

DRDO starts detection tests for COVID-19, producing hand sanitisers in small quantities

The Madhya Pradesh government will be using the DRDE lab in Gwalior to test suspect coronavirus cases

By Amrita Nayak Dutta

New Delhi: The Defence Research and Development Establishment (DRDE) in Gwalior has started conducting tests for COVID-19 cases, while also producing hand sanitisers in small quantities.

The DRDE, which is a part of the Defence Research and Development Organisation (DRDO), is the nodal lab for the development of chemical-biological defence technologies and works on national preparedness against the use of such agents in warfare.

The body was selected by Madhya Pradesh health authorities to carry out the detection tests for people suspected of being coronavirus patients.

A senior DRDO official said the tests will be carried out with protocols “duly standardised in accordance with National Center of Disease Control (NCDC)”.



Production of sanitisers

The DRDE has been producing hand sanitisers in its lab in accordance with the World Health Organization’s guidelines. It has produced at least 14,389 bottles of 500 ml each.

The formula is a tried-and-tested product that is already a part of DRDO’s inventory.

These sanitisers have been distributed to top security establishments, such as the National Security Council Secretariat, Special Protection Group, the defence forces and the Prime Minister’s Office. It has also been supplied to the National Technical Research Organisation, Central Bureau of Investigation, Intelligence Bureau and government think-tank Niti Aayog.

“We are a R&D organisation and don’t have big production facilities. Some of the other DRDO labs have also been authorised to produce the sanitising solution in limited quantities,” the DRDO official said.

The DRDE might scale up its production based on future requirements, according to the senior official.

DRDO implements extra measures

In addition to running tests, the DRDO has set up multiple screening mechanisms for its personnel and their families coming from abroad. At DRDE, which is a Biosafety level – 3 lab, such screenings have already begun, according to the official.

Multiple awareness programmes are also being run regularly and hand sanitisers distributed to all DRDO labs across the country. Further, DRDO has set up a 24X7 helpline to field questions on COVID-19 daily.

In an interview, Dr G Satheesh Reddy, DRDO Chairman and secretary, Department of Defence R&D, said the Gwalior-based lab has developed diagnostic kits against enlisted biological agents like Anthrax.

<https://theprint.in/defence/drdo-starts-detection-tests-for-covid-19-producing-hand-sanitisers-in-small-quantities/386482/>

DRDO starts testing for COVID-19 in Karnataka

By Akhil Kadiyal

Bengaluru: The Defence Research and Development Organization (DRDO) announced that it was joining efforts to combat COVID-19 by conducting detection and testing for the coronavirus.

The announcement, which was made on Sunday night, comes at a time when the number of diagnosed COVID-19 cases in the country is multiplying exponentially, prompting the central government to sanction the involvement of various national laboratories to participate in urgent testing for COVID-19.

In a circular made public on Sunday the Empowered Committee for COVID-19 Response, which is co-chaired by Dr Vinod Paul, a member of Niti Aayog, and Dr K VijayRaghavan, the Principal Scientific Advisor to the Government of India, specifically identified “all national research labs,” such as those of the DRDO and the Department of Atomic (DAE), the Council of Scientific and Industrial Research (CSIR), the Department of Biotechnology (DBT) and the Department of Science Technology (DST).

The decision, which is the first made by the Committee, was prompted by what Dr VijayRaghavan described as an effort to “take speedy decisions on research and development to implementation related to SARS-CoV-2 virus and the COVID-19 disease.” In a statement, DRDO said that its Defence Research Development Establishment (DRDE), located in Gwalior, is carrying out measures to detect and test COVID-19 cases. “These are done with the protocols duly standardized in accordance with the National Centre of Disease Control (NCDC),” the organisation said.

Screening in Karnataka

While all DRDO labs are currently on skeletal staff until March 31 to mitigate the spread of the disease, a DRDO spokesperson said that the labs are scheduled to reopen thereafter the COVID-19 screening and detection efforts will start in Bengaluru and Karnataka.

The organisation revealed that it has also formulated a new sanitiser for deployment. "At least 14,389 bottles, each filled with 500 ml has been made available to DRDO headquarters. This formulation is prepared in the lab itself as per World Health Organization guidelines," it said.

