COVID-19: DRDO's Contribution

REPUBLICWORLD.COM

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'Covid response shows path to becoming regional power': CDS Gen Rawat on self-reliance

CDS General Bipin Rawat opined that India will have to be self-reliant if it wants to be a regional power, rather than being dependant on others nations

By Pritesh Kamathara

Amid the global Covid pandemic that has taken the world hostage, Chief of Defence Staff (CDS) General Bipin Rawat has opined that India will have to be self-reliant if it wants to be a regional power rather than being dependant on others, adding that the coronavirus pandemic has taught a lesson that India can become self-reliant if given a challenge.

"The way the Scientists and other agencies involved in medical research have come up with innovative ideas to produce medical equipment in the country, which we were so far importing, to help us tide over the crisis has been amazing," he said.

He highlighted how the scientists and other agencies have come up with indigenously manufacturing ventilators, Personal protection equipment (PPEs), facial mask and other equipment required in the battle against COVID-19.

"We were importing some components of N95 masks, but DRDO has come up with a different mask here, N99 mask, which I am told is superior to the N95," he asserted.

Speaking of throwing a challenge to indigenous industries and research sector for manufacturing defence arms, ammunition and equipment, he said, "We have been importing our weapons, equipment, ammunition from abroad. If we can give this challenge to our industry, to our academia, and to our own research and development organisations, I think we can start manufacturing our own ammunition, weapons and equipment. We will not have to be dependant on imports and the COVID has taught us a lesson that the time has come for us to be self-reliant."

"In times of crisis, nations will have to live by themselves. A country like India, if we are looking at becoming a regional power, we will have to support other nations and not be dependant on other nations," he added while stressing the need of inhouse manufacturing through Make in India initiative in order to be self-reliant and reducing imports for defence requirements.

He praised the way the health industry has come forward in the fight against the pandemic, and opined that the defence sector research and development can also come forward at the same pace when given a boost and some of the defence sector manufacturing has already started in India, added Rawat.

https://www.republicworld.com/india-news/accidents-and-disasters/covid-19-cds-bipin-rawat-iaf-pandemic-coronavirus-defence.html

THE TIMES OF INDIA

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Defence Security Corps fights hunger

By Sunil Mungara

Hyderabad: The coronavirus-inflicted lockdown crisis turned the security personnel into hunger heroes. The Defence Security Corps (DSC) of the DRDO's premier lab Research Centre Imarat (RCI) have received allround praise for their noble gesture of providing food to the needy. Inspired by the turn of events, which left several poor and orphans without any food, the DSC incharge took the decision to distribute food packets to the people nearby.

"Initially, we began with 200 food packets and now we are distributing 400 packets. We are preparing food in our central kitchen at the RCI premises," sources told TOI on Saturday.

DSC is carrying out food distribution within a radius of five to 10 km from RCI. The security personnel are covering Balaji Mandir, Shivaji Colony, Mallepally and other nearby areas. "We are also supplying food packets to the senior citizens at an old age home in Ravirala," a defence official said, adding that the police are rendering selfless service during the lockdown crisis.

RCI scientists are contributing contributing cash and providing essential commodities like rice, dal and other ingredients. DSC plans to continue food distribution until May 3.

https://timesofindia.indiatimes.com/city/hyderabad/defence-security-corps-fights-hunger/articleshow/75384350.cms

COVID-19: DRDO/Indian Railway Contribution

Outlook
THE FULLY LOADED MAGAZINE

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Northern Railway makes 1,500 PPE in a day, produces 10,000 since lockdown

New Delhi: with the production of a record 1,500 personal protective equipment (PPE) on Sunday, Northern Railway workshops have made 10,000 such essential life-saving gear for its doctors and paramedics since the nationwide lockdown began, officials said.

In a bid to meet the demand for PPE, the Northern Railway earlier this month got approval to make such coveralls from the Defence Research and Development Organisation (DRDO).

PPE suits are required by the medical staff while treating COVID-19 patients as a measure to avoid direct contact.

Personal protective equipment manufactured by Jagadhri railway workshop passed the test conducted by the DRDO on April 5 and has made 6,472 coveralls along with Kalka workshop till date.

