



ISRO Launches Military Satellite and KalamSat

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Recently, the Indian Space Research Organization (ISRO) has launched satellites **Microsat-R** and **KalamSat** onboard **Polar Satellite Launch Vehicle (PSLV) C-44**.

- This was also a technology demonstrator of PSLV, as this launch was the first launch done with just 2 strap-on motors and is named as the PSLV-DL, D standing for demonstration.
- It provided an alternative to its normal six strap-on motors (side rocket boosters) on PSLV. This will enable it to carry a slightly higher payload than its Core-Alone version (in which there is no strap on motors).

Significance of the Mission

- **Microsat-R**
 - **Microsat-R** is a **military imaging satellite**, weighing 130 kilograms, was made by Defence Research and Development Organization(DRDO).
 - This was launched in low orbit. **It is the first time an Indian satellite was being placed by ISRO in a low orbit at an altitude of 274 km.**
- **Kalamsat**
 - ISRO also launched a student satellite, **Kalamsat, made by Space Kidz India**, weighing just 1.26kg.
 - Kalamsat is the **world's smallest and lightest communication satellite.**
 - Space Kidz India is an organization dedicated to designing innovative concepts for students in the field of education.
- **Fourth Stage (PS4) Usability**
 - ISRO also used this launch as an opportunity to demonstrate the **usability of the fourth stage of the rocket after the satellites are ejected into orbit.**
 - The fourth and final stage of the rocket normally turns into debris after ejecting a satellite.
 - Now any agency that wants to conduct experiments in space can use the fourth stage until it disintegrates naturally. The fourth stage of the rocket will be

orbiting in space for six months to a year. **ISRO is aiming to use this time-frame to enable agencies to run short time experiments.**

- **Kalamsat will be the first to use the fourth stage as an orbital platform.**
- The experiment with Kalamsat will start about 1.5 hours from take-off and will last for about 14 hours. Later duration of experiments with PS4 will be improved gradually.