

# “India as a market and manufacturing destination of Space and satellite components”



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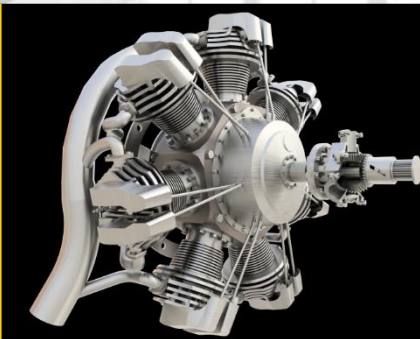
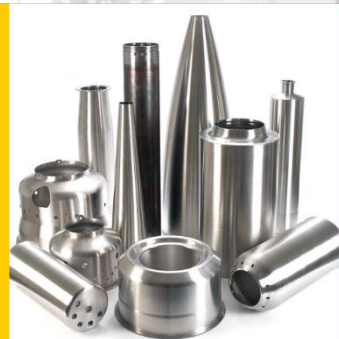
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# Coverage

- 1) AEROSPACE & SATELLITE COMPONENTS - SCOPE IN INDIA
- 2) STRENGTHS & OPPORTUNITIES - INDIAN MARKET
- 3) CENTER OF EXCELLENCE IN AEROSPACE RELATED APPLICATIONS
- 4) PROJECTED REVENUES AND EXPORT POTENTIAL - AEROSPACE.
- 5) CHALLENGES INDIAN SPACE SECTOR
- 6) CONCLUSION

IMAGE COURTESY: GOOGLE



# 1. Aerospace & Satellite Components - Scope In India

- **PREPARING TO SCALE NEW HEIGHTS: ENHANCING PRIVATE PARTICIPATION IN INDIA'S COMMERCIAL SPACE SECTOR**
- **ENTRY OF PRIVATE SECTOR IN THE INDIAN SPACE INDUSTRY**
- **VALUE CHAIN MAPPING OF THE PRIVATE SPACE SECTOR IN INDIA**



## 2. Strengths & Opportunities Of Indian Market

- **HUGE POTENTIAL IN AEROSPACE SATELLITE MANUFACTURING AS TRAINED MANPOWER EXISTS.**
- **GOVERNMENT SUPPORTS IN GETTING LAND, POWER AND OTHER NEEDS EASILY FOR FOREIGN INVESTORS.**
- **INDIA EXCELLED THE AEROSPACE TECHNOLOGY FOR SATELLITE & LAUNCHERS MANUFACTURING**

### **Size of India's space economy**

The current global space economy is pegged at USD 360 billion. The Indian space economy is valued at USD 7 billion, which is around 2% of the global space economy. The Indian space sector needs to grow at ~approximately 48% CAGR over the next five years to reach its target of USD 50 billion.

# 3. Center Of Excellence In Aerospace Related Applications

- ***COMPOSITE MATERIAL TECHNOLOGIES***
- **STRUCTURAL DESIGN AND ANALYSIS**
- **MACHINE LEARNING AND COMPUTATIONAL INTELLIGENCE**
- **TOOL DESIGN**
- **CONTROL SYSTEMS AND ROBOTICS**
- **AEROSPACE PRODUCTS 3D PRINTING**
- **PHOTONICS**
- **COMMUNICATION SYSTEMS**
- **BATTERIES AND BIOFUEL**
- **HUGE DATA MODELLING AND ANALYSIS**
- **CYBER SECURITY STUDIES**
- **SATELLITES FOR DEFENCE APPLICATIONS**
- **SPACE DEBRIS REMOVAL TECHNOLOGIES**
- **WASTE MANAGEMENT AND ENVIRONMENTAL ENGINEERING**

## 4(i). Projected Revenues And Export Market Potential - Aerospace

- **Satellite Payloads USD 11.3 Billion by 2026**
- **Space Propulsion Market USD 14.2 billion by 2025**
- **Small Satellite Market by Mass USD 7.1 billion by 2025**
- **Satellite Data Services Market by Vertical: USD 23.4 billion by 2025**
- **SATCOM Equipment Market for Space by Component: USD 7.0 billion by 2025**



## 4(ii). Projected Revenues And Export Potential - Aerospace

- **CubeSat Market by Application: CubeSats are a disruption for the space industry**
- **Space Robotics Market by Solution, Services: USD 4.36 billion by 2023**
- **Rocket Propulsion Market: USD 6.36 billion by 2023**
- **Space Situational Awareness (SSA) Market: USD 1.44 Billion by 2023**
- **Small Satellite Services Market by Platform: USD 53.22 Billion by 2022**

## 4(iii). Projected Revenues And Export Potential - Aerospace

- **Space Launch Services Market by Service Type: USD 27.18 Billion by 2025**
- **Remote Sensing Services Market by Platform : USD 21.62 Billion by 2022**
- **Satellite Bus Market by Subsystem:USD 13.64 Billion by 2022**
- **Satellite Antenna Market by Antenna Type: USD 2.99 Billion by 2022**
- **DC-DC Converter Market for Space by Application: USD 268.2 Million & FUTURE HIGH POTENTIAL**



# 5. Challenges In Indian Space Sector

- ❖ **The absence of a national space legislation leads to a lack of clarity on conducting space-related business activities in the country.**
- ❖ **There is a lack of awareness about the demands of the global space industry.**
- ❖ **Lack of established regulatory framework and guidelines for technology commercialisation and funding in the Indian space sector result in a dearth of private investment.**

## 6. Conclusion

- Several venture capitalists (VCs) are ready to invest in space start-ups; however, they do not have clear visibility into potentially
- A business-friendly and encouraging space act will encourage VCs invest more actively in the Indian space sector
- ISRO has been encouraging PPP in the Indian space sector in multiple areas like component manufacturing and satellite AIT. These activities are rightly positioned to help private players mature technologically and adopt the technical and process requirements of space systems



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**THANK YOU**