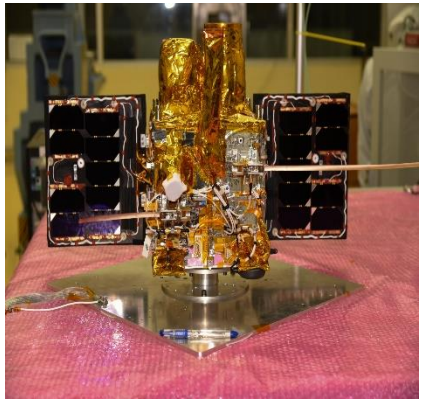
ISRO Missions in 2018



PSLV-C40/Cartosat-2 Series
Jan 12, 2018

GSLV-F08/GSAT-6A
March 29, 2018

PSLV-C41/ IRNSS-1I
April 12, 2018

CES Technology
Demonstrator July 05, 2018

PSLV-C42 Mission
September 16, 2018

PSLV-C43 / HysIS Mission
November 29, 2018

GSAT-11 Mission
December 05, 2018

GSLV-F11 /GSAT-7A
December 19, 2018

72nd Independence Day

Prime Minister announced GAGANYAAN

“.....हमारे देश ने संकल्प किया है कि 2022, जब आजादी के 75 साल होंगे तब या हो सके तो उससे पहले, आजादी के 75 साल मनाएंगे तब, मां भारत की कोई संतान चाहे बेटा हो या बेटी, कोई भी हो सकता है। वे अंतरिक्ष में जाएंगे। हाथ में तिरंगा झंडा लेकर के जाएंगे। आजादी के 75 साल के पहले इस सपने को पूरा करना है.....”

