rajnath Singh has approved the proposal to expand the National Cadet Corps (NCC) in 173 border and coastal districts from where 100,000 new cadets will be inducted, an official statement said on Sunday.

The expansion of the NCC was announced by Prime Minister Narendra Modi in his Independence Day speech on Saturday.

He said the NCC will be expanded in border and coastal districts so that these areas "get trained manpower for disaster management, and the youth will also get skill training for making their career in the armed forces".

The defence ministry's statement said Singh has approved the NCC proposal "for a major expansion scheme".

"More than 1,000 schools and colleges have



Defence Minister Rajnath Singh, Minister of State for Defence Shripad Naik, Chief of Defence Staff General Bipin Rawat, and three services chiefs laying wreath to the fallen heroes at National War Memorial on the occasion of 21st anniversary of Kargil War

been identified in border and coastal districts where NCC will be introduced," it said.

A total of one lakh cadets from 173 border and coastal districts will be inducted into the NCC, it said, adding that one-third of them will be girls.

"As part of the expansion plan, a total of 83 NCC units will be upgraded (Army 53, Navy 20, Air Force 10) to impart NCC training to the cadets in the border and coastal areas," the ministry noted.

The Army will provide training and administrative support to NCC units located in border areas, it said.

The Navy will provide support to NCC units in coastal areas and the Air Force will provide support to those located close to its stations, it added.

The NCC is a youth development movement managed by the armed forces. It also provides exposure to cadets in a wide range of activities, with a distinct emphasis on social services, discipline and adventure training.

It is open to all regular students of schools and colleges on a voluntary basis.

The NCC expansion plan will be implemented in partnership with state governments, the ministry said.

Addressing the country from the ramparts of the Red Fort, Modi had said, "About 173 districts in our border areas, our coastal areas share their boundaries with some or the other nation's border or coastline. In the coming days, NCC would be extended in those border districts for the youth there."

"We will train around one lakh new NCC cadets from bordering areas, and we will work towards the idea that amongst those, one-third of them are our daughters," he had said.

[https://www.business-standard.com/article/defence/rajnath-approves-proposal-to-expand-ncc-in-173-border-coastal-districts-120081600284\\_1.html](https://www.business-standard.com/article/defence/rajnath-approves-proposal-to-expand-ncc-in-173-border-coastal-districts-120081600284_1.html)



Mon, 17 Aug 2020

## अंतरिक्ष में नया इतिहास बनाने की तैयारी, इसरो की मदद से Skyroot करने जा रही 'करिश्मा'

*भारत अंतरिक्ष की नई महाशक्ति बन चुका है। इसरो (ISRO) वैज्ञानिक कई उपलब्धियां हासिल कर चुके हैं और सिलसिला जारी है।  
सिद्धार्थ एमपी*

### खास बातें

1. अंतरिक्ष में नया भारतीय स्टार्टअप
2. उपरी चरण के इंजन का परीक्षण
3. अगले साल मिलेगी नई कामयाबी!

नई दिल्ली: भारत अंतरिक्ष की नई महाशक्ति बन चुका है। इसरो (ISRO) वैज्ञानिक कई उपलब्धियां हासिल कर चुके हैं और सिलसिला जारी है। 'मेक इन इंडिया' और 'मेक फॉर वर्ल्ड' के मंत्र के बीच एक भारतीय कंपनी स्पेस सेक्टर में नया कदम रखने जा रही है। भारत की एयरोस्पेस कंपनी स्काईरूट (Skyroot), इसरो की मदद से दिसंबर 2021 तक अंतरिक्ष में रॉकेट लॉन्च कर देगी। स्काईरूट ने अपने पहला लॉन्च वेहिकल का नाम विक्रम-1 (Vikram-I) रखा है। स्काईरूट एयरोस्पेस (Skyroot Aerospace) पहला भारतीय स्टार्टअप है जिसके जरिए देश के पहले निजी रॉकेट इंजन 'रमण' का सफल परीक्षण पूरा हुआ।



