

PSLV-C42 / NovaSAR & S1-4



NovaSAR



S1-4

THE MISSION

44th Flight of Polar Satellite Launch Vehicle (PSLV)

12th Flight of PSLV - Core Alone Version

33rd Launch of PSLV from First Launch Pad (FLP) at Satish Dhawan Space Centre SHAR, Sriharikota

Targeted Polar Sun Synchronous Orbit of PSLV-C42

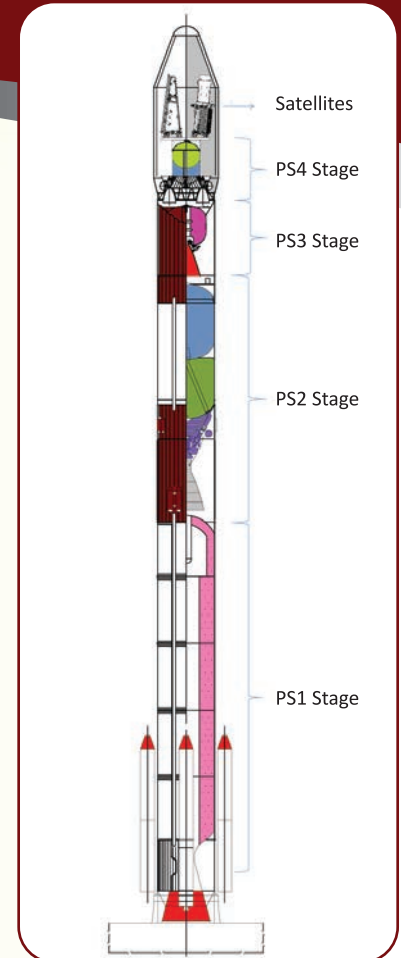
Height	:	583 km
Inclination	:	97.806 deg
Azimuth	:	140 deg

THE VEHICLE

PSLV-C42 is a dedicated commercial mission of PSLV to launch NovaSAR and S1-4 satellites from SSTL (Surrey Satellite Technology Ltd),UK . The mission employs PSLV-CA (Core Alone) configuration with a lift-off mass of 230.4 tons and height of 44.4 metres.

PSLV-C42 at a Glance

Parameters	Stages			
	First Stage	Second Stage	Third Stage	Fourth Stage
	PS1	PS2	PS3	PS4
Propellant	Composite Solid	Earth Storable Liquid	Composite Solid	Earth Storable Liquid
Propellant Mass (T)	138.2	42.0	7.6	2.5
Diameter (m)	2.8	2.8	2.0	1.34
Length (m)	20	12.8	3.6	3.0
Max. Vacuum Thrust (kN)	4846.9	803.78	239.6	2 x 7.33

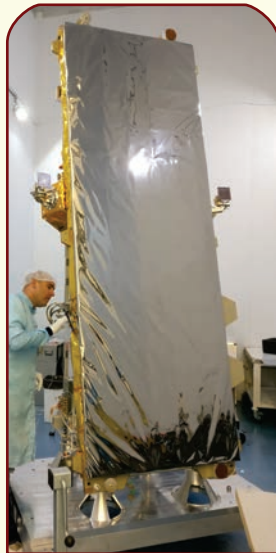


THE SATELLITES

NovaSAR - NovaSAR is a S-Band SAR platform.

Salient Features of NovaSAR

- ▶ **Lift-Off Weight : 445 kg**
- ▶ **Payload:**
 - S-band Synthetic Aperture Radar
 - Automatic Identification Receiver
- ▶ **Major application areas:**
 - Forestry mapping
 - Land use and ice cover monitoring
 - Flood and disaster monitoring
 - Ship detection and Maritime monitoring



NovaSAR

S1-4 - S1-4 is a high resolution Optical Earth Observation Satellite.

