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समाचार पत्रों से चयित अंश Newspapers Clippings

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THE TIMES OF INDIA

Thu, 30 July 2020

DRDO Scientists develop bed chambers for isolation

By Sandip Dighe

Pune: A team of two Defence Research and Development Organisation (DRDO) Scientists from Defence Institute of Advanced Technology (DIAT) and Research and Development Establishment (Engineers) has developed a bed isolation chamber to segregate Covid-19 patients.

Due to increase in Covid-19 cases, covid care centres (CCC) are being set up in open spaces like marriage halls, hostels, etc where beds are kept in the open. Patients on these beds generate aerosol while sneezing and coughing. This aerosol remains in open air which can prove risky for the medical staff and other patients, the scientists said.

"To overcome this issue, we have developed an isolation chamber made up of medical grade transparent and translucent plastic structure to limit the virus life," P K Sharma principal investigator of the project told TOI.

The chamber is capable of housing one set of bed, table and chair along with some walking space. The width of the structure can be adjusted as per the availability of space."It can used for home isolation as well," he added. A group of private firms have already shown interest in the product."We are in the process of Transferring of Technology to them," he said.



The bed isolation chambers to quarantine Covid-19 patients

<https://timesofindia.indiatimes.com/city/pune/drdo-scientists-develop-bed-chambers-for-isolation/articleshow/77235700.cms>

केंद्र की पहल पर दिल्ली की तर्ज पर बिहार में DRDO दो अस्थायी कोविड-19 अस्पताल करेगा तैयार

पटना: केंद्रीय स्वास्थ्य एवं परिवार कल्याण राज्य मंत्री अश्विनी कुमार चौबे ने बिहार में रक्षा अनुसंधान एवं विकास संगठन डीआरडीओ द्वारा बनाए जाने वाले दो अस्थायी कोविड अस्पताल की कार्य प्रगति से अवगत हुए। उन्होंने डीआरडीओ चेयरमैन डॉक्टर जी सतीश रेड्डी से फोन पर बातचीत की। तैयारियों के संबंध में जानकारी प्राप्त की।

कोविड-19 के विरुद्ध जंग में डीआरडीओ बिहार के 2 बड़े शहर पटना एवं मुजफ्फरपुर में 500-500 बेड का अस्थायी कोविड-19 अस्पताल बनाने जा रहा है। इसके लिए भूमि निरीक्षण का कार्य संपन्न हो चुका है। केंद्रीय स्वास्थ्य राज्य मंत्री चौबे को डीआरडीओ के चेयरमैन डॉ रेड्डी ने अवगत कराया कि दोनों जगह 125-125 सभी सुविधाओं से युक्त आईसीयू बेड तैयार किया जाएगा। दोनों अस्थायी कोविड-19 अस्पताल में डिफेंस के डॉक्टर एवं पारा मेडिकल स्टाफ होंगे। कार्यों को मूर्त रूप दिया जा रहा है। यथाशीघ्र दोनों जगह अस्थायी अस्पताल बनकर शुरू हो जाएगा।



केंद्रीय स्वास्थ्य राज्य मंत्री अश्विनी कुमार चौबे ने बताया कि “कोविड-19 के रोकथाम के लिए बिहार सरकार पूरी मुस्तैदी से जुटी हुई है। केंद्र सरकार हर संभव मदद उपलब्ध करा रही है। जिस तरह दिल्ली में डीआरडीओ ने कोविड-19 के विरुद्ध जंग में महत्वपूर्ण भूमिका का निर्वहन किया था। उसी तर्ज पर जनता को बेहतर चिकित्सा सुविधा उपलब्ध होगी। जनता के लिए यह वरदान साबित होगा। दोनों अस्थायी अस्पतालों से काफी मदद मिलेगी”। उन्होंने इसके लिए प्रधानमंत्री, रक्षा मंत्री एवं गृह मंत्री का आभार व्यक्त किया है।

<https://swatvasamachar.com/health/https-wp-me-pa3uwc-hv6/>

ज्ञान प्रसार एवम् विस्तार
के 50 वर्ष



Thu, 30 July 2020

Aggressive military build up in Tibet and Aksai Chin area, Sat images reveal

By Tenzin Dharpo

Dharamshala: China continue to build up troops and equipments in Tibet bordering India and the Aksai Chin area, revealed Indian satellite images and those procured from allies. The ongoing disengagement talks at the Indo-Tibetan border is marred by the build up of Chinese troops and equipments at rear positions, sources in the defence and security establishment told *The Print*.



Chinese military buildup in Shiquanhe, Gar County in Tibet (Photo courtesy-Twitter handle @detresfa)

India's premier intelligence-gathering satellite EMISAT, operated by the Defence Research and Development Organisation (DRDO), was deployed last week to ascertain positions of the Chinese People's Liberation Army (PLA) in occupied Tibet.

Sources cited by *India.com* said the Chinese troops have also been mobilised in Depsang sector, as soldiers could be spotted digging the area on their side of the LAC. The PLA had last intruded into Depsang back in 2013.

Last week, a satellite image shared by Twitter handle @detresfa showed heavy Chinese army concentration in Shiquanhe, Gar County in Tibet with construction of helipads and at least a brigade's strength of about 5,000 troops and equipment. The build up is suspected to be in readiness for deployment to support the ongoing tensions at the LAC in Ladakh.

Military strategists and defence observers say that China's lack of seriousness in the disengagement talks are deliberate to stall the de-escalation process until winter when the PLA might engage at two different fronts in Ladakh and Arunachal Pradesh, where conditions are brutal during the winter season. Sources say that while China has disengaged at flash-points in Galwan valley, they have already begun strengthening rear locations.

The Indian army, however, is preparing for winter against all eventuality. The Indian army is undertaking a massive drive to ensure adequate supply of the right gear and adequate ration for the over 30,000 additional troops deployed at multiple places along the LAC.

<http://www.phayul.com/2020/07/29/44089/>



Thu, 30 July 2020

Chenab Bridge: A bridge of hope and challenges

By Mrityunjoy Kumar Jha

New Delhi: Kashmir's inaccessibility was a wake-up call for India's then Prime Minister, Atal Bihari Vajpayee. When he returned to New Delhi after visiting Kargil in July 1999, he remarked, "We have not attacked any country in our fifty years of independence, but we have been attacked several times and lost our land.... We are determined not to lose our land in the future." Preparations for a rail link in the Kashmir Valley began immediately.

In 2002, the Indian government broke ground on the railway, which it hoped will one day connect Baramulla, Kashmir's northernmost city, to New Delhi. But despite being prioritized by Vajpayee as a "project of national importance," construction on this strategic undertaking was plagued by setbacks.

For example, in 2009, a protracted dispute over gradients broke out between two private companies which had been commissioned to work on separate sections of the line.

But the biggest delay by far has been due to the plan's most ambitious feature, the Chenab Bridge -- a mile-long crossing made of blast-proof steel designed to withstand both earthquakes and explosives. When completed, it will be the loftiest railway span in the world, stretching across the Chenab River at a height greater than that of the Eiffel Tower. Scheduled to be completed in 2009, the bridge is the only section of the railway which is still unfinished. The latest target date is the summer of next year. But delays, nevertheless, have persisted.

There was also the threat of terrorism that had to be factored in. To be sure, there has been apprehension from day one that the signature Chenab bridge, just 60 km from the Line of Control (LoC) with Pakistan, could be a potential target for terrorists. Even the possibility of aerial attacks had to be considered.

In securing the bridge, the Defence Research and Development Organisation (DRDO) played its part. Under DRDO's advice, the bridge has been so designed that even if one of the 17 piers supporting it is blown up, the bridge will not collapse. The deck of the bridge can withstand a heavy TNT blast.

According to the plan, a ring of aerial security will also be provided to safeguard the bridge. In addition, an online monitoring and warning system will be installed on the bridge to protect the passengers and train in critical conditions.

Unsurprisingly, after becoming the head of government, Prime Minister Narendra Modi, sought reports to understand the cause of repeated delays.

Following this investigation, Modi paid a one-day visit to J&K. In July 2014, while inaugurating the railway's latest link, connecting Katra to Udhampur, Modi declared: "Our aim is to win over the hearts and minds of the people of Jammu and Kashmir through development, soon Kashmir will be prosperous and peaceful. The new rail link will speed up the process of development in the state."

"The journey started by Atal Bihari Vajpayee will be continued....," Modi stressed, describing the railway as a gift not just for the people of Jammu and Kashmir but for the whole of India.

Understanding its critical role, Modi directed officials to progress on the Chenab Bridge without any delay. The Chenab Bridge is being constructed between Bakkal and Kauri in the Reasi district

of J&K, India. When completed, it will span 1,315 metres and the deck will be 359 metres above the water level, making it the highest rail bridge in the world.

Modi added that the construction of the Chenab bridge is the most challenging task of the whole Kashmir Rail link project. But at the same time, after the completion of the bridge, it will be recognized globally as an engineering marvel.

The bridge can bear wind speeds of up to 260 km per hour and a minus-20-degree centigrade temperature. Over 5,462 tonnes of steel will be placed high over the river-bed.

The most daunting challenge the engineers face is the wide gorge of the Chenab River. With its headwaters high up in the Himalayan mountain range, the river carves a deep gash that leaves its elevation more than 1,000 feet below the level of the rail line.

The engineers decided that the only bridge type suitable for the location would be a massive steel arch -- the highest-ever built for a railway at 1,056 feet from deck to water. Only an arch is capable of handling the weight of a 300 ton locomotive along with a thousand tons of passenger cars. With a length of 1,532 feet (467 meters), the main span will rank among the world's 10 longest arches.

There have been some false starts as well. In September of 2008 it was announced that the Chenab Railway Bridge has been cancelled despite the completion of the approach viaducts in 2007. Difficult geological conditions on the steep slopes supporting the arch foundations were cited as the reason as well as the development of a lower, more direct route through tunnels. In 2013 this decision was reversed with the bridge being constructed as originally planned.

"This is the most challenging project in the 150-year-long history of the Indian Railways. The highest railway bridge in the world that will connect Kashmir with the rest of India through the rail line will be completed by December 2021," Sanjay Gupta, Chairman of Konkan Railway said in a statement.

According to the Ministry of Railways, the deadline for the completion of the railway project has been moved ahead from June 2022 to December 2021.