फोटो साभार : (WION)

रॉकेट इंजन के क्षेत्र में इसे अगला और अहम पड़ाव माना जा रहा है। रॉकेट इंजन मुख्य रूप से दो प्रकार के होते हैं। ये कई चरण में काम करते हैं जिसकी हर स्टेज के लिए अलग इंजन अटैच होता है। जिसके कुछ इंजन में तरल ईंधन का इस्तेमाल होता है। यानि सामान्य शब्दों में रॉकेट लंबवत सिलेंडर के आकार का एक ऐसा यान है, अपने इंजन की मदद से तेज गति से आगे बढ़ता है।

कंपनी, रॉकेट की अपर स्टेज इंजन का परीक्षण कर चुकी है, जिसका शुरुआती निर्माण कार्य पूरा हो चुका है। ज़ी मीडिया से बातचीत में Skyroot की टीम ने कहा कि सब कुछ सही रहा तो दिसंबर 2021 तक वो इसरो के मार्गदर्शन में रॉकेट का मेडन लॉन्च पूरा कर देंगे। भारत में पहली बार निजी क्षेत्र के तौर पर हमने उपग्रहों की लॉन्चिंग के लिए लिक्विड इंजन का सफल परीक्षण किया है। कंपनी के दो रॉकेट चरण छह महीने में परीक्षण के लिए तैयार हो रहे हैं।

### विक्रम का सारथी रमन

हाल ही में हुए इंजन टेस्ट को लेकर कंपनी ने कहा कि वो 3 रॉकेट पर काम कर रही है। इसरो संस्थापक को याद करते हुए इनका नाम विक्रम (Vikram) I, II & III रखा गया है। विक्रम, चार चरण में काम करने वाला रॉकेट है जो अंतिम दौर में पहुंच चुका है। परीक्षण के दौरान इंजन में तरल ईंधन का प्रयोग हुआ। कंपनी ने इंजन का नाम रमन रखते हुए इसके जरिए नोबल पुरस्कार विजेता सर सीवी रमन (Sir C.V. Raman) को श्रद्धांजलि देने की कोशिश की

है। रमन इंजन में UDMH और NTO तरल ईंधन का इस्तेमाल हुआ, 4 इंजन वाला ये क्लस्टर 3.4 kN थ्रस्ट (thrust) जनरेट करेगा। यह इंजन कई उपग्रहों को एक ही बार में अलग-अलग कक्ष में स्थापित कर सकता है।

WION - फ्यूल के इस कॉन्बिनेशन की कोई खास वजह ?

Skyroot: UDMH और NTO का चुनाव इसलिए हुआ क्योंकि अलग अलग ऑर्बिट में इनका कई बार इस्तेमाल हो सकता है।

WION: 'रमन' चौथे यानि फाइनल स्टेज में है, पहले 3 चरण के बारे में कुछ बताइए।

Skyroot: भारत में पहली बार निजी क्षेत्र के तौर पर हमने उपग्रहों की लॉन्चिंग के लिए लिक्विड इंजन का सफल परीक्षण किया है। कंपनी के दो रॉकेट चरण छह महीने में परीक्षण के लिए तैयार हो रहे हैं।

WION: अगर अलग अलग पेलोड क्षमता की बात करें तो आपकी टीम कहां तक पहुंची है ?

Skyroot: Vikram I अपने साथ 225 kg वजन का पेलोड SSPO में 500 km तक दूरी तय करने में सक्षम है। धरती की निचली कक्षा (Low Earth Orbit) में इसकी क्षमता 315 kg है। विक्रम II की क्षमता 410 kg है और विक्रम III में हम 580 kg का लक्ष्य निर्धारित किया है।

WION: इसरो के हालिया रॉकेट (स्माल सेटेलाइट लॉच व्हीकल) यानि SSLV में भी ऐसा (500-750kg) पेलोड सेगमेंट है, उससे कुछ समानता ?

