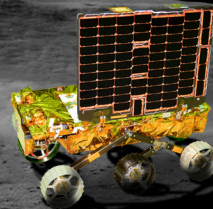




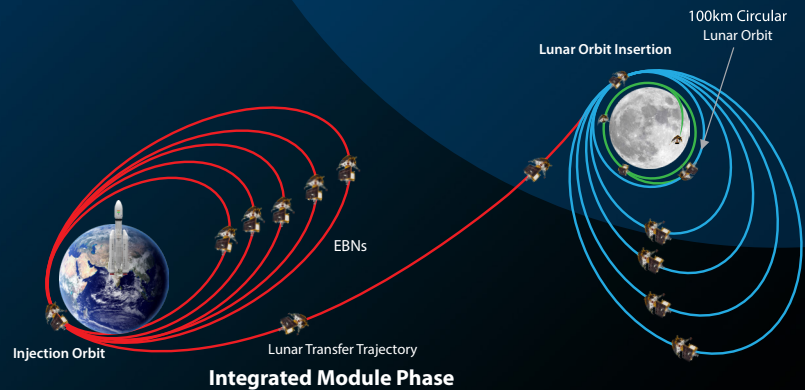
CHANDRAYAAN 3

The Indian Pride



Chandrayaan-3 mission achieved great heights and demonstrated safe and soft landing on the lunar surface. It also exhibited rover mobility on the Moon, and conducted in-situ experiments on:

- The surface and environment of the Moon at the landing site
- Thermo-physical properties
- Plasma environment
- Seismicity
- Elemental Composition



Objectives met

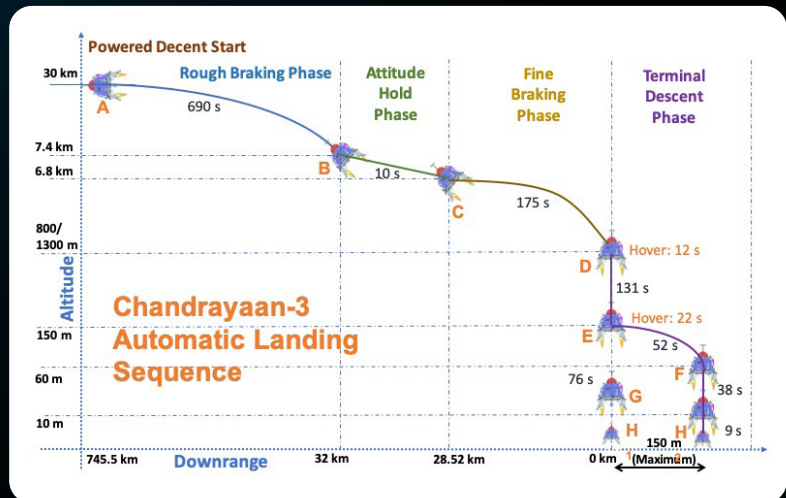
Mission

- Demonstrated safe and soft landing on the lunar surface
- Exhibited rover mobility on the Moon
- Conducted in-situ scientific experiments

Science

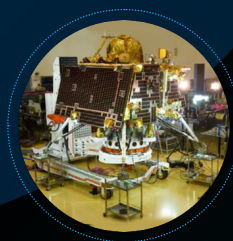
- Studied the surface and environment of the Moon at the landing site
- Thermo-physical Properties
- Plasma Environment
- Seismicity
- Elemental Composition

Chandrayaan-3 Automatic Landing Sequence



Major Specifications of Propulsion Module

Sl.No	Parameter	Specifications
1.	Lunar Polar Orbit	From 170 x 36500 km to lunar polar orbit
2.	Mission life	Carrying Lander Module & Rover upto ~100 x 100 km launch injection. Subsequently, operation of experimental payload for a period of 3 to 6 months.
3.	Structure	Modified version of I-3 K
4.	Dry Mass	448.62 kg (including pressurant)
5.	Propellant Mass	1696.39 kg
6.	Total PM Mass	2145.01 kg
7.	Power Generation	738 W, Summer solistices and with bias
8.	Communication	S-Band Transponder (TTC) – with IDSN
9.	Attitude Sensors	CASS, IRAP, Micro star sensor
10.	Propulsion System	Bi-Propellant Propulsion System (MMH + MON3)



Major Specifications of Lander

Mission life : 1 Lunar day (14 Earth days)
 Mass : 1749.86 kg including Rover
 Power : 738 W (Winter solstice)
 Payloads : 3
 Dimensions (mm³) : 2000 x 2000 x 1166
 Communication : IDSN, Ch-2 Orbiter, Rover
 Landing site : 69.367621 S, 32.348126 E



Major Specifications of Rover

Mission Life : 1 Lunar day
 Mass : 26 kg
 Power : 50 W
 Payloads : 2
 Dimensions (mm³) : 917 x 750 x 397
 Communication : Lander

Lander Payloads



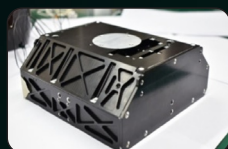
RAMBHA-LP Langmuir Probe

To measure the near surface plasma (ions and electrons) density and its changes with time.



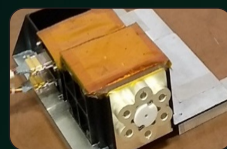
ChaSTE Chandra's Surface Thermo-physical Experiment

To carry out the measurements of thermal properties of lunar surface near polar region.



ILSA Instrument for Lunar Seismic Activity

To measure seismicity around the landing site and delineating the structure of the lunar crust and mantle.



APXS Alpha Particle X-Ray Spectrometer

To derive the chemical composition and infer mineralogical composition to further enhance our understanding of lunar surface.



LIBS Laser Induced Breakdown Spectroscopy

To determine the elemental composition (Mg, Al, Si, K, Ca, Ti, Fe) of lunar soil and rocks around the lunar landing site.

Propulsion Module Payload



SHAPE Spectro-polarimetry of Habitable Planet Earth

An experimental payload to study the spectro-polarimetric signatures of the habitable planet Earth in the near-infrared (NIR) wavelength range (1-1.7 μm).



Chandrayaan-3 Trip Recap

Sl.No	Major Events	Date
1.	Chandrayaan-3 Successfully launched into orbit.	July 14, 2023
2.	The first orbit-raising maneuver was successfully performed, the orbit achieved was 173 km X 41762 km.	July 15, 2023
3.	TransLunar Injection, the orbit achieved was 288 km x 369328 km.	August 01, 2023
4.	Chandrayaan-3 was successfully inserted into the lunar orbit. The orbit achieved was 164 km x 18074 km.	August 05, 2023
5.	Lander Module was successfully separated from the Propulsion Module.	August 17, 2023
6.	Chandrayaan-3 soft landing on the Moon surface.	August 23, 2023
7.	Lander successfully performed hop Experiment.	September 03, 2023
8.	Insertion of Propulsion Module from an Moon orbit to Earth Orbit.	November 10, 2023