The mandate

Under the new mandate, the national labs are authorised to carry out clinical testing for COVID-19 based on self-assessment and a willingness to follow established protocols and all applicable reporting regulations as defined by the Department of Health Research (DHR) and the Indian Centre for Medical Research (ICMR).

<https://www.deccanherald.com/city/top-bengaluru-stories/drdo-starts-testing-for-covid-19-in-karnataka-816706.html>



Tue, 24 March 2020

Bengaluru-based Skanray aims to make 1 lakh ventilators, opens up design IP

By Archana Shukla

- *Skanray Technologies is ramping up production of ventilators.*
- *To do that, it is sourcing components from other industries.*
- *It has also opened up its design IP for others to copy*

As India prepares to deal with the fast-spreading COVID-19 epidemic in the country, Bengaluru-based ventilator exporter Skanray Technologies has ramped up its capacities to support the requirement of the critical care equipment.

The company plans to utilise the network of component suppliers & local manufacturers to ramp up production to 1 lakh in 2-3 months time.

“The idea is to share the design and certain critical components with other companies, which can locally manufacture these ventilators quickly. We are opening up our design IP,” Vishwaprasad Alva, Founder and Managing Director of Skanray Technologies told CNBC-TV18.

Skanray is working with government's think-tank Niti Aayog, the Defence Research and Development Organisation (DRDO), Director General of Health Services and the government of Karnataka on design and supply of locally-sourced components.

The DRDO, in particular, is helping Skanray find equivalent components from other industries. DRDO will help source local components from aeronautical, entertainment and auto industry that can be used in ventilators with a few design changes.

“This is the only way to overcome the shortage. There are components like flow and volume sensors that are used in aeronautical industry, which can be used in ventilators too. We just need to alter the design and check for safety,” Alva said.

The company plans to manufacture 1 lakh locally-assembled ventilators in the next two-three months. The company currently has the capacity to manufacture 200 units, and is planning to gradually scale up to make 5,000 units in a month's time before ramping it up to 30,000 and then to 1 lakh.

Healthcare experts say India could need 1,00,000 ventilators depending on how the COVID-19 epidemic spreads across the country. The SARS-CoV-2, the virus that causes the COVID-19 disease, affects both upper and lower respiratory tract and critical patients require ventilator support.

The government of Karnataka has placed an order for 1,100 ventilators with Skanray.

The company says orders for 7000 more ventilators are in the final stages from state governments of Maharashtra, Andhra Pradesh, Kerala, Tamil Nadu. We will be finalising these orders in a few days, Alva said.

The central government has yet not placed any orders with any company as yet.

“The government should consolidate its requirements quickly and place the orders, so we have a clear understanding of what the government wants and we can plan accordingly.”

Skanray has already manufactured one model with lower import content and the redesign was drawn in just 15 days, he added.

The critical components needed for medical devices sector has seen a sharp rise in demand.

However, components for other industries are in good supply and that situation can be utilised in favour of critical equipment manufacture in India.

Currently, no company manufactures 100 percent indigenous ventilators in India. Most companies either import, assemble or partially produce it with components sourced from Europe, US and China.

But this supply has been hampered with the countries restricting critical exports owing to the COVID-19 pandemic.

Other companies like Vadodara-based Max Ventilators and Air Liquide manufacture partially. The rest either import or assemble ventilators in India.

GE Healthcare and Philips import ventilators and other critical care equipment from their global manufacturing hubs.

The government is in talks with all manufacturers to ramp up capacities and collaborate on design elements that can be locally produced.

Skanray makes compressor-based ventilators, which the company says will be optimum for use for care for critical COVID-19 patients. The cost ranges from Rs 5 lakh to 12 lakh.

<https://www.cnbctv18.com/healthcare/bengaluru-based-skanray-aims-to-make-1-lakh-ventilators-opens-up-design-ip-5540741.htm>

hindustantimes

Tue, 24 March 2020

Mysuru-based firm in spotlight as India looks for ventilators

Several European and Asian countries have already banned the export of ventilators — a decision that India also took last week

By Venkatesha Babu

Bengaluru: Experts believe that when the Covid-19 pandemic enters the third stage of community transmission, medical infrastructure, especially the number of ventilators a country has, will make all the difference.

