

## **Gaganyaan: DRDO to provide special space food and emergency survival kit for ISRO's manned mission**

*ISRO is already working on a Humanoid prototype (with a female form) for the Gaganyaan missions, which is expected to be sent out on a mission next year to test it out before actually sending humans in space*

*By Huma Siddiqui*

Special Space food, crew health monitoring and emergency survival kit is all going to be provided to the Indian Space Research Organisation's Human Space Mission by Defence Research and Development Organisation (DRDO). According to officials, "Both ISRO and DRDO have an MoU in place to provide all necessary support for the Human Space Mission which includes critical technologies like radiation measurement and protection, parachutes for the safe recovery of the crew module and fire suppression system."

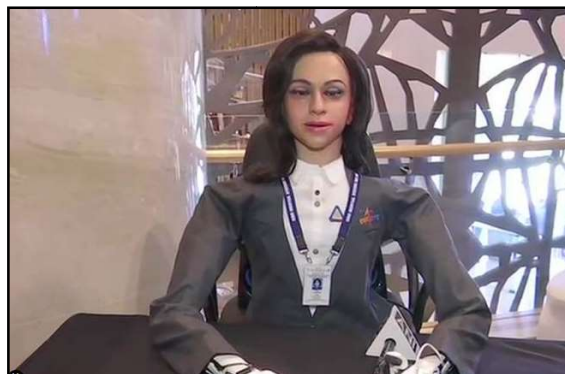
Adding, "There is an agreement in place between the two agencies to provide technologies for human-centric systems and technologies specific to the Human Space Mission."

ISRO is already working on a Humanoid prototype (with a female form) for the Gaganyaan missions, which is expected to be sent out on a mission next year to test it out before actually sending humans in space.

In the unmanned mission scheduled for 2021, a Humanoid will carry out all tasks which a real human will be doing in Space is under development at ISRO and will monitor crew parameters, perform the Environmental Control and Life Support System (ECLSS) functions. Also, it is expected to copy all crew activity which would include the switch operations on a panel etc.

It will also be wearing a spacesuit which will help in understanding the efficacy in space flight in a real environment. Modifications are expected to be made based on the data collected.

Named 'Vyommitra' which will be embedded with Artificial Intelligence (AI) it shall also be expected to give its support to the crew in operations of Environmental Control and Life Support System (ECLSS).



The Vyommitra which is being developed in a male form will later be modified as the IAF personnel who have been shortlisted for first manned Gaganyaan flight in 2022.

Besides, the DRDO, Institute of Aerospace Medicine (IAM) of the IAF is the nodal agency for aero-medical aspects of the mission and will also be managing the crew healthcare for the Human Space Programme.

<https://www.financialexpress.com/lifestyle/science/gaganyaan-drdo-to-provide-special-space-food-and-emergency-survival-kit-for-isros-manned-mission/1888944/>

## Coronavirus: DRDO to help in COVID-19 detection and diagnosis

*By Huma Siddiqui*

According to the DRDO chairman, “COVID-19 -- the official name given to coronavirus by World Health Organisation (WHO) is a public health problem. It needs early detection in an effort to treat infected persons. DRDO can extend its laboratory-based detection expertise to health care fraternity of the country.”

Defence Research and Development Establishment (DRDE) Gwalior is a premier laboratory of Defence Research and Development Organisation which is working in the field of development of detection systems against enlisted biological agents such as Anthrax. In an exclusive interaction with Financial Express Online, Dr G Satheesh Reddy, Secretary, Department of Defence R&D and Chairman, DRDO, has said that “DRDE has developed diagnostic kits against these enlisted agents. This expertise of the laboratory can be harnessed to develop a diagnostic system against infectious diseases.”

According to the DRDO chairman, “COVID-19 — the official name given to coronavirus by World Health Organisation (WHO) is a public health problem. It needs early detection in an effort to treat infected persons. DRDO can extend its laboratory-based detection expertise to health care fraternity of the country.”

“DRDO is in contact with the Indian Council of Medical Research (ICMR) to augment the diagnostic capability in case of any eventuality,” he added.

### **COVID -19 reaches India**

After two cases have been tested positive – one in New Delhi and another in Telangana, the government has now decided to expand the screening of passengers returning from international travels.

According to a notification issued by Directorate General of Civil Aviation, the universal screening will include passengers coming on flights from countries South Korea, Thailand, Singapore, Nepal, Indonesia, Vietnam and Malaysia. Passengers coming from Italy and Iran, China, Hong Kong, and Japan was already being screened.

The Ministry of Health has announced the screening of passengers from 12 countries at 21 airports, including 12 major and 35 minor seaports.

There are plans to suspend travel visas in an effort to control the spread of the virus. The government has already suspended travels to countries including China and Iran and has urged passengers to avoid non-essential travels to countries like Italy, South Korea and Singapore.

Globally, the Coronavirus has spread to more than 70 countries and reportedly killed around 3,000 people, and reports indicate that more than 90,000 have been infected from the time it was first detected in the Wuhan province of China last December.

While countries like the US have reported two deaths, Iran according to reports has reported 66 deaths, followed by 34 deaths in Italy and 22 in South Korea 22.

<https://www.financialexpress.com/lifestyle/health/coronavirus-drdo-to-help-in-covid-19-detection-and-diagnosis/1887525/>

## **BEL beats firms from Russia, Poland to secure \$40mn defence deal from Armenia**

*To boost defence exports from India, Bharat Electronics Limited (BEL) won a \$40-million deal competing with firms from Russia and Poland, for supplying four Swathi Weapon Locating Radars (WLR) to Armenia.*

*By Savita V Jayaram*

The \$40-million defence export deal has been signed by Bharat Electronics Limited (BEL) with Armenia to supply four Swathi Weapon Locating Radars (WLR) manufactured, indigenously developed by the Defence Research and Development Organisation (DRDO).

This defence equipment is an electronically scanned phased array radar that automatically locates mortars, hostile artillery and rocket launchers in its 50-km range. It also helps track friendly fire, to locate the impact point of friendly artillery fire and issue necessary corrections as needed be.

### **Swathi Weapon Locating Radars**

During the Kargil war in 1997, the Indian army did not possess any WLRs. It was the first equipment procured from the [US](#), once [defence](#) sales commenced a couple of years later. According to the DRDO, this radar has the capability to handle simultaneous fire from weapons deployed at multiple locations and is designed to detect projectiles with small cross-section across the battlespace horizon.



As mentioned on the DRDO website, "The radar uses advanced signal processing techniques for detection and tracking projectiles in the presence of ground, weather clutter and other forms of interference in electronic warfare scenario."

The Ministry of Defence is also reaching out to Latin America, Middle East and Southeast Asian countries to boost [defence exports](#) from India.

<https://www.ibtimes.co.in/bel-beats-firms-russia-poland-secure-40mn-defence-deal-armenia-814437>