

GSAT-7B satellite

March 25, 2022

In news– The Defence Acquisition Council (DAC) headed by the Defence Minister has given the Acceptance of Necessity (AoN) for procurement of a GSAT 7B satellite recently.

About GSAT 7B satellite–

- It is the state of the art, multi-band, military-grade satellite that will **primarily fulfill the communication needs of the Army.**
- **Currently, the Army is using 30 percent of the communication capabilities of the GSAT 7A satellite,** which has been designed for the Indian Air Force (IAF).
- It will also help the Army **enhance its surveillance in border areas.**

Other GSAT series satellites-

GSAT 7 satellite:

- GSAT 7 satellites are **advanced satellites developed by the ISRO** to meet the communication needs of the defence services.
- It was **launched in August 2013** from an Ariane 5 ECA rocket from Kourou in French Guiana.
- It is a 2,650 kg satellite which has a footprint of nearly 2,000 nautical miles in the Indian Ocean region.
- This satellite is **mainly used by the Indian Navy for its communication needs.**
- It provides a gamut of services for military communication needs, which includes **low bit voice rate to high bit rate data facilities, including multi-band communications.**
- **Named Rukmini, the satellite carries payloads in UHF, C-band and Ku-band,** and helps the Navy to have a secure, real time communication link between its land

establishments, surface ships, submarines and aircraft.

- The satellite was injected into a **geosynchronous transfer orbit (GTO)**.

GSAT 7A (Indian Angry Bird):

- The GSAT 7A was **launched in 2018 from the Satish Dhawan Space Centre in Sriharikota**, and has gone a long way in boosting the connectivity between the ground radar stations, airbases and the **airborne early warning and control aircraft (AEW&C) of the IAF**.
- It also **helps in satellite controlled operations of unmanned aerial vehicles (UAVs)** which gives a great deal of reliability to the operations as compared to ground controlled operations.
- This satellite has **10 channels in Ku band with switchable frequency for mobile users**, one fixed Gregorian or parabolic antenna, and four steerable antennae.

GSAT 7C satellite:

- It is on the cards for the IAF, and a proposal to this effect was cleared by the DAC in 2021.
- This satellite would facilitate **real time communication with IAF's software defined radio communication** sets.
- It will increase the capability of the IAF to communicate beyond the line of sight in a secure mode.

Other kinds of military satellites of India-

An Electromagnetic Intelligence Gathering Satellite (EMISAT)-

- EMISAT was **developed by ISRO**, and was launched in April 2020 through a Polar Satellite Launch Vehicle (PSLV-C45).
- **It has an Electronic Intelligence (ELINT) package called Kautilya**, which allows the interception of ground-based radar and also carries out electronic surveillance

across India.

- **The ELINT package provides the capability in direction-finding of radar and fixing their locations.**
- It is placed in a 748-km orbit, and is said to be based on the Israeli satellite system.
- This satellite circles the globe pole-to-pole, and is helpful in gathering information from radars of countries that have borders with India.

RISAT 2BR1 synthetic aperture radar imaging satellite-

- It was launched in December 2019 from Sriharikota.