The achievement becomes significant as the Northern Railway has produced 10,000 such coveralls, while all the other zonal railways together made 20,000 during the ongoing lockdown period.

The Indian Railways has planned to manufacture 1.30 lakh PPEs at its workshops across the country by May-end.

Northern Railway workshops have also produced 5,917 litres of sanitisers, 46,373 masks and converted 540 coaches into isolation wards during the lockdown period.

(Disclaimer: This story has not been edited by Outlook staff and is auto-generated from news agency feeds. Source: PTI)

https://www.outlookindia.com/newsscroll/northern-railway-makes-1500-ppe-in-a-day-produces-10000-since-lockdown/1815550

DRDO Technology

DEFENCE AVIATION POST

Your Connect To The World Of Defence And Aviation

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The new Rustom-II UAV is loaded with new features ready for the First Flight

An improved version of the Rustom-II (Tapas) – a medium-altitude long-endurance unmanned aerial vehicle (UAV) – being developed by the Aeronautical Development Establishment (ADE), soon to take to the skies is ready.

The new platform being read for its first flight (AF-6A) will be the seventh from the Rustom-2 flight line. The sixth prototype (AF-6) of Rustom 2 crashed near the Aeronautical Test Range (ATR) at Chalakere (Chitradurga District, Karnataka) on 17 September 2019. (Air force stands for a frame.)

It has now been confirmed that the accident was caused by a transient and simultaneous link loss to the UAV. Return home mode. The platform was also confronted with a rough patch of turbulence beyond the capacity of the control law. Collision.

The behavior of UAVs is claimed to be according to the expected lines and design parameters. Sensor data was available to the ground station almost until its touchdown \ crash.

Establishment of Aeronautical Development (ADE), DRDO, Bangalore, Karnataka, India. A laboratory of Rustam-2 UAV. Was responsible for the design and development of. Hindustan Aeronautics Limited (HAL) was the lead integrator, while Bharat Electronics Limited (BEL) developed the ground control station for the UAV.

The fuselage of the drone was built by Taneja Aerospace & Aviation, an Indian-based manufacturer of aircraft structural assemblies. The wind tunnel test for Rustom-2 was done by Aarav Unmanned System, which is also based in India.

The Rustom-II MALE drone is based on the Rustom-H unmanned combat air vehicle and features light airframes. It has a length of 9.5 meters and an empty weight of 1,800 kg.

It is equipped with mid-set, high aspect ratio wings spanning 20.6 meters. The tail section is configured with a high-mounted horizontal tailplane with a traditional T-type vertical stabilizer.

The UAV's tri-cycle landing gear allows it to perform safe take-off and landing maneuvers on safe surfaces. The center of gravity has a single front wheel and two single-wheel main gears.

The Rustom-2 UAV includes a data link developed by Defence Research and Development Organization (DRDO) Defense Electronic Application Laboratory (DEL) that transmits ISR data, metaphors, and video collected by payload at its ground control station in a timely manner.

It can fly in autonomous or manual mode. The onboard flight control system allows UAVs to execute missions autonomously using waypoint navigation. The manual mode of operation is performed by an operator of the ground control station.

Rustom-II MALE Power for unmanned aerial vehicles comes from two NPO Saturn 36MT turboprop engines mounted under the wings. Each engine generates a thrust of 450 kg-forces (kg) and is mated to a three-blade propeller to provide increased maneuverability.

The UAV can fly at a maximum speed of 225 km / h and can bear up to 24 hours. It has the capability to operate on the line of sight range of 250 km. The drone has a maximum flight of 35,000 feet above sea level.

https://www.defenceaviationpost.com/2020/04/the-new-rustom-ii-uav-is-loaded-with-new-features-ready-for-the-first-flight/

DEFENCE AVIATION POST

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MWF-MK2: Has China's J-10 moment arrived for India

The J-10 started off as a Chinese attempt at reverse engineering a Pakistan bought US F-16. However it ended up being a modification of Israel's Lavi multi role fighter, Lavi program was cancelled in 1987 in Israel due to threatening from US. China purchased the blue print from Israel and developed J 10.

