

Objectives for 2024

Assuring America's Leadership in Space

March 11-13, 2024

Meeting Agenda

- About Us - Who We Are
- Our Goals
- Primary Objectives
- Secondary Objectives
- Closing/Discussion

About Us

Who We Are

- Private U.S. citizens, advocating, at our own expense, for a bold and well-reasoned space agenda, worthy of the United States.

Nonprofit Supporting Organizations

- National Space Society
- Space Frontier Foundation
- Foundation for the Future
- Lifeboat Foundation
- The Mars Foundation
- The Mars Society
- The Moon Society
- International Space Elevator Consortium
- Space Development Foundation
- Space Development Network
- Space Development Steering Committee
- Space For Humanity
- Space Renaissance USA
- Space Tourism Society
- Students for the Exploration and Development of Space
- United States Space Force Association



Our Goals

- Reduce the cost of access to space
- Stimulate and accelerate the growth of space industries and commerce
- Make the development and settlement of space a clearly defined part of why we send humans into space

Follow up to Last Year

Thank you for helping address these topics:

- **Primary**

- Learning Period Extension
- Space Based Solar Power Demo
- NEO Surveyor

- **Secondary**

- Commercial LEO Destinations
- Commercial Crew Program
- Human Landing Systems
- Lunar Gateway
- Commercial Lunar Payload Services
- Science Technology Mission Directorate

Primary Requests

- **Pass the Commercial Space Act (H.R. 6131)** which ensures US space treaty compliance by “novel” commercial space activities.
 - **Enable/Elevate the Office of Space Commerce**
 - **Study the commercial potential of Space Solar Power**
 - **Extend the “learning period” for human spaceflight**
- **Improve Licensing of Space Launch and Elevate the FAA’s Office of Commercial Space Transportation (AST)** to become a separate agency reporting directly to the Secretary of Transportation.

Secondary Requests

- Continue to fully fund **Commercial LEO Destinations (CLD)** program to ensure continued US access to, and presence in, low Earth orbit (LEO), while promoting economic development in LEO. (\$229.6M FY25 Projected)
- Continue to fully fund the **Near Earth Object Surveyor (NEO Surveyor)** mission to protect the Earth from hazardous objects. (\$337.7M FY25 Projected)
- Fully fund the **Space Technology Mission Directorate (STMD)** research agenda, including in situ resource utilization projects, to close technology gaps critical to sustainable presence beyond LEO. (\$1,419.4M FY25 Projected)
- Support (and fund) the **ORBITS Act of 2023 (S. 447)** to demonstrate technologies to mitigate the hazard of orbital debris. (\$150M FY24 - FY28 Projected)

Support the Commercial Space Act of 2023 (H.R. 6131)

- **An incremental and light touch approach to Mission Authorization**
 - H.R. 6131 is the House's approach to fix a regulatory ambiguity related to 'novel' space activities along with a few other items that are also on our agenda
 - Outer Space Treaty (Article VI) requires U.S. to authorize/supervise all commercial space activities, but no agency has express authority to handle novel activities.
 - The bill grants clear mission authorization authority to the DoC's Office of Space Commerce (see subsequent slides).
 - OSC can assure commercial treaty compliance through a lightweight registration and notification mechanism.
 - Bill does not attempt to fix all possible future problems that may or may not need additional regulation in the future. As issues ripen and consensus on approaches arise, future legislation can build on H.R. 6131's framework to promote safe and sustainable space enterprise in Earth orbit and beyond.
- **In addition to Mission Authorization, the following issues covered in H.R. 6131 must be addressed by this Congress (via H.R. 6131 or similar legislation) because they are vital to achieving Alliance goals.**

Will you support passing H.R 6131 out of the House or a similar Senate bill?



Elevate Office of Space Commerce

Background

- The Office of Space Commerce was created by the Commercial Space Act of 1998 (51 USC 507) to foster economic growth, coordinate Commerce Department space policies and actions, advocate for U.S. industry abroad, and promote geospatial and position, navigation, and timing (PNT) technologies and interagency PNT planning.
- The Office currently licenses commercial remote sensing systems and has been tasked with building a comprehensive Space Situational Awareness system.
- The Office currently resides within the NOAA bureaucracy, but its responsibilities cut across several Commerce Dept Bureaus (NOAA, NIST, NTIA, ITA, BIS, etc...)
- As the commercial space sector has grown over the past decade, the need for high-level promotion and coordination of commercial space policy has become obvious. The Office of Space Commerce is the only organization qualified and legislatively chartered to do that holistically and with a mandate to promote the entire range of the commercial space industry.
- The industry needs an active, well funded advocate in Government that understands that space policy is *economic* policy, not just science or national security.



