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Space Mining Market by Phase (Spacecraft Design, Launch, and Operation), Type of Asteroid (C-Type, M-Type, S-Type), Application (Construction, Fuel, and Others), Asteroid Distance, Commodity Resources, and Geography - Global Forecast to 2025

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Abstracts

The space mining market to grow at a CAGR of 23.6% from 2018 to 2025

The space mining market is expected to grow from USD 0.65 billion in 2018 to USD 2.84 billion by 2023, at a CAGR of 23.6%. Ongoing and impending space mining missions, increasing investments of private stakeholders in space mining companies, and rising number of government initiatives to frame regulations with respect to asteroid mining drive the space mining market growth. However, the high costs associated with asteroid mining may hinder the growth of the space mining market.

The market for the spacecraft design phase to grow at the fastest rate during the forecast period

The space mining market for the spacecraft design phase is expected to grow at the highest CAGR during the forecast period. A spacecraft is a vehicle machine designed to fly in outer space. It used for various purposes, such as communications, earth observation, meteorology, navigation, space colonization, planetary exploration, and transportation of humans and cargo. Depending on the mission type, the overall spacecraft is designed, consisting of various devices, such as instruments (which includes radiometers, spectrometers, thermal emission and reflection systems, cameras, magnetometers, and multispectral scanners, among others), altitude control systems, and electric power systems. The design of the spacecraft has vital importance as the spacecraft has to sustain in critical or extreme conditions in space, such as

microgravity.

Type M asteroids expected to grow at the highest CAGR in the space mining market during the forecast period

Type M asteroids are metallic asteroids and are made of rare metals, such as the platinum group metals (PGM). These asteroids dwell in the middle region of the main belt in between S-type and C-type asteroids and have albedos varying from 0.10 to 0.18. These asteroids account for nearly 8% of the known asteroids. Examples of M-type asteroids include 16 Psyche, 21 Lutetia, 22 Kalliope, and 55 Pandora, among others. Type M asteroid would grow at the highest CAGR during the forecast period. M-type asteroids can be mined, and mined materials can be used in construction activities in space. Precious metals can be mined and taken back to Earth. Hence, a few players are targeting M-type asteroids for exploration and mining.

Europe to grow at the highest CAGR in the space mining market during the forecast period

One of the pioneers in space agencies is the European Space Agency (ESA). ESA's mission is to shape the development of Europe's space capability and ensure that investments in space continue to deliver benefits to citizens across the world. Luxembourg is the first European country to have a legal framework for the extraction of space-based resources. Luxembourg, under the SpaceResources.lu initiative, provides legal, regulatory, and business environment, enabling private investors and companies to explore and use space resources. Also, the collaboration of Government of Luxembourg with various private players (such as Deep Space Industries and Planetary Resources) to explore and mine asteroids is expected to provide opportunities for the players in the space mining market. Therefore, Europe is likely to exhibit the highest CAGR in the space mining market during the forecast period.

In the process of determining and verifying the market size for several segments and subsegments gathered through secondary research, extensive primary interviews have been conducted with people holding key positions across regions. The breakup of the profiles of primary participants has been given below.

By Company Size: Tier 1 = 55%, Tier 2 = 25%, and Tier 3 = 20%

By Designation Level: C-Level Executives = 45%, Directors = 35%, and Others = 20%

By Region: North America = 75%, Europe = 15%, and APAC = 10%

Major players and space agencies in the space mining market include Deep Space Industries (US); Planetary Resources (US); Moon Express (US); ispace (Japan); Asteroid Mining Corporation (UK); Shackleton Energy Company (SEC, US); Kleos Space (Luxembourg); TransAstra (US); OffWorld (US); SpaceFab.US (US); National Aeronautics and Space Administration (NASA, US); European Space Agency (ESA, France); Japan Aerospace Exploration Agency (JAXA, Japan); China National Space Administration (CNSA, China); and Russian Federal Space Agency (ROSCOSMOS, Russia).

Reasons to Buy the Report

Illustrative segmentation, analysis, and forecast pertaining to the space mining market based on phase, type of asteroid, and geography have been conducted to provide an overall view of the market.

The report covers qualitative information on different types of commodity resources available in space, categorization of asteroids based on their distance from earth, applications of space mining, and space and on-earth utilization of space-mined materials.

Major drivers, restraints, opportunities, and challenges pertaining to the space mining market have been detailed in this report.

A detailed competitive landscape of the key players (along with their revenues) in the market has been included in this report.

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