

SUMMARY

WHO WE ARE: We are private U.S. citizens who have travelled to Washington, DC on our own time, and our own dime, to advocate for a “Citizens’ Space Agenda.”

NON-PROFIT SPONSORING ORGANIZATIONS:

1. The “Citizens’ Space Agenda” is a project of the Alliance for Space Development, and is sponsored by the Space Frontier Foundation and National Space Society.
2. It is supported by Students for the Exploration and Development of Space, Students on Capitol Hill, Lifeboat Foundation, The Mars Foundation, The Mars Society, The Space Development Steering Committee, The Space Tourism Society, Tea Party in Space, the Space Development Foundation, and the Texas Space Alliance.

OUR SPECIFIC REQUESTS:

1. Support full funding for NASA’s Commercial Crew and Cargo program.
2. Establish an Ultra-Low Cost Access to Space (ULCATS) prize. ULCATS is the most critical near-term capability for achieving our national goals in space.
3. Create a “No Gap” low-risk transition from the International Space Station to commercial space stations in low Earth orbit.
4. Stimulate growth of commercial lunar & asteroid resource development industries.
5. Establish “Settlement & Development” as official purposes of NASA and our nation.

Full Funding for NASA's Commercial Crew Program

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- **Full funding for Commercial Crew (CC) in 2017 budget is critical:**
 1. American Independence in Space — Currently, the only way Americans can fly to the ISS is on the Russian Soyuz. Soyuz prices are \$76M per seat and have historically grown at 9% per year.
 2. Economic Growth — Congress can bring aerospace jobs back from Russia and enable a new U.S. commercial industry to fly private and government passengers to Earth orbit.
 3. Competition — Two partners will compete by innovating to improve safety and lower costs.
 4. Expanded use of the ISS — CC will enable the ISS crew size to grow from 6 to 7 astronauts, roughly doubling the amount of utilization person-hours NASA gets from ISS.
 5. Significant Risk Reduction — The development of two American crew transportation solutions will provide “dissimilar redundancy”, providing a backup if one system has a failure.
- **What Congress should do to support Commercial Crew:**
 1. The **2017 Administration request for Commercial Crew funding of \$1.185B should be authorized and appropriated** so as to ensure that the transport of U.S. astronauts to the ISS on a U.S. spacecraft occurs on target in 2017 as currently planned by NASA.
 2. Under **no circumstances should competition be removed** from Commercial Crew via a forced down-select. Continued competition between Boeing and SpaceX is critical to making the Commercial Crew program robust and reliable, and lowering costs in the long-term.
 3. NASA should be allowed to manage Commercial Crew. **Congress must not micro-manage the process** via forcing government accounting practices on Commercial Crew participants, or via other similar techniques.
- **REQUEST: Will you sign a joint Member Letter asking for full funding from Appropriations Subcommittee on Commerce, Justice and Science?**

Seven Reasons *Ultra-Low Cost Access To Space (ULCATS)* is Critically Important

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- **National Security** — Currently, America is vulnerable to a Pearl Harbor style attack in space. Commercial reusable launch vehicles (RLVs) will enable a surge capability that can rapidly replenish our space assets. Just the existence of RLVs is a deterrent to a surprise attacks on our space assets. **RLVs are a stabilizing deterrent to war.**
- **Economic Growth** — Space is currently a \$300+ Billion per year revenue industry. With Ultra-Low Cost Access to Space (ULCATS), space development will accelerate, markets will grow, new industries and many thousands of jobs will be created. A trillion-dollar per year space industry is within our grasp.
- **Transforming People's Lives** — The internet transforms lives and communities, but more than 60% of humanity does not have it. Recent U.S. launch cost improvement has already spurred new ventures focused on developing broadband satellite constellations. Continued progress towards ULCATS will enable everyone in the world to be connected, informed, and empowered.
- **Environment** — ULCATS will enable affordable low Earth orbit constellations of satellites that can deliver 24-7, 365-day-per-year high-resolution measurements of the entire planet. The benefits of these constellations include:
 1. More accurate weather predictions (improving the lives of billions).
 2. Greatly improve major storm (hurricanes, tornados, tsunamis) tracking and warnings, saving lives.
 3. The ability to constantly and accurately monitor the Earth's environment, at high resolution, will significantly improve the scientific inputs used in our environmental models of the Earth.
 4. The ability to fuse many "big data" satellite sources, from remote sensing to machine-to-machine communications, will enable nations and industries to better utilize and protect their assets/resources as well as their borders.
- **Civil Space** — Today, our national space agenda is struggling. With ULCATS, America has the opportunity to lead humanity to the Moon, to Mars, and throughout the Solar System, affordably & permanently.
- **Imagination & Inspiration** — If ULCATS reusable space vehicles lead to thousands of people orbiting the Earth every year, the world will be inspired by American leadership, ingenuity, and entrepreneurship.
- **American Leadership** — With the success of ULCATS, America has the potential to become the undisputed leader of the world in space well into the 21st Century, providing significant soft power benefits for American diplomacy and influence in the world.