Whenever the Chenab Railway Bridge is finally completed, it will be more than just another bridge but a prestigious symbol of how far India and its railway engineers have come since the country's first mile of railway track became operational more than 150 years ago.

For the people of Kashmir, the railway will provide a magnificent opportunity of integrating with the rest of India for exciting opportunities provided by one of the most rapidly advancing and dynamic economies of the world. In turn, the rest of India will be further enriched by the permeation of Kashmir's magnificent cultural heritage.

<https://www.daijiworld.com/news/newsDisplay.aspx?newsID=735389>



Thu, 30 July 2020

Rafales touch down in Ambala, India welcomes home Golden Arrows

The Rafale jets, India's first major acquisition of fighter planes in over two decades, are home. Announcing the arrival of the Rafales, the Defence Minister said, "The birds have landed safely in Ambala. The touchdown of Rafale combat aircraft in India marks the beginning of a new era in our military history."

New Delhi: The wait is over. The 'game-changing' Rafale fighter jets are finally home!

The first batch of five Rafale fighter aircraft arrived at the Ambala airbase on Wednesday afternoon -- two days after the contingent flew out of France for India.

"I congratulate the IAF on a professionally executed ferry. I am sure that 17 Squadron, the Golden Arrows, will continue to live up to their motto of "Udayam Ajasram". I am extremely happy that IAF's combat capability has got a timely boost," Defence Minister Rajnath Singh tweeted as he shared a video of the Rafale touchdown.

Prime Minister Narendra Modi welcomed the Golden Arrows with IAF motto in Sanskrit, which translates to - there is no bigger worship, good deed, or duty than the protection of the nation. 'Glory that touches the sky'.

The Rafale fleet had earlier received a warm welcome by an Indian Naval warship after the fighters entered the Indian airspace. "May you touch the sky with glory. Happy landings," INS Kolkata was heard in a radio message to Rafale jets. To this, the Rafale pilot wished 'Fair winds' to the Indian Naval warship.

Defence Minister Rajnath Singh also took to Twitter to welcome the 'birds'.

The fleet, comprising three single seater and two twin seater aircraft, arrived at Ambala airbase on Wednesday after taking off from the Al Dhafra airbase in the UAE.

The Rafale jets they will be officially inducted into the Indian Air Force as part of its No 17 Squadron, also known as the "Golden Arrows".

A formal induction ceremony, however, will be held around mid-August which is expected to be attended by Defence Minister Rajnath Singh and top military brass of the country.

The fighters are finally home nearly four years after India and France inked an inter-governmental agreement to supply 36 of the multi-role jets to the Indian Air Force under a Rs 59,000-crore deal.

The Rafale jets are India's first major acquisition of fighter planes in over two decades, and they are expected to significantly boost the Indian Air Force's combat capabilities.

The 7,000-km Journey to Home

The aircraft flew out from the Merignac airbase in French port city of Bordeaux on Monday and covered a distance of nearly 7,000 km with air-to-air refuelling and a stop in the United Arab Emirates before arriving at Ambala airbase on Wednesday.

The fleet landed at Al Dhafra airbase in the UAE after flying for over seven hours. It was the only stopover by the jets while flying from France to India.

"You can call them (Rafale) both beauty and the beast," Indian Ambassador to France Jawed Ashraf had said on Monday after interacting with the IAF pilots at the airbase before they set off for India.

"Delivery of 10 aircraft has been completed on schedule. Five will stay back in France for training mission. The delivery of all 36 aircraft will be completed on schedule by the end of 2021," the Indian embassy in Paris had said.

In a statement, the Indian embassy said IAF pilots and supporting personnel have been provided full training on the aircraft and weapon systems by Dassault. Further batches of IAF personnel will continue the training over the next nine months.

The Significance

The aircraft are expected to significantly boost the Indian Air Force's combat capabilities at a time India is locked in a tense border row with China in eastern Ladakh.

Official sources said the Rafale jets are likely to be deployed in the Ladakh sector as part of IAF's efforts to enhance its operational capabilities along Line of Actual Control with China in view of the border row with the country.

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.

The Meteor is powered by a unique rocket-ramjet motor that gives it far more engine power for much longer than any other missile, said an official.

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 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.

The Acquisition Process

India began the process to buy a fleet of 126 Medium Multi-Role Combat Aircraft (MMRCA) in 2007 after the defence ministry, headed then by Congress leader AK Antony, cleared the proposal from the IAF.

The contenders for the mega deal were Lockheed Martin's F-16s, Eurofighter Typhoon, Russia's MiG-35, Sweden's Gripen, Boeing's F/A-18s and Dassault Aviation's Rafale.

After a long-drawn process, bids were opened in December 2012 and Dassault Aviation emerged as L-1 (lowest bidder). There were lengthy negotiations between the then UPA government and Dassault on prices and transfer of technology. The final negotiations continued till early 2014 but the deal could not go through.

During Prime Minister Narendra Modi's visit to Paris in April 2015, both sides announced that they agreed to conclude an inter-governmental agreement for supply of 36 Rafale jets to India.

India and France signed an Euro 7.87-billion (Rs 59,000 crore approximately) deal on September 23, 2016 for 36 Rafale jets.

<https://www.indiatoday.in/india/story/rafale-ambala-news-update-fighter-jets-indian-air-force-iaf-1705650-2020-07-29>

5 Rafales land in Ambala, greeted with special salute

Rafale jets: "The Birds have landed safely in Ambala," Defence Minister Rajnath Singh tweeted
By Vishnu Som

Highlights

- **First five Rafale jets will touch down at Haryana's Ambala this afternoon**
- **Chief of Air Staff RKS Bhadauria will be at air base to receive the jets**
- **A Rs 59,000-crore deal was signed on September 23, 2016 for 36 jets**

New Delhi: A batch of five Rafale fighter jets touched down to a special water cannon salute at the Ambala air base this afternoon, the first western combat aircraft to join the Indian Air Force 23 years after Sukhoi aircraft were imported. The French-manufactured Rafale multi-role combat jets covered a distance of nearly 7,000 km and were escorted by two Sukhoi 30 MKIs after they entered the Indian air space.

The fleet, comprising three single-seater and two twin-seater aircraft, will be part of the No. 17 Squadron of the Air Force, also known as the "Golden Arrows".

"Welcome home 'Golden Arrows'. Blue skies always," the Indian Air Force tweeted with a photo of the Rafales in the "Arrow formation".

Defence Minister Rajnath Singh tweeted that the "birds" had landed safely in Ambala.

"The touch down of Rafale combat aircrafts in India marks the beginning of a new era in our Military History. These multirole aircrafts will revolutionalise the capabilities of the IAF," Rajnath Singh said in a series of tweets.

This is the first batch from a contingent of 36 Rafale jets from French aerospace major Dassault Aviation as part of a Rs 59,000-crore deal signed by the government on September 23, 2016. The planes are expected to give a mega-boost to India's air power amid tensions with China and Pakistan.

The jets, piloted by IAF officers, took off from Merignac in southwest France on Monday. Spectacular visuals posted by the Air Force yesterday showed the jets refueling from a French tanker at a height of 30,000 feet.

The jets made a stopover in Al Dhafra in the UAE, where France has an air base. Soon after taking off from the UAE, the Rafales established contact with Indian Navy warship INS Kolkata in the Western Arabian Sea. "Welcome to the Indian Ocean... May you touch the sky with glory," the Naval warship was heard telling a Rafale commander in an audio.

There is heavy security around the airbase, which is located around 200 km from the border with Pakistan, and large gatherings were banned in four villages nearby for the historic touchdown. People were asked not to gather on rooftops and filming or photography was banned.

Delivery officially started in October last year when the first Rafale jet was handed over to the IAF during a visit to France by the Defence Minister. The planes stayed in France for training of the pilots and mechanics. The entire contingent is to be delivered by 2022.

The Ambala air base has two squadrons of the Jaguar combat aircraft and one squadron of the MIG-21 Bison. The Mirage fighters that were used for India's air strike in Balakot in Pakistan last year after the Pulwama terror attack took off from there.

<https://www.ndtv.com/india-news/rafale-jets-5-rafale-fight-jets-to-arrive-in-india-today-will-join-iafs-golden-arrows-2270499>

World-class fighter jets will prove to be game-changer: Amit Shah after Rafale landing in Ambala

In a series of tweets, Shah congratulated Prime Minister Narendra Modi, Defence Minister Rajnath Singh, Indian Air Force and the entire country on this “momentous day”

New Delhi: Calling touchdown of Rafale fighter aircraft at Ambala airbase as “historic day” for Indian Air Force and proud moment for India, Union Home Minister Amit Shah on Wednesday said that “world-class fighter jets will prove to be a game-changer”.

In a series of tweets, Shah congratulated Prime Minister Narendra Modi, Defence Minister Rajnath Singh, Indian Air Force and the entire country on this “momentous day”.

“Rafale touchdown is a historic day for our vigorous @IAF_MCC and a proud moment for India! These are the world’s most powerful machines capable to thwart any challenge in the sky. I am sure Rafale will help our Air warriors to safeguard our skies with its mighty superiority,” Shah said in a tweet.

“From speed to weapon capabilities, Rafale is way ahead! I am sure these world class fighter jets will prove to be a game changer. Congratulations to PM @narendramodi ji, DM @rajnathsingh ji, Indian Air Force and the entire country on this momentous day. #RafaleInIndia,” he added.

Shah said that Modi government is committed to build India’s defence capabilities.

“Induction of these next generation aircrafts is a true testimony of PM @narendramodi’s resolve to make India a powerful and secure nation. Modi govt is committed to build on India’s defence capabilities. I thank honourable PM for providing this unprecedented strength to our IAF,” he tweeted.

Earlier today, the five French Rafale fighter jets touched down at Haryana’s Ambala after covering a distance of nearly 7,000 km to join the Indian Air Force.

The jets were given a customary water salute upon their arrival at the airbase, some 220-km from the India-Pakistan border.

The formal induction ceremony of the aircraft would be held later. The aircraft would move out soon to another operational base for operational sorties.

