

LVM3 (Launch Vehicle Mark-3)

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Why in News?

India's biggest launch vehicle, LVM3, is put into orbit the communication satellite CMS-03 recently.

- **Agency** - It is India's most powerful launch vehicle, developed by the Indian Space Research Organisation (ISRO).
- It also known as GSLV Mk III or Launch Vehicle Mark-3 (LVM3).
- **Weight** - 4,410 kg (1st one weighing over 4,000 kg).
- **Orbit** - geosynchronous transfer orbit
- **Stage** - 3 stages.
- **Propellant** - Two solid propellant S200 strap-ons.
- **Height** - ~43.5 meters
- **Lift-off Mass** - ~640 tonnes
- **Payload Capacity (LEO)** - Up to 8,000 kg.
- **Payload Capacity (GTO)** - Up to 4,000 kg.
- **Stages** - 3.
- **Configuration** - 2 solid strap-on boosters + 1 liquid core stage + 1 cryogenic upper stage.
- **Notable Missions**
 - **GSLV Mk III-D1 (2017)** - First successful orbital flight — launched GSAT-19.
 - **GSLV Mk III-M1 (2019)** - Chandrayaan-2 lunar mission.
 - **LVM3-M2 (2022)** - Launched 36 OneWeb satellites (India's first commercial heavy-lift mission).
 - **LVM3-M3 (2023)** - Second OneWeb batch.
- **Future Role** - LVM3 is the workhorse for India's upcoming human spaceflight program (Gaganyaan) and interplanetary missions, as well as commercial satellite launches.

Reference

[The Indian Express | about LVM3](#)