With human space flight, India to push frontiers

ISRO setting up launch pad for Gaganyaan mission

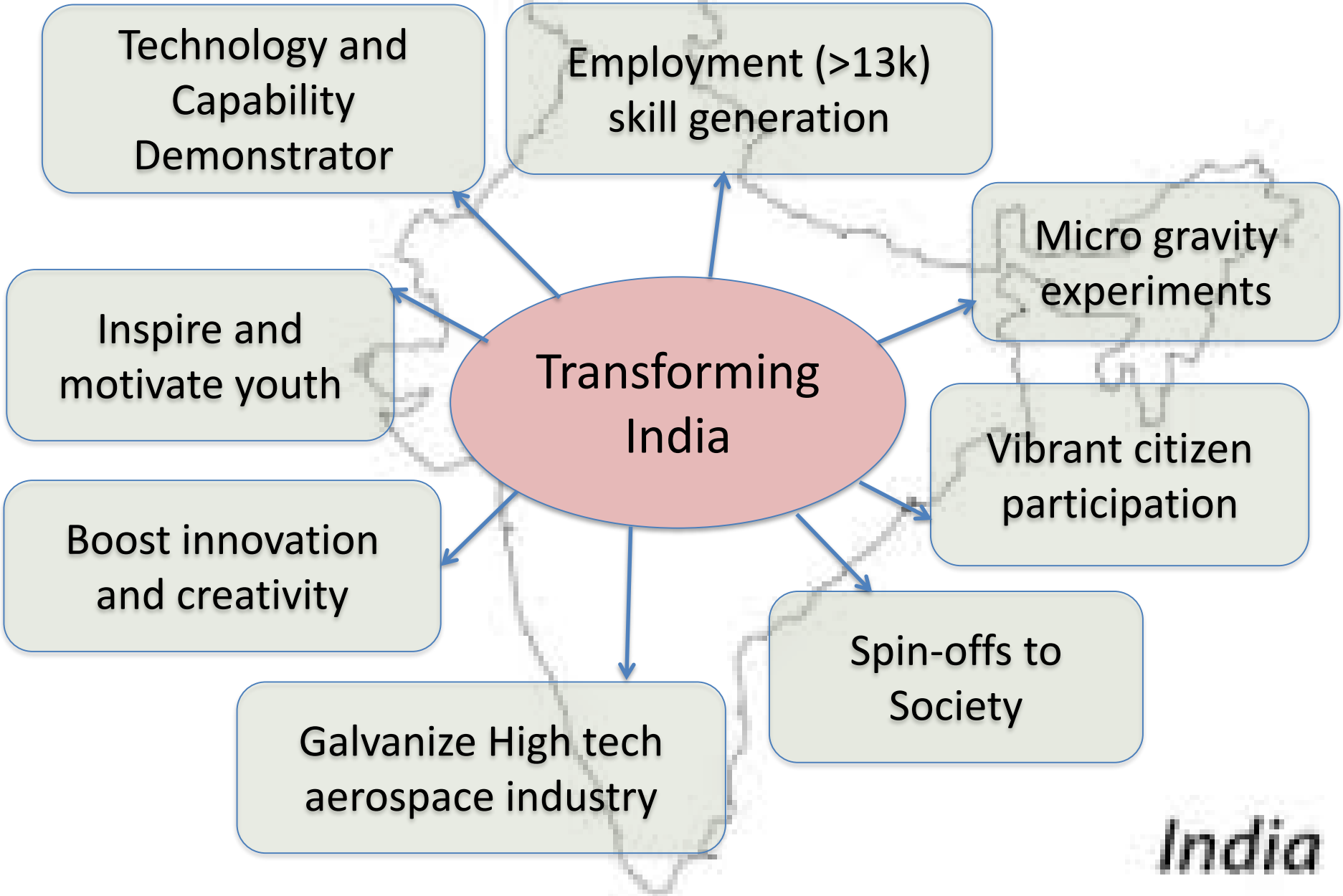
Roadmap to put Indian crew in space

Moonstruck

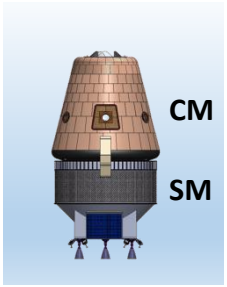
A look at the ISRO moon mission that will send a three-person crew to space for a period of 5-7 days

A file photo of the GSLV, the launch vehicle for the moon mission.