Several European and Asian countries have already banned the export of ventilators — a decision that India also took last week. In India, one of the few domestic manufacturers of ventilators is Mysore-based Skanray Technologies. The firm manufactures an array of 45 different products across areas such as radiology, cardiology, respiratory, and diathermy.

Skanray could thus play a key role in supplying enough ventilators to ensure patients infected by Sars-Cov-2 can be treated.

Vishwaprasad Alva, founder and Managing Director of Skanray has been a vocal advocate of India building manufacturing expertise in complex electronic goods needed in medium to low volume — having lost out on electronic mass manufacturing to countries such as China, Japan and Taiwan. “While I don’t want to sound sceptical, fact is attention of the government and media to this sector comes only when there is an emergency, which is unfortunate. However domestic EMS (electronic manufacturing services) companies have survived despite a hostile environment,” he said. Skanray, which has been operational for the past eight years has four manufacturing units. Apart from the Mysuru plant it has two manufacturing units in Italy and one in Brazil.



A ventilator costs anywhere between Rs 5 lakh and Rs12 lakh. He admits that several critical components are imported, and that supply has stopped because European countries supplying them have stopped exporting in order to cater to their own needs.

Skanray currently has the ability to produce 200 ventilators a month at its Mysuru facility. “We need a bit of handholding in ensuring supply of some of the critical components that can be manufactured domestically. This can be done in India with DRDO’s help. Second, we need firm orders in hand. Third we would need to redeploy our resources away from non-critical products to those which are needed on an urgent basis,” says Alva.

<https://www.hindustantimes.com/india-news/mysuru-based-firm-in-spotlight-as-india-looks-for-ventilators/story-yprXbyeWxdcIX0zPa4VNvL.html>



Tue, 24 March 2020

More on the mysterious aura that surrounds Metcalfe House

Tall tales can be stranger than fiction and give us a break of the monotony of daily life

By R. V. Smith

If reports are to be believed, a club near Birla Mandir in Connaught Place has been declared unsafe. It was once patronized by South Indians, but now lies deserted. Those living nearby say it is haunted. The notice printed on the front wall declaring it out of bounds though, could mean that the building has become unsafe because of age or structural defects. Be that as it may, such places do acquire their own attraction.

Now take Metcalfe House. It too is long supposed to be haunted though DRDO has its offices there with a large number of Scientists working on its premises. It was built by Sir Thomas Metcalfe, British Resident in Delhi from 1835. Another such building, the Metcalfe Testimonial, built by his brother, Sir Charles Metcalfe, in Agra, was destroyed in a mysterious fire in 1895. In the heart of the capital, the Khooni Darwaza has its own spooky tales associated with



the beheading of Dara Shikoh by his brother Aurangzeb. Earlier the murder of the sons of Abdul Rahim Khan-e-Khanan, the poet in Akbar’s court, on the orders of Jahangir, took place there.

Later, two sons and a grandson of Bahadur Shah Zafar were shot there by Lt. William Hudson in 1857. Some freedom fighters were also hanged in its vicinity when the Delhi Jail was situated at the site now occupied by Maulana Azad Medical College. On Hailey Road, the Agrasen ki Baoli is also believed to be haunted by those who were drowned in it.

From the dungeons in Metcalfe House, they say the sound of clanking chains is heard sometimes. In the ruins of the Metcalfe Testimonial at Agra, the sound of spoons striking empty plates was heard up to the time it made way for a housing colony. It was a reminder of a macabre Christmas Eve party: the host was murdered by unseen hands in 1898.

In the Khooni Darwaza blood stains appear sometimes, especially during the monsoon. They say that the sound of music emanates at night suddenly, in a flashback to the days when acabaret was held there. What does one make of all this? The best explanation is that such scary tales add some spice to a

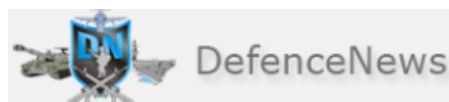
sedentary existence. So don't be startled if you hear that Ghalib's apparition is seen at his *haveli* on moonlit nights and at the Kala Mahal where he was born, some 3 km from the Taj.

The spectre of the poet's patron, Bahadur Shah Zafar, is believed by some to haunt the Red Fort on Thursdays, something unimaginable as the king died in distant Rangoon. Apparently, ghosts can travel long distances!