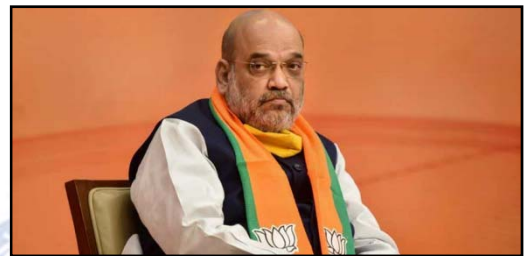
The five Rafale fighter aircraft took off on Monday for India from an airbase in France.

Rafale has multi-directional radar system which can detect 40 targets at the same time in a range of over 100 Kms. It has advance radar warning receiver to identify hostile tracking system a towed decoy system to thwart incoming missile attacks.

Rafale will ensure that our pilots will not have to cross the border to strike the target, that is about 600 Km in enemy territory.

It will get French industrial support for 50 years. India had signed a deal worth over Rs 60,000 crore with France in September 2016 for 36 Rafales to meet the emergency requirements of the IAF.

<https://www.hindustantimes.com/india-news/world-class-fighter-jets-will-prove-to-be-game-changer-amit-shah-after-rafale-landing-in-ambala/story-TWR1s2Uj5uuubKJ1LbQzRN.html>



Union Home Minister and senior BJP leader Amit Shah said that Modi government is committed to build India’s defence capabilities.(PTI)

Missile systems, cold-engine start make multi-role Rafales all the more deadly

The jet is capable of carrying out a variety of missions — ground and sea attack, air defence and air superiority, reconnaissance and nuclear strike deterrence

Edited By Meenakshi Ray

New Delhi: The new Rafale fighter jets will significantly enhance the offensive capabilities of the Indian Air Force (IAF) and prove to be a game-changer with their advanced weaponry, defence experts have said.

The jet is capable of carrying out a variety of missions — ground and sea attack, air defence and air superiority, reconnaissance and nuclear strike deterrence.

Specially tailored for the IAF, the Rafale jets have cold engine start capability to operate from high-altitude bases including Leh, radar warning receivers, flight data recorders with storage for 10 hours of data, infrared search and track systems, low-band jammers, Israeli helmet-mounted displays and towed decoys to ward off incoming missiles.

These Rafale jets will be armed with Meteor beyond visual range air-to-air missiles, MICA multi-mission air-to-air missiles and Scalp deep-strike cruise missiles — weapons that will allow fighter pilots to attack air and ground targets from standoff ranges and fill a significant capability gap.

The Meteor's no-escape zone is touted to be three times greater than that of current medium-range air-to-air missiles. The Meteor, with a range estimated to be well above 120 kilometres, outranges any other missile in aerial combat.

The 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.

It is powered by a unique rocket-ramjet motor that gives it far more engine power for much longer than any other missile, said an official.

The Scalp is a deep-strike cruise missile known for having pinpoint terminal accuracy through its highly accurate seeker and target recognition system.

The twin-engine fighter jet's 'payload fraction' or its maximum take-off weight vis-a-vis its overall empty weight is unmatched in aircraft of the same class. It can carry almost 10 tonnes of weapons and five tonnes of fuel.

Air Chief Marshal Arup Raha (retd), a former IAF chief, said the active electronically scanned array (AESA) radar on the Rafale and its weapons package make it a formidable platform.

India is also looking at arming the Rafale fighter jets with an all-weather smart weapon of French origin that will allow combat pilots to engage ground targets from a standoff range of up to 60km.

The IAF is likely to initiate the purchase of HAMMER (Highly Agile Modular Munition Extended Range) using the emergency financial powers granted to the military by the government at a time of border tensions with China.



These Rafale jets will be armed with Meteor beyond visual range air-to-air missiles, MICA multi-mission air-to-air missiles and Scalp deep-strike cruise missiles (PTI)

HAMMER is a precision-guided missile developed by French defence major Safran.

<https://www.hindustantimes.com/india-news/missile-systems-cold-engine-start-make-multi-role-rafales-all-the-more-deadly/story-ljTLNh5wnvgqkdklfbFhSP.html>

hindustantimes

Thu, 30 July 2020

Moments after Rafale fighter jets land, Rajnath Singh's veiled warning to China

Rafale jets are considered to be much advanced than Chinese mainstay fighter jets

Edited By Abhinav Sahay

New Delhi: Moments after the five Rafale fighter jets landed at the Indian Air Force's Ambala air base on Wednesday, Defence Minister Rajnath Singh said the arrival of the aircraft in India would give the IAF's combat capability a "timely boost" and make it "much stronger to deter any threat" that may be posed to our country. Singh, who had travelled to France last year to formally receive the first fighter jet, showered praises on the multi-role aircraft for its capabilities, and Prime Minister Narendra Modi for the decision to buy 36 fighter jets.

Singh also packed in a sharp, even if veiled, message to China's military.

Defence minister Rajnath Singh didn't name China. He didn't have to. China's People's Liberation Army has parked troops near the Line of Actual Control where it had been in a standoff with Indian defence forces since May this year. It agreed to withdraw its troops from the standoff points after a bloody clash in Ladakh's Galwan area following PLA's attempts to erect structures on the Indian side led to the death of 20 Indian soldiers and an unspecified number of casualties on the Chinese side.

But Beijing has been slow to carry out a complete disengagement of troops as agreed between the two sides in several rounds of military and diplomatic talks. Besides, the army has also reported that the PLA, which thinned out its troops in the forward areas, had mobilised nearly 50,000 troops in the depth areas.

"I would like to add, if it is anyone who should be worried about or critical about this new capability of the Indian Air Force, it should be those who want to threaten our territorial integrity," Rajnath tweeted and posted a video clip of the Rafale jets landing at the Ambala base of the Indian Air Force.

The fighter jets are widely seen as a game changer for India's strategic capabilities who underline that it will significantly enhance the offensive capabilities of the Indian Air Force (IAF) with their advanced weaponry. The jet is capable of carrying out a variety of missions — ground and sea attack, air defence and air superiority, reconnaissance and nuclear strike deterrence, they say.

Former IAF chief BS Dhanoa told Hindustan Times just before the planes landed that Rafale with its top of the line electronic warfare suite, Meteor beyond visual range missile and SCALP air to ground weapon with its terrain following capability outguns any threat that the Chinese Air Force produces.

Rajnath also credited PM Narendra Modi for taking a timely decision to purchase the aircrafts in 2016 that had led to a huge controversy, especially after the Congress rested its campaign for the



Touchdown of Rafale fighter aircraft at Ambala airbase on Wednesday. Five jets have arrived from France to be inducted in Indian Air Force. (ANI Photo)

2019 General elections around the allegation that India had bought overpriced fighter jets. The government, however, fought it out, defending the deal in the Supreme Court and campaigning for the Lok Sabha elections. It won.

Singh credited the prime minister's courage for going ahead with the deal.

"The Rafale jets were purchased only because PM Shri @narendramodi took the right decision to get these aircrafts through an Inter-Governmental Agreement with France, after the long pending procurement case for them could not progress. I thank him for his courage & decisiveness," he said.

<https://www.hindustantimes.com/india-news/moments-after-rafales-fighter-jets-land-rajnath-singh-s-veiled-warning-to-china/story-h7qmKKdgC8mjPWunqYVXyJ.html>



Thu, 30 July 2020

चीन-पाक के विमानों से बेहतर है राफेल, भारत की ताकत में होगा इजाफा

नई दिल्ली: दुनिया के सबसे बेहतरीन लड़ाकू विमानों में से एक राफेल भारत की सैन्य ताकत को मजबूती प्रदान करने भारत पहुंच गए हैं। पहले चरण में 5 राफेल भारत के अंबाला एयरबेस पर उतर चुके हैं। भारतीय वायुसेना ने दुनिया के कई लड़ाकू विमानों में से राफेल पर विश्वास जताया है। चीन के साथ तनाव के बीच राफेल का भारत आना महत्वपूर्ण है। यह बहुप्रतीक्षित विमान चीन और पाकिस्तान के लड़ाकू विमानों से हर स्तर पर बेहतर हैं। आइए जानते हैं कि भारत को राफेल की जरूरत क्यों है और चीन-पाकिस्तान के लड़ाकू विमानों के मुकाबले में राफेल किस कारण बेहतर है।

भारत ने इसलिए खरीदा है राफेल

भारत और चीन के मध्य हालिया तनाव को देखते हुए राफेल देश की जरूरत है। भारत ने बेहद उन्नत एफ-16 और टाइफून जैसे लड़ाकू विमानों की तुलना में फ्रांसीसी राफेल पर विश्वास जताया है। इसका कारण है कि विमान की लागत का करीब 30 फीसद अकेले रडार और सेल्फ प्रोटेक्शन सिस्टम उपकरणों पर खर्च

ऐसे समझें राफेल की ताकत

राफेल फ्रांस की डेसाल्ट कंपनी द्वारा बनाया गया 2 इंजन वाला लड़ाकू विमान है।



- दुनिया की सबसे घातक मिसाइलों और सेमी स्टिलथ तकनीक से लैस है राफेल।
- राफेल में सबसे आधुनिक हवा से हवा में मार करने वाली मीटियोर मिसाइल लगी है।
- 24,500 किलोग्राम तक का भार उठाकर ले जा सकता है।
- राफेल हवा से जमीन पर मार करने वाली स्केल्प मिसाइल से लैस है।
- अधिकतम स्पीड 2222 किमी प्रति घंटा है।
- 17,000 किलोग्राम फ्यूल क्षमता है।
- एक मिनट में 60 हजार फुट की ऊंचाई तक जा सकता है।
- राफेल परमाणु हथियारों को ले जाने में सक्षम है।
- राफेल में इंजरायल का हेलमेट माउंट डिस्प्ले लगा हुआ है।

पूर्वी लद्दाख में चीन से तनातनी के बीच दुनिया का सबसे ताकतवार लड़ाकू विमान राफेल भारत के अंबाला एयरबेस पहुंच गया है।

किया गया है। जिसके कारण इसका पता लगाना और निशाना बनाना बेहद मुश्किल होगा। चीन के पास भारत के रूसी सुखोई-30 की तकनीक से मिलता-जुलता विमान है, ऐसे में उन्होंने इसकी तकनीक का अध्ययन किया होगा। हालांकि राफेल उसके लिए आश्चर्य होगा।