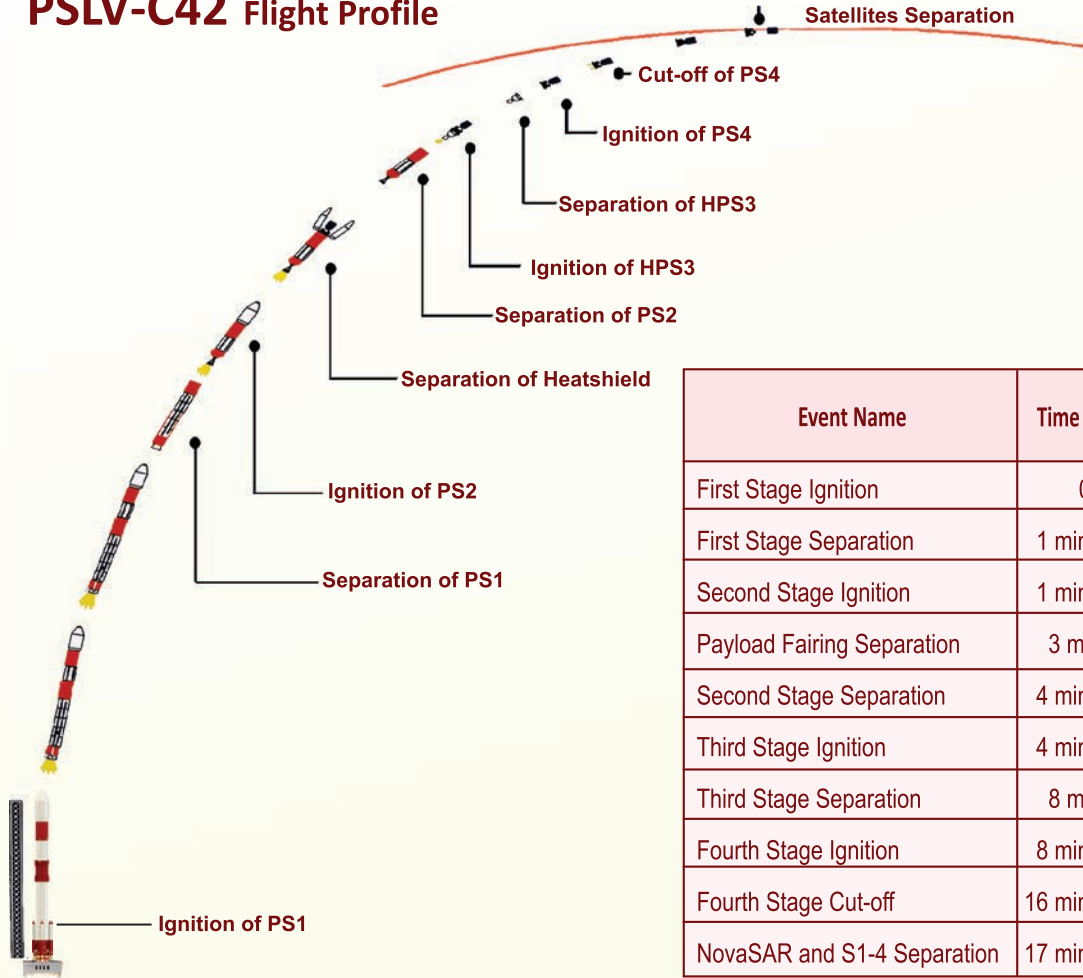
Salient Features of S1-4

- ▶ **Lift-Off Weight : 444 kg**
- ▶ **Major application areas:**
 - Surveying resources
 - Environment monitoring and urban management
 - Disaster monitoring



S1-4

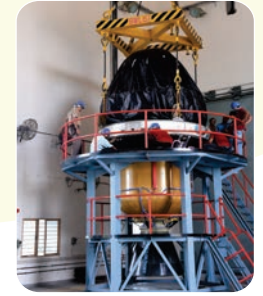
PSLV-C42 Flight Profile



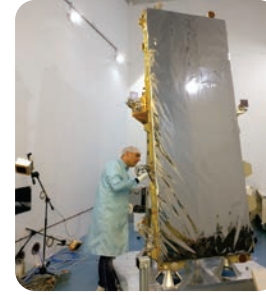
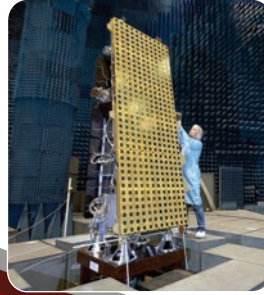
Event Name	Time after lift-off	Altitude (kilometre)	Velocity (metre per second)
First Stage Ignition	0 min 0 sec	0.026	451.89
First Stage Separation	1 min 50.96 sec	49.367	1561.46
Second Stage Ignition	1 min 51.16 sec	49.555	1560.46
Payload Fairing Separation	3 min 2.36 sec	115.492	2233.05
Second Stage Separation	4 min 23.56 sec	200.586	3669.70
Third Stage Ignition	4 min 24.76 sec	201.997	3666.14
Third Stage Separation	8 min 9.46 sec	454.805	5482.73
Fourth Stage Ignition	8 min 19.86 sec	463.794	5468.75
Fourth Stage Cut-off	16 min 56.56 sec	587.402	7561.44
NovaSAR and S1-4 Separation	17 min 44.06 sec	588.303	7566.69

Glimpses of Launch Vehicle and Satellite Preparation

PSLV-C42



NovaSAR & S1-4



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