Gaganyaan - A National Endeavour



GAGANYAAN Mission



Solar array deployment

Reorientation

De-boost

CM-SM Separation

Orbital module

400 km LEO Orbit

3-7 days in orbit

CM re-entry

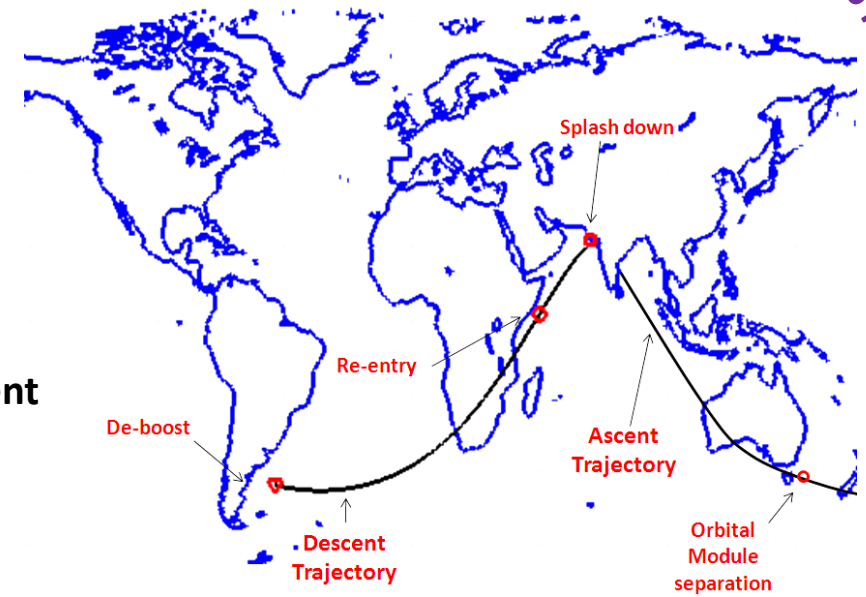
120 km Orbit

~16 mins to reach orbit

~36 mins from de-boost to splash down

SM re-entry

Aero braking



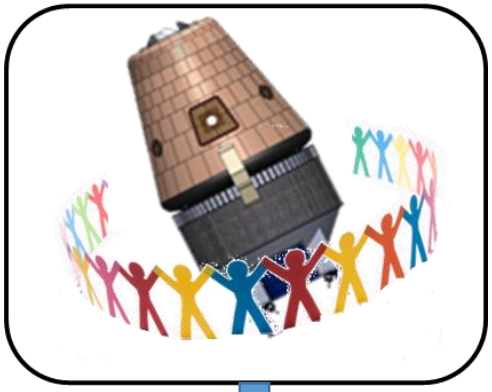
Parachute deployment

Ascent & Descent phases - 100 % visibility

Launch vehicle Lift-off

Splash down

CITIZEN OUTREACH PROGRAMME



Motivate

Media platforms

Social media

Training

Workshops

Exhibitions

Technology Spinoffs

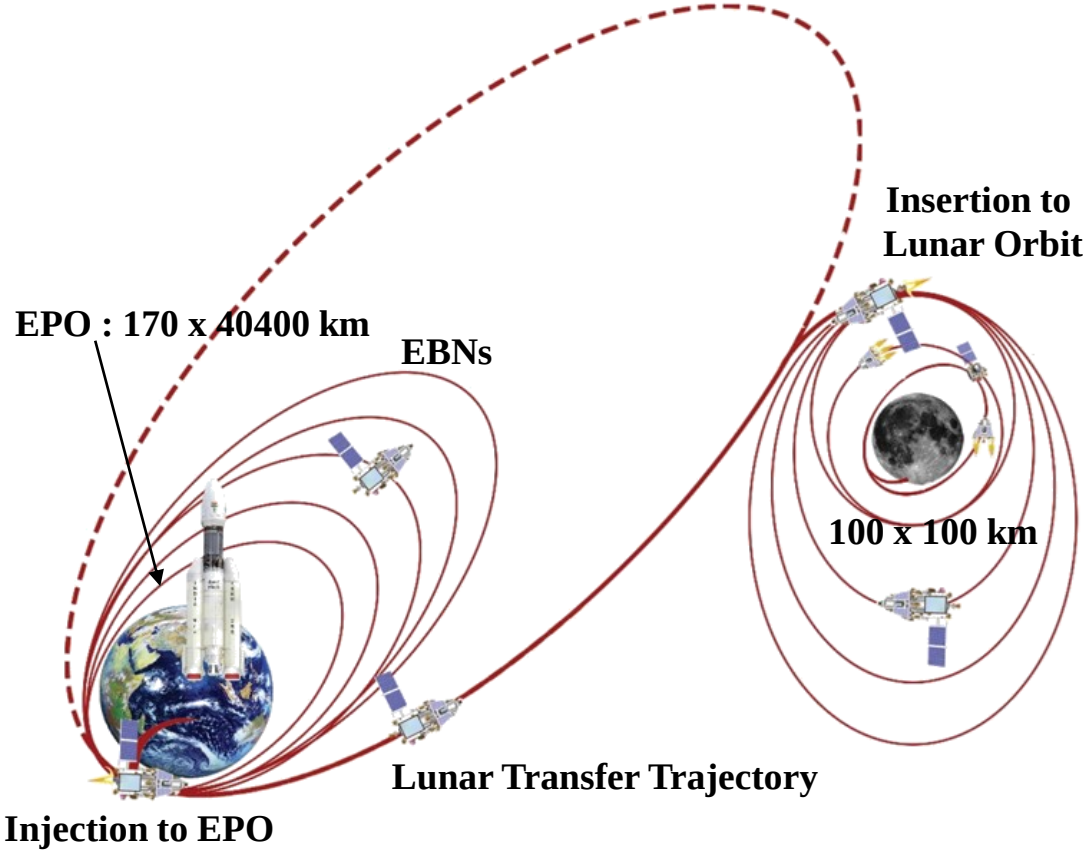
Seminars

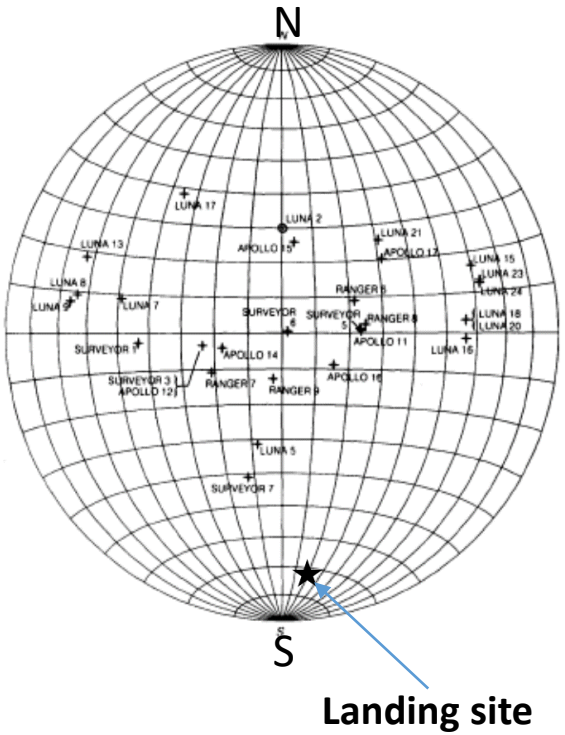
Student interactions

Spur Research & Development

Improve Industrial Capability

Chandrayaan-2 Mission

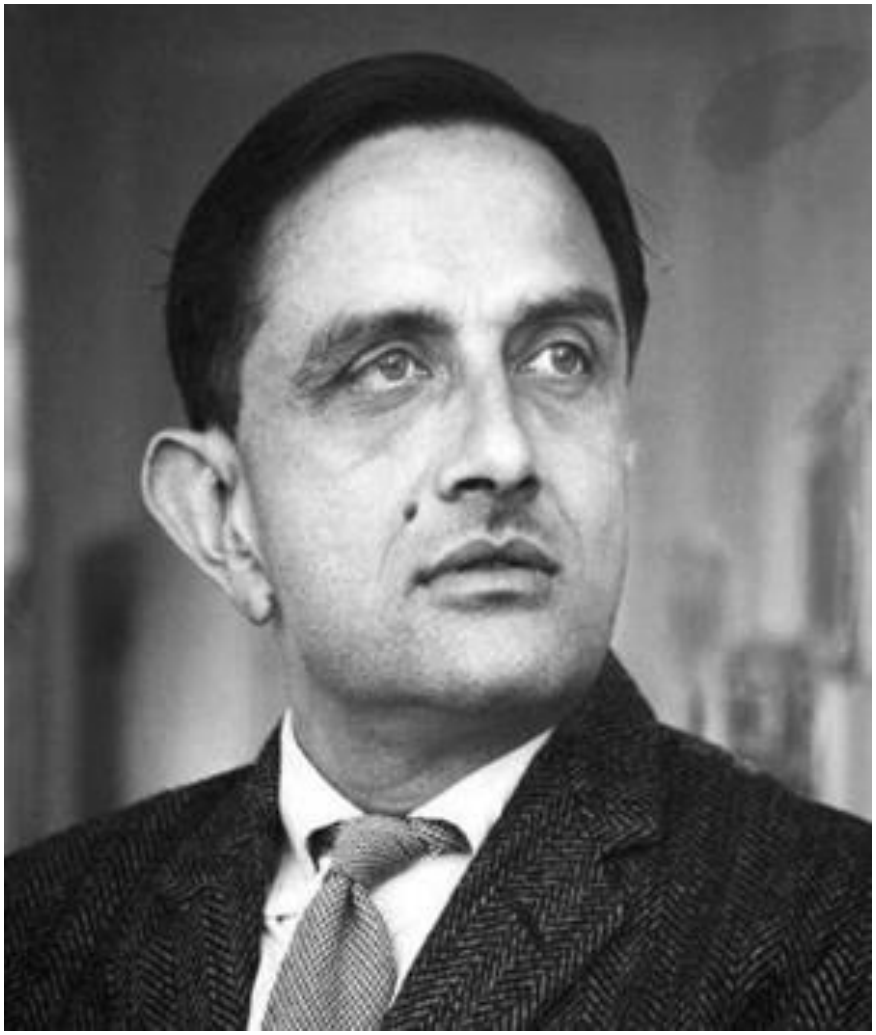




Opportunity to name the landing site, which will be of historical significance

- To land near South Pole
- Scientifically Important

Dr. Vikram Sarabhai Centenary Programme



- **6 ISRO knowledge centers**
- **Space Technology Incubation centers**
- **VIKRAM name for Moon-lander for Chandrayan-2**
- **Exhibitions/ Lectures**
- **Space Clubs at Schools**
- **Competitions at School/College level**
- **Events / Pavilions at National Museums**
- **Awards / Scholarships / Fellowships**
- **Vikram Sarabhai Space Innovative Award**
- **ISRO TV**

- **Dedicated Sessions / Memorial Lectures** at International Science conferences like **IAF**
- **Dr. Sarabhai Centenary International Award** for best achievement in Space Science & Technology
- Establishment of **Department Chairs / Fellowships at universities,** which were connected with Dr. Sarabhai during his education.