चीन को है राफेल का डर

भारत के राफेल के मुकाबले का चीन के पास कोई विमान नहीं है। राफेल ने कई मोर्चों पर खुद की श्रेष्ठता साबित की है, जबकि अभी तक चीन के विमानों का किसी भी मुकाबले में परीक्षण नहीं हुआ है, वहीं राफेल ने खुद को लीबिया, इराक और सीरिया के संघर्षों में बेहतरीन प्रदर्शन किया है। चीन हमेशा से ही तकनीक चुराने में माहिर रहा है। उसके विमान रूसी विमानों की सस्ती नकल हैं। ऐसे में बड़ा सवाल ये है कि वह इनकी कितनी नकल कर पाया है।

अभिनंदन ने मार गिराया था एफ-16

बालाकोट हमले के बाद भारत के विंग कमांडर अभिनंदन ने पाकिस्तान का एफ-16 विमान अपने मिग-21 से मार गिराया था। ऐसे में मिग-21 से बेहतर राफेल के सामने एफ-16 का टिकना मुश्किल है। पाकिस्तान का एफ-16 चौथी पीढ़ी का सिंगल इंजन विमान है। राफेल में एफ-16 के मुकाबले ज्यादा हथियारों को लोड किया जा सकता है। साथ ही राफेल परमाणु हथियार ले जाने में सक्षम और सेमी स्टील्थ तकनीक से लैस है, जबकि एफ-16 से यह खूबियां गायब हैं।

इन मिसाइलों से लैस

राफेल हवा से हवा में मार करने वाली मीतियोर मिसाइलों से लैस है, जो 150 किमी दूर लक्ष्य को निशाना बनाने में सक्षम है। बिना सीमा पार किए यह दुश्मन के विमानों को निशाना बना सकती हैं। रडार गाइडेड और ध्वनि की गति से 4 गुना ज्यादा तेज है। चीन और पाकिस्तान के पास इसके मुकाबले की कोई मिसाइल नहीं है। साथ ही राफेल में स्कैल्प मिसाइल 600 किमी दूर से अचूक निशाना लगाने में सक्षम है।

पाकिस्तान और चीन पर मिलेगी रणनीतिक बढ़त

चीन और पाकिस्तान की नापाक हरकतों का माकूल जवाब दे रहे भारत की सैन्य ताकत इन लड़ाकू विमानों के आने से और अभेद्य, सुरक्षात्मक एवं घातक हो जाएगी। वर्ष 1919 में स्थापित अंबाला एयरफोर्स स्टेशन पाकिस्तानी सीमा से करीब 220 किलोमीटर दूर है। यहां पर अभी दो स्क्वाड्रन तैनात हैं। पहला जगुआर कॉम्बैट और दूसरी मिग-21 बाइसन। हालांकि मिग-21 कुछ ही वर्षों में बेड़े से बाहर हो जाएंगे। इसलिए ऐसे में राफेल महत्वपूर्ण हो जाता है। इसकी तैनाती से पाकिस्तान पर भारत की रणनीतिक बढ़त रहेगी।

भारत को मिलेंगे 36 विमान

भारत को 36 राफेल विमान मिलने हैं, जिनमें 18 अंबाला और 18 बंगाल के हासीमारा एयरबेस पर रखे जाएंगे। हासीमारा एयरबेस चीन और भूटान सीमा के करीब है। दो इंजन वाले इस लड़ाकू विमान में दो पायलट बैठ सकते हैं। ऊंचे इलाकों में लड़ने में माहिर यह विमान एक मिनट में 60 हजार फुट की ऊंचाई तक जा सकता है।

<https://www.jagran.com/news/national-why-rafale-is-better-than-fighter-planes-of-china-and-pakistan-jagran-special-20565423.html>

Indian Air Force with Rafale has plan to take the fight to China

The Indian Air Force has the capacity and capability to bring the fight to Han China, way beyond occupied Tibet and Xinjiang

By Shishir Gupta

New Delhi: While the Indian Air Force (IAF) plan against the threat of Chinese Air Force remains classified, the basic strategy against People's Liberation Army (PLA) was put to test very successfully during 2018 Gagan Shakti pan-India air exercises. The strategy is simple: Disperse, Absorb, Recoup and Retaliate.

Air warriors like Air Chief Marshal (Retd) Birender Singh Dhanoa know that the Chinese will launch a barrage of early long range missile strikes against Indian air bases to incapacitate them. However, according to a March 2020 Belfer Center Study of Harvard Kennedy School, this is easier said than done.

The study quotes a senior IAF officer saying that the Chinese need 220 ballistic missiles to keep one airfield shut for 24 hours.

“This will not make any difference to IAF operations in the east or the west since the Force has a large number of other airfields (from Leh to Pasighat) to operate from. If the PLA air force attacks just three air bases, it will require 660 ballistic missiles per day for attacking the runway and taxi track alone. China's stock of 1,000-1,200 medium range ballistic missiles or short range ballistic missiles will be over in three days with no other major target system like command and communication centres or air defence units being addressed,” the study says.

While recognising the rocket threat from China, the IAF strategy has been fine tuned to an art form and put to practice through more than 6,000 sorties alone on the eastern front during Exercise Gagan Shakti. “The moment the red flag is up, we will disperse the aircraft from the designated fields to all along the border with China with sufficient ammunition in those bases to take care of the air operations,” said a serving Air Force commander.

The next step in the Indian counter strategy is to absorb the attack at the air bases and quickly repair the runway and the taxiway. It is understood that the IAF has the capacity to repair the runway and get the air base operational within four to six hours. “We don't have either the US Patriot anti missile system or the Israeli Iron Dome system. But have a proven capacity, tested under Gagan Shakti to repair the runways within six hours maximum,” said the IAF officer.

Former Air Chief Dhanoa explains it by saying that even if Chabua, Tezpur, Leh, Adampur air bases are down, the dispersed aircraft will start operating from other bases like Bareilly, Dimapur, Kanpur and Gorakhpur and a dozen of other airfields. “The next steps are to recoup and then retaliate,” he said.

During the 2018 Gagan Shakti exercise, then defence minister Nirmala Sitharaman and then air chief Dhanoa landed at Pasighat advanced landing ground with a Su-30 taking off from the new air strip.

While the Chinese rocket attack will damage the Indian air bases, the inherent problem of rocket attack is that it is a one-time attack and there is a limitation on the warhead load.

“Just as the Chinese have the missile ranges to reach any corner of India, the reverse is equally true with the Agni V missile ready and operational. To add to this the Indian manned fighters like



The IAF strategy to counter possible offensive from China has been fine tuned to an art form and put to practice through more than 6,000 sorties alone on the eastern front during Exercise Gagan Shakti.

Rafale and Sukhoi carry over 30 tons of ordnance to be delivered with pin-pointed accuracy. Compare this to a 100 kg warhead on a missile and you get an answer to what is more lethal,” said a senior IAF officer.

Even though the Chinese military propaganda is on a full swing with so called use of powerful ammunition, the fact is that IAF has both the capacity and capability to bring the fight to Han China, way beyond occupied Tibet and Xinjiang.

<https://www.hindustantimes.com/india-news/indian-air-force-with-rafale-has-plan-to-take-the-fight-to-china/story-LO180PXKHS3YyRO4vDYrpO.html>

THE TIMES OF INDIA

Thu, 30 July 2020

Navy keen on 3rd aircraft carrier to retain edge over China, even as 2nd delayed yet again

By Rajat Pandit

New Delhi: The commissioning of India's second aircraft carrier has been delayed till September next year because of the Covid-19 pandemic. While reconciling to this setback, the Navy remains all the more keen to push its case for a third aircraft carrier as well as two new fighter squadrons to counter China's expanding footprint in the Indian Ocean Region (IOR).

As the US recently displayed in the South China Sea, much to China's discomfort, nothing projects raw combat power like an aircraft carrier strike group (CSG) capable of moving over 500 nautical miles (900 km) in a single day.

But India, which has currently deployed the bulk of its warships and submarines in the IOR to send a clear signal to Beijing, is in danger of losing its decisive edge over China in the CSG arena.

Sources say the “basin trials” of the first indigenous aircraft carrier (IAC-I) being built at the Cochin Shipyard, which would have checked the 40,000-tonne warship's propulsion, transmission and shafting systems, have been derailed by the pandemic.



The basin trials of IAC-I, first sanctioned by the government way back in January 2003, are to be followed by extensive sea trials. It's only after IAC-I gets commissioned in September 2021 now, and is christened INS Vikrant, that the “flight trials” will be launched to make the carrier fully operational by 2022-2023.

The continuing delay in IAC-I, being constructed for Rs 22,590 crore, comes when China already has two aircraft carriers, while two more are being frenetically constructed. With the eventual aim to have a 10-carrier Navy by 2050, China is expected to begin deploying a CSG in the IOR within the next few years to take care of its “Malacca Dilemma”.

India is currently making do with only the 44,500-tonne INS Vikramaditya, the refurbished Admiral Gorshkov inducted from Russia for \$2.33 billion in November 2013. Another \$2 billion was spent on procuring 45 MiG-29Ks to operate from its deck.

Sources said Navy will once again push for grant of “acceptance of necessity (AoN)” for a third carrier, the 65,000-tonne IAC-II (tentatively christened INS Vishal), which has been pending since May 2015.

Having earlier junked nuclear-propulsion for IAC-II to bring down the price, the Navy contends the projected Rs 45,000 crore construction cost will be spread over 10-14 years, with the bulk of it being ploughed back into the country's economy, as was earlier reported by TOI.

The proposal may well sail through this time, with the government fast-tracking some long-pending defence projects due to the military confrontation with China.

Similarly, the Navy has also cut down its requirement of 57 multi-role fighters capable of operating from carriers to about 36 (two squadrons) now. With the indigenous twin-engine naval fighter likely to be ready only by 2032, the French Rafale, American F/A-18, Swedish Gripen and Russian MiG-29K would be the contenders for this mega deal.

Unlike China, India has mastered the intricate art of operating “flat-tops” over six decades, commissioning as it did its first carrier INS Vikrant with its Sea Hawk jets way back in 1961. It must not lose that edge now.