Skyroot: देखिए उससे तुलना करेंगे तो हमारा व्हीकल उससे छोटा है। और प्रति किलोग्राम पेलोड की बात करें तो ये बड़े रॉकेट्स की तुलना में काफी सस्ता है। ऐसे छोटे सेगमेंट में इसकी तुलना करना सही नहीं होगा और अब हम इसके किफायती होने की वजह से बड़े पैमाने पर इसका निर्माण करने जा रहे हैं।

WION: रॉकेट इंजन की टेस्टिंग काफी महंगी है आपके लॉच में भी काफी धनराशि लगेगी, कैसे मैनेज कर रहे हैं ?

Skyroot: देखिए शुरुआती तैयारी हमने अपने दम पर की और उसके बाद हमने इसरो की मदद ली, खासतौर पर कंपोनेट निर्माण में इसरो के निर्देशन और भारत में निर्माण होने की वजह से ये हमे इंफ्रास्ट्रक्चर जुटाने में आसानी हुई इसलिए हम इसरो के आभारी हैं। अब हम कई अलग वेंडर्स और MSMEs के साथ मिलकर अपना मिशन पूरा कर लेंगे।

WION: इसरो को अपना ऐसा किफायती रॉकेट इंजन विकास को बनाने में करीब 2 दशक का वक्त लगा ऐसे में आपका स्टार्टअप इतने कम समय में कैसे पूरा होगा, और समय सीमा दिसंबर 2021 है जो ज्यादा दूर नहीं है ?

Skyroot: देखिए हमने काम की शुरुआत 2018 में कर दी थी, हमारा काम जल्दी इसलिए पूरा होगा क्योंकि इसरो हमारी मदद कर रहा है, उनके निर्देशन में तेजी से आगे बढ़े हैं। हम इंजन बनाने में 3-D प्रिंटिंग जैसी नई तकनीक का इस्तेमाल कर रहे हैं। इससे हमारा काम आसान होगा।

WION: देखिए 3-D प्रिंटिंग का इस्तेमाल तो भारत में प्लास्टिक के लिए होता है, आपको ऐसा क्यों लगता है कि ये धातु (Metals) और पहियों पर भी काम करेगी? खास तौर पर रॉकेट इंजन के लिए ?

Skyroot: देखिए धातु के अतिरिक्त मेटल में हमने इसका इस्तेमाल विक्रम इंजन में किया और उसको इसी हिसाब से तैयार किया गया था। ये भी समझिये कि भारत से अलग अंतर्राष्ट्रीय बाजार और स्पेस प्रोजेक्ट के भी अहम उपकरण बनाने में 3-D प्रिंटिंग का बड़े पैमाने पर इस्तेमाल होता है। इसलिए आगे हम विक्रम II रॉकेट के लिए पूरी तरह 3-D प्रिंटिंग की मदद से तैयार क्रॉयोजनिक इंजन पर काम कर रहे हैं।

<https://zeenews.india.com/hindi/india/with-isro-assistance-india%E2%80%99s-skyroot-aerospace-aims-maiden-rocket-launch-by-2021/729527>

## Gaganyaan: ISRO's unmanned space mission for Dec 2020 likely to be delayed

*The Gaganyaan mission aims to send a three-member crew to space for a period of five to seven days by 2022 when India completes 75 years of Independence*

New Delhi: Hit by disruptions due to the coronavirus pandemic, the launch of India's unmanned space mission under the first leg of Gaganyaan, planned for December 2020, is likely to be delayed, sources said.

It was part of the two unmanned missions to be undertaken by the Indian Space Research Organisation ahead of the planned launch of India's maiden human spaceflight under 'Gaganyaan' in December 2021.

The likely delay in the first unmanned mission was recently conveyed to the Space Commission, the apex policy-making body on space related issues.

The Space Commission is headed by ISRO Chairman and Department of Space Secretary K Sivan.

Two years ago, Prime Minister Narendra Modi had announced the human space mission in his Independence Day address.

