

# India's Space Docking Milestone: SpaDeX and Beyond

**ISRO's successful Space Docking Experiment (SpaDeX) marks a significant step towards advanced space capabilities. Former ISRO Chairman Dr S Somanath discusses the implications and future plans.**



**by OJAANK IAS**



# Understanding SpaDeX



## First Step

SpaDeX is the initial experiment in a series of docking missions.



## Challenging Task

Involves bringing two objects close using sensors and algorithms.



## Cost-Effective

Demonstration completed at a very low cost.

# Future Docking Experiments

1

## Elliptical Orbit Docking

More challenging due to changing object orientations.

2

## Real-Life Systems

Docking with space stations and other complex structures.

3

## Automatic Docking

Achieving docking without human intervention.



# Short-Term Docking Goals

1

## De-dock and Re-dock

Immediate next step in the experiment series.

2

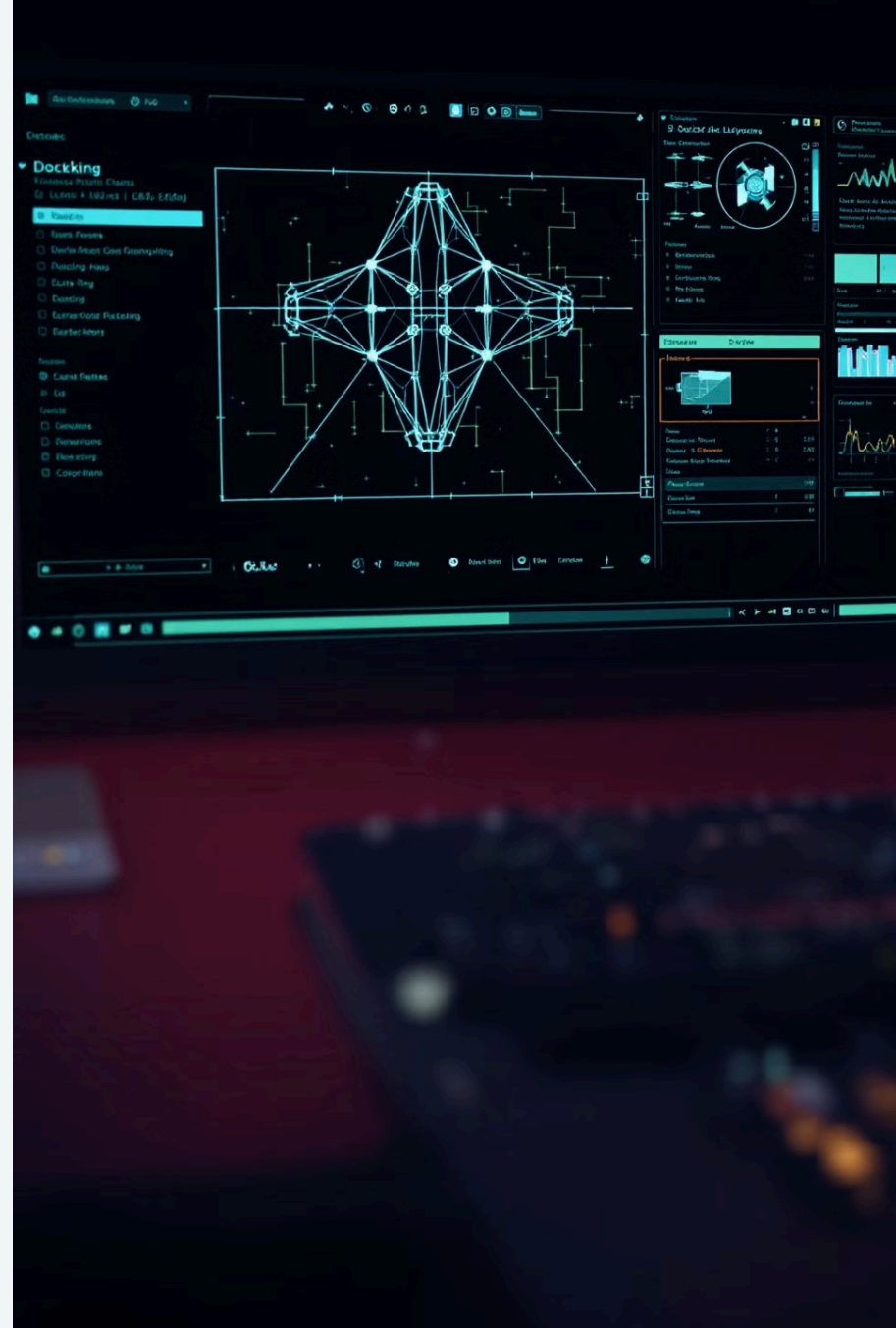
## Automatic Docking

Achieving docking without human intervention.