The ghost of his court poet, Zauq, they say, is seen over the old Yamuna Bridge, running away with books, tightly clutched in his hands, to escape the British soldiers pursuing him in 1857. But this is definitely a fib because Sheikh Ibrahim Zauq died three years before the Uprising.

(The writer is a veteran chronicler of Delhi)

<https://www.thehindu.com/society/history-and-culture/more-on-the-mysterious-aura-that-surrounds-metcalf-house/article31141422.ece>



Tue, 24 March 2020

Taking India's defence exports to \$5 billion

If the annual SIPRI data consistently showing India among the top few arms importing nations in the world is a depressing commentary on the state of India's military-industrial capability and capacity, the 2020 figures bring some cheer. Although India is second only to Saudi Arabia in terms of imports, her defence exports for the previous year cracked the global top 25. From struggling to acquire specialised weapon locating radars (WLRs) from the USA and Israel in the 1990s, India is now exporting them to Armenia in a deal worth some \$40 million.

The Indian Defence Ministry's own figures show that India managed to double the value of exports between FY2018 and FY2019, from Rs 4,682 crore to Rs 10,745 crore. At the Defexpo trade show in February 2020, PM Narendra Modi called for an export target of Rs 35,000 crore (\$5 billion) annually within five years.

While the trajectory has been impressive thus far, to maintain this momentum and meet the \$5 billion target will take some doing. Among the measures already adopted are a mandate for state-owned public sector units to earn 25 per cent of annual revenue through exports by FY2023, and for Indian diplomatic missions abroad to actively promote defence exports, including supporting lines of credit. Nevertheless, the arithmetic remains difficult. India's defence capital expenditure is presently split in an approximately 40:60 ratio between imports and domestic production, which means domestic capacity is worth a little over \$8 billion. A \$5 billion target for exports is therefore over half of the entire domestic capital spend of the defence budget.

Furthermore, the bulk of India's domestic capacity rests with defence PSUs, which have hardly distinguished themselves on the export front. More often than not, they simply have little to offer to the world. Organisations like the Ordnance Factories have sat on artillery drawings for decades, manufacturing neither for domestic nor export consumption. Only when faced with serious existential competition were the Bofors FH-77B plans dusted off and improved to produce what is by all accounts a phenomenal towed howitzer. Shipbuilding, certainly a success story when it comes to domestic production, is actually a non-starter on the export front — apart from a few low value defensive patrol craft sold to friendly regional countries, India's PSU shipyards have had no export wins. Indian warships tend to be either unsuitably configured or too expensive, or both. Per tonne of floating displacement, Indian capital ships are among the most expensive yet poorly armed vessels in the world. On the aviation front, even when Hindustan Aeronautics has a solid performer in the Dhruv advanced light helicopter, it cannot compete on sustainment costs even in a military environment, and

has had absolutely no success in the civil aviation world. At the systems level, PSUs are only now starting to come into their own with serious offerings that can compete with the world's best — such as the WLRs noted earlier. While previous hardware was certainly cutting edge, it was usually built under technology transfer arrangements that limited exports.

Even when fielding competitive world-class products, PSUs are hamstrung by red tape and a poor global impression of their ability to deliver on time and on cost, to say nothing of through-life support. Arguably the most successful technology transfer programme in Indian history, the Dornier 228 light transport built by HAL, is a sad tale of missed opportunity. India controlled production of the entire aircraft, including engines and avionics, since the 1980s, and was cleared to export it virtually unrestricted. Yet HAL's inability or unwillingness to pursue sales globally saw this market segment ceded to similar aircraft built in Canada, Europe and China, which have cumulatively sold over 2000 units against a 150 or so by HAL. In much the same vein and closer to present day, fielding and validating the Akash surface to air missile system, Pinaka rocket artillery, and the Indo-Russian BrahMos cruise missile in meaningful numbers, has not translated to any sales outside India, despite constant promises that these are imminent. A great deal of hard-nosed scrutiny and introspection is required at the Ministry and respective PSUs to understand what gaps need to be bridged to take some of India's strongest offerings to the world.

