ISRO Achievement

Why in news?

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The PSLV-C37 launched **104 satellites from 7 countries**, nearly 3 times the highest number flown by a single mission currently.

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Why this launch is significant?

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- PSLV first launched the 714 kg **Cartosat-2 Series satellite** for earth observation, followed by the **INS-1A and INS-1B**, after it reached the polar Sun Synchronous Orbit.
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- It then went on to inject 103 co-passenger satellites, together weighing about 664 kg.
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- The rocket is carrying almost 3 times the record number of satellites launched in a single mission — Russia's Dnepr rocket carried 37 payloads in June 2014.
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- On June 20 last year, ISRO's PSLV-C34 launched 20 satellites.
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- The record for the most satellites launched in a single mission is 37 — by Russia in 2014. Last June, ISRO sent up 20 satellites in one go, its personal best.
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- It is using the same rocket this time — the **XL version of the popular Polar Satellite Launch Vehicle (PSLV)**, to push the boundaries of efficiency and effectiveness in space launches.
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- This launch is significant not just for ISRO but also for Planet, an American company that owns 88 of the 104 satellites that will be on board.
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- The primary passenger on the PSLV-C37 rocket, however, is a Cartosat-2 series satellite.
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What is the purpose of Cartosat-2 series satellite?

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- It is used to produce high-resolution images of the Indian landmass for applications like **rural and urban management, coastal land use and regulation, monitoring of road networks or water pipelines**, and for building various kinds of land information systems.
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- Last year’s launch of 20 satellites in one go included a similar Cartosat-2 series satellite. Four Cartosat-2 satellites are already in space.
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What challenges do so many satellites present?

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- No great technological leap is involved. Smaller and lighter satellites have made it possible for rockets to carry more of them.
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- The number of satellites that can be loaded on a rocket is restricted only by the space available and the carrying capacity of the launch vehicle in terms of weight.
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- But satellites have to be stacked together in certain configurations so that they can be ejected in desired orbits without disturbing the flights of others or colliding with each other. This requires lot of engineering innovations.
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Source: The Indian Express

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