Samyak
An Institute For Civil Services

ADITYA L1

A spacecraft mission designed to study the Sun.

- **Orbit:**
  - The spacecraft will be placed in a halo orbit around the Lagrangian point 1 (L1) of the Sun-Earth system.
  - The L1 point is located approximately 1.5 million kilometers from Earth.
  - Advantage: Continuous and uninterrupted view of the Sun without any eclipses or occultations.

- **Importance of Aditya-L1 Mission**
  - Provides crucial insights into space weather and its effects on Earth.
  - Improves understanding of solar flares and coronal mass ejections (CME).
  - Many components of Aditya-L1 are indigenously manufactured in India for the first time, boosting technological expertise.
  - Helps mitigate impacts of solar activity
  - Promotes India's capabilities in high-precision space technology manufacturing.

ADITYA-L1 MISSION

- The first Indian space-based observatory-class solar mission
- To be launched by ISRO's PSLV XL rocket from Satish Dhawan Space Centre SHAR (SDSC-SHAR), Sriharikota
- Has to be deployed at L1 point where it can view the sun without any eclipse. L1 lies between Sun-Earth line

LAUNCH DATE: 2 Sep, 2023

DISTANCE: 1.5 mn km (from earth)

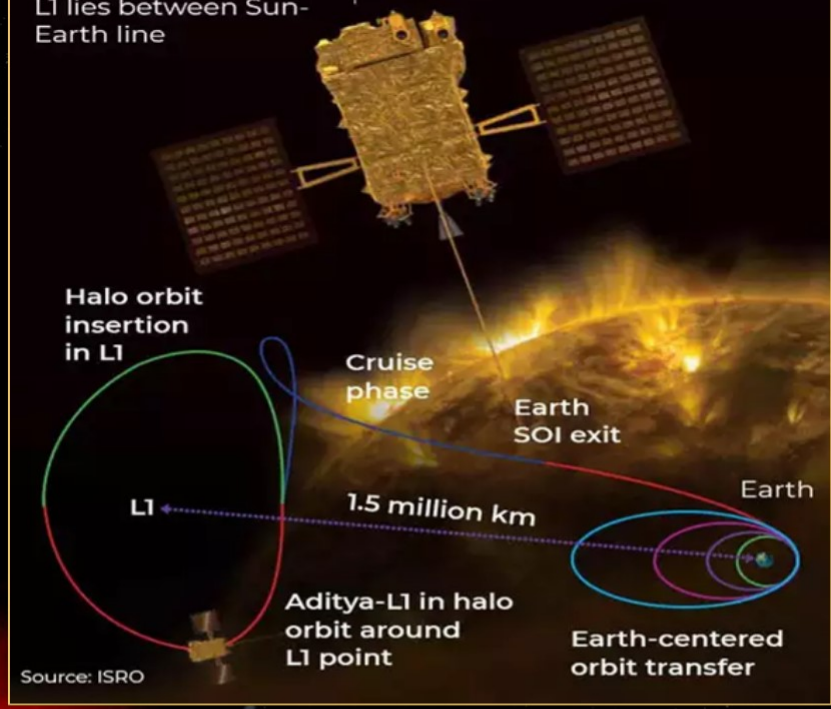
COST: 378.53 cr

TIME: 4 months

PAYLOADS: 7 (VELC, SUIT, SoLEXS, HEL1OS, ASPEX, PAPA, Digital Magnetometers)

MAJOR OBJECTIVES:

To understand corona, solar wind, solar atmosphere, sun flares, and near-earth space weather



The launch was conducted using the PSLV-C57 rocket. The PSLV's fourth stage was fired twice, a first in ISRO's history, to precisely insert the spacecraft into its elliptical orbit.