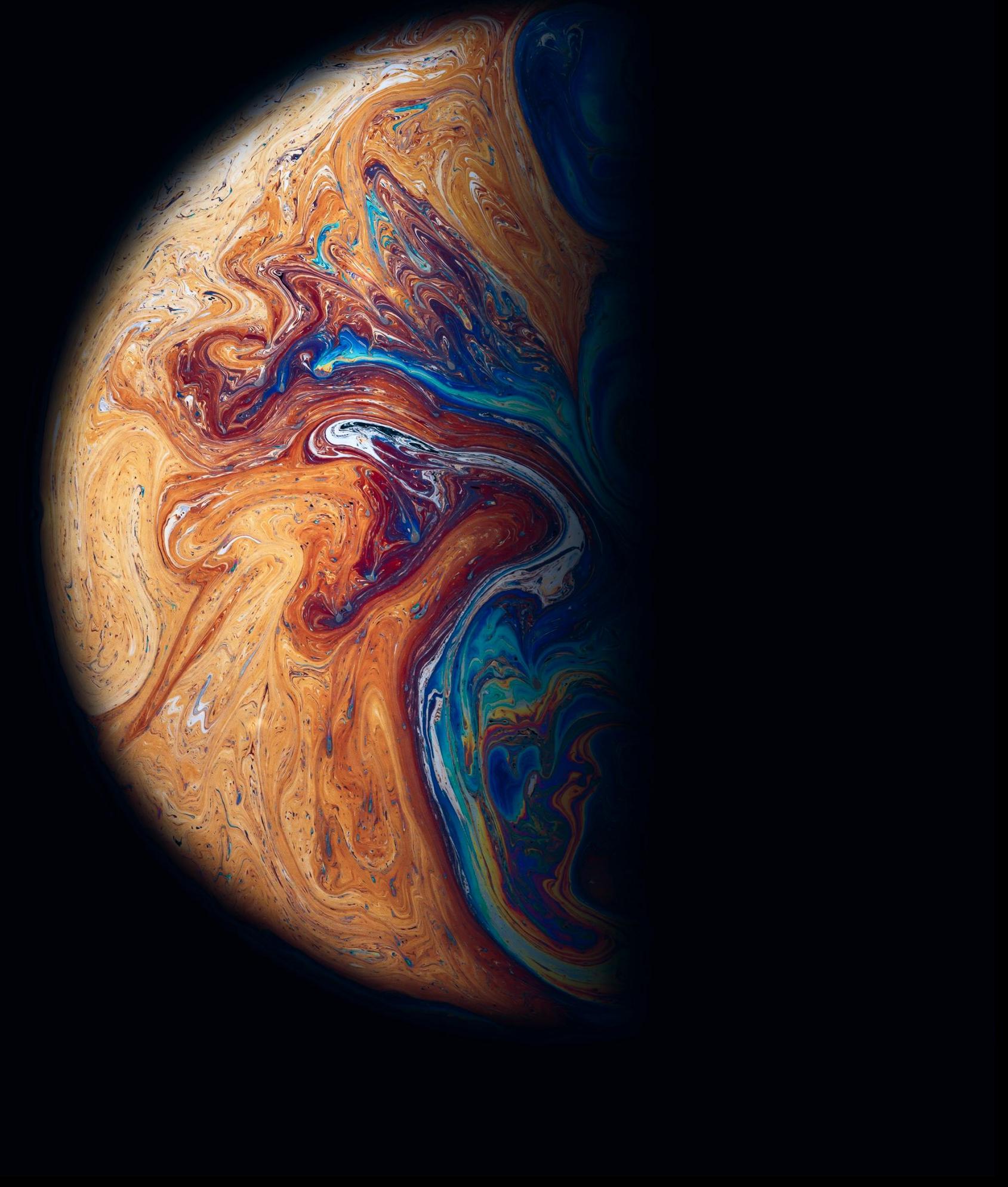


# Case Study - Analyzing a market

## Indian Space Economy

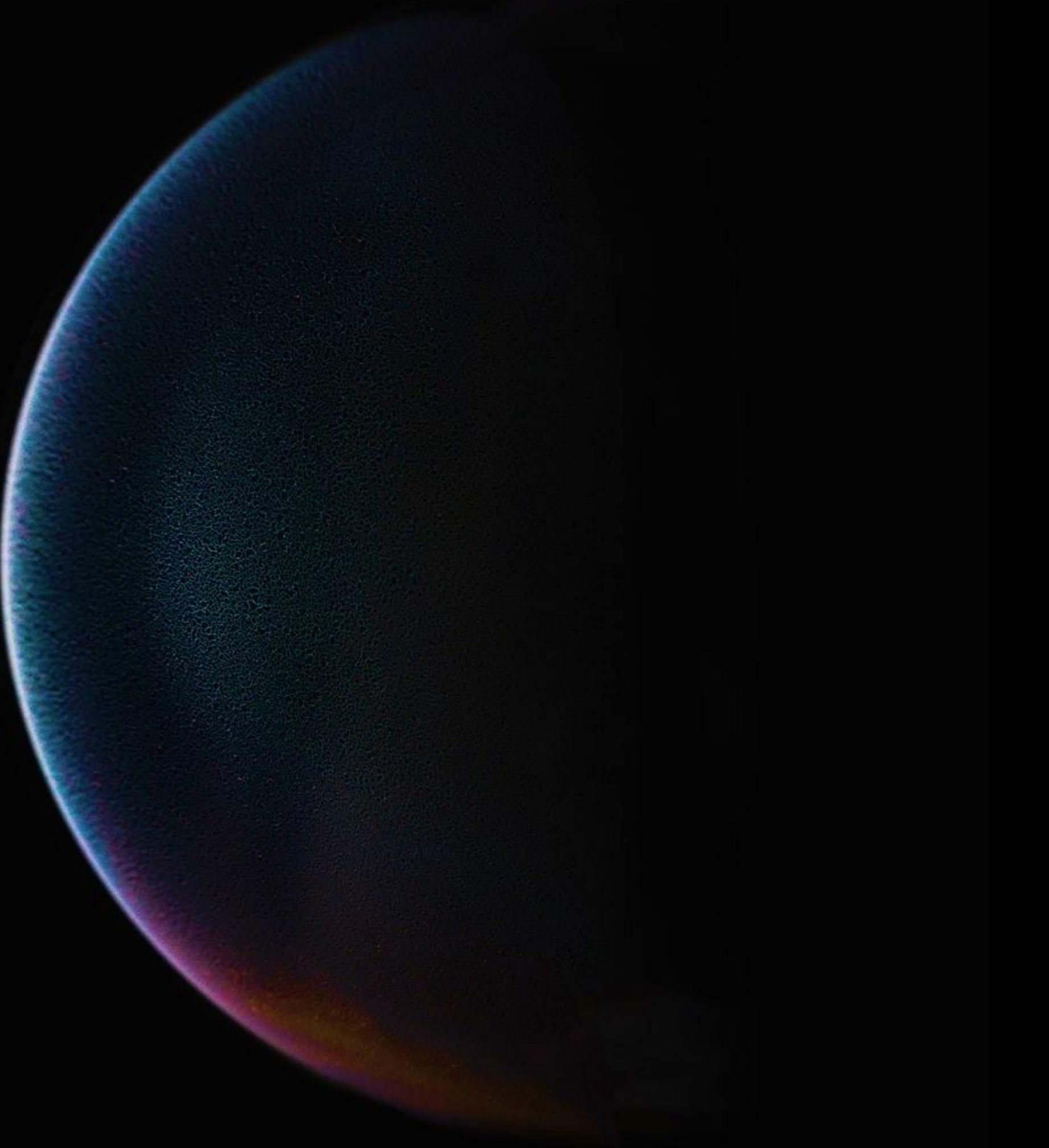


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## **How big is Indian Space economy?**

The Indian space economy is valued at approximately \$8.4 billion as of 2023, which constitutes about 2% of the global space economy. However, this segment is projected to grow significantly, reaching \$44 billion by 2033 due to increasing commercialization and government initiatives like the Indian Space Policy 2023.