Back New Champions

Nevertheless, if PSUs can be made to overcome all these legacy and contemporary issues, and are able to achieve their export targets in record time — 25 per cent of the roughly \$8 billion domestic production noted above — they will still contribute less than half of the government's defence export goal. This brings us to the meat of the problem, the pressing need to move beyond statist policies and government owned companies, and unleash private enterprise. The fledgling private sector is already punching well above its weight on the export front — most of the previous fiscal's Rs 10,000 crore in sales came from private sector players, primarily boosted by their work in defence offsets. If fiscal policy, defence offsets, and capital spending are creatively deployed to enable much more rapid growth in the private sector, the effects will be outsize.

A pragmatic division of labour will be required to ensure greater efficiencies at PSUs while simultaneously bringing the private sector to 'critical mass'. For instance, to mollify PSU concerns around the 'Strategic Partnership' model in the Defence Procurement Procedures (DPP), government yards could be allowed to retain all surface ship business while private yards are brought into submarine building, or vice versa. Similarly, air transport or helicopter production (or both) could be farmed out to the private sector, while building economies of scale around fighter and trainer production at HAL, through larger orders over longer time frames. Tanks, IFVs, and heavy vehicles could similarly be split up, with private industry taking over the IFV segment where a major recapitalisation is due soon, even as OFB continues with production of the T-90 and Arjun tanks.

India may have been able to pass the \$1 billion mark in defence exports through incremental changes and minor policy reforms, but to now move up to \$5 billion and beyond will require a much more comprehensive approach. Managing military procurement, production and development needs greater attention than ever before, not just to secure India's future position as a major exporter, but also to enable modernisation in a period of economic uncertainty and flat budgetary growth.

[https://www.defencenews.in/article/Taking-India%e2%80%99s-defence-exports-to-\\$5-billion-809852](https://www.defencenews.in/article/Taking-India%e2%80%99s-defence-exports-to-$5-billion-809852)



Tue, 24 March 2020

After LMGs, Indian Army will soon get close-quarter-battle carbines

The CQB for the infantry army of the Indian army is coming through the Fast Track Procurement (FTP), just like the LMGs

By Huma Siddiqui

With the deal for the Light Machine Guns (LMG) in place, the Indian Army is now waiting for the close-quarter-battle carbines (CQB). “A decision is expected by later this month. It is now close to fifteen months since the UAE based Caracal Company was declared L1 after extensive trials for a \$ 553.33 million. The Oversight Committee has already submitted its report the Ministry of Defence (MoD),” confirmed a senior officer on condition of anonymity.

The CQB for the infantry army of the Indian army is coming through the Fast Track Procurement (FTP), just like the LMGs. The Indian Army is looking to buy 93,895 CQB in an effort to modernize its infantry. However, the deal has not been finalized with the UAE based company.

Despite meeting all the specifications as well as the requirements mentioned in the request for proposal (RFP), and giving detailed responses to the MoD, final decision has not been taken yet.

After being declared as L1, UAE based Caracal has already been through the Commercial Negotiating Committee (CNC), and has completed the Acceptance Test Procedure report, along with other documents has been submitted to the MoD.

The Company is NATO compliant and has been supplying these CQB to other armed forces across the globe. The trials for the India market were extensive in nature and had been carried out in India as well the home country of the companies who had bid for this order. The tests were carried out with Indian ammunition in different terrain.

Since the deal will be under the FTP, within one year of the inking of the contract he deliveries will start. There is an urgent requirement for seven lakh CQB, which is why these will come through the FTP.

<https://www.financialexpress.com/defence/after-lmgs-indian-army-will-soon-get-close-quarter-battle-carbines/1906969/>



Tue, 24 March 2020

Clean solar energy to light Army's highest battlefield Siachen

Army has decided to electrify the areas of its highest battlefield Siachen with clean solar energy and reduce carbon footprint in pursuit of clean energy vision of the Indian government

By Mayank Singh

New Delhi: Army has decided to electrify the areas of its highest battlefield Siachen with clean solar energy and reduce carbon footprint in pursuit of clean energy vision of the Indian government.

Sources informed, “Indian Army has signed a Power Purchase Agreement for two solar plants of 1MW each at Siachen and a smaller third plant.” The project is being steered by Ministry of New and Renewable Energy (MNRE) and Army's Operational Logistics Directorate, told the sources.