The Gaganyaan mission aims to send a three-member crew to space for a period of five to seven days by 2022 when India completes 75 years of Independence.

The ISRO had started planning for the mission accordingly. The first unmanned mission was planned in December 2020, the second unmanned mission in June 2021.

The final and the main component, the manned mission of Gaganyaan, was scheduled six months later in December 2021, much before the 2022 deadline.

ISRO had earlier indicated that there would be a delay in several missions as the space body's work has been hit by disruptions due to the coronavirus pandemic.

Among the major projects that have been affected are Chandrayaan-3 and Gaganyaan. Chandrayaan-3, the third mission to Moon, was scheduled later this year.

The sources said that efforts are on to stick to the deadline of 2022 for launching the human space mission.

"We will not be able to meet deadline for the December 2020 launch of the unmanned mission. The coronavirus pandemic has led to several disruptions. This was also recently conveyed to the Space Commission," a source said.

The sources added that staff members from ISRO's different centres were infected. Only essential and process related work is on. Also, the related industry has been affected.

Even the training of four astronauts in Russia was hit due to the pandemic. However, the training has now resumed.

"Even if we are not able to launch the manned mission by December 2021, we have eight months to cover up for the time we have lost," the source said.

The spacecraft will be placed in a low earth orbit of 300-400 kilometres. The total programme cost is expected to be less than Rs 10,000 crores.

In June, Jitendra Singh, Minister of State in the Prime Minister's Office, had said even though because of the Covid-19 pandemic, the training of four Indian astronauts in Russia had to be



The final and the main component, the manned mission of Gaganyaan, was scheduled six months later in December 2021, much before the 2022 deadline.

halted, yet the opinion of Chairman ISRO and the scientific team is that there is a cushion period kept both in the training programme and launch deadline.

The training of astronauts has now been resumed and the launch is scheduled to take place as planned, before the 75th anniversary of India's independence in 2022, he had said.

[https://www.business-standard.com/article/current-affairs/gaganyaan-isro-s-unmanned-space-mission-for-dec-2020-likely-to-be-delayed-120081600635\\_1.html](https://www.business-standard.com/article/current-affairs/gaganyaan-isro-s-unmanned-space-mission-for-dec-2020-likely-to-be-delayed-120081600635_1.html)

# Scientists demonstrate how genetic variations cause eczema

### **Summary:**

***New research delineates how two relatively common variations in a gene called *KIF3A* are responsible for an impaired skin barrier that allows increased water loss from the skin, promoting the development of atopic dermatitis, commonly known as eczema. This finding could lead to genetic tests that empower parents and physicians to take steps to potentially protect vulnerable infants from developing atopic dermatitis and additional allergic diseases.***

New research supported by the National Institutes of Health delineates how two relatively common variations in a gene called *KIF3A* are responsible for an impaired skin barrier that allows increased water loss from the skin, promoting the development of atopic dermatitis, commonly known as eczema. This finding could lead to genetic tests that empower parents and physicians to take steps to potentially protect vulnerable infants from developing atopic dermatitis and additional allergic diseases.

Atopic dermatitis is an inflammatory skin condition that affects up to 20% of children in developed countries. This chronic disease is characterized by dry, thickened and intensely itchy skin, particularly in skin folds. People with eczema are more susceptible to bacterial, viral and fungal skin infections and frequently develop additional allergic diseases such as asthma.

*KIF3A* is a gene that codes for a protein involved in generating signals from the outside to the inside of a cell, part of a complex sensory apparatus. Previously, scientists had identified an association between two genetic variations in *KIF3A* and asthma in children who also had eczema. In the new study, the researchers found that these variations, or single nucleotide polymorphisms (SNPs), changed parts of the *KIF3A* gene to a form that can regulate, through a process called methylation, the rate at which a gene is transcribed into the blueprint for protein production. The investigators confirmed that skin and nasal-lining cells from people with the *KIF3A* SNP variants had more methylation and contained fewer blueprints for the *KIF3A* protein than cells in which *KIF3A* lacked the SNPs. In addition, the researchers demonstrated that people with the SNP-created regulating sites had higher levels of water loss from the skin.