# What are the sub-segments?

## **Satellite Manufacturing:**

Development and production of satellites for communication, earth observation, and scientific purposes.

**Launch Services:** Space launch vehicles and associated services for satellite deployment (e.g., ISRO's PSLV, GSLV).

## **Ground Systems:**

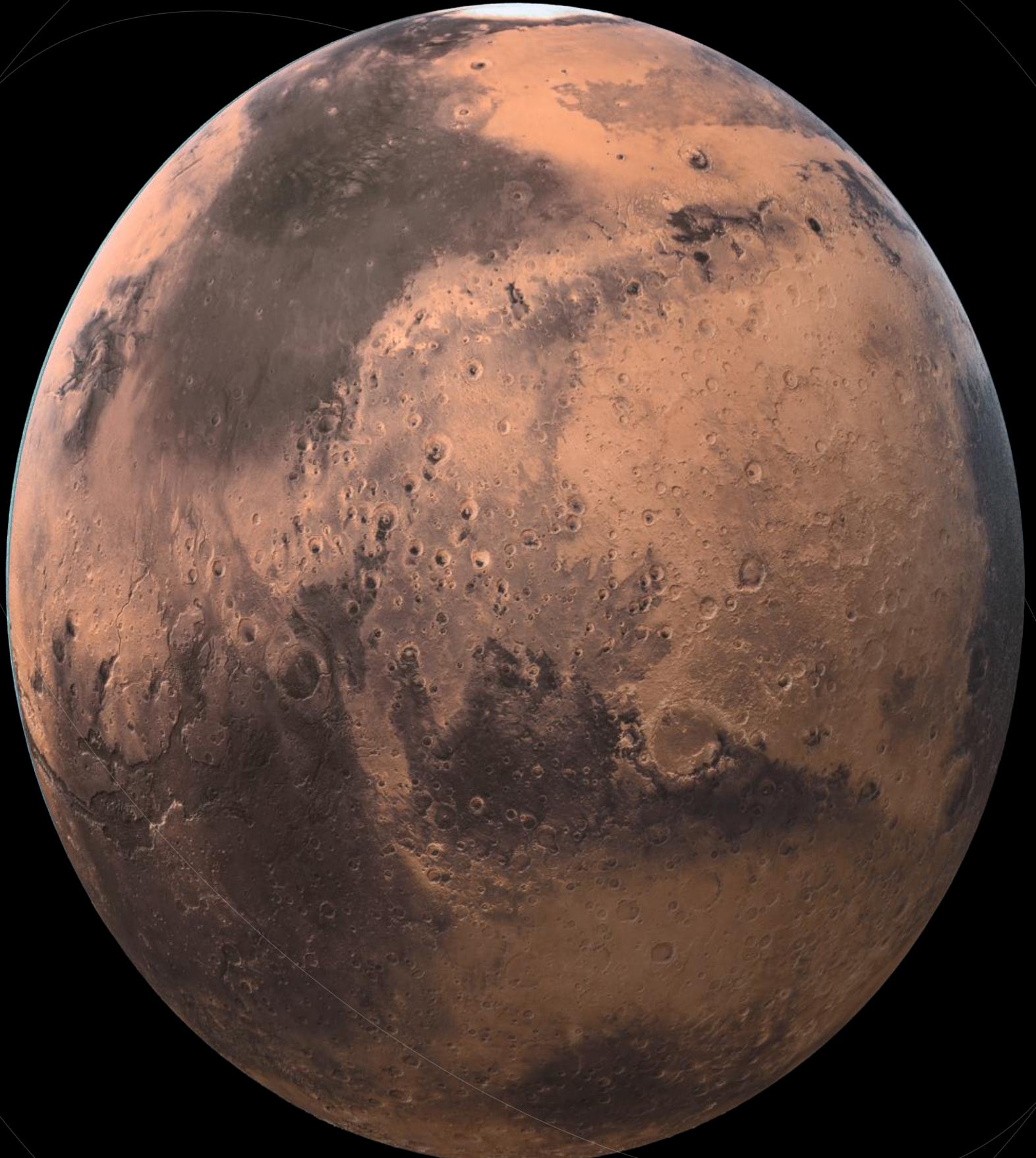
Infrastructure such as ground stations, antenna networks, and control systems to support satellite operations.