The idea was seeded when the President of India Ram Nath Kovind Visited Siachen Infantry Brigade on May 10 2018. “The Supreme Commander directed to explore the feasibility of utilising solar energy to meet the power requirements of our forward posts.” informed a source.

“Beyond Khardungla Pass, Ladakh there are major limitations to stretch electricity grid and also the hydro power has limited running time due to freezing temperatures. The advantage of choosing solar power is due to the fact that these areas are in an open valley and have major exposure of sunlight.” told another officer.

The Supreme Commander himself was quite keen about the project and once the go ahead was given by the Military Operations Directorate a joint recce was carried out by the teams of Ministry of New and Renewable Energy (MNRE) and Indian Army. Unique financial models were firmed up and a second leg for Kumar Post was planned. The other two sites are Siachen Base Camp and Partapur.

Two financial models (pay and Use Model and Subsidy Model) were proposed by MNRE for the projects at Base Camp and Partapur. “Due to its inherent advantages, the ‘Pay and Use’ model was preferred to execute the projects at both locations.” told another officer.

The plans for Kumar Post are quite different as the Ministry of Renewable Energy has chosen the place as technology demonstrator with an additional plan ahead. “A 15 KW project at Kumar Post is being steered as an innovative project to be funded completely by MNRE and handed over to the army for further operations and maintenance.” said the second officer.

Initially the project will look after the lighting requirements of soldiers at Kumar Post and in future the same source will also be used to heat up the habitat of the soldiers. The temperatures in Siachen always remain sub-zero, often plummeting minus 40 degrees.

<https://www.newindianexpress.com/nation/2020/mar/23/clean-solar-energy-to-light-armys-highest-battlefield-siachen-2120427.html>



Tue, 24 March 2020

Women in Navy: A landmark ruling

A month after granting permanent commission to women in the Indian Army, the Supreme Court has ruled that women in the Navy are also entitled to the same right. This is another landmark order which recognises equal status of women in the armed forces, as in other careers and walks of life, and rejects as unacceptable all the arguments put forward by the government and the top brass of the forces to deny that status. The court has rejected those arguments as "specious reasons" and "101 excuses" and said that "women officers can sail as efficiently as men". The Navy had as early as in 1992 inducted women into the service but has been unwilling to follow it up with equal treatment as officers. It granted permanent commission to women in in certain streams like education and engineering but was not ready to go the whole hog. It was even argued that the ships did not have the facilities needed for women. All these could only have been lame excuses.

Women officers of the Navy had received a favourable order from the Delhi High Court but the Navy went in appeal against it. The Supreme Court's ruling has now settled the matter. Women officers are now eligible for permanent commission on par with their male colleagues in all streams of the force. Short Service Commission officers, including those who joined before 2008, will be treated equally and retired officers will be eligible to pension. The opposition has actually been to having women in combat roles which were not considered suitable for them. But this has been proved to be a misconception. Women have proved themselves to be capable and responsible and have not been known to shy away from any task in the course of their military duties. The Indian Air Force has inducted women as fighter pilots.

In the Navy also, they have proved that they can cope with the most difficult demands that go with a life in the sea. Two years ago, six women officers demonstrated that by circumnavigating the globe for six months in INS Tarini, and it was an extraordinary testimonial to their physical and mental fitness. Navies of many other countries have women serving in combat roles. The bias and discrimination against women in the armed forces is



a reflection of the attitudes that prevail in the wider society. They only are stronger in the forces because they are totally dominated by men and have strict organisational rules and longstanding traditions centred on male supremacy. The Supreme Court judgement has opened the doors but it will take some time for the mindset to change and for women to secure complete equality.

<https://www.deccanherald.com/opinion/second-edit/women-in-navy-a-landmark-ruling-816758.html>



Tue, 24 March 2020

Coronavirus | Indian Army asks more personnel to work from home

For those working, it has asked them to adhere to staggered timings

The Indian Army on Monday said that it has asked more personnel to work from home as a precautionary measure to contain the spread of the highly contagious coronavirus (COVID-19). However, personnel engaged in essential services will continue to come to office, a fresh advisory said.

Last week, the Army had asked 35% officers and 50% junior commissioned officers (JCOs) to work from home. In a fresh advisory, the Army said there will be restricted movement of personnel in formations and units located in 82 coronavirus-hit districts which are locked down. Army canteens in these districts will also be closed.