To determine whether lower levels of *KIF3A* caused atopic dermatitis, the scientists studied mice lacking the mouse version of *KIF3A* in skin cells. They found that these mice also had increased water loss from the skin due to a dysfunctional skin barrier and were more likely to develop features of atopic dermatitis. The investigators concluded that the presence of either or both of the two SNPs in human *KIF3A* leads to lower production of the *KIF3A* protein, promoting dysfunction of the barrier that normally keeps skin well hydrated, thereby increasing the likelihood that a person will develop atopic dermatitis.

Now that investigators have established that these *KIF3A* SNPs increase the risk for atopic dermatitis, infants could potentially be screened for them. Therapies directed specifically at water loss from the skin, such as intensive topical moisturization regimens, could be evaluated for their ability to prevent atopic dermatitis in children with the SNPs. Preventing atopic dermatitis in early

childhood could in turn prevent a cascade of additional allergic diseases later in life, such as asthma, food allergy and allergic rhinitis -- a cascade known as the atopic march.

This research was co-funded by the National Institute of Allergy and Infectious Diseases and the National Center for Advancing Translational Sciences, both part of NIH. The study was led by Gurjit K. Khurana Hershey, M.D., Ph.D., professor of pediatrics and director of the Division of Asthma Research at Cincinnati Children's Hospital Medical Center, which is part of the NIAID-supported Asthma and Allergic Diseases Cooperative Research Centers.

**Story Source:**

[Materials](#) provided by [NIH/National Institute of Allergy and Infectious Diseases](#). *Note: Content may be edited for style and length.*

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<https://www.sciencedaily.com/releases/2020/08/200814123202.htm>

## COVID-19 Research News

# The Tribune

Mon, 17 Aug 2020

## Scientists invent low-cost emergency ventilator

Los Angeles: Using standard parts that cost less than \$400, scientists have developed an emergency ventilator which could be an affordable option when more sophisticated technology is not available, or in short supply, an invention that may help save the lives of those suffering from COVID-19.

While in the simplest ventilators, doctors squeeze a self-inflating bag by hand to pump air into the lungs, and high-end automated versions use complex electronics to control multiple parameters, the current innovation, described in a yet-to-be peer-reviewed study in medRxiv, is a cost-effective device with a mechanism that automatically squeezes the self-inflating bag.



"We wanted to build the simplest device that could be effective. Our acute shortage ventilator is exactly that, and we now want to get it into use as quickly as possible," said Martin Breidenbach, a co-author of the study from Stanford University in the US.

The researchers, including those from Stanford University in the US, said ventilators are life savers for those who can't breathe sufficiently on their own -- a common problem for those severely affected by COVID-19.

They explained that the device compresses oxygen-rich air and pushes it through tubes into a patient's lungs, expanding them, and helping take up oxygen, following which the lungs contract on their own, pushing the air back out.



The current innovation, according to the scientists, is based on a simple model, with the addition of a mechanism that automatically squeezes the self-inflating bag.

They said the system also incorporates modern, inexpensive electronic pressure sensors and microcomputers with sophisticated software that precisely controls the squeeze.

According to the study, the microcomputers also drive a small control panel, and operators can control the system with that or with a laptop computer.

While several groups across the world have developed low-cost emergency ventilators in recent months, the scientists believe their current invention stands out as a fancier version of the simplest ventilator design.

They said they could build the ventilator at a cost less than \$400 per unit, compared to \$20,000 or more for a professional-grade system with field support.

"These qualities should make the ventilator particularly helpful for mid- and low-income countries, where medical resources are scarce," said study co-author Michael Bressack from Stanford University.