<https://timesofindia.indiatimes.com/india/navy-keen-on-3rd-aircraft-carrier-to-retain-edge-over-china-even-as-2nd-delayed-yet-again/articleshow/77232510.cms>

hindustantimes

Thu, 30 July 2020

Militarising Andamans: The costs and the benefits | Analysis

There is merit in collaborating with Indo-Pacific partners in the islands, but it will entail information-sharing too

By Abhijit Singh

The Ladakh stand-off with China has catalysed India’s efforts to strengthen its military presence at the Andaman and Nicobar Islands (ANI). New Delhi recently moved to expedite plans for basing additional military forces, including facilities for additional warships, aircraft, missile batteries and infantry soldiers at the strategically-located Andaman Islands. Naval air stations INS Kohassa in Shibpur and INS Baaz in Campbell Bay are reportedly having their runways extended to support operations by large aircraft, even as a 10-year infrastructure development “roll-on” plan — pegged at Rs 5,000 crores — is on the fast-track. Indian strategic commentators are even urging New Delhi to permit friendly foreign navies access to the ANI’s military bases.

The idea of militarising the Andaman Islands isn’t new. Since the 1980s, Indian commentators have advocated building strategic muscle at the ANI. What has often seemed like a straightforward choice for Indian policymakers, however, has never been an easy decision to make. On the matter of the strategic development of the Andamans, India’s defence and foreign policy establishments have not always been on the same page. A section of India’s diplomatic community has opposed militarising the ANI, arguing that turning the islands into a strategic-military garrison would militarise the littorals — an outcome that would not sit well with countries in South and Southeast Asia.



If New Delhi pushes for greater military presence in the ANI, Beijing could well seek military access in friendly Bay countries(PTI)

When India first began developing the ANI in the mid-1980s, observers say Malaysia and Indonesia had been wary. Jakarta and Kuala Lumpur feared that India would use its military facilities in the ANI to dominate its region, and project power east of Malacca. In time, New Delhi’s willingness to keep its security presence at the strategic islands to a minimum assured many in Asia that its motives were benign. Today, amid growing threats from China, New Delhi seems open to the idea of militarising the islands. But, many say opening up the ANI’s military facilities to foreign navies could still spook regional states.

There is also an ecological aspect to militarising the ANI. Since 2015, when the government had first announced its intention to transform the islands into a maritime hub — allocating Rs 10,000

crores for the purpose — efforts to promote tourism and port development have hugely expanded. To improve tourism and trade potential, Niti Aayog has a plan to construct hotels, resorts and a trans-shipment hub at Campbell Bay. The flurry of recent infrastructure projects, environmentalists warn, could devastate the fragile ecology of the Andaman. Already many islands are facing significant damage from the climate crisis.

The proponents of the Andaman's militarisation point to a different kind of asymmetry: The apparent lack of reciprocity in India's bilateral logistics agreements. The Indian navy's plans to offer logistical support to partner navies does not, ostensibly, include its ANI facilities. Four years after signing a logistics pact with the United States (US), its navy ships still have no access the ANI. France, Singapore and Australia — India's other logistics partners — too haven't had their warships repaired or replenished at Indian island facilities. With New Delhi unwilling to open up its island bases to foreign warships, observers say India's logistics arrangements haven't performed to potential. To counter China's expanding footprint in India's sphere of maritime interest, militarisation advocates aver New Delhi must permit Japan, Australia and France and the US to build strategic capabilities at the ANI.

In the past, Indian policymakers have considered cooperative avenues with Indo-Pacific partners. In 2016, New Delhi and Tokyo discussed a joint project to upgrade infrastructure in the ANI, 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.

But, notwithstanding its utility in detecting Chinese submarines, a region-wide undersea chain of sensors has implications that call for a degree of caution. In particular, Delhi needs to consider the possibility that operating sensitive equipment with foreign partners might involve sharing of critical undersea' data with foreign collaborators. The Japan-US SOSUS provides some useful pointers. While the Japanese Maritime Self -Defence Force (JMSDF) and US Navy personnel jointly manage the JMSDF Oceanographic Observation Centre in Okinawa, the information is available to the US Pacific Command, and the facility is controlled by the US Navy. Needless to say, an Indo-Japanese-US project in the Andaman Sea might require a level of informational access that the Indian Navy may not be comfortable with.

While China's presence in the Indian Ocean is growing, Beijing hasn't so far militarised key Belt and Road Initiative (BRI) outposts in the Bay of Bengal (Hambantota, Chittagong and Kyaukpyu). In recent weeks, as Indian warships have held exercises with the US and Japanese navy in the Indian Ocean, New Delhi's resolve to counter China in its maritime backyard has been amply evident. If New Delhi pushes for greater military presence in the ANI, Beijing could well seek military access in friendly Bay countries.

This isn't to suggest that inviting foreign navies to the ANI or joint military projects in the Andaman sea is a bad idea. Strengthening collaboration with Indo-Pacific partners at the ANI is very much an option for Indian decision-makers to consider. But New Delhi must also take into account the downsides of offering foreign navies access to its island facilities. The final decision should be based on a dispassionate weighing of costs and benefits.

(Abhijit Singh is a senior fellow and head of Maritime Policy Initiative at the Observer Research Foundation and a retired naval officer. The views expressed are personal)

<https://www.hindustantimes.com/analysis/militarising-andamans-the-costs-and-the-benefits/story-J3mGWFOS3NgLUiPYwIVb2N.html>

Navy to test fire weapons on August 7

Panaji: The Indian Navy will carry out firing drills of the coastal defence weapons on August 7 and has warned shipping and fishing vessels to stay clear of the area.

The Navy will test fire the 105mm light field gun and the 40/60 anti-aircraft guns between 9am and 1pm on August 7 from Mormugao, the navy said in a statement.

“The danger zone lies within an area bounded by 220 to 260 degrees from Mormugao Headland Flag Staff position, up to a distance of 15 nautical miles into the sea and up to height of 7,100m,” the navy said.

To ensure public safety, the Navy said, all shipping vessels, harbour craft, fishing and other vessels have been requested to keep clear of the Naval Coastal Battery and the danger zone during the period of firing.

<https://timesofindia.indiatimes.com/city/goa/navy-to-test-fire-weapons-on-august-7/articleshow/77250921.cms>

hindustantimes

Thu, 30 July 2020

US, Australia see key role for India in Indo-Pacific security

The US and Australia also expressed serious concerns about China’s “recent coercive and destabilising actions across the Indo-Pacific”

By Rezaul H Laskar

New Delhi: India will have a key role in defence cooperation and post-Covid-19 recovery efforts in the Indo-Pacific by the US and Australia, which plan to strengthen partnerships in the region to ensure it remains secure, inclusive and rules-based.

The matter figured in a meeting between US secretary of state Mike Pompeo and defence secretary Mark Esper and their Australian counterparts Marise Payne and Linda Reynolds in Washington on Tuesday, with a joint statement issued by the two sides making several references to India’s role in the Indo-Pacific.



Australia's Foreign Minister Marise Payne and US Secretary of State Mike Pompeo listen while US Secretary of Defense Mark Esper speaks during a news conference at the US Department of State following the 30th AUSMIN in Washington, DC (REUTERS)

The US and Australia also expressed serious concerns about China’s “recent coercive and destabilising actions across the Indo-Pacific”, and the two countries said the Covid-19 pandemic has “created incentives for some actors to pursue strategic gains in ways that undermine the rules-based international order and regional stability”.

The development comes at a time when India is set to include Australia in the Malabar naval exercise that it conducts with the US and Japan, and against the backdrop of the months-old border standoff with China.

The US-Australia joint statement said the Indo-Pacific remains the focus of their alliance and that two countries are “working side-by-side, including with Asean, India, Japan, the Republic of Korea, and Five Eyes partners, to strengthen our networked structure of alliances and partnerships to maintain a region that is secure, prosperous, inclusive, and rules-based”.

On the issue of regional coordination, the two countries said they are committed to “trilateral dialogues with Japan and Quad consultations with Japan and India”, and were looking forward to further ministerial meetings of these forums.

The Quadrilateral security dialogue or Quad, which includes India, Australia, Japan and the US, was upgraded to the ministerial level last September. China has often expressed its opposition to the group, though India has said it is not aimed at any country.

The US and Australia also referred to bilateral defence cooperation such as the joint naval activity by their warships in the South China Sea, and said they are committed to “pursue increased and regularised maritime cooperation in the region, as well as the Indian Ocean, bilaterally and in concert with other likeminded and regional partners”.

Sameer Patil, fellow for international security studies at Gateway House, described India as the “most natural partner” for security-related initiatives by the US and Australia both in the Indian Ocean and the wider Indo-Pacific region.

“Though China is its biggest trade partner, Australia has growing concerns about what it perceives as China’s interference in domestic politics and issues such as cyber security. Australia also has concerns about China’s growing influence in the South Pacific, which it sees as its strategic backyard and which has been the focus of attention from Prime Minister Scott Morrison,” he said.

“These concerns and similar worries for the US are areas of convergence with India. Australia certainly feels that if the Quad can get its act together, the four countries can counter the rising Chinese influence in the Indo-Pacific,” Patil added.

<https://www.hindustantimes.com/india-news/us-australia-see-key-role-for-india-in-indo-pacific-security/story-pXqw6AEIVlw9bnIeOWnPO.html>



Thu, 30 July 2020

Indian and Turkish shipyards close contract for building FSS ships for the Indian Navy

The local industries of cable laying, zonal painting and blasting as well as related small scale industries will get a lot of work.

The Hindustan Shipyard Limited (HSL) is going ahead with Turkish shipyard partner M/S Anadolu shipyard after signing a contract with them for technical collaboration for enabling the shipyard to build five fleet support ships. Confirming this, a senior official said that “The total initial estimated project cost is about Rs 10,000 crore for the 45,000-ton fleet support ships (FSS) for the Indian Navy. The contract with the Ministry of Defence (MoD) is expected to be inked within the next 6-8 months.”

“Though the contract is between the two shipyards, it is a good sign that the Defence ministries of both countries are onboard for this ‘Make in India’ project.”

As was first reported by Financial Express Online in 2019, the Turkish Shipyard was L1 and had technically qualified for the FSS project for the Indian Navy. In fact, it was down-selected from among three companies who had made the cut earlier.

Who all were in the race?

In the initial stage, seven global companies had responded to the Request for Proposal (RFP) and these included Italy based Fincantieri, Navantia from Spain, Rosoboronexport (ROE) from Russia, the German ThyssenKrupp Marine Systems (TKMS), and Turkey’s Anadolu Shipyard. The RFP was for the construction of five ships under the FSS project and was estimated to be at a cost of \$2.3 billion.

