



Small Satellite Launch Vehicle

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Indian Space Research Organisation (ISRO) has completed the design for the **Small Satellite Launch Vehicle (SSLV)**.

- SSLV or the 'baby rocket' will provide on-demand access to space, with the rocket assembly taking a mere 15 days and minimum personnel to do it.
- It will be used **exclusively** for small satellites such as **nanosats** and **cubesats**.
- The payload capacity of the SSLV will be 500-700 kilograms in the Lower Earth Orbit (LEO), less than one-third the weight the PLSV can carry.
- It has **three stage solid propulsion system**, and like the PSLV and GSLV, can accommodate multiple satellites, albeit smaller ones. Currently, small satellites are being piggybacked on the bigger ones launched using the Polar Satellite Launch Vehicles (PSLV) and the Geosynchronous Launch Vehicle (GSLV).
- Unlike the PSLV and GSLV, the SSLV can be assembled **both vertically and horizontally**.

Requirement

- The decision of the US to **deregulate small and micro satellites** has given a fillip to the launch service markets.
- The small satellite industry has witnessed a manifold spike in the last few years and with **latest innovations in nanotechnology**, the size of the satellites is expected to further decrease in the future. Further, what was previously inconceivable for even big satellites, is being undertaken very smoothly and efficiently now by small satellites.
- With the huge number of small satellites outpacing the available launchers, many small satellites have to remain grounded as they do not find a launcher due to large queue and waiting time.
- A dedicated launcher for small satellites, not only would cost reduce drastically but also there will be more opportunities to focus on primary research and delineate big satellite launch from small satellite launch.

- However, a lot of big space technology entrepreneurs point out that the future small-satellite launch market will favor ridesharing and customized services on larger launch vehicles rather than small satellite launch vehicle.