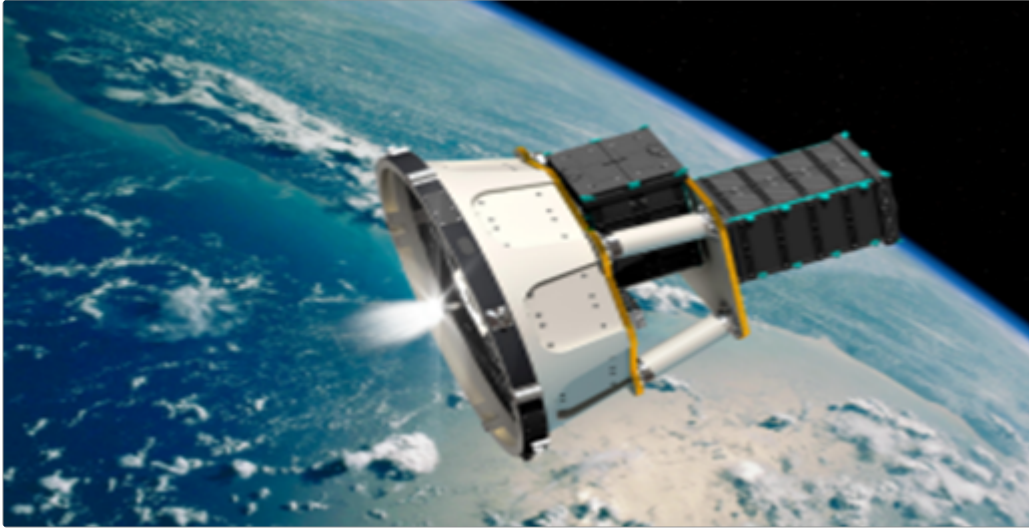




KAMARAJ IAS ACADEMY
Only IAS Academy by Grandson of "Perunthalaivar Kamarajar"

ESA Launches 1st Celeste Satellites From New Zealand To Test Low Earth Orbit Navigation

Published On: 02-04-2026



Why in News?

The European Space Agency (ESA) launched its first two Celeste satellites from New Zealand. This mission tests Low Earth Orbit (LEO) navigation to boost Europe's Galileo system with stronger signals and new capabilities.

Launch: Rocket Lab's Electron rocket from Mahia Launch Complex; satellites separated successfully after ~1 hour.

Design: GMV & Alén Space (Spain) for IOD-1; Thales Alenia Space (France) for IOD-2.

Future Plan: Total 11 satellites, with more launches in 2027 to form full LEO layer.

Key Objectives

Celeste demonstrates LEO navigation advantages over medium Earth orbit systems like Galileo:

Stronger signals (L- and S-bands) for urban/polar areas, autonomous vehicles, aviation, maritime.

Improved resilience, indoor navigation, disaster response.

New frequencies and autonomous orbit tech without ground support.

Strategic Importance:

Flying at ~510 km altitude, Celeste satellites enable robust PNT (Positioning, Navigation, Timing) in challenging environments. This "New Space" approach speeds up Europe's satnav evolution amid global competition.

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About ESA:

Headquarters: Paris, France

Founders: Germany, United Kingdom, France, Spain, Italy, Netherlands, Switzerland, Belgium, Sweden, Denmark

CEO: Josef Aschbacher (1 Mar 2021–)

Founded: 30 May 1975, Europe

Abbreviation: ESA; ASE; EW

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