It said Army personnel already on move for posting to new units will report to a transit camp at the new location and a contact log of all personnel has to be maintained. For those working, it has asked them to adhere to staggered timings. The Army last week reported its first case of coronavirus after a soldier in Leh tested positive.

<https://www.thehindu.com/news/national/coronavirus-indian-army-asks-more-personnel-to-work-from-home/article31144201.ece>



Tue, 24 March 2020

Russia to offer MiG-35 Jet with auto landing,

G-Force protection for Indian competition

Russia will offer an upgraded MiG-35 fighter jet equipped with an automatic landing and G-force protection systems as its entry for the Indian light fighter jet competition, sources told defenseworld.net

Russia had received a request for information in 2019 and is awaiting a request for proposal from the Indian MoD to build over 100 jets in India, Director of the Russian Federal Service for Military-Technical Cooperation (FSVTS) of Russia Dmitry Shugaev had told Interfax news agency last week.

Russian sources told defenseworld.net that two new features added to the jet recently will make its debut in the Indian competition- a g-force protection system and an automatic landing system.



The upgrade will bring the Russian jet closer to the features list offered by others in the competition such as the Dassault Rafale and Lockheed Martin F-21. Russia upgraded its MiG-35 fighter aircraft during January-February 2020 with a g-force protection system and an automatic landing system. The move looks aimed at making the latest Russian jet appealing to air forces testing Western jet which already have these key features.

MiG-35 G-Force protection system

Critical g-force protection system for high-maneuverability fighter jets such as MiG-35 works in conjunction with the helmet display system and reduces distraction caused to the pilots of monitoring the g-force using dashboard indicator. The system allows the pilot to overcome the critical g-force level by 1-2G by exerting additional force on the stick, as well as disabling the system altogether, either temporarily or permanently.

New Automatic Digital Landing System

Russia's MiG Corporation has developed a new automatic, digital control system to be fitted on MiG-35 aircraft for easy landing of the jets. The digital system has already undergone tests. It makes difficult weather safer by allowing the pilot to use a glide path in automatic mode quicker, and continue decline till appearance of visibility.

However these additional features are already available on some of its competitors:

F-16 (F-21) auto land

The Auto land sequence is initiated during flight by an on-board safety pilot. Once the pilot moves to "hands-off", the F-16 is controlled by an onboard computer. This guides through several phases of the landing sequence, culminating in a final approach to the runway touchdown point. The computer uses Lockheed Martin-developed algorithms to control the F-16's attitude, glide slope, airspeed, and descent rate via throttle and flight control inputs until the aircraft comes to a stop on the runway, according to Lockheed Martin information.

F-16 G-Force

The cockpit and its bubble canopy give the pilot unobstructed forward and upward vision, and greatly improved vision over the side and to the rear. The seat-back angle is expanded to 30 degrees, increasing pilot comfort and gravity force tolerance. For easy and accurate control of the aircraft during high G-force combat maneuvers, a side stick controller is used instead of the conventional center-mounted stick. Hand pressure on the side stick controller sends electrical signals to actuators of flight control surfaces such as ailerons and rudder.

Rafale

The Rafale's flight computer has been programmed to counteract pilot disorientation and to employ automatic recovery of the aircraft during negative flight conditions. During the take-off phase, another alarm will ensure the aircraft does not exceed the maximum load that can be handled by its landing gear brakes.

A new instrument has been installed which allows pilots to better evaluate the aircraft's attitude. It will sound an alarm when it detects an unusual position. The seat is inclined rearwards at an angle of 29° to improve g-force tolerance during manoeuvring and to provide a less restricted external pilot view.

An intelligent flight suit worn by the pilot is automatically controlled by the aircraft to counteract in response to calculated g-forces.

https://www.defenseworld.net/news/26566/Russia_to_Offer_MiG_35_Jet_with_Auto_Landing_G_Force_Protection_for_Indian_Competition#.XnmCcB9czcc



Tue, 24 March 2020

Indian Navy will consider subs by the Kilo

The Kilo class is the most numerous submarine class operated by the Indian Navy

By Sandeep Unnithan

Russia has communicated an offer of selling three old Kilo-class hulls for the Indian Navy to tide over its shortfall of conventional submarines. The \$1.8 billion “three plus three” arrangement bundles refits of three of India's Kilo-class submarines with an additional three old Russian navy Kilo-class hulls.

