Indian Space Research Organisation (ISRO)

January 13, 2022

In news– Recently, the rocket scientist S. Somanath has been appointed as the 10th Chairman of the Indian Space Research Organisation (ISRO) and the Space Secretary.

About S. Somanath-

- S Somnath is a rocket scientist who at present is the director of Vikram Sarabhai Space Centre (VSSC).
- He joined VSSC in 1985 and was a team leader for the integration of PSLV during the early phases.
- Under his leadership, the first experimental flight of the LVM3-X/CARE mission was successfully accomplished on December 18, 2014.
- He is an expert in the area of system engineering of launch vehicles.

Note– ISRO's chief executive is a chairman, who is also chairman of the Indian government's Space Commission and the secretary of the Department of Space.

About ISRO-

- It is the **pioneer space exploration agency of the Government of India, headquartered at Bengaluru.**
- ISRO was **formed in 1969 with a vision to develop and harness space technology in national development**, while pursuing planetary exploration and space science research.
- ISRO **replaced its predecessor, INCOSPAR** (Indian National Committee for Space Research), **established in 1962 by India's first Prime Minister Pt. Jawaharlal Nehru and scientist Vikram Sarabhai**, considered amongst the founding fathers of the Indian space program.

- With the visionary Dr Vikram Sarabhai at its helm, INCOSPAR set up the Thumba Equatorial Rocket Launching Station (TERLS) in Thiruvananthapuram for upper atmospheric research.
- ISRO maintains one of the largest fleet of communication satellites (INSAT) and remote sensing (IRS) satellites.
- Sensors and payloads are developed at the Space Applications Centre in Ahmedabad.
- Satellites are designed, developed, assembled, and tested at the U R Rao Satellite Centre (formerly the ISRO Satellite Centre) in Bangalore.
- Launch vehicles are developed at the Vikram Sarabhai Space Centre in Thiruvananthapuram.
- Launches take place at the Satish Dhawan Space Centre on Sriharikota Island, Andhra Pradesh.
- The Master Control Facilities for geostationary satellite station keeping are located at Hassan (Karnataka) and Bhopal (MP).
- Reception and processing facilities for remote-sensing data are at the National Remote Sensing Centre in Hyderabad.
- ISRO's commercial arm is Antrix Corporation, which has its headquarters in Bangalore.
- **The first Indian satellite, Aryabhata, was built by the ISRO** and launched with the help of the Soviet Union **on April 19, 1975**.
- The year **1980 marked the launch of Rohini,** which was the first satellite to be successfully placed in orbit by SLV-3, an Indian made launch vehicle.
- The first INSAT was launched in 1988, and the program expanded to include geosynchronous satellites called GSAT.
- The first IRS satellite was also launched in 1988, and the program developed more-specialized satellites, including the Radar Imaging Satellite-1 (RISAT-1, launched in 2012) and the Satellite with Argos and Altika (SARAL, launched in 2013), a joint Indian-French

mission that measures ocean wave heights.

- ISRO subsequently developed three other rockets:
- The Polar Satellite Launch Vehicle (PSLV) for putting satellites into polar orbit.
- The Geostationary Space Launch Vehicle (GSLV) for placing satellites into geostationary orbit.
- A heavy-lift version of the GSLV called the GSLV Mark III or LVM.
- **Indigenous satellite navigation systems like IRNSS and GAGAN have also been deployed.**
- In January 2014, **ISRO used an indigenously built cryogenic engine for a GSLV-D5 launch of the GSAT-14** satellite making it one of the only six countries in the world to develop a cryogenic technology.
- Most recent and remarkable space probes of ISRO include **Chandrayaan-1 lunar orbiter, Mars Orbiter Mission** (Mangalyaan-1) and ASTROSAT space observatory.
- The success of the Mars Orbiter Mission made India only the fourth country in the world to reach Martian orbit.
- It is also planning to send astronauts into space during 2022-23 on the new *Gaganyaan* spacecraft.