



Investment in our civil space program, which dollar for dollar brings enormous returns in technological innovation and economic benefits, has been a driving force in American world leadership. An ambitious yet sustainable space program is both feasible and affordable; however, adequate funding levels must not only be maintained in the short term, but must also be consistent over the long term. It is therefore a vital national priority and imperative for government, industry, academia, and all other stakeholders to reach consensus on a clear path forward, with established goals. Failure to do so would threaten our economic vitality, our national security, and our ability to compete globally and beyond.

In recognition of current economic challenges, the Space Exploration Alliance (SEA) reaffirms its long-standing commitment to further space exploration and development, by calling on Congress and the Administration to reach consensus on a unified and comprehensive human and robotic spaceflight program that fully utilizes the International Space Station (ISS) and also to conduct missions of exploration beyond Low Earth Orbit (LEO). Our nation's leaders must continue to embrace the broad, bipartisan support that has traditionally existed for our space program to determine the best path forward. This includes (1) leveraging the necessary partnership between the public and private sectors to advance space exploration and development priorities and capabilities, (2) highlighting how investment in space exploration benefits life on Earth, and (3) the utilization of the unparalleled expertise of our highly-skilled American work force.

Space should no longer be considered 'just' the next frontier, as it was at the beginning of the space age 50 years ago. Space is no longer an option; rather, it is an imperative. Virtually every element of our civilization now depends on space capabilities. The United States, which today is being challenged in space by many other nations - economically, technologically, and strategically, needs to establish a clear policy for the 21st century. In order to maintain our leadership position in space, NASA and other key executive branch agencies must be given a clear and inspiring path, matched with adequate resources that, at a minimum, provides funding consistent with pre-sequestration levels and modest increases annually in line with inflation.

In order to achieve the necessary congressional and public support, we recommend that the U.S. space program be given the following definition and direction:

Goals for Human Spaceflight: The American public strongly supports the United States leading the world in missions of exploration beyond LEO as shown in the recent Mars Generation National Opinion Poll - <http://bit.ly/1bEjfWB>. This poll showed that over 70% of Americans believe that the U.S. will land a crew on Mars by the early 2030s. In fact, 75% of respondents in that poll thought that the NASA budget should be increased to 1% of the federal budget. We believe that the U.S. should commit to sending humans to at least one intermediate destination beyond low Earth orbit, such as an asteroid or the Moon, within the next 10 years, and that we should land humans on Mars by no later than 2033. By doing so, the United States will continue to maintain its technological lead in human spaceflight, rather than abrogating that role to other nations.

Leadership in Space Science/Robotic Precursor Missions: Our success in space science is without equal. Robotic missions have captured the imagination of the world and revolutionized our understanding of the universe. These missions have included the recent Mars rovers (Opportunity, Spirit, and Curiosity), the Cassini probe to Saturn, and the Hubble Space Telescope. Support for such historic missions, as well as for the James Webb Space Telescope, will push the boundaries of knowledge and pave the way for human space exploration. Funding for space science, including the Mars program, must be maintained to allow for robust missions, including a Mars sample return mission (which was designated the highest priority of the decadal survey), and a mission to Europa. In addition to paving the way for human missions, finding evidence of past and/or present life in space should be a top priority for our robotic exploration program.

Private Sector: The United States is currently dependent on the Russian Soyuz for crew access to the ISS. Rather than sending millions of dollars overseas to launch American astronauts into space, the commercial launch industry must be given full support in its efforts to restore independent American crew access to the ISS. The SEA also supports efforts to update the Commercial Space Launch Act to provide the Federal Aviation Administration's Office of Commercial Space Transportation (AST) with the authority and funding to regulate on-orbit activities, as well as the continued review of ITAR restrictions that have hampered our aerospace industry. Further, NASA should be directed to offer a wider range of prizes for space-related accomplishments by the private sector. Finally, the private sector should be enabled to provide other space services to meet government and private needs.

Space Flight Capabilities: It is critical that appropriate levels of funding for the timely development of the next generation of launch vehicles be provided and maintained. The United States requires launch vehicles with sufficient capabilities to enable NASA to launch the necessary in-space infrastructure and transport vehicles to mount crewed missions beyond LEO. Furthermore, policies must be established to lower production, launch, and operating costs. In the development of capabilities such as the Space Launch System (SLS) and the Orion crew vehicle, clear exploration goals must be established, and such systems must be developed so that they are as efficient and cost-effective as possible.

International Cooperation: The successful completion of the ISS provides a model for a large-scale space program over multiple decades through cooperative efforts among nations. ISS has shown the value of utilizing the expertise and resources of our international partners, and that model should be employed in our efforts to mount missions beyond LEO, reducing the financial burden for the U.S. and our partner nations.

Developing Advanced Technology, and New Capabilities to Explore Deep Space: In 1962, President John F. Kennedy correctly acknowledged that going into space is hard. Future space exploration requires new enabling technologies and capabilities, which will lead to the creation of new industries, markets, and technology. In order to move humanity beyond LEO, NASA's technology programs must be supported so that NASA can develop new, promising technology concepts and capabilities, such as advanced propulsion, in-space refueling, and In-Situ Resource Utilization (the utilization of indigenous resources on the Moon, asteroids, or Mars). In addition, space debris, planetary defense, and a legal regime are among the issues that must be addressed now that many nations are venturing into space along with us. Congress should continue support of NASA's space technology research grants and fellowships to universities, which develop the nation's high tech aerospace workforce that is required for the future of space exploration and global competitiveness.

Affordability, Sustainability, and the Effect on STEM Education and our Economy: Our successful future in space requires a sustained, generational commitment to NASA's long-term mission - one that transcends partisan politics and election cycles. With a clear mandate for such a program, not only will our nation's youth be inspired once again to pursue careers in science, technology, engineering, and mathematics, but our country's economy also will be re-invigorated. The SEA acknowledges the financial constraints under which the U.S. government will be operating over the next few years and believes that tax dollars should be spent wisely. Congress and the Administration must work together to guarantee that the United States remains the leader in space exploration and development. As we lead the way into the solar system, new American growth industries will be spawned. The United States must not allow itself to be left behind.

The Space Exploration Alliance is a collaboration of leading non-profit organizations that advocate for the exploration and development of outer space. These groups work together to communicate to the general public, industry, and elected officials that space exploration is a compelling priority and imperative for all humanity, and that space utilization improves life on Earth. For more information about the Space Exploration Alliance, please visit www.SpaceExplorationAlliance.org.