42nd Communication Satellite of ISRO

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In news

Recently, ISRO launched India's 42nd Communication satellite CMS-01

About Communication satellite CMS -01

- It is envisaged to **provide services in the Extended-C Band of the frequency spectrum whose coverage will include the Indian mainland, Andaman-Nicobar and Lakshadweep Islands**
- CMS-01 is the **country's 42nd communication satellite and will have a mission life of seven years.**
- The satellite will be the **first in a new series of communication satellites by India after the GSAT and INSAT series.**
- The new satellite would **replace the GSAT-12 in orbit,** which was launched in 2011.
- CMS-01 was launched with PSLV C50 and It will be the 52nd mission for India's Polar Satellite Launch Vehicle (PSLV).
- The **44-metre-high four-staged engine, PSLV-C50, is the 22nd flight of PSLV in 'XL' configuration** (with six strap-on motors hugging the first stage).
- The CMS-01 is also the first in a new series of communication satellites by India, following the INSAT and the GSAT series. The last satellite launched by ISRO was called Earth Observation Satellite (EOS) 01

About PSLV launch vehicle

• Polar Satellite Launch Vehicle (PSLV) is the third generation launch vehicle of India. It is the first Indian launch vehicle to be equipped with liquid stages.

• After its first successful launch in October 1994, PSLV emerged as the reliable and versatile workhorse launch vehicle of India with 39 consecutively successful missions by June 2017.

• During 1994-2017 period, the vehicle has launched 48 Indian satellites and 209 satellites for customers from abroad.

• Besides, the vehicle successfully launched two spacecraft – Chandrayaan-1 in 2008 and Mars Orbiter Spacecraft in 2013 – that later traveled to Moon and Mars respectively

• **The PSLV in normal configuration is a four-stage expandable rocket** powered by solid and liquid fuels alternatively, with six booster motors strapped on to the first stage to give higher thrust during the initial flight moments.

• ISRO has PSLV variants with two and four strap-on motors, larger PSLV-XL and the Core Alone variant, without any strap-on motors.

• The choice of rocket to be used for a mission depends on the satellite’s weight and the orbit in which it is to be positioned.