

## RTI REQUEST DETAILS (आरटीआई अनुरोध विवरण)

Registration Number (पंजीकरण संख्या) : DSPCE/R/E/20/00152 Date of Receipt (प्राप्ति की तारीख) : 23/12/2020

Type of Receipt (रसीद का प्रकार) : Online Receipt Language of Request (अनुरोध की भाषा) : English

Amount Paid (राशि का भुगतान) : 10 (original recipient)

Mode of Payment (भुगतान का प्रकार) : Payment Gateway

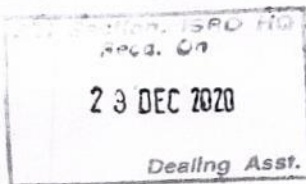
Does it concern the life or Liberty of a Person? (क्या यह किसी व्यक्ति के जीवन अथवा स्वतंत्रता से संबंधित है?) : No(Normal)

Request Pertains to (अनुरोध निम्नलिखित संबंधित है) : Smt Kamala Rajesh

Information Sought (जानकारी मांगी) : I want information about Gaganyaan mission of Indian Space Research Organisation (ISRO).

Print Save Close

transfer to ISRO HQ



through online form submitted under, by ISRO, DCS on 23/12/2020, seeking information under the RTI Act, 2005.

The applicant may note that the information sought in the RTI application is available in our official website [www.isro.gov.in](http://www.isro.gov.in) under the heading **Annual Report**

—————> **2.5 Gaganyaan - Human Space Flight Programme.**

The First Appellate Authority of the Department of Space is Smt. Sandhya Venugopal Sharma, Joint Secretary, Antariksh Bhavan, New BEL Road, Bangalore - 560 231, Phone No.080 -2217 2303, Fax No.080-2351 1829, **E-mail:** [sandhyavs@isro.gov.in](mailto:sandhyavs@isro.gov.in).  
Appeal, if any may be preferred within 30 days from the date of receipt of this letter under section 19(1) of the RTI Act.

भवदीय /Yours faithfully,



**(Kamala Rajesh)**

Deputy Secretary & CPIO

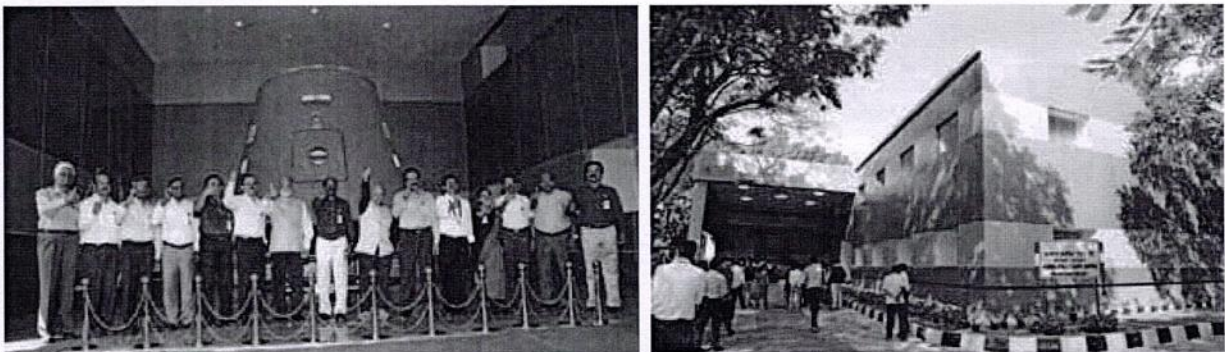
Tel. No.080-2217 2290

Email: [cpioisro@isro.gov.in](mailto:cpioisro@isro.gov.in)



## 2.5 Gaganyaan – Human Space Flight Programme

The Human Space Flight Centre (HSFC) was constituted in ISRO in January, 2019 for implementing the vision on human space flight programme. HSFC is entrusted to implement the Gaganyaan programme and to act as the lead centre for the sustained and affordable human spaceflight activities to extend the human presence across the solar system starting with human space flight missions to LEO. The Gaganyaan project has the objective of demonstrating human space flight capability to Low Earth orbit (LEO) with 3 crew members for 5-7 days in orbit and safely recovers them after the mission.



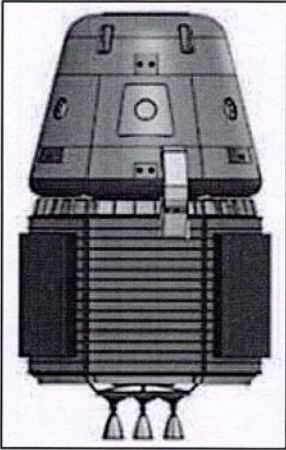
*Human Space Flight Centre – Inauguration of new Campus at HQ*

HSFC will focus on the development of engineering systems related to the Orbiter module, development of human centric technologies, act as a hub for bio-astronautics related R&D, establish facilities for crew selection & training, develop state of the art crew-life support systems, develop technologies for sustained human space flight activities including space habitat and robotic space exploration.

HSFC is currently operating from a temporary campus situated in ISRO Headquarters premises at Bengaluru. All the S&T, Administration, Accounts and Finance Departments have been accommodated in two newly built buildings. In order to achieve the targeted schedule of Human Space Flight Programme as set by Government of India, it is required to process the procurement on a fast track basis. In view of this, a Special Purchase Procedure and Guidelines to meet the launch target of Gaganyaan Programme was approved by Space Commission. The special purchase procedure is in place and procurement activities from all Centres related to Gaganyaan have been initiated through HSFC purchase.

