



PART 2

Read the text below and answer questions 14–26.

THE NEW SPACE ECONOMY: BEYOND SATELLITES

The “new space economy” describes the expanding commercial activity built around space technology, and its centre of gravity is shifting away from a narrow focus on satellite ownership. While spacecraft in low Earth orbit and geostationary positions remain fundamental infrastructure, growth is increasingly driven by launch services, in-orbit operations, space-based data products, and early-stage plans for manufacturing and resource use beyond Earth. Two forces have lowered barriers to entry: falling launch costs and miniaturisation, which allow smaller spacecraft to deliver specialised services. As a result, startups can compete alongside national agencies and long-established contractors, often by targeting niche markets, iterating rapidly, and relying on standardised components rather than bespoke hardware.

Reusable rockets have become an emblem of this shift, but their economic impact is frequently misunderstood. When a booster can be flown multiple times, the cost per kilogram to orbit may fall because the expensive hardware can be spread across many missions through amortisation. Reuse also allows firms to learn faster: frequent flights generate operational data, shorten development cycles, and enable design iteration at a pace that traditional launch models rarely support. However, reusability does not eliminate major costs. Refurbishment, quality assurance, insurance, and range operations remain substantial, and savings depend on utilisation. If flight rates are low—because demand is weak, payloads are scarce, or schedules are disrupted—then the fixed costs of a reusable system are spread over too few launches, and prices do not automatically drop. In short, reusability can reduce costs only if launch frequency is high; it does not guarantee lower prices regardless of demand.

At the same time, the sector is becoming more service-oriented, creating business models that resemble “space-as-a-service”. Instead of purchasing and operating spacecraft, customers increasingly buy capabilities: communication bandwidth, navigation augmentation, or Earth observation as a subscription. This changes where value accumulates. Hardware still matters, but competition often shifts downstream into software, analytics, and customer integration. Companies that control data pipelines can transform imagery into decision tools for agriculture, disaster response, insurance modelling, and supply-chain monitoring. In these cases, value increasingly comes from interpreting data rather than from spacecraft hardware alone, because insights can be sold repeatedly while the satellite platform is amortised across many customers.



In-orbit services are an emerging sector that could further alter the economics of fleets. Servicing missions aim to refuel, reposition, or inspect satellites, potentially extending lifetimes and improving returns on capital that would otherwise be stranded by fuel limits or minor component degradation. On-orbit assembly is also discussed as a route to building structures too large to launch in a single piece, including modular telescopes or infrastructure for future industrial use. Yet these activities demand exceptional precision, robust autonomy, and careful verification. They also raise questions of liability: if a servicing vehicle damages another operator's satellite, responsibility must be clear enough for insurers and investors to price risk. Without reliable rules and trusted technical standards, in-orbit services struggle to move from demonstration to scalable industry.

Debris and orbital congestion are increasingly treated as system-level constraints rather than mere background hazards. As more objects are launched, collision risk rises, and even small fragments can destroy spacecraft at orbital speeds. Analysts warn of cascading dynamics sometimes described as the Kessler syndrome, in which collisions generate debris that triggers further collisions, potentially rendering valuable orbital shells unusable for decades. Because these risks can undermine the entire market, industry and regulators face pressure to improve tracking, adopt deorbiting standards, and coordinate space traffic management. The economic challenge is collective-action: individual firms may underinvest in mitigation if costs are private but benefits are shared, yet long-term commercial viability depends on shared discipline.

Finance is both an enabler of innovation and a source of fragility. Venture capital has fuelled rapid experimentation, particularly in launch startups, small-satellite manufacturers, and analytics firms. However, space markets often have long timelines, high technical uncertainty, and revenue that is difficult to forecast. Some companies have collapsed after failing to secure follow-on funding or stable contracts, especially when customer adoption lagged behind optimistic projections. For the space economy to mature, customers must be willing to pay for services beyond novelty, and firms must demonstrate credible unit economics rather than relying on perpetual fundraising. In this sense, the sector's growth is shaped not only by engineering feasibility but also by the cost of capital and investor patience.

Regulation is struggling to keep pace with commercial expansion. Licensing, spectrum allocation, and safety oversight vary across jurisdictions, and firms sometimes engage in jurisdiction shopping to secure faster approvals or more permissive operating conditions. This creates competitive pressure on regulators: strict rules may protect safety but push business elsewhere, while lenient rules may attract activity but increase systemic risk. International treaties such as the Outer Space Treaty provide broad principles, but many



newer activities—ranging from large mega-constellations to prospective resource extraction—raise contested questions about property-like rights, environmental responsibility, and enforcement mechanisms. The practical dilemma is how to write rules that preserve safety and shared access without choking innovation, while also preventing regulatory arbitrage from becoming a race to the bottom.

Overall, the new space economy is moving beyond satellites into a complex ecosystem of launches, services, in-orbit operations, and governance challenges. Its long-term trajectory will depend on sustained demand that supports high utilisation, responsible debris management that protects orbital commons, and regulatory frameworks that reduce uncertainty without incentivising jurisdiction shopping. The sector's promise lies in the compounding value of space-derived services—communications, navigation, and analytics—but its risks arise from the same forces that drive growth: rapid scaling, crowded orbits, and uneven institutional capacity to govern shared environments.

Questions 14–18

Choose **TRUE** if the statement agrees with the information given in the text, choose **FALSE** if the statement contradicts the information, or choose **NOT GIVEN** if there is no information on this.

14 The passage suggests that lower launch costs and smaller spacecraft have made it easier for new companies to enter the space sector.

15 The passage states that reusable boosters can typically be reflown within 24 hours.

16 The passage suggests that, for some commercial services, value increasingly comes from interpreting data rather than from spacecraft hardware alone.

17 The passage states that on-orbit servicing has already eliminated the problem of space debris.

18 The passage mentions that international treaties such as the Outer Space Treaty provide broad principles for space activity.

Questions 19–22

Select the correct answer.

19 What does the passage suggest is one advantage of reusable rockets?

A They remove the need for safety oversight during launches

B They may lower the cost per kilogram to orbit and allow faster design iteration



- C** They reduce insurance costs to a negligible level
- D** They ensure profitability even when demand is uncertain

20 What is the writer's point about "space-as-a-service"?

- A** It mainly benefits customers who already own spacecraft
- B** It is limited to communication services rather than observation or navigation
- C** It allows customers to use space-based capabilities without owning spacecraft
- D** It reduces the importance of analytics in commercial space markets

21 Why does the passage suggest in-orbit services are difficult to develop?

- A** They require high precision and clear rules about liability if operations fail
- B** They depend on removing all autonomous systems from spacecraft
- C** They are restricted to government agencies under current practice
- D** They require launching large structures in a single piece

22 What risk is mentioned in relation to finance in the space economy?

- A** Venture capital funding makes government contracts unnecessary
- B** Companies fail mainly because launch costs are rising rapidly
- C** Space markets mature quickly once a product attracts attention
- D** Long timelines and uncertain revenue can cause firms to collapse without follow-on funding

Questions 23–26

Complete the sentences below. Choose **NO MORE THAN TWO WORDS** from the text for each answer.

23 Space-based imagery can be transformed into decision tools for agriculture,, insurance modelling and supply-chain monitoring.

24 Servicing in orbit may extend satellite

25 Debris and increase the risk of collisions in orbit.

26 Differences in national licensing and oversight can encourage

Answer Key

14. TRUE

15. NOT GIVEN

16. TRUE



17. FALSE

18. TRUE

19. B

20. C

21. A

22. D

23. disaster response

24. lifetimes

25. orbital congestion

26. jurisdiction shopping