



**PSLV C5 - IRS P6**  
MISSION

INDIAN SPACE RESEARCH ORGANISATION



Launch campaign commenced on 30th July '03

# C5 launch preparation



Core Base Shroud + Nozzle End Segment



First Stage



Interstage IS 1/2L



Second Stage



Third Stage



Fourth Stage



IRS-P6 Solar Panel Deployed



IRS-P6 Stacked on vehicle



Heat Shield

# operational flights



PSLV C1 ... 29 Sept. 1997  
IRS - 1D



PSLV C2 ... 26 May 1999  
IRS-P4, KITSAT, TUBSAT



PSLV C3 ... 22 Oct. 2001  
TES, PROBA, BIRD



PSLV C4 ... 12 Sept. 2002  
METSAT



## the space craft

IRS-P6 spacecraft would be the continuity provider for IRS-1C/1D with enhanced capabilities. The Spacecraft has improved payloads compared to those of IRS-1C/1D and has a mass of 1360 kg.



◀ The high resolution three band Multispectral camera (LISS-4) with a resolution of 5.8 meters with additional off nadir viewing capability.



◀ The LISS - III camera operating in 4 spectral bands - 3 bands are identical to IRS-1C/1D and a fourth band is in short wave IR with improved resolution.



◀ The Advanced Wide Field Sensor (AWiFS) operating in 4 bands namely bands 2,3,4 & 5; split as two modules - AWiFs-A & AWiFs-B

## the vehicle

The C5 vehicle configuration essentially remains unchanged from PSLV C4 mission. The vehicle is powered by solid propellant first and third stages and liquid propellant second and fourth stages.

- ♦ Overall length : 44.4 m
- ♦ Lift-off mass : 295.93 t
- ♦ First stage : PS1 (S139) + 6 PSOMs HTPB Based Solid
- ♦ Second stage : PS2 (PL40) Liquid UH25 + N<sub>2</sub>O<sub>4</sub>
- ♦ Third stage : HPS3 HTPB Based Solid
- ♦ Fourth stage : PS4 (PL2.5) Liquid MMH + MON

## new element

- CFRP PS3 Adaptor : third stage inert mass reduced by 24 kg



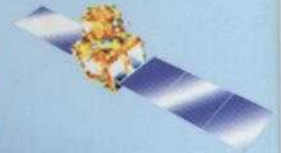
## changes

- High Pressure engine for second Stage with UH25 / N<sub>2</sub>O<sub>4</sub> Propellant combination
- Modified PS1 RCT Structure and Propellant tank
- Use of E<sup>2</sup> PROM in Guidance Control Processor and ECIL rate gyros for Rate Gyro Package
- Redundancy in Automatic Launch Sequence (ALS) monitoring parameters



## the mission

**PSLV C5** - the fifth flight in the operational series and eighth flight of the POLAR SATELLITE LAUNCH VEHICLE is identified as a SSPO mission to deploy the satellite RESOURCESAT -1 (IRS - P6) in 822 km circular orbit.



### MISSION DEFINITION

- Orbit - Sun Synchronous Polar Orbit (SSPO)
- Altitude - 822 km circular
- Inclination - 98.728 deg.
- Orbital Period - 101.35 minutes
- Launch time - 10:22:08 IST -0 / + 10 min
- Launch Azimuth - 140 deg.