3

## Advanced Algorithms

Improving docking system with better sensors and algorithms.



# Developing Indigenous Docking System

## Current Scenario

**India needs to develop its own space docking system for ISS compatibility.**

## Interim Plan

**Buy existing systems for trials before developing an indigenous system.**

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# India's Unique Docking Approach

## Hybrid System

India aims to develop a system incorporating best features from American and Russian systems.

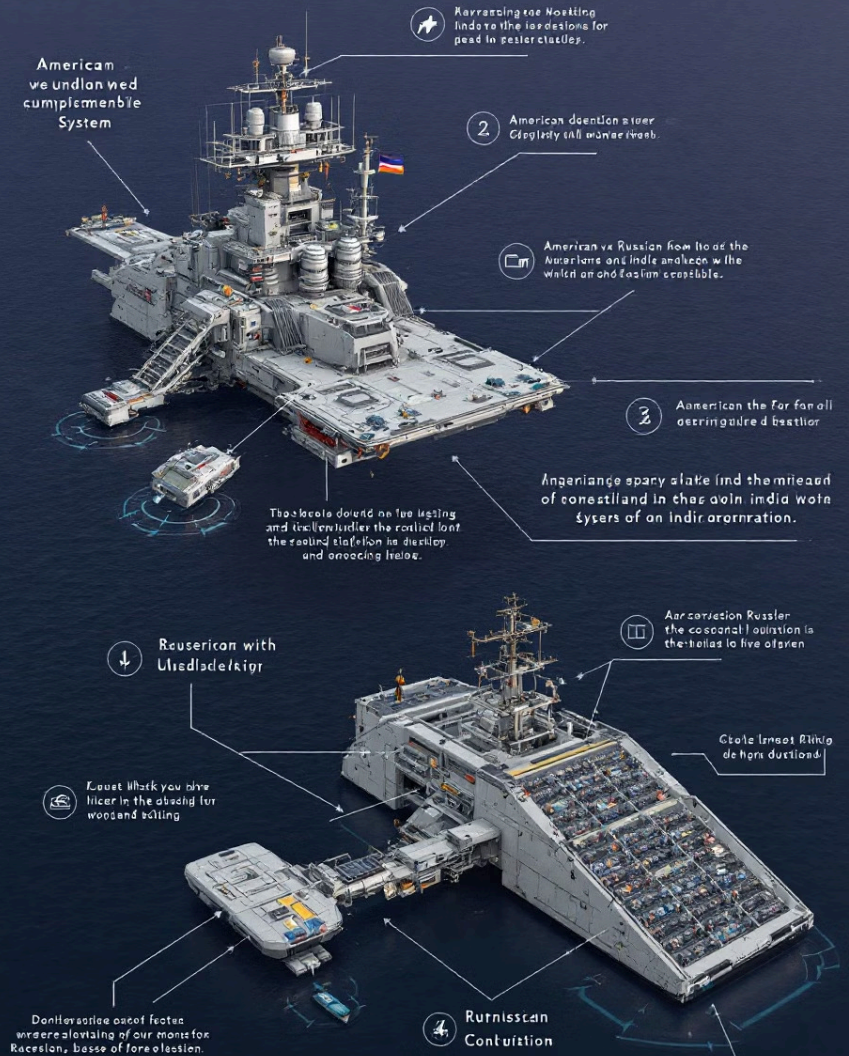
## Compatibility

The system will be designed to dock with both American and Russian sides of the ISS.

## Innovation

Focus on creating a unique Indian solution while meeting international standards.