Why an ULCATS Prize Makes Good Economic & Policy Sense

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- **If Somebody Wins, It Quickly Pays for Itself:** The U.S. Government currently spends \$4-5 billion per year on space launch. RLVs will save U.S. taxpayers billions per year.
- **If Nobody Wins, It Costs the Taxpayers Nothing:** The last three major attempts by the U.S. Government to build fully-reusable launch vehicles cost the American taxpayers billions of dollars, and all of them failed. However, if nobody wins the ULCATS prize, the cost to taxpayers is almost nothing.
- **We Finally Have the Technology:** In 2016 we have the technology to build fully-reusable two-stage-to-orbit RLVs, which was the original goal of the Space Shuttle program in the early 1970s.
- **Just Need to Close the Business Case:** The hard problem today is closing the business case. There is not a large enough proven market, with a high enough flight rate, to justify the large investment required for an RLV.
- **The Optimal RLV design is Not Obvious ... Open Innovation is the Best Approach:** Brilliant engineers intensely argue over the best way to build fully-reusable space vehicles. Since the best solution is unclear, an open innovation approach — a prize — is optimal.
- **Avoids Government Picking Winners:** An open competition will stimulate maximum innovation & minimize government intrusion in decisions best left to industry/investors.
- **REQUEST: Will you be an original co-sponsor of ULCATS Prize Act?**

Ensure Gapless transition from ISS to Private Commercial Stations in LEO

- **BACKGROUND:** The U.S. and our partners have invested over \$100B building and operating the International Space Station (ISS). The ISS is the foundation of American human spaceflight.
- **PROBLEM:**
 1. The White House and NASA have announced America will transition to commercially-owned and –operated stations after ISS in 2024, but NASA has no plan for managing this transition. Without a clear and viable transition plan, The U.S. risks foreign powers becoming world leaders in LEO, and losing the foundation we have for viable BEO exploration
 2. **Without a credible transition plan, America will have yet another gap in human spaceflight, and many of the accumulated skills and capabilities generated by three decades of investment could be lost.**
- **SOLUTION:**
 1. Commit the U.S. government to continuing its basic research on using, and human adaptation to, the microgravity environment in low Earth orbit (LEO) as a customer of commercial LEO station providers, ensuring that no “gap” will exist in this critical research and development.
 2. Encourage NASA to use the proven public/private partnership approach to stimulate rapid development of next-generation commercial application, propulsion, and habitation capabilities for LEO, including testing and demonstration of those capabilities at the ISS before transition to commercial stations.
 3. Fund administration’s request for a NextStep deep space habitation module. This is a helpful step that can be synergistic with a gapless transition to commercial stations in LEO.
- **REQUEST: Please consider being a primary sponsor of ASD’s draft legislation to ensure a seamless low-risk transition from ISS to private commercial stations.**

Commercial Development of Lunar and Asteroid Resources

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- **BACKGROUND:** Congress deserves great credit for recent American successes in commercial space. Following enactment by Congress of Commercial Space Act of 1998, NASA partnered with U.S. firms to develop commercial crew and cargo space station delivery services.
- **OPPORTUNITY:**
 1. Many American companies are investing in development of lunar/asteroid resources.
 2. A similar law for commercial lunar and asteroidal services would have a similar impact on American leadership in space, and create thousands of American jobs.
- **SOLUTION: Congress should establish in law that ...**
 1. Development of space resources shall be based on private ownership and operation of space infrastructure, including launch vehicles, crew and cargo transport vehicles, habitats, lunar landers, robotic mining, power and communications, and fuel depots.
 2. To the extent NASA has a need for the following capabilities or services in cis-lunar space, NASA shall commercially purchase from U.S. companies ...
 - a) Lunar and asteroidal samples and data
 - b) Crew and cargo delivery to/from the Moon
 - c) Habitation, communications & power on the surface of the Moon and in lunar orbit
 - d) Orbital propellant delivery/storage for a variety of purposes, including trips to Mars
- **REQUEST: Would you be willing to sponsor, or co-sponsor, a “Commercial Space Industrialization Act” that enacts these policies into law?**

A Bill introduced by Rep. Dana Rohrabacher (R-CA) as H.R.4752:

- It gives American space policy a true long-term goal.
- Permanent human space settlement is an idea that inspires — from Jeff Bezos, to Elon Musk, to many other private citizens — and so it will inspire a new generation to go into STEM related fields.
- It will drive an exponentially growing space-based economy, and lead to economic growth and abundant resources for people on and off planet Earth.
- It will provide humanity with a better chance for long-term survival.
- **Space settlement is in the long-term strategic interest of America, and will influence the future of human freedom**
 1. Consider how the U.S. role in the world could be altered if China leads in mining lunar resources and dominates the development and settlement of the Moon.
 2. Consider the impact of such a loss of American leadership on the long-term values of human civilization far into the future.

- The Space Exploration, Development and Settlement Act (SEDs) bill would amend the law governing the activities of NASA, known as the NASA Act of 1958, to include this statement:

“Exploration, Development and Settlement of Space.—The Congress declares that expanding permanent human presence beyond low-Earth orbit in a way that enables human settlement and a thriving space economy will enhance the general welfare of the United States and requires the Administration to encourage and support the development of permanent space settlements.”

- **HOUSE REQUEST: Will you agree to become a co-sponsor of H.R. 4752 (the SEDs Act)?**
 1. Contact Tony DeTora at Rep. Rohrabacher’s office to sign on
- **SENATE REQUEST: Will you agree to become a primary sponsor of the Bill in the Senate?**