While the team or the university does not produce or distribute the ventilator, the researchers said they are offering the technology at no cost to others who want to build the ventilator and deploy it after having obtained regulatory approvals. PTI

<https://www.tribuneindia.com/news/schools/scientists-invent-low-cost-emergency-ventilator-127024>

live**mint**

Mon, 17 Aug 2020

## India's COVID-19 vaccine: When will mass production start and who will get it first?

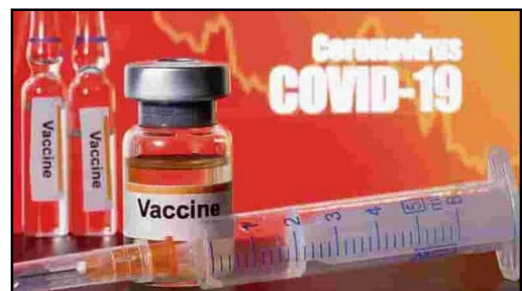
By Anulekha Ray

- *At present, two vaccine candidates are at phase I and II clinical human trials in India*
- *Not one, not two, as many as three coronavirus vaccines are being tested in India, PM Modi said while addressing the nation on Independence Day*

With the coronavirus cases continue to rise in the country, the scientists and researchers are leaving no stone unturned to develop a vaccine. There are over 150 vaccine candidates at different stages of trial across the world. India has been working on three COVID-19 vaccines to fight against the virus. "Not one, not two, as many as three coronavirus vaccines are being tested in India," Prime Minister Narendra Modi said during his speech on 74th Independence Day.

At present, two vaccine candidates are at phase I and II clinical human trials in India. India's first COVID-19 vaccine Covaxin has been developed by Bharat BioTech, Indian Council of Medical Research (ICMR) and National Institute of Virology (NIV). Another vaccine was developed by Zydus Cadila.

Meanwhile, Serum Institute of India has received nod to start Phase II and III human clinical trials of vaccine candidate developed by University of Oxford and AstraZeneca in India. British Swedish firm has partnered with SII to manufacture vaccine for India and low and middle income country.



Serum Institute of India has received nod to start Phase II and III human clinical trials of Oxford COVID-19 vaccine in India (Reuters)

### When will we have a COVID-19 vaccine?

Whenever there is talk of COVID-19 vaccine, the question that comes to everyone's mind — when will a vaccine be ready? Answering to this question, Prime Minister Narendra Modi on

Saturday said, "When scientists will give us the green signal, it will be produced on a mass scale and all preparations have been made for it."

"I want to tell people, the talent of our scientists is like that of 'rishi munis' and they are working very hard in laboratories," Modi added while addressing the nation on Independence Day.

### **Who will get the COVID-19 vaccine?**

Prime Minister Narendra Modi on Saturday said that India has prepared a roadmap to "ensure that a COVID-19 vaccine reaches everyone in the shortest possible time."

Scientists are working hard on coronavirus vaccine and if their efforts bear fruit, COVID-19 warriors will be the first ones to get the dose, Union minister of state for Health Ashwini Kumar Choubey said on Saturday.

"Our scientists are working very hard on it. Three vaccines against COVID-19 are in various stages of testing. And, if we do succeed in getting a vaccine, our COVID warriors will be the first one to receive the dose," Choubey added.

### **What will be the price of the vaccine?**

SII earlier said Bill & Melinda Gates Foundation will provide at-risk funding of \$150 million to manufacture 100 million doses of COVID-19 vaccines for India and low-and-middle income countries. Under this agreement, Pune-based firm can charge a maximum of \$3 per dose for the two COVID-19 vaccines.

Asked about the pricing of Oxfords's COVID-19 vaccine in India, Adar Poonawalla, the chief executive officer of Serum Institute of India, said last month, "It is too early to comment on the vaccine's price. However, we will keep it under ₹1,000 per dose."

He further added it is extremely likely that the COVID-19 vaccine would require two or more doses, like in the case of antidotes for measles and other diseases, according to a report in *PTI*.