At the end of talks and negotiations, only three companies were shortlisted and these were TKMS, ROE and Turkey's Anadolu Shipyard.

The contract between the two shipyards was inked after the detailed analysis was done of the technical and financial aspect. There were a series of discussions related to price and ensured that all requirements were met before the contract was inked between the two yards recently.

This is the first time at a shipyard from Turkey is participating in a defence contract in India. As has been reported by Financial Express Online, the Anadolu Shipyard is part of TAIS industrial group. And the discussions were with the shipyard and not the TAIS group.

What will the Turkish yard do?

This shipyard will be giving the ship design, provide technical assistance and also supply the key machinery equipment (KME).

And, the HSL will be providing the latest technology which will include the pre-outfitting and the modular construction. Also, HSL will follow the best shipbuilding practices.

More about the project?

All the components onboard the ships will be made locally in India and the construction of five ships of about 45,000 tons full load displacement will help in giving a fillip not only to HSL but the local small and local companies will be playing a critical role in this huge project.

Even the steel used in the shipbuilding will be from India.

The local industries of cable laying, zonal painting and blasting as well as related small scale industries will get a lot of work.

<https://www.defencenews.in/article/Indian-and-Turkish-shipyards-close-contract-for-building-FSS-ships-for-the-Indian-Navy-891895>



Thu, 30 July 2020

Pakistan gets first indigenously developed 'Al Khalid' main battle tank

Pakistan has handed over an improved version of its indigenously developed main battle tank – 'Al Khalid' to its army.

Islamabad's joint venture with China and Ukraine was given to the Armored Corps Regiment of Pakistan Army at a ceremony at Heavy Industries Taxila (HIT)-a state-run defence manufacturer.

Army Chief Gen. Qamar Javed Bajwa, top military officials attended the ceremony, according to the army's media wing. The Al Khalid-I will replace its predecessor, the Al Khalid, jointly developed by Pakistan and China during the 1990s.



"Al Khalid-1 will be handed over to formations, which have a critical and decisive role during the war," a statement said.

Bajwa lauded HIT's efforts "towards the attainment of self-reliance and manufacturing of world-class indigenous defence products, direly needed in evolving security environment."

Reiterating the need to bolstered defence and operational preparedness, he said: "Our defence preparation and operational readiness is to ensure peace within and peace without."

But he warned, if provoked, the army "shall respond and respond with all our might," a thinly-veiled reference to longtime rival India. The two nuclear rivals have long been locked in an intense arms race, with several "successful" missile tests in recent years.

The two armies for decades have faced off across the Line of Control, a de facto border that divides the disputed Kashmir region between the two arch-rivals.

<https://eurasianimes.com/pakistan-gets-first-indigenously-developed-al-khalid-main-battle-tank/>

Science & Technology News

ScienceDaily®

Thu, 30 July 2020

India has just 3 percent share in 400 billion dollar space economy: Former ISRO Chief

By Llaxman

Mumbai: Former Isro chief AS Kiran Kumar said currently the world space economy was about 400 billion dollars, of which India's share was a mere three per cent.

"India's share should increase between 10 and 15 per cent," he said while addressing a lockdown lecture of the Nehru Science Centre on Wednesday.

Kumar, who headed Isro between January 2015 and January 2018, and who is still connected with it in an advisory capacity, said that for increasing India's share in the world space economy the role of private players was very important.

It is in this context that the decision of the government to give industries a major role in the Indian space arena was significant. "This will help India which has already developed several space capabilities and technologies to become a significant player in the global space economy," he told viewers.

He said that there were at present nine Indian start ups that are taking India's space industry to the next level and Isro has awarded some of them contracts for example in the area of propulsion. Some of these were Exceed Space, Dhruva Space and Bellatrix. Over the years Isro has transferred 350 technologies to 225 industries.

"Space business was risky. But, if there is no risk there will no gain" he stated.

For the human space flight programme, Gaganyaan, Isro has invited industries and the academia to participate. "The flight has been slightly delayed for a variety of reasons, but the work is on in full swing. It will be a continuous programme and will not stop with just one flight. The decision to have India's own space station is a natural corollary to India's human space flight project," he added.

He admitted that Isro's public outreach exercise was limited at the moment and he attributed this to monetary constraints and in the area of human resources.

Coincidentally, for the first time two former ex ISRO chiefs spoke to Mumbai science institutions on the same day: Kiran Kumar in the morning to the Nehru Science Centre, and K Radhakrishnan who headed the space agency between November 2009 to December 2014, to the Tifr Alumni Association in the evening.

Radhakrishnan said of the \$366 billion global space economy commercial ground equipment and space-based services accounted for 70 per cent.

<https://timesofindia.indiatimes.com/india/india-has-just-3-percent-share-in-400-billion-dollar-space-economy-former-isro-chief/articleshow/77252015.cms>

Researchers discover cell communication mechanism that drives cancer adaptation

Summary:

Researchers have uncovered a new mechanism by which cancer cells adapt to the stresses they encounter as they grow and respond to therapies.

Collaborative Cancer Research UK-funded studies from University of Oxford researchers have uncovered a new mechanism by which cancer cells adapt to the stresses they encounter as they grow and respond to therapies. This mechanism involves cells releasing small vesicles, known as exosomes. These contain complex mixtures of proteins, RNAs and other molecules, which can re-programme surrounding cells. Exosomes are thought to be released by all cells within the body, and play important roles in many processes in healthy individuals such as immunity and reproduction. But, in cancer they can turn bad and drive pathological changes such as tumour growth and metastasis.

Up until now, research has suggested that exosomes are made in compartments in cells known as late endosomes, which are also used to keep cells healthy by clearing out damaged proteins and structures in the cell. By combining complementary analysis in fruit flies and human cancer cells, the collaborative teams have shown that exosomes are also made in the cell's recycling system, which diverts reusable proteins away from the waste disposal system. They are called Rab11a-exosomes and carry a different set of cargos that may help cancers to grow and survive current treatments.

As a tumour grows bigger, the cells within it are starved of key nutrients such as amino acids, and these stressed cells produce Rab11a-exosomes loaded with molecules made by the cancer cells. According to Associate Professor Deborah Goberdhan, who led the research: "These 'bad exosomes' can then give other cells around them a growth-promoting boost and can potentially lead to selection of more aggressive cell types and a worse outcome. The production of Rab11a-exosomes may explain why some patients don't respond to certain treatments and why others frequently develop resistance to therapies."

"It's becoming increasingly clear that anti-cancer therapies that block growth may need to be given in combination with drugs that prevent tumour cells adapting to the therapy, and reducing the production of these exosomes might be one important way to do this."

"A key step will be to work out how the bad exosomes that drive cancer progression are made, so that therapies can be designed to block them. This is likely to take some time. However, developing ways to detect these exosomes in patient blood is an important shorter-term goal. Such an approach might detect cancer at early stages or predict how patients will respond to drugs, both of which could have a major impact on cancer survival and the design of more personalised treatments for patients."

Dr Emily Farthing, Senior Research Information Manager at Cancer Research UK said: "This exciting research has discovered that exosomes can act in a way we weren't previously aware of, which could be helping tumours to grow and become resistant to anti-cancer treatments. This lab-based work is still a long way off benefitting people with cancer, but provides helpful clues to how we might be able to tackle the disease in new ways in future."

The newly published research has already attracted further funding to start screening for these alternative exosomes in patients, and a major current focus of the team is to identify ways of blocking their production, so that their role in cancer pathology can be fully assessed.

Professor Goberdhan said: "By continuing to combine analysis in human cancer cell lines and flies, we have started to highlight genetic manipulations that appear to specifically block the production of Rab11a-exosomes, which we are now following up."

Story Source:

[Materials](#) provided by [University of Oxford](#). *Note: Content may be edited for style and length.*

Journal Reference:

1. Shih-Jung Fan, Benjamin Kroeger, Pauline P Marie, Esther M Bridges, John D Mason, Kristie McCormick, Christos E Zois, Helen Sheldon, Nasullah Khalid Alham, Errin Johnson, Matthew Ellis, Maria Irina Stefana, Cláudia C Mendes, Stephen Mark Wainwright, Christopher Cunningham, Freddie C Hamdy, John F Morris, Adrian L Harris, Clive Wilson, Deborah CI Goberdhan. **Glutamine deprivation alters the origin and function of cancer cell exosomes.** *The EMBO Journal*, 2020; DOI: [10.15252/embj.2019103009](https://doi.org/10.15252/embj.2019103009)
<https://www.sciencedaily.com/releases/2020/07/200728113546.htm>

ScienceDaily

Thu, 30 July 2020

Researchers discover 'Marie Kondo' protein which aids in organizing fruit fly embryos

Summary:

Researchers have discovered a protein in fruit fly embryos dubbed Marie Kondo, that destroys maternal proteins. Much like namesake, author and clutter consultant Marie Kondo, this gene removes unnecessary molecules, keeping embryos organized.

Researchers at the University of Colorado School of Medicine have discovered a protein in fruit fly embryos, dubbed Marie Kondo, that destroys maternal proteins. Much like namesake, author and clutter consultant Marie Kondo, this gene removes unnecessary molecules, keeping embryos organized.

Fertilized egg cells are loaded with maternal molecules that control the earliest steps of embryonic development. A critical stage of development is when the embryo destroys these inherited molecules and begins to make its own. These molecules include proteins and messenger RNAs (which encode instructions for making proteins). Existing research had identified how messenger RNAs are destroyed, but how maternal proteins are discarded, however, has been unknown.

According to the study, published in the journal *eLife*, researchers discovered the presence of the Marie Kondo protein by screening ~150 possible enzymes using a trick where destruction of maternal proteins could be seen with fluorescent microscopy. After months of work, they identified the enzyme and gave it the name "Marie Kondo."

"Ordinarily, when we talk about getting rid of maternal gene products, we tend to focus on mRNA, or the coded information for making a protein," says Olivia Rissland, assistant professor of biochemistry and molecular genetics at the University of Colorado School of Medicine and study co-author. "However, we don't often talk about destruction of the proteins themselves. One implication of our study is that, during early stages of development, destruction of maternal proteins might be more tightly controlled than we had thought."