Elevate the Office of Space Commerce

- **The Office of Space Commerce is the logical location for the bulk of federal oversight and promotion of commercial space issues.**
- **Regardless of where those issues are situated, the same dollars would need to be spent to address the issues that are appear as the industry grows.**
- **Therefore, the Office of Space Commerce**
 - should be designated as a Bureau within the Department of Commerce,
 - its Director should report directly to the Secretary of Commerce,
 - and its FY 2025 budget should be \$80M as requested for FY25.

Will you support elevating the Office of Space Commerce to a full bureau reporting directly to the Commerce Secretary?

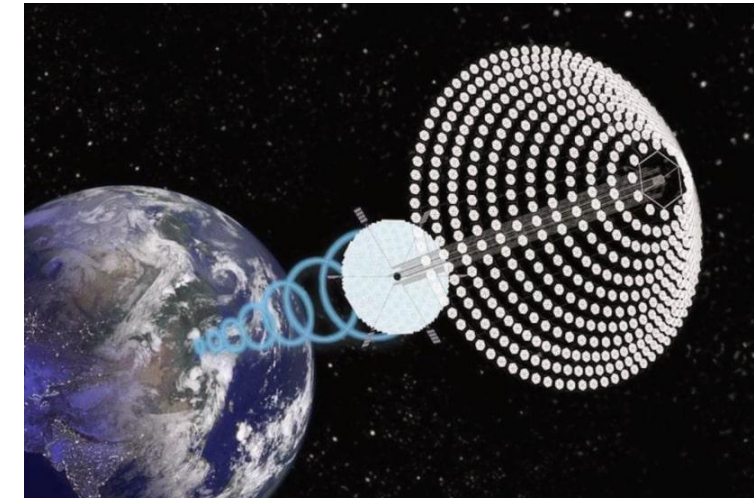


Commercial Space Solar Power Study

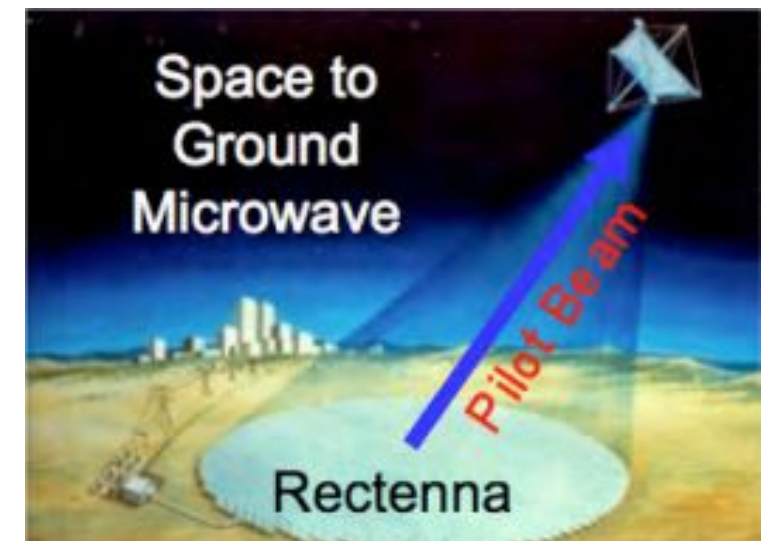
Background:

- US has no “plan” to pursue Space Solar Power
- Various uncoordinated government efforts: DOD (Air Force and Navy Research Labs) explored solar cells, power-beaming, and incremental demos.
- The UK, EU, Japan, and China all have active space solar power programs.
- Caltech privately funded research initiative to explore and demonstrate technology.
- The Aerospace Corporation called for public-private partnership in an October 2022 report:

“U.S. government must decide whether the nation should attempt to lead the pursuit of this potential game-changer, collaborate with others, or pass up this opportunity...”



*Notional Solar Power Station orbiting Earth
Courtesy of John C. Mankins*



*A rectenna receives power beamed from orbiting station
Source : NASA/Wikimedia*



Commercial Space Solar Power Study

- **A bipartisan amendment to H.R. 6131 was adopted by the House Science, Space, and Technology committee to instruct the Office of Space Commerce and NASA jointly analyze the potential of space-based solar power:**
 - “(1) A description of the economic viability of commercial space-based solar power, incorporating and building upon findings, recommendations, and identified research and development needs in any National Aeronautics and Space Administration report on commercial space-based solar power and its feasibility.
 - (2) An outline of areas for new or updated international agreements or cooperation that, if commercial space-based solar power were to become feasible in the future, may be needed to deploy and maintain such in orbit.
 - (3) A detail of the investments being made with respect to commercial space-based solar power by other countries and, if appropriate, international progress toward its practical and commercial viability.”

