SpaceX Reveals Plans for Orbital Data Centre Satellites

Description

SpaceX Chief Executive Elon Musk recently shared further technical details about the company's ambitious plans to create an orbital data center constellation. Speaking at an event on March 21 in Austin, Texas, Musk highlighted the collaboration between SpaceX, Tesla, and xAI, all companies he leads, aimed at significantly boosting the production of high-end computer chips for both terrestrial and space uses.

The initiative, known as the Terafab project, aims to produce one terawatt of processors annually. Musk emphasised that this figure is 50 times the total output of existing chip manufacturers, which are necessary for advanced applications like artificial intelligence (AI). He stressed that these processors are the key to deploying a large number of satellites to form an orbital data center.

In late January, SpaceX submitted a proposal to the Federal Communications Commission (FCC) seeking to launch a constellation of up to one million satellites for AI applications. The application lacked details about the satellites' specifications, but Musk described an "AI Sat Mini," which would initially operate in this constellation. Each satellite will provide 100 kilowatts of power for onboard AI processors.

Musk shared a scale illustration of the satellite next to SpaceX's Starship V3, indicating its considerable size. He also addressed concerns about heat rejection from satellites, arguing that SpaceX is well-equipped to manage thermal issues in space.

The Terafab initiative will launch from an "Advanced Technology Fab" in Austin, with a focus on producing a specific chip designed for space. However, Musk did not specify timelines for this project or costs related to the orbital data center constellation. He concluded his presentation with a vision of future satellites being constructed on the moon.

Vocabulary List:

1. **constellation** //ˌkɑnstəˈleɪʃən// (noun): group of satellites working together in space
2. **processors** //ˈprɑsɛsərz// (noun): small computers that do calculations and tasks
3. **terawatt** //ˈtɛrəwɑt// (noun): a very large unit of power
4. **proposal** //prəˈpoʊzəl// (noun): a formal plan or suggestion for action
5. **specifications** //ˌspɛsɪfɪˈkeɪʃənz// (noun): detailed information about how something should be
6. **thermal** //ˈθɜrməl// (adjective): connected with heat or high temperatures

Comprehension Questions

Multiple Choice

1. What is the name of the project aimed at producing one terawatt of processors annually?

   Option: Terafab project
   Option: AI Sat Mini
   Option: Starship V3
   Option: Orbital Data Center

2. How many times greater is the Terafab project's output compared to existing chip manufacturers?

   Option: 10 times
   Option: 20 times
   Option: 50 times
   Option: 100 times

3. What kind of applications are the processors from the Terafab project intended for?

   Option: Only space uses
   Option: Terrestrial and space uses
   Option: Only terrestrial uses
   Option: Only military uses

4. Which commission did SpaceX submit a proposal to for launching satellites?

   Option: Federal Aviation Administration
   Option: Federal Communications Commission
   Option: National Aeronautics and Space Administration
   Option: Department of Defense

5. How many satellites does SpaceX propose to launch for AI applications?

   Option: 100,000
   Option: 500,000
   Option: 1 million
   Option: 5 million

6. What is the power output of each AI satellite in the constellation?

   Option: 50 kilowatts
   Option: 75 kilowatts
   Option: 100 kilowatts
   Option: 150 kilowatts

True-False

7. Elon Musk leads SpaceX, Tesla, and xAI.

8. The Terafab project will produce one terabyte of processors annually.

9. The Terafab initiative will launch from an Advanced Technology Fab in Los Angeles.

10. Musk described an AI Sat Mini to operate in the proposed constellation.

11. Musk provided a specific timeline for the Terafab project during his presentation.

12. The future satellites are envisioned to be constructed on the Mars.

Gap-Fill

13. The initiative known as the Terafab project aims to produce one terawatt of _____ .

14. Musk emphasized that processors are key to deploying a large number of _____ .

15. Each satellite will provide 100 kilowatts of _____ for onboard AI processors.

16. The proposal to launch satellites was submitted to the Federal Communications _____

.