Rissland says this discovery opens the door to more research into embryonic protein destruction. "The reason why we started looking at these proteins is because they control RNA. Now, we want to see what other proteins are destroyed and how protein destruction affects early development, not just in fruit flies, but in other animals too."

Further information: <https://elifesciences.org/digests/53889/an-enzyme-that-sparks-joy>

Story Source:

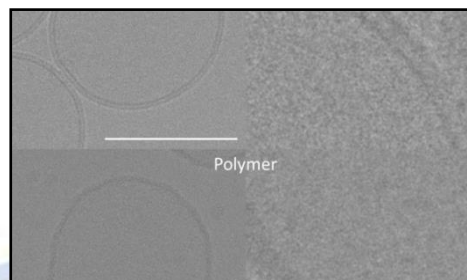
[Materials](#) provided by [University of Colorado Anschutz Medical Campus](#). Original written by Kelsea Pieters. *Note: Content may be edited for style and length.*
<https://www.sciencedaily.com/releases/2020/07/200728182549.htm>

Researchers make proton pump of respiratory chain work in artificial polymer membrane

Researchers from the Max Planck Institute for Dynamics of Complex Technical Systems in Magdeburg, the Max Planck Institute of Colloids and Interfaces in Potsdam, and the University of Halle are one step closer towards a synthetically constructed cell. They have used an enzyme found in bacteria to assemble one crucial part of the respiratory chain—essential for the energy metabolism in many cells—and made it functional in an artificial polymer membrane.

Creating artificial cells is one of the great visions in both biology and engineering. Some of the ambitious visionaries radically rebuild cells that already exist in nature. Others—like the Max Planck researchers—take an even rockier road. "We want to construct a new cell from scratch by gradually combining individual components into a living system with a metabolism," says Ivan Ivanov, a scientist from the working group of Kai Sundmacher, Director at the Max Planck Institute in Magdeburg.

In a recent study, the researchers looked for an artificial polymer that has the properties of a cell membrane and could also play its role in energy metabolism. Natural cell membranes, which consist of phospholipids, separate the cell interior from the environment. They have both hydrophilic and lipophilic properties and are the stage for essential biochemical reactions that serve to produce energy for the cell, among other things. "Inspired by the natural processes from the energy metabolism of living organisms, we design customized artificial energy organelles from biological and chemical building blocks that convert light or chemical energy into ATP," explains Tanja Vidaković-Koch from the Max Planck Institute for Dynamics of Complex Technical Systems. Nearly all chemical reactions in the cell are fuelled by ATP.



Electron microscopic images of a natural cell membrane (top) and the polymer PDMS-g-PEO (bottom) (right: magnification): Cell membranes consist of a lipid layer in which proteins are embedded. In contrast to natural membranes, which form a bilayer, the polymer organises itself into a single fluffy layer. (The bar corresponds to 100 nanometers). Credit: Marušič et al, PNAS 2020

Proton pump in an artificial membrane

The researchers have now found a commercially available polymer (the surfactant PDMS-g-PEO) that acts as a membrane in place of the natural phospholipids and can thus form vesicles. Such vesicles "are a useful model for the construction of artificial organelles and cells," explains Rumiana Dimova, a specialist for biomembranes at the Max Planck Institute of Colloids and Interfaces. A major obstacle has been incorporating functional proteins—including those involved in energy metabolism—into polymer membranes.

The team of Max Planck scientists has now succeeded in integrating the proton pump bo3 oxidase into the synthetic membrane. The enzyme belongs to the respiratory chain of many bacteria "and also functions quite well in the polymer membrane—even slightly better than in the natural lipid membranes," says Nika Marušič, co-author of the study.

The oxidase reduces oxygen also in the artificial membrane and thus constitutes the final step of cellular respiration. As the researchers have shown, it pumps protons into the interior of the vesicle, thereby creating a prerequisite for the production of ATP.

Impermeable to protons

The artificial membrane is also nearly impermeable to protons, yet sufficiently fluid and highly stable (much more stable than its natural counterpart) against harmful oxygen radicals. The bending rigidity of the polymer membrane is also similar to that of a natural membrane. This is

important because living cells are constantly deforming. The bending modulus must therefore not be too low so that the cells can maintain their shape. However, it also should not be too high either. Otherwise, the function of complex membrane proteins will be compromised.

To put it simply: the chemistry of the polymer offers excellent conditions for energy metabolism in an artificial mitochondrion. According to Ivanov, there are still some obstacles though: "It is still unclear how this polymer membrane could replicate." This would certainly be necessary for an artificial cell to be able to multiply. The scientists thus still have a great deal of work ahead of them.

More information: Nika Marušič et al. Constructing artificial respiratory chain in polymer compartments: Insights into the interplay between bo_3 oxidase and the membrane, *Proceedings of the National Academy of Sciences* (2020). DOI: [10.1073/pnas.1919306117](https://doi.org/10.1073/pnas.1919306117)

Journal information: *Proceedings of the National Academy of Sciences*
<https://phys.org/news/2020-07-proton-respiratory-chain-artificial-polymer.html>

COVID-19 Research News

DESIC live **mint**

Thu, 30 July 2020

Oxford COVID-19 vaccine trial: Expert panel defers Serum Institute's proposal

By Leroy Leo

- **Regulatory panel asks Serum Institute to come back with amended proposal**
- **The panel has also asked the company to specify the role of Indian Council of Medical Research (ICMR) in the trial**

New Delhi: A committee of experts at the apex drug regulator has deferred its decision on Serum Institute of India Pvt Ltd's covid-19 vaccine trial, and has asked the company to amend its protocol for the phase II and III clinical trial of the University of Oxford's vaccine candidate.

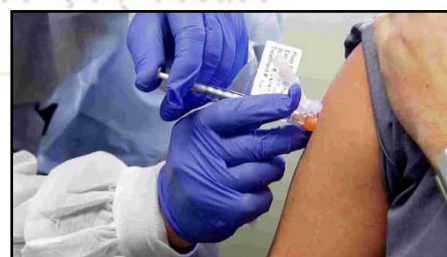
"After detailed deliberation the committee recommended for amendment to the protocol... Accordingly, the firm should submit revised protocol for evaluation of the committee," as per minutes of Tuesday's meeting of the subject expert committee (SEC) for covid-19 related proposal in the Central Drugs Standards Control Organization, a copy of which has been seen by *Mint*.

An email sent to Serum Institute of India on this development remained unanswered at the time of publishing.

As part of the amendment in protocol, the regulatory panel has asked the company to demarcate Phase II and Phase III part of the protocol and also asked for the trials to be distributed pan India.

The panel has also asked the company to specify the role of Indian Council of Medical Research (ICMR) in the trial. Mint could not ascertain a link between ICMR and Serum Institute's trial of the Oxford vaccine candidate.

Serum Institute of India had applied to the government for approval for the clinical trial of about 1,600 participants over the age of 18, as per a report by the *Press Trust of India* on Saturday.



Moderna last week said its coronavirus vaccine candidate produced protective antibodies in a small group of healthy volunteers. (AP)

The company, which is the world's largest vaccine manufacturer by number of doses produced and sold, globally, had last month signed an agreement with British-Swedish multinational pharmaceutical company AstraZeneca, the co-developer of the vaccine, to supply an additional 1 billion doses, principally for low- and middle-income countries.

While there are more than 150 vaccine candidates undergoing clinical trials, with human trials of more than two dozen of these underway, the University of Oxford's vaccine candidate is seen as the front runner.

Interim data from a clinical study published in The Lancet journal last week showed that the vaccine candidate was safe and provided dual immunity against the fatal respiratory disease.

Serum Institute plans to price the vaccine at less than ₹1,000 per dose, chief executive officer Adar Poonawalla had told *Mint* in an interview last week. Poonawalla has also said that the company would reserve around half the vaccines it produces for India.

<https://www.livemint.com/news/india/expert-panel-defers-serum-institute-s-proposal-for-oxford-vaccine-trial-11596033308660.html>

ThePrint

Thu, 30 July 2020

Two Asian pharma companies hold key to Oxford vaccine, China woos ASEAN & other Covid news

As the Covid-19 pandemic shows no signs of letting up, ThePrint highlights the most important stories on the crisis from across the globe

By Srijan Shukla

New Delhi: The novel coronavirus pandemic continues to devastate countries across the world — the latest count is over 1.64 crore cases and more than 6.52 lakh deaths.

Two Asian pharmaceutical companies have signed the deal to produce the coronavirus vaccine being developed by Oxford University. US President Donald Trump falsely claims that most of the country is now virus free. Meanwhile, Russian intelligence is spreading disinformation about the pandemic.

ThePrint brings you the most important global stories on the coronavirus pandemic and why they matter.

Two Asian pharma companies will determine global supply of Oxford vaccine

An Indian and a South Korean pharmaceutical company are all set to become the key global players in the production and distribution of the coronavirus vaccine being developed at Oxford University, reports the Nikkei Asian Review.

“Serum Institute of India and South Korea's SK Bioscience have reached an agreement to produce a vaccine developed by Oxford University and British pharmaceutical group AstraZeneca,” notes the report.

“The Oxford-AstraZeneca vaccine is said to be among the forerunners in the inoculation development race, along with one developed by China's CanSino Biologics and another by Germany's BioNTech and U.S.-based Pfizer,” the report adds.

“On the assumption that the vaccine will eventually prove effective and safe, the developers aim to have an annual production capacity of over 2 billion doses. To ramp up capacity and build a global supply chain of the vaccine, AstraZeneca and the Asian companies have signed contracts to be production partners,” it further notes.

Moderna pitches vaccine at \$50-60 per course

The US biotechnology firm, Moderna — the country's frontrunner in the Covid-19 vaccine race — has pitched its coronavirus vaccine at \$50 to \$60 per course according to people familiar with

the talks between the company and potential buyers, reports the Financial Times. This price is believed to be higher than that of other vaccine makers.

The US government has put close to \$1 billion in Moderna's vaccine research, and the vaccine is the first one in the US to enter clinical trials. Moderna's shares have soared 325 per cent as its vaccine showed signs of effectiveness in early trials.