SSLV Small Satellite Launch Vehicle

... on demand access to Space

Features

- Launch Vehicle catering to Mini, Micro or Nano satellites
- Low cost Launch Vehicle encompassing heritage systems and less complex / modular sub-systems
- On demand launch capability : Stages prepared as modular units, demand to launch within 2 weeks
- Active load relief enabling any time launch requirements
- Minimum launch-pad occupancy: Integration & Launch with in 24 hours

VEHICLE CONFIGURATION

- 2m diameter x 34m long
- Lift off mass : ~120T
- Three Solid propulsion stages
- Liquid propulsion module as terminal stage for precise payload injection

Payload Capability *(Typical - from SDSC/SHAR)*

- Orbit : 500 km LEO
- Inclination : 45^0
- Payload : 500 kg

RLV Landing Experiment

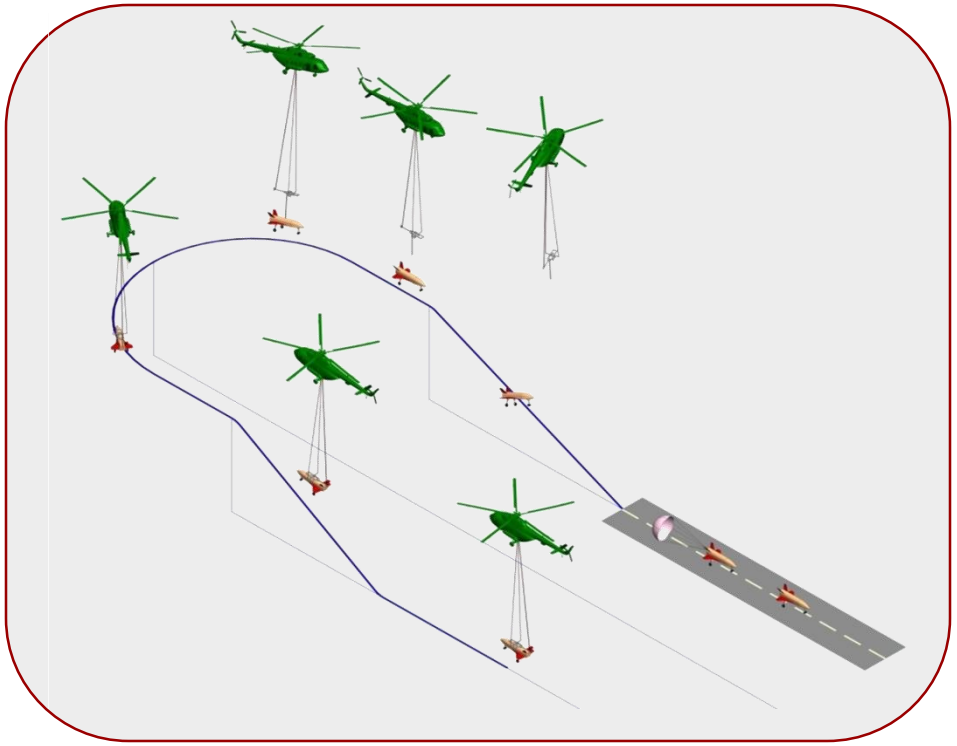
Mission Objectives:

- **Demonstration of Approach and Landing maneuvers of a typical Orbital mission**
- **Autonomous runway landing of RLV**

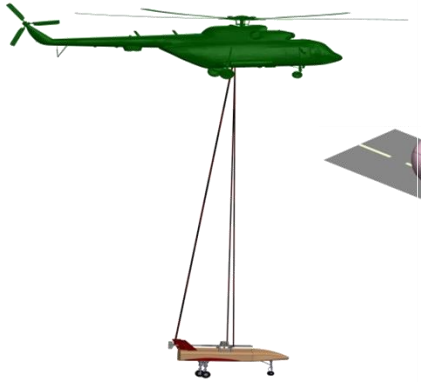
Reusable Launch Vehicle (RLV)

Execution:

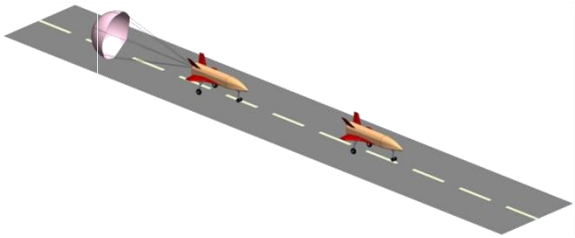
- **Landing Experiment will be demonstrated by ISRO with the support of IAF and DRDO**
- **RLV is lifted by helicopter and released to land on the runway autonomously**
- **Mission planned in middle of this year**



Mission Profile of Landing Experiment



RLV with Helicopter



RLV landing on Runway