

GOVERNMENT OF INDIA
DEPARTMENT OF SPACE

RAJYA SABHA
STARRED QUESTION NO. 206

TO BE ANSWERED ON THURSDAY, AUGUST 04, 2022

SPACE APPLICATIONS CENTRE IN ISRO

*206. DR. SASMIT PATRA:

Will the PRIME MINISTER be pleased to state:

- (a) the details regarding the development of Space Applications Centre in Indian Space Research Organisation (ISRO);
- (b) developments undertaken in the past five years; and
- (c) future plan for further development?

ANSWER

MINISTER OF STATE IN THE MINISTRY OF PERSONNEL, PG &
PENSIONS AND IN THE PRIME MINISTER'S OFFICE
(DR. JITENDRA SINGH):

(a) to (c) A Statement is laid on the Table of the House.

STATEMENT LAID ON THE TABLE OF THE RAJYA SABHA IN REPLY TO STARRED QUESTION NO. 206 REGARDING “SPACE APPLICATIONS CENTRE IN ISRO” ASKED BY DR. SASMIT PATRA FOR ANSWER ON THURSDAY, AUGUST 04, 2022.

(a) There are TWO Space Applications Centre in ISRO/DOS:

1. Space Applications Centre (SAC), Ahmedabad: Established in 1972, SAC is a major research and development Centre of the Indian Space Research Organization (ISRO). SAC has expertise in the design and development of space-borne and air-borne payloads as well as development of applications as solutions in the areas of Communication, Navigation, Earth Observation, Planetary and Space Science for civilian, strategic and scientific users
2. North Eastern Space Applications Centre (NESAC), Shillong: Established in 2000, jointly with North Eastern Council (NEC), NESAC is as an autonomous institution under Dept. of Space (DOS) to provide space technology inputs and services for the development of the North Eastern Region. NESAC is engaged in executing remote sensing application projects for natural resources management & infrastructure development, satellite communication based applications in education; health & disaster management support, and training & capacity building in space technology & applications

(b) The various developments undertaken in the past five years:

1. SAC has developed and achieved following major milestones:
 - I. 46 payloads for various ISRO Missions in the areas of Communication, Navigation, Earth Observation, Planetary and Space Sciences
 - II. 34 Remote Sensing and Meteorological projects were completed and developed applications for land, ocean, atmosphere and planetary science including Solar calculator, Wetland Mapping, Snow & Glacier Monitoring, Desertification & land degradation assessment, Potential Fishing Zones,

FASAL & CHAMAN for Pre-harvest crop acreage estimation and production forecasting.

- III. 29 ongoing projects/programs in the areas of agriculture, hydrology, cryosphere, atmosphere and geosciences.
 - IV. Design and Development of MOSDAC & VEDAS web portals for archival & dissemination of products & services.
 - V. SATCOM & SATNAV Applications for location based services, vehicle tracking and societal applications.
 - VI. Futuristic Technologies including Satellite Based Quantum Communication (SBQC) and Quantum Key Distribution (QKD), Quantum Radar (QR), Tera-Hertz sensor development, Hyperspectral and Ultraspectral Imagers, P-band SAR and AI/ML techniques
 - VII. Indigenization of space technologies including Travelling Wave Tube Amplifiers (TWTAs) of different varieties for Space & Ground Applications, Rubidium (Rb) Atomic Clocks for Navigation and Remote Sensing Detectors.
2. NESAC has developed and achieved following major milestones for the North Eastern Region including:
- I. Implementation of North Eastern Spatial Data Repository (NeSDR)
 - II. Identification of potential areas for development of sericulture & horticulture,
 - III. Remote Sensing based forest working plans & river atlas,
 - IV. Geospatial system for monitoring MoDONER sponsored projects & survey of Record of Forest Rights (RoFR),
 - V. Flood Early Warning System (FLEWS) for Assam, and
 - VI. Training & capacity building, including for professionals from BIMSTEC region
 - VII. Satellite imaging based inputs to support settling of border disputes between North Eastern States undertaken as per suggestion of MHA.

(c) With regards to future plans:

1. SAC has various well-defined short-term, medium-term and long-term plans in the areas of Earth Observation, Planetary Science and Space Science Applications, Satellite based Communication & Navigation Applications, Space Frontier technologies such as quantum communication, Quantum sensors & Quantum Cryptography, Hyperspectral & SAR sensors & TeraHz telescope.
2. NESAC has coordinated preparation of Plan of Actions (PoA) by the Nodal Departments of the eight States in the North Eastern region. 110 projects have been finalized under this initiative for time-bound execution by 2024, by the respective State Remote Sensing Centres & line departments, under the technical guidance from NESAC. These projects are in the domains of Agriculture, Water Resources, Forestry & Ecology, Planning & Development, UAV Remote Sensing and Disaster Management Support, with joint funding from MoDONER, DoS and State Governments.