"The price Moderna is seeking is not likely to be final. In a range of about \$50 to \$60 for a course that is, \$25-\$30 per dose it appears to be higher than that agreed by Pfizer and its German partner BioNTech last week in a pre-order deal with the US government at \$19.50 per dose," notes the report.

Trump promotes HCQ and claims "America is coronavirus free"

After staying away from the topic for a while, the US President Donald Trump has yet again defended promoting hydroxychloroquine as an anti-Covid-19 drug, although there is lack of evidence to suggest so, reports *The New York Times*.

He also said that now large parts of the US are coronavirus free but most fact-checkers denied the claim.

"Mr. Trump continued to promote the use of hydroxychloroquine, which several major studies have concluded is not effective in treating the virus," notes the report.

"He (also) claimed that 'you can look at large portions of our country — it's corona-free,' even as federal officials distributed a new report finding that 21 states had outbreaks so severe that they were in the 'red zone.' Twenty-eight states were in the 'yellow zone,' and only one state, Vermont, was in the 'green zone,'" adds the report.

<https://theprint.in/world/two-asian-pharma-companies-hold-key-to-oxford-vaccine-china-woos-asean-other-covid-news/470289/>

Outlook
THE FULLY LOADED MAGAZINE

Thu, 30 July 2020

UK strikes pact for 60 million doses of experimental covid-19 vaccine

The agreement with Britain's GSK and France's Sanofi will supply the UK with 60 million doses of their vaccine based on existing DNA-based technology used to produce Sanofi's flu vaccine

The UK government on Wednesday announced an early access agreement with GlaxoSmithKline (GSK) and Sanofi Pasteur for an estimated 60 million doses of an experimental new vaccine being tested to combat COVID-19.

The agreement with Britain's GSK and France's Sanofi, which combined have among the largest vaccine manufacturing capabilities in the world, will supply the UK with 60 million doses of their vaccine based on existing DNA-based technology used to produce Sanofi's flu vaccine.

While it remains uncertain as to which, if any, of the anti-coronavirus vaccines under various stages of development around the world will ultimately work, the British government said the latest deal helps grow the country's portfolio of vaccine candidates and adds to previous agreements.

"Our scientists and researchers are racing to find a safe and effective vaccine at a speed and scale never seen before. While this progress is truly remarkable, the fact remains that there are no guarantees," said UK Business Secretary Alok Sharma.



A lab technician extracts a portion of a COVID-19 vaccine candidate during testing at the Chula Vaccine Research Center, run by Chulalongkorn University in Bangkok, Thailand.

"In the meantime, it is important that we secure early access to a diverse range of promising vaccine candidates, like GSK and Sanofi, to increase our chances of finding one that works so we can protect the public and save lives," he said.

If the GSK and Sanofi vaccine candidate is proven effective in human studies, the UK could be able to vaccinate priority groups, such as frontline health and social care workers and those at increased health risk, as soon as summer 2021. Human clinical studies of the vaccine will begin in September followed by a Phase 3 study in December 2020.

With the latest announcement, the government said it has now secured early access to four different types of immunisation and a total of 250 million doses, giving the UK the "most likely chance of finding a safe and effective vaccine at the quickest speed".

Kate Bingham, Chair of the government's Vaccines Taskforce, said: "This diversity of vaccine types is important because we do not yet know which, if any, of the different types of vaccine will prove to generate a safe and protective response to COVID-19. Whilst this agreement is very good news, we mustn't be complacent or over optimistic.

"The fact remains we may never get a vaccine and if we do get one, we have to be prepared that it may not be a vaccine which prevents getting the virus, but rather one that reduces symptoms."

Thomas Triomphe, Executive Vice President and Global Head of Sanofi Pasteur, said the company is collaborating with several countries and global organisations as part of ongoing efforts to ensure a "safe and effective vaccine" is available to everyone as quickly as possible.

"We believe that this adjuvanted vaccine candidate has the potential to play a significant role in overcoming the COVID-19 pandemic, both in the UK and around the world. We thank the UK government for confirmation of purchasing intent, which supports the significant investment we are already making as a company to scale up development and production of this vaccine," added Roger Connor, President of GSK Vaccines.

Earlier this month, the British government announced it had secured 90 million COVID-19 vaccine doses thanks to partnerships with the BioNTech / Pfizer alliance and Valneva.

A deal has also been agreed to secure access to treatments containing COVID-19 neutralising antibodies from AstraZeneca, to protect those who cannot receive vaccines such as cancer and immunocompromised patients.

This is in addition to an existing global licensing agreement signed with AstraZeneca and the University of Oxford to research, develop and manufacture a COVID-19 vaccine for the UK public. AstraZeneca will work to produce 100 million doses for the UK in total.

The latest agreement comes as the government confirmed that almost 72,000 people have volunteered to receive information about participating in future vaccine studies following the launch of the NHS COVID-19 vaccine research registry last week. The aim is to get 500,000 people signed up by October to enable large-scale clinical studies.

<https://www.outlookindia.com/website/story/world-news-uk-strikes-pact-for-60-million-doses-of-experimental-covid-19-vaccine/357615>

Russia may launch world's first coronavirus vaccine by 10 August: Report

- *The drug developed by Moscow's Gamaleya Institute and the Russian Direct Investment Fund may be approved for civilian use within three to seven days of registration by regulators*
- *A Russian state virology institute has started human trials of the country's second potential Covid-19 vaccine*

Amid the rising novel coronavirus infections and deaths in the world, Russia says that it plans to register a coronavirus vaccine as soon as 10 August to 12 August, which can also be touted as the world's first Covid-19 vaccine, according to a report.

The drug developed by Moscow's Gamaleya Institute and the Russian Direct Investment Fund may be approved for civilian use within three to seven days of registration by regulators, according to a person familiar with the process, who asked not to be identified because the information isn't public, according to a Bloomberg report.

Earlier, the state-run RIA Novosti news service reported the vaccine may be approved by August 15-16.

Furthermore, a Russian state virology institute has started human trials of the country's second potential Covid-19 vaccine, injecting the first of five volunteers with a dose on July 27, the RIA news agency reported on Tuesday.

The individual was feeling fine, the agency had reported.

Moreover, Russian drugmaker R-Pharm has signed a deal with AstraZeneca for it to manufacture a coronavirus vaccine being developed by the British pharmaceuticals giant and Oxford University, it said earlier.

Following allegations from UK, Canada and the United States that hackers backed by Russia were trying to steal Covid-19 vaccine and treatment research, the head of Russia's wealth fund said the deal showed that Moscow has no need to steal anything.

The Russian Defence Ministry clarified that tests of the vaccine against coronavirus are being conducted in full compliance with methodological regulations, with no attempts to reduce the duration of the research.

"The Russian Defence Ministry tests the vaccine on volunteers in full compliance with the acting legislation and scientific methodological regulations, in order to prevent further risks, without any attempt to reduce the duration of the research", the ministry said in a statement, as reported by Sputnik.

Earlier, scores of Russia's business and political elite were given access to the experimental vaccine as early as April, according to people familiar with the effort, reported Bloomberg. Military volunteers completed Phase 2 trials of the drug last week.

Russia could make 30 million doses domestically in 2020 for its first Covid-19 vaccine, and 170 million abroad, with five countries expressing interest in producing the vaccine and others willing to produce it, according to a Bloomberg report quoting Russian Direct Investment Fund's head Kirill Dmitriev.

President Vladimir Putin has made finding a vaccine a top priority. Russia has recorded more than 800,000 Covid-19 cases, making it the fourth most-affected country in the world. In Russia's race to be the first to find a vaccine against Covid-19, it's taking an approach that would be shunned in other countries, claiming it will know in just three months of trials whether its leading candidate works.

More than 100 possible vaccines are being developed around the world to try to stop the coronavirus pandemic. At least four are in final Phase III human trials, according to WHO data - including three developed in China and another in Britain. *With inputs from agencies*
<https://www.livemint.com/news/world/russia-may-launch-world-s-first-coronavirus-vaccine-by-10-august-report-11596020398739.html>

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COVID-19: Moderna's experimental vaccine gives positive result in monkeys

Research has proven that Moderna's COVID-19 vaccine induced a immune response and prevented coronavirus from replicating in the noses and lungs of monkeys

By Riya Baibhawi

Research has proven that Moderna's COVID-19 vaccine induced a robust immune response and prevented coronavirus from replicating in the noses and lungs of monkeys, indicating that it could work on humans too. In contrast, the vaccine developed by the University of Oxford did not give the same results. However, it still prevented the virus from getting in the monkey's lungs and 'making them really sick'.

For the Moderna's vaccine study, which has been published in *New England Journals of medicine*, three groups of eight rhesus macaques received either a placebo or vaccine at two different doze levels-10 micrograms of 100 micrograms. As per the study, four weeks after the monkeys received their second injection of Moderna's vaccine, they were exposed to the SARS-CoV-2 virus, both through the nose and directly to the lungs via a tube. Researchers found that, just after two days, the virus had stopped replicating in the lungs of the seven out of eight macaques in both low and high doses groups. In addendum, none of the eight macaques in the high dose groups had detectable levels of virus in their noses two days after exposure.

Later, researchers found that all vaccinated macaques produced a high level of neutralizing antibodies that attack part of SARS-CoV-2 used to invade cells. In contrast, monkeys who received a placebo showed the presence of the virus. In addendum, they also introduced the production of inbuilt immune cell T-cells that may help boost overall response to the virus. The research has given a ray of hope to researchers struggling to develop a vaccine. However, a major area of concern is that the vaccine under development could actually backfire rather than suppressing the disease.

US may provide vaccine

Backing Moderna's vaccine, US President Donald Trump has said his country may provide a vaccine for novel coronavirus to other countries when it is ready. The American leader has previously expressed the possibility of a vaccine before the end of 2020. Speaking at a press briefing on July 28, Trump said that when they have a vaccine, it will be discharged and taken care of.

On July 27, the National Institutes of Health (NIH) said that the US scientists have begun phase three trial of the potential vaccine developed by biotech company Moderna. The NIH reportedly plans to conduct the trial at multiple US clinics with the participation of approximately 30,000 adult volunteers who are not affected by COVID-19. The comes as AstraZeneca is conducting phase 3 trial of its vaccine.

<https://www.republicworld.com/world-news/rest-of-the-world-news/covid-19-study-proves-modernas-coronavirus-vaccine-worked-in-monkeys.html>