The J 10 is one of the Chinese backbone Fighter jet to perform defensive mission inside Chinese Air-space. The Chinese Air force operates more than 250 J 10 variants which comprises more than twelve squadron of Fighter's with 70% of service availability at any given time. The J 10 is one of the Chinese designed Fighter jets based on the cancelled Israeli Lavi program. J 10 is a single engine multi role, which can be modified in future with newer Radar and power plants.

The J-10 has beyond visual range air combat and surface attack capabilities. Aircraft has 11 external hardpoints for a range of weapons. Alternatively it can carry target acquisition, navigation pods or auxiliary fuel tanks.

India took the harder route and allowed scientists and engineers continued working on long-delayed Light Class Tejas program which finally started to look like a complete product which can fight a war but by the time it had arrived many in the air force were wondering if Tejas can win a war for India due to incremental shift from light class fighters world over to medium weight fighter class.

Tejas Mk2 began initially has a small program where engine swap with more modern avionics and radar was planned. It was supposed to be quickly upgraded variant of the current Tejas Mk1 with no major design changes, other than a 0.5-meter fuselage plug which increased length of the jet but negated any ferry range due to additional weight and payload carrying capacity. Late Raksha Mantri Manohar Parrikar and HAL were able to convince IAF to instead place orders for Tejas Mk1A without need for engine swap to get all the equipment and avionics without need for Mk2 program which came as a blessing for ADA which now decided to work on improved Mk1 influenced design fighter jet in Medium class.

With the Indian Air Force's (IAF's) MMRCA program getting serially delayed and recast more than once, there was a feeling in various quarters that IAF need medium weight fighter. Thus, the IAF and the Aeronautical Development Agency (ADA) sat down to redefine the Tejas Mk2 with more elaborate modifications such that it could function as a medium weight fighter for ground attack roles while continuing to be nimble in the air to air (A2A) role.

In fact, the version of the Tejas Mk2 currently envisaged has been rebadged as the Medium Weight Fighter or (MWF) and is being designed as a replacement for the Mirage 2000 with a view to surpassing its capabilities in almost every respect

https://www.defenceaviationpost.com/2020/04/mwf-mk2-has-chinas-j-10-moment-arrived-for-india/

DEFENCE AVIATION POST
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India's new 600 km range BrahMos missile can spread panic in entire Pakistan

India and Russia have approved an extension to the range of the supersonic cruise missile BrahMos, doubling it to 600 kilometers, according to an official with the Indian Ministry of Defence (MoD).

The official pointed out that the range of the joint venture missile can now be increased because of India's entry into the Missile Technology Control Regime (MTCR), which provides the country with opportunities for foreign collaboration on the missile technology.

The two countries came to agreement Oct.26 at a meeting here of the 16th Intergovernmental Commission on Military-Technical Cooperation, co-chaired by Indian Defence Minister Manohar Parrikar and his Russian counterpart, Gen. Sergei Shoigu.

The increased range of the BrahMos will double the standoff engagement range to 600 kilometers for practically every platform that uses the cruise missile. Currently, the BrahMos is warship-launched and land-based, while the air version is still in the testing phase and likely will be adopted by year end.

"With 300-kilometers range, the BrahMos had to be deployed relatively closer to the intended area. Now there would be greater flexibility in terms of deployment areas, thereby imparting surprise," according to Rahul Bhonsle, a retired Indian Army brigadier and defense analyst.

The BrahMos cruise missile project is produced by India-based BrahMos Aerospace, set up in 1998, and is a joint venture between India's Defence Research and Development Organization (DRDO) and Russia's NPO Mashinostroyenia.

According to a scientist at DRDO, "only very minor changes in software and hardware are required" to increase the range.

An Indian Navy official backed this claim. "BrahMos is a re-engineered version of [the] Russian P-800 Oniks/Yakhont anti-ship missile, and no major modification is required to achieve 600-kilometers range," the official said.

Bhonsle agrees that the range of the BrahMos missile currently in use has a 600-kilometer range.

https://www.defenceaviationpost.com/2020/04/indias-new-600-km-range-brahmos-missile-can-spread-panic-in-entire-pakistan/