Full-fledged Infrastructure and facilities of HSFC are proposed in the land allotted to ISRO in the Science City area of Challakere, Chitradurga District of Karnataka state. State-of-the-art facilities like Astronaut Training Centre, Assembly Integration and Testing facility, Environment Control and Life Support System (ECLSS) and Space-suit Development & Testing facilities, Avionics Production & Development facility, Mission Control Centre, Bioastronautics, Mechanical Systems Production & Development facility and auxiliary support facilities, are planned at the new campus.

## The Gaganyaan Project



*Artistic view of Orbital Module which will carry Crew into LEO*

As per the mandate of Gaganyaan, two unmanned missions will be undertaken prior to the manned mission. The unmanned missions are slated for launch in December 2020 and July 2021 respectively and the first manned mission is scheduled in December 2021.

The Gaganyaan project is being executed through all ISRO Centres with HSFC in the lead role. Various technological and infrastructure developments pertaining to crew, human rated launch vehicle, orbital module, crew safety, reliability and crew escape system are in the process of realisation through ISRO centres, various institutions and Industries. Gaganyaan integrated system concept review with the participation of eminent national experts has been completed. Overall

concept, configuration and interfaces have been firmed up and Preliminary design reviews have been completed.

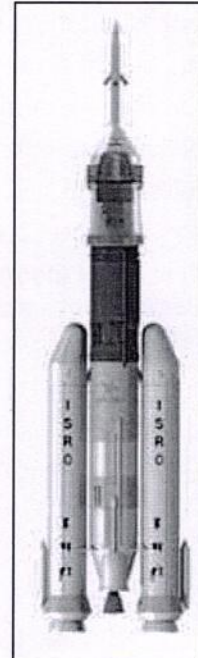
For effective inter-agency coordination of activities and addressing the criticality, a national level Gaganyaan Advisory Council (GAC) comprising of experts from various Government departments, national institutions and Industries was set up. The first meeting of GAC was held on 8<sup>th</sup> June 2019.

Considering the importance of safety and human rating certification, a National level expert committee was constituted and the proposal of the committee was discussed in ISRO Council and approved for implementation. Accordingly a human rating certification board has been set up with a secretariat in ISRO HQ for the effective implementation for human rating certification mechanism.



*Gaganyaan Advisory Committee with Chairman, ISRO*

An inter-centre committee has been constituted to have interaction with industries at various levels to appraise the industries on the requirements of Gaganyaan. A one day Gaganyaan-Industry meet was organised in ISRO HQ, where more than 150 chief executives/heads of units from more than 100 industries from all over the country participated.

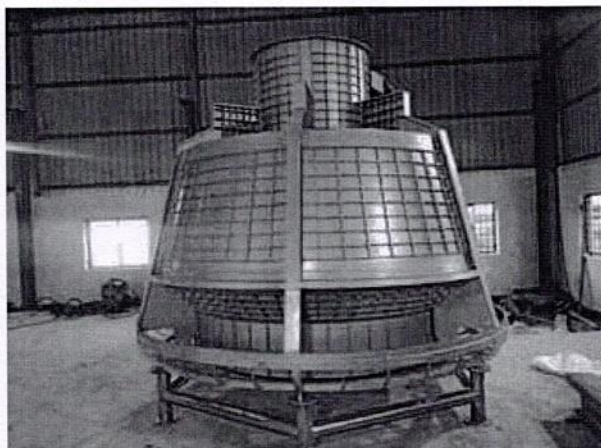


*Human Rated Launch vehicle and Crew Escape System*

## वार्षिक रिपोर्ट 2019-2020 भारत सरकार, अंतरिक्ष विभाग

Mission strategies for ascent, orbital phase and descent phase including abort scenarios have been worked out. Orbital mission plan has been detailed out and interaction with all the agencies involved in the Crew recovery operation initiated.

Overall configurations of GSLV MK III, crew escape system, crew module and service module have been finalised. The facilities required for carrying out the preparation and check-out of orbital module have been identified and actions taken for the realisation of various systems and equipment. A full scale integration mock-up of Crew module has been realised through industry for integration trials of subsystems.



*Crew Module Integration Mock up model*

For crew selection and training, HSFC/ISRO has executed an MoU with Indian Air Force and Institute of Aerospace Medicine (IAM) is identified

for crew selection and screening criteria. The first phase of Crew Selection has been completed. The training of the selected crew will be carried out at Russian crew training facilities. A contract also signed with Glavkosmos (Russian launch service provider), a subsidiary of Roscosmos State Space Corporation for, crew selection support, medical examination and space training of Indian astronauts.



*Signing of MoU with Indian Air Force, Institute of Aerospace Medicine (IAM)*



*Signing of MoU with Russian Glavkosmos*

For some of the critical technologies such as space food, space crew health monitoring and emergency survival kit, radiation measurement and protection and parachutes for safe recovery of crew module, ISRO/HSFC signed MoUs with various DRDO labs. These MoUs were signed with Aerial Delivery Research & Development Establishment (ADRDE), Defence Food Research Laboratory (DFRL), Defence Bio-Engineering & Electro Medical Laboratory (DEBEL), Defence Laboratory (DL) Jodhpur, Centre for Fire, Explosives & Environment Safety (CFEES), Defence Institute of Physiology & Allied Sciences (DIPAS), Centre for Military Airworthiness & Certification (CEMILAC) and Institute of Nuclear Medicine & Allied Sciences (INMAS).