## **Downstream Services:**

Data applications, satellite communication, broadcasting, navigation, and remote sensing.

## **Space Tourism and Exploration:**

Emerging sub-segments around space travel and deep space exploration.



# **Jobs to be done for the users of Satellite Communication and Data Applications**

## **Enhancing Connectivity:**

Providing reliable satellite-based communication services in remote areas with limited terrestrial infrastructure.

## **Data-Driven Decision Making:**

Supplying real-time data for agriculture (e.g., crop health monitoring), disaster management (e.g., flood predictions), and climate analysis.

## **Optimizing Navigation Systems:**

Offering satellite-based navigation for transportation, logistics, and defense operations.



# Who are the players in this industry?

## Government Entities:

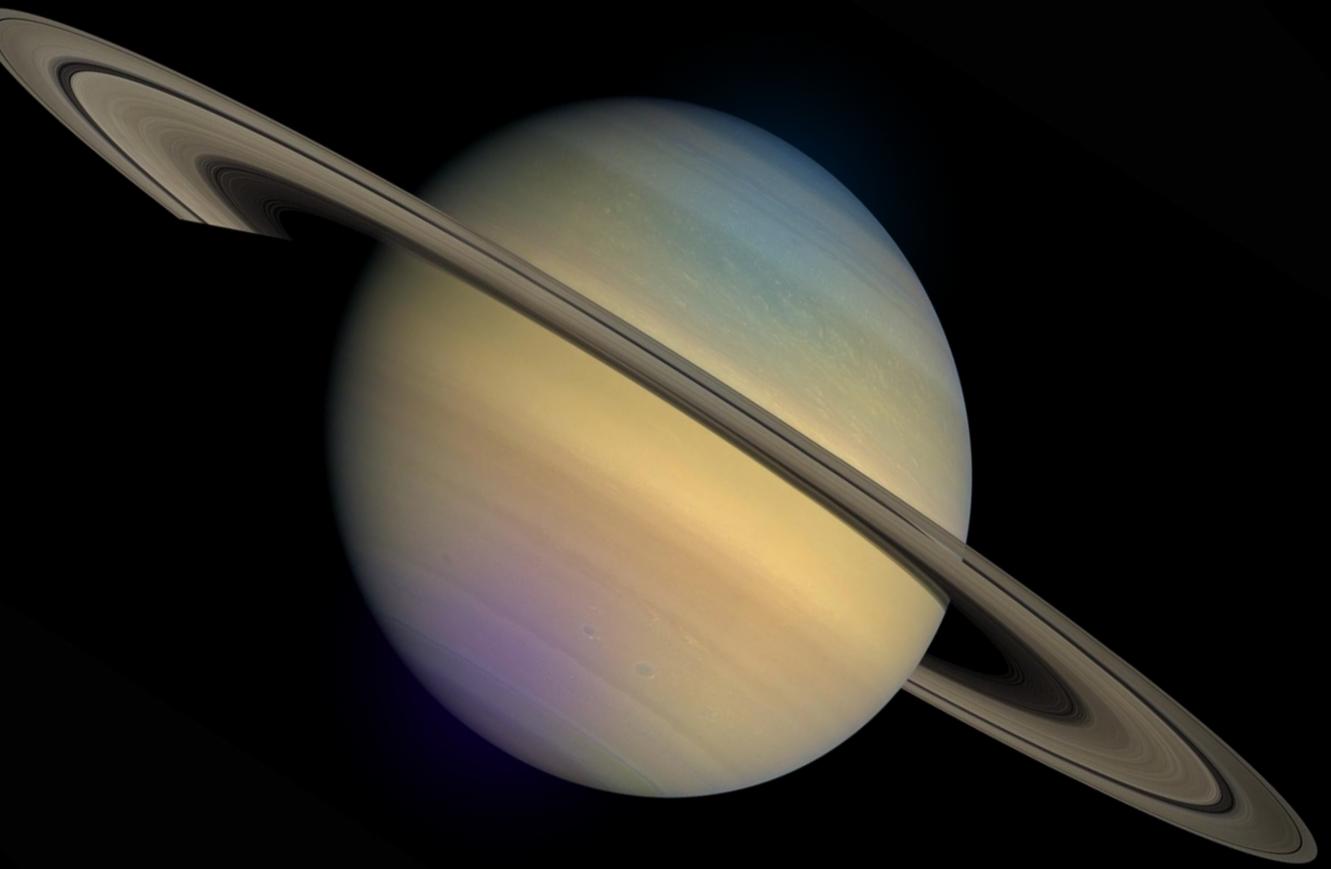
- ISRO (Indian Space Research Organization), NSIL (NewSpace India Limited).