<https://www.livemint.com/news/india/india-s-covid-19-vaccine-when-will-mass-production-start-and-who-will-get-it-first-11597574771694.html>

**hindustantimes**

Mon, 17 Aug 2020

## **Top US expert Fauci believes half an effective Covid-19 vaccine enough to control crisis**

*Anthony Fauci said Covid-19 vaccine should be made available by the end of this year, beginning of 2021 "in a safe way"*

*Edited by Sparshita Saxena*

New Delhi: Anthony Fauci, top US infectious disease expert, expressed hope that the Covid-19 vaccine should be made available by the end of this year, beginning of 2021, "in a safe way". In an interview with American news broadcaster PBS, Fauci said it shouldn't take later than the start of the next year to get the vaccine. Fauci added that even half an effective vaccine would be good enough to bring the world back to normalcy within a year.

Although President Donald Trump has said a vaccine may be ready by election day on November 3, Fauci is of the opinion that it may take until well into 2021 for shots to reach the general public.

On the Russian vaccine candidate, the expert said that just because there is a vaccine does not mean it should be administered to the public. "You need to be looking if a



Samples of a vaccine against the coronavirus disease (COVID-19) developed by the Gamaleya Research Institute of Epidemiology and Microbiology in Moscow, Russia. (via REUTERS)

vaccine is safe and effective," he told the PBS.

Russia's decision to approve a coronavirus shot before crucial tests have raised questions over its safety and efficacy, raising worries that politics will trump public health in the quest for a vaccine against the deadly contagion.

Russia, however, has dismissed concerns about the vaccine, describing it as Western jealousy. President Vladimir Putin had vouched for its efficacy and said that one of his daughters has already been given the shot and felt better afterwards.

The country plans to start mass inoculations as soon as October. Experts believe Moscow's plan could put pressure on other governments to rush ahead of regulators and skip key steps in order to push a vaccine out in the market, putting public health at risk.

*(With inputs from agencies)*

<https://www.hindustantimes.com/world-news/covid-19-vaccine-update-top-us-expert-fauci-believes-half-an-effective-vaccine-enough-to-control-crisis/story-24gSi8ZAVI2IKv0nhhSE1O.html>

## **NATIONAL HERALD**

*Mon, 17 Aug 2020*

### **3rd stage of Russia's COVID-19 vaccine may begin in 7-10 days**

*The third stage of the research on the world's first registered vaccine against the novel coronavirus, called Sputnik V, may begin in 7-10 days, a report has said*

The third stage of the research on the world's first registered vaccine against the novel coronavirus, called Sputnik V, may begin in 7-10 days, a report has said.

According to the Tass news agency, several tens of thousands of people are expected to take part in this research of the vaccine created by the Gamaleya Scientific Research Institute of Epidemiology and Microbiology of the Russian Health Ministry.

"On Monday, we will present the first version of the protocol on post-registration research," Alexander Gintsburg, Director of the Gamaleya National Research Center, was quoted as saying to Tass.

"Given this great interest and attention of the public and the press, I think that the Health Ministry won't delay the process and will approve the protocol within a week. So, I believe within seven or ten days at maximum everything will begin," Gintsburg added.

Gintsburg said several tens of thousands of people were expected to be involved by the third stage. The research will be conducted in the Moscow Region.

Meanwhile, Russia has begun production of the first batch of vaccines against Covid-19, its health ministry said in a statement released on Saturday.

The world's first registered vaccine against the novel coronavirus was announced by President Vladimir Putin on Tuesday during an online meeting with government officials.

The vaccine Sputnik V, which is named after the space satellite launched by Moscow in 1957, was created by the Gamaleya Scientific Research Institute of Epidemiology and Microbiology, alongside the Russian Direct Investment Fund.

Russia will offer the vaccine to other countries once its own citizens are vaccinated, Health Minister Mikhail Murashko said Wednesday, adding that doubts over the effectiveness of the vaccine are unfounded.

So far, Russia has tallied a total of 917,884 cases, with 15,617 deaths and 729,411 recoveries.

<https://www.nationalheraldindia.com/international/3rd-stage-of-russias-covid-19-vaccine-may-begin-in-7-10-days>