17. Musk shared a scale illustration of the satellite next to SpaceX's Starship _____ .

18. Musk concluded his presentation with a vision of future satellites being constructed on the

_____ .

Answer

Multiple Choice: 1. Terafab project 2. 50 times 3. Terrestrial and space uses 4. Federal Communications Commission 5. 1 million 6. 100 kilowatts
True-False: 7. True 8. False 9. False 10. True 11. False 12. False
Gap-Fill: 13. processors 14. satellites 15. power 16. Commission 17. V3 18. moon

Vocabulary quizzes

Multiple Choice (Select the Correct answer for each question.)

1. What do constellations primarily represent in the night sky?

   Option: Groups of stars
   Option: Planets
   Option: Galaxies
   Option: Comets

2. What is the main function of processors in a computer?

   Option: Storage
   Option: Processing data
   Option: Networking
   Option: Input

3. A terawatt is a unit of power equal to how many watts?

   Option: 1,000 watts
   Option: 1 million watts
   Option: 1 billion watts
   Option: 1 trillion watts

4. What is typically included in a proposal?

   Option: Decorative elements
   Option: Business strategies
   Option: Personal opinions
   Option: Random thoughts

5. What does thermal energy relate to?

   Option: Sound
   Option: Heat
   Option: Light
   Option: Electricity

6. What are propellants primarily used for?

   Option: Cooling engines
   Option: Creating thrust
   Option: Generating electricity
   Option: Storing fuel

7. Which of the following is a primary component of natural gas?

Option: Ethane
Option: Propane
Option: Methane
Option: Butane

8. What does thrust measure in a propulsion system?

Option: Speed
Option: Force
Option: Weight
Option: Distance

9. Cryogenic technology is most commonly used in which field?

Option: Cooking
Option: Space exploration
Option: Fashion design
Option: Agriculture

10. What is the benefit of reusable launch vehicles?

Option: Increasing cost
Option: Reducing waste
Option: Limiting access
Option: Increasing energy

Gap-Fill (Fill in the blanks with the correct word from the vocabulary list.)

11. After the combustion process, the exhaust contained a significant amount of _____ .

12. The rocket's performance _____ expectations during the test flight.

13. The startup secured additional _____ to expand its operations.

14. The platform has different service levels, with each _____ offering unique features.

15. Many _____ supported the innovative project through crowdfunding.

16. The event offered _____ access to its VIP guests.

17. The team built significant _____ heading into the final stages of the project.

18. During the long trip, we had a three-hour _____ at the airport.

19. The company issued _____ for all employees attending the conference.

20. The documentary was _____ with subtitles for better understanding.

Matching Sentences (Match each definition to the correct word from the vocabulary list.)

21. Over the years, she gradually accumulated a vast knowledge of history.
22. The school's alumni reunion brought together graduates from all classes.
23. The event was designed to celebrate and honor military spouses.
24. The ancient temple was sadly desecrated by vandals.
25. Archaeologists planned to excavate the site for hidden artifacts.
26. The prosecutors presented strong evidence during the trial.
27. The skeletal remains were found in the abandoned building.
28. Plants use chlorophyll to absorb light for photosynthesis.
29. Environmental degradation can have severe impacts on biodiversity.
30. The city's proposal for a new park received public support.

Answer

Multiple Choice: 1. Groups of stars 2. Processing data 3. 1 trillion watts 4. Business strategies 5. Heat
6. Creating thrust 7. Methane 8. Force 9. Space exploration 10. Reducing waste
Gap-Fill: 11. soot 12. surpassed 13. funding 14. tier 15. backers 16. exclusive 17. momentum 18. Layover
19. Travel orders 20. Captioned
Matching sentence: 1. accumulated 2. reunion 3. spouses 4. desecrated 5. excavate 6. prosecutors 7. skeletal
8. chlorophyll 9. degradation 10. proposal

CATEGORY

1. Sci/Tech - LEVEL5

POST TAG

1. ESL learning

2. esl news
3. Level 5
4. orbital data center
5. satellites
6. spaceX

Tags

1. ESL learning
2. esl news
3. Level 5
4. orbital data center
5. satellites
6. spaceX

Date Created
2026/03/23
Author
aimeeyoung99