Will you support preserving this amendment in any final commercial space bill?



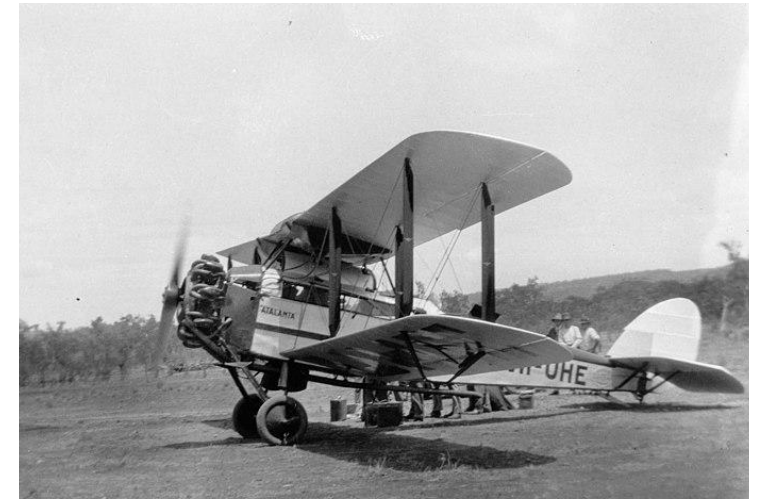
Extend the Human Spaceflight Learning Period

- **Background:** Following the Ansari XPRIZE competition, Congress passed the Commercial Space Launch Amendments Act of 2004 (CSLAA), **creating two foundational rules for commercial launch and human spaceflight: an “informed consent” regime requiring companies to share the full risk of spaceflight with their customers, and a regulatory “learning period” to allow industry to innovate and fly for revenue to get safer faster while democratizing spaceflight.**
- The goal was to allow the emerging commercial spaceflight industry time to experiment without burdening them with prospective regulations not based on actual flight experience.
- The learning period has been extended twice, in large part, because no flights for revenue took place until 2017.
- **The Problem:** Only a limited number of flights have taken place using three different mission profiles (Blue Origin’s suborbital rocket, Virgin Galactic’s suborbital space plane, and SpaceX’s orbital capsule). Flight experience is still very limited. GAO just reported that FAA has been unsuccessful at hiring new engineers to work on “occupant safety”.
- ***The learning period expires on May 11th (in two months). H.R. 6131 extends it until October 1, 2031.***



Extend the Learning Period

- **Current Construct:** FAA protects the safety of the uninvolved public, but allows US citizens the freedom to undertake the risk of flying a payload or themselves on a launch vehicle. Industry is required to inform spaceflight participants of the safety record of the vehicle family that will fly them.
- Congress authorized FAA to regulate vehicle safety for “spaceflight participants” based on actual flight data and but limits preemptive regulation without data (that would inhibit innovation) for several years.
- **The Learning Period** (in 51 USC § 50905(c)(9)) must not be allowed to expire this year, so some legislative vehicle must extend it through 2024 or longer before May 11th.
- **The Learning Period should be extended for eight years and the informed consent regime should be preserved and strengthened.**



Early commercial human spaceflight
Source: Wikimedia

Will you support extending the “learning period” for eight years?

Elevate and Reform the Office of Commercial Space Transportation

- **51 U.S.C. 509 gives the Secretary of Transportation authority for licensing space launches & reentries, spaceports**
 - OCST was created in DOT's Office of Secretary in 1983 where it stayed until 1996 when it was 'demoted' to become a unit within the FAA. This administrative change was never codified into law.
 - FAA/AST's budget and staffing has grown by factor of 10 since 1996 but still has not kept pace with industry's fast growth/innovation over past 15 years. This is at least partly because OCST is buried inside the FAA.
- **Aviation and Space Transportation are very different industries**
 - The aviation industry is over 120 years old and has been regulated since 1926 while the commercial space industry is barely 30 and the first commercial human flight was just six years ago.
 - Aviation is a common carrier transportation mode, with a strong presumption of safety for passengers, and FAA has not had "promotion" authority since 1996
 - The commercial space transportation industry is dynamic, growing quickly, and not mature. It needs a regulator that is independent and able to respond to a very rapidly changing industry



Elevate the Office of Commercial Space Transportation

- **Space transportation is now a distraction for the FAA**

- FAA needs to focus on aviation passenger safety and modernization of air traffic control
- Space needs different approach, protect public safety while allowing people to risk their payloads/themselves going to space
- Unlike aviation, which needs to be ultra-careful for passengers, space needs a more organic/adaptive regulatory system that utilizes industry expertise. Probably impossible inside the FAA.