The offer was to have been raised at the annual meeting of the Indo-Russian Inter-Governmental Technical Commission (IRIGTC) to be held in Goa this month but is postponed due to Covid-19 travel restrictions.

Both countries are in talks to buy 21 mothballed MiG-29 fighter aircraft to plug the IAF's declining force levels. The Russian submarine offer follows a similar outline. The Indian Navy has 14 submarines against a projected requirement of 24 units. 12 of those submarines are at least 30 years old approaching the end of their lives. Four have been given ‘second refits’ — life extensions that have slapped a decade onto their hulls. Three Kilos are slated to go in for medium refits either in a Russian or an Indian shipyard.



If accepted, the proposal could see the Navy get six refurbished Kilo-class submarines in one year intervals from the third year onwards. The proposal seems to have found favour in the Indian navy's submarine arm which doesn't see any large force accretions after four French-designed Scorpene-class submarines are delivered by Mazagon Docks Ltd by 2023. The Project 75 India proposal to build 6 advanced conventional submarines won't deliver units until the 2030s.

The Kilo class is the most numerous submarine class operated by the Navy. Its fleet of ten units is now eightone was lost in an accident in 2013 and another gifted to Myanmar last year. The Russian Navy has three Kilo-class hulls lying in Murmansk and in the Black Sea Fleet which, at 30 years, are roughly the same vintage as the Indian Navy Kilos. Additional units of the type will not necessitate changes in the training, spares and other infrastructure.

(Courtesy of *Mail Today*)

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India on alert as ‘China deploys dozen underwater drones in IOR’

By Rajat Pandit

New Delhi: India is keeping a watchful eye on the Indian Ocean Region (IOR) amid reports that China has now also taken to deploying underwater drones apart from hydrographic survey and oceanic research ships in the region. The concern in the Indian security establishment is that while such surveys are undertaken for deep-sea mining and other commercial activities, they are also critical for submarine and anti-submarine warfare operations.

International business magazine Forbes on Sunday reported China had deployed a dozen “Sea Wing” underwater drones from specialist research vessel Xiangyanghong 06 in the IOR in mid-December before recovering them last month. These long-range Sea Wing gliders, which can operate for months on end, made “more than 3,400 observations” for the winter survey of the “joint ocean and ecology research project” run by the Chinese ministry of natural resources.

The Forbes report said though the Chinese underwater drones were ostensibly gathering oceanographic data, transmitting information back to their mother ship via tail aerials, such data is commonly gathered for naval intelligence and submarine warfare operations. Indian Navy sources on Monday said they “could not vouch for the authenticity” of the Forbes report. But the Navy continues to “constantly track” the presence of Chinese research vessels in the IOR through “multiple platforms” ranging from the P-8I long-range maritime patrol aircraft to warships on mission-based deployments.

“At any given time, there are four to five Chinese research vessels mapping different parts of the IOR. They regularly collect oceanographic data about the physical operating environment like seawater temperatures, salinity and chlorophyll levels, which are very useful for general navigation and submarine operations. They work out the best routes for their submarines,” said a source.

If any such Chinese research vessel enters India’s Exclusive Economic Zone, which stretches to 200 nautical miles from its coast, and engages in any “suspicious military activity”, it is chased away after a suitable warning. Navy chief Admiral Karambir Singh in December had confirmed his force drove away Chinese oceanic research vessel Shi Yan-1 after it was found indulging in suspicious activity near the strategically-located Andaman and Nicobar archipelago. “Since that incident in September, no Chinese vessel has entered our EEZ so far,” said another source.

China, of course, has been rapidly expanding its naval footprint in the IOR and is hunting for more logistical bases after establishing its first overseas base at Djibouti in the Horn of Africa and naval turnaround facilities at Karachi. Apart from deploying warships in the IOR for over a decade now, China has also been regularly sending both nuclear as well as conventional submarines to the region under the guise of anti-piracy patrols.

With two aircraft carriers (two more are being built), 33 destroyers, 54 frigates, 42 corvettes, 50 diesel-electric and 10 nuclear submarines, among other warships, the Chinese Navy is now posing a challenge to even the US Navy.



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