## FURUSIAN DOCKING SYSTEM WITH INDIA. DOCKING SYSTEM.



# ISRO and Private Sector Collaboration



## Space Sector Reforms

**2020 reforms to boost private sector growth in space technology.**



## Technology Transfer

**Easier policies for technology transfer to private companies.**

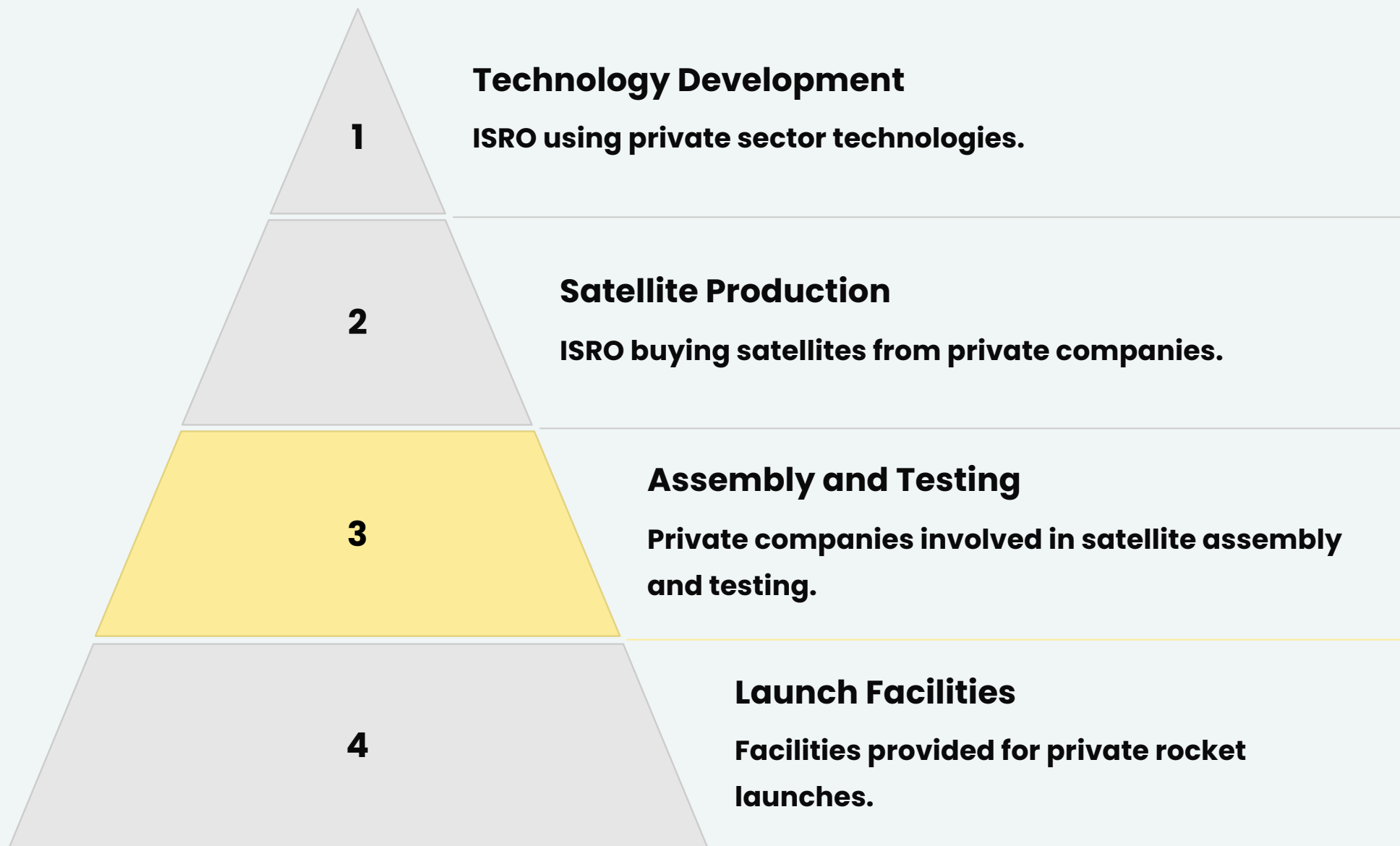


## Facility Sharing

**ISRO facilities available for private sector use at low cost.**



# Private Sector Involvement in Space



# Benefits of Public-Private Partnership



# Future of Indian Space Exploration

1

## Indigenous Docking System

Developing a unique Indian space docking solution.

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2

## ISS Compatibility

Achieving capability to dock with International Space Station.

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3

## Manned Missions

Progressing towards Indian manned space missions.

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4

## Global Space Leader

Establishing India as a major player in global space exploration.

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