## Private Companies:

- Satellite Manufacturing: Dhruva Space, Pixxel.
- Launch Services: Skyroot Aerospace, Agnikul Cosmos.
- Downstream Services: MapmyIndia, Astrome, Aniara Communications.

## Foreign Collaborators:

- International entities like SpaceX and OneWeb have partnerships with Indian firms for satellite communication and launched



# **Key parameters value propositions:**

## **Cost Efficiency:**

Offering affordable satellite launches and data services (India's cost-effective space programs, like the Mars Orbiter Mission, are well-known).

## **Reliability:**

Dependable satellite communication and data accuracy, especially in sectors like defense and agriculture.

**Innovation and Scalability:** Pioneering technologies (like reusable launch vehicles) and scaling up data applications for broader use across industries.

## **Geographic Coverage:**

Expanding communication and data services to rural and underserved areas, which is critical in a diverse geography like India.

## **Speed and Timeliness:**

Delivering timely satellite data for real-time applications such as weather forecasting or disaster management.



# Recent trends in this market

## Privatization and Commercialization:

The Indian government has opened the space sector to private players, creating opportunities for startups and foreign collaborations.

## Miniaturization of Satellites:

Rise of small satellite (cubesat) technologies, reducing costs and increasing deployment frequency.



## Space Tech for Agriculture:

Increasing use of satellite data for precision farming, crop monitoring, and water resource management.

## International Collaboration:

Partnerships with international organizations to enhance India's satellite communication and space exploration capabilities.

New Space Policy 2023: Encourages private sector participation, making India more competitive globally.

# How do you see this market changing in the future?

## Increased Private Sector Involvement:

- More private companies are expected to enter the market, providing innovative solutions across satellite services, communication, and launch operations.

## Focus on Satellite Constellations:

- Growth in satellite constellations (like Starlink or OneWeb) to enhance global internet connectivity.

## Expansion of Space Tourism:

- Emerging space tourism ventures and partnerships with global players may develop over the next decade.
- Data Analytics Growth: Satellite-generated data analytics will find more applications across sectors like urban planning, smart cities, and energy management.



# **Differentiation factors for a new entrant in Space market**

## **Specialized Data Solutions:**

Developing niche, data-driven solutions, especially for critical industries like agriculture, disaster management, and healthcare.