- **Space transportation needs its own agency within DOT**

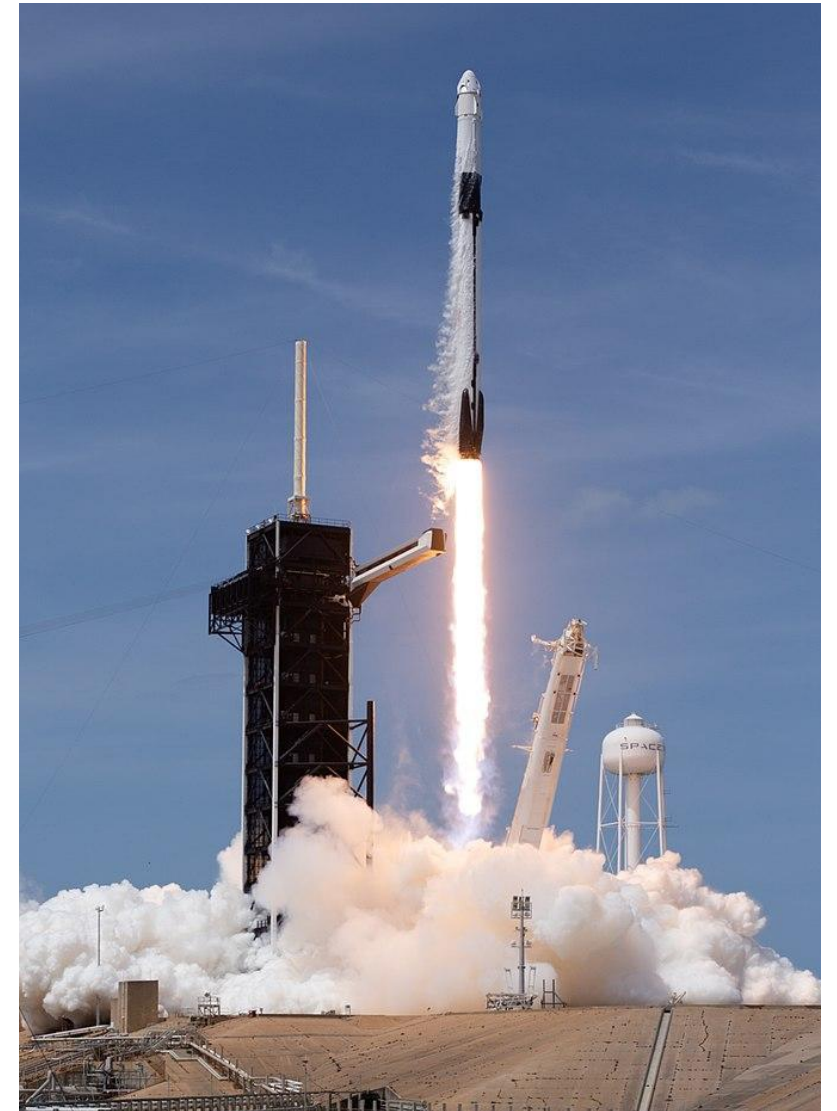
- Needs to focus on timely licensing to ensure public safety AND innovation
- Higher-level attention can address historic underfunding
- Needs a more flexible rulemaking process to keep up with industry
- H.R. 6131 enables industry to help fund extra licensing personnel.

Will you support elevating FAA/AST to a separate agency reporting directly to the Secretary?



Closing & Discussion

- Thank you for taking the time to hear our concerns.
- Questions?
- Can you share any perspective on these asks?
- What space-related issues are important to your office?
- What information or other assistance can we provide you?
- Other Discussion?



Falcon 9 and Crew Dragon launches on Demo-2
Source: NASA/Joel Kowsky

March Storm

Legislative Blitz for a
Citizen's Space Agenda



ASD
Alliance for Space
Development



March 6-8, 2023 - Washington, DC

Commercial Space Act of 2023 (H.R. 6131)

• Background

- Until the recent growth of the commercial space sector, most non-Government missions were either Earth observation or communications satellites
- Article VI of the Outer Space Treaty requires a Member State to authorize and supervise the actions of its non-Governmental actors in space.
- The actions prohibited by the Outer Space Treaty include no weapons of mass destruction, no military troops or bases, and to do no intentional harm to others. Article VI does specify that a Member State is responsible for the actions of its government and non-government activities.
- Launches and reentries are licensed by DOT/FAA, communications satellites by the FCC, and remote sensing by NOAA.
- With the advent of new commercial applications such as In-space Servicing, Assembly, and Manufacturing (ISAM), commercial human-crewed space stations, and private missions to the Moon and Mars. The U.S. needs to select one agency to oversee these “novel” activities.

