

# The Business of Space: Newly emerging private space industry has significant opportunities & risks

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# **Abstracts**

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## SUMMARY

In recent years, moves by NASA to privatize aspects of its operations has sparked a new interest in space travel and new space opportunities for many businesses. The most clear of those opportunities has come from the private rocket industry as they snapped up NASA and commercial contracts to deliver equipment such as satellites into space. As NASA continues to commercialize its assets and refocus, it is becoming increasingly clear that there are many challenges and obstacles for companies that want to move into the new Space sector. The most important of all of them, from a business perspective, is the economic case. Many new emerging industries simply don't make sense at the moment as private businesses and that is causing a number of hold-ups in the development of a new space industry.

## **KEY HIGHLIGHTS**

Space debris is a serious long-term threat to the usability of space. When travelling at several miles per second even small flecks of paint will make bullet sized holes in satellites, potentially causing the impacted craft to cease functioning, orbiting Earth devoid of control and therefore capable of causing massively larger collisions with other satellites. Avoiding dystopian scenarios by cleaning up space of debris is now attracting far more attention. The number of objects has ballooned in the past decade, helping to bring about commercial solutions to the problem. Yet, these could easily be insufficient unless the future



marketplace is helped along by governments agreeing to new rules.

For decades the National Aeronautics and Space Administration (NASA) enjoyed sole access to space from the United States. Since 2006, however, the agency has been working with private companies, the progress of which has advanced to the point whereby rocket and spacecraft design and manufacture are being outsourced to private providers. Under pressure to cut costs, NASA is integrating private enterprise into long-term future plans. Yet despite the excitement regarding commercial enterprises winning access to space, some notes of caution are worthwhile. Grandee missions, however, will remain the preserve of the government agency. Flamboyant billionaires cannot muster, and could not justify, the budgets required.

For a while it looked as though the much vaunted age of space tourism would be limited to business billionaires buying rides aboard aging Russian space rockets. After numerous failures and lengthy delays, the formative stages of what may turn into a lucrative industry are now seemingly tantalizingly close to reality. Some companies are looking beyond sub-orbital flights lasting only a few minutes; SpaceX are proclaiming to be preparing for a trip around the Moon in 2023. Lengthy trips into space are edging closer: serious progress towards the creation of private space station has been made and NASA are seeking private buyers of access to the International Space Station. Much is changing very quickly in the still nascent space tourism industry, inciting hope for human exploration.

#### SCOPE

Examine some of the major trends in the space industry

Look at any emerging opportunites for businesses looking to enter the market

Learn just what problems companies are facing and why many emerging industries have failed to get off the ground

See who the main players are and what their business models are

#### **REASONS TO BUY**

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What progress has been made in the satelite industry?

Who are the main players in rocket delivery?

What emerging industries are likely to get off the ground?

What emerging industries are unlikely to become a reality?



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1.4. Space industries of the future are developing, but still limited by economics

## 2. CLEANING UP SPACE IS EDGING CLOSER TO COMMERCIAL VIABILITY

2.1. Now testing in space is taking place, a commercially viable future looms

2.2. e.Deorbit problems exposes difficulties in creating marketplace for cleaning of space

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4.3. Creation of space tourist space station is drawing closer as technology develops4.4. Space tourism is now extending to the Moon but pushing extremes incites viability doubts for now

## 5. SPACE INDUSTRIES OF THE FUTURE ARE DEVELOPING, BUT STILL LIMITED BY ECONOMICS

- 5.1. Private rocket companies need reliable space industries to supply
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