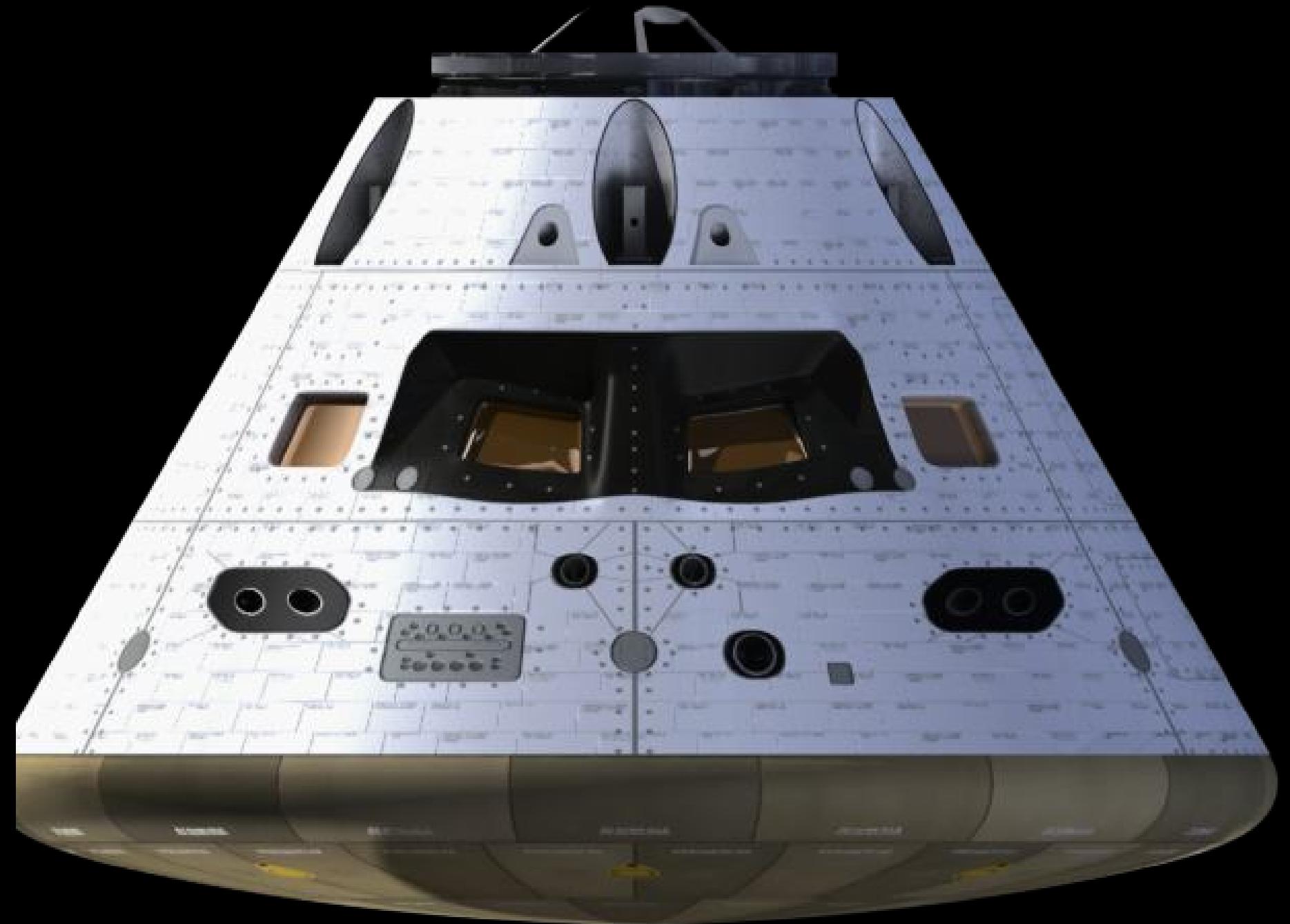
## **Hybrid Launch Technologies:**

Combining reusable and low-cost launch vehicles to offer cost-effective satellite launch services.

## **Collaborative Ecosystem:**

Leveraging partnerships with ISRO, international agencies, and startups for technology sharing and co-innovation.

**Localized Solutions:** Providing customized satellite communication services to underserved markets like remote rural areas.



# **If you were to build a product in this market for the chosen sub-segment, what would you focus on?**

I would focus on building a precision agriculture platform leveraging satellite data to optimize farming practices. This platform would integrate:

- Remote Sensing Data: To monitor crop health, soil moisture, and pest threats in real time.
- Predictive Analytics: Using machine learning to provide actionable insights like yield forecasts and irrigation recommendations.
- Weather Forecasting: Combining satellite data with ground observations for accurate, localized weather predictions.
- User-Friendly Mobile App: A mobile-first solution to make it accessible for farmers with easy-to-understand visualizations and actionable recommendations in regional languages.



# Thank you

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