

20– 05 – 2024

News: PSLV Orbital Experimental Module-3 (POEM-3)

- Recently, ISRO's PSLV-C58/XPoSat mission achieved near-zero debris in Earth's orbit by converting the final stage into the PSLV Orbital Experimental Module-3 (POEM-3), which then safely re-entered the atmosphere rather than remaining in orbit after completing its mission.

PSLV Orbital Experimental Module (POEM)

- PSLV Orbital Experimental Module (POEM) is an innovative space platform developed by the Vikram Sarabhai Space Centre (VSSC).
- It repurposes the fourth stage of a PSLV rocket into a stable orbital station for conducting in-space scientific experiments with diverse payloads.
- Its inaugural use occurred during the PSLV-C53 mission in June 2022.
- Normally, the fourth stage of the PSLV becomes space debris after deploying satellites, but in the PSLV-C53 mission, it served as a stabilised platform for experiments.
- According to ISRO, POEM has a dedicated Navigation Guidance and Control (NGC) system for attitude stabilisation, which stands for controlling the orientation of any aerospace vehicle within permitted limits.

- POEM-3 Mission was launched as part of the PSLV C-58 mission on 1st January 2024.
- After deploying the XpoSat satellite, the fourth stage was transformed into POEM-3 and lowered to a 350-km orbit, significantly reducing the risk of space debris generation.