

**Remarks at 22nd National Space Symposium
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Thank you for inviting me to kick-off today's activities for the 22nd National Space Symposium and to share my thoughts for how we can move forward our nation's agenda in space exploration, scientific discovery, and aeronautics research by promoting American competitiveness and collaborating with industry, academia, and international partners. It's a great time of year to journey west from our nation's capital and enjoy the beauty and grandeur of our country in the foothills of Pike's Peak.

200 years ago this month, the Lewis and Clark Expedition started their journey back to St Louis, Missouri and eventually Washington, DC after spending

the winter in Oregon. Merriwether Lewis was known for his careful notes on the geography, cartography, flora, and fauna of the land he encountered during the expedition in his now-famous journals. Two hundred years later, Americans continue to advance the journey to explore the new and uncharted. We are a nation of explorers and we partner with other nations who share our quest to explore space. Just as Lewis and Clark blazed a trail across a portion of this planet in the 19th century, we seek – in the 21st century – to blaze a trail upward to other planets and objects in our solar system and eventually – to journey beyond our solar system.

The President, in his speech at NASA headquarters two years ago stated: “In the past 30 years, no human being has set foot on another world, or ventured farther upward into space than 386 miles – roughly the distance from Washington, D.C. to Boston, Massachusetts.

America has not developed a new vehicle to advance human exploration in space in nearly a quarter century. It

is time for America to take the next steps.” And by the time we return humans to the Moon, it will have been well over 40 years since humans have ventured beyond low Earth orbit.

We gather here today at a very hopeful time for all those engaged in space exploration. We in the space community have been vested with a great opportunity with the Vision for Space Exploration that President Bush presented two years ago and which Congress has overwhelmingly endorsed with the NASA Authorization Act of 2005. The Vision is now national policy.

There is great enthusiasm but I must caution against taking this Vision for Space Exploration for granted. This vision reflects our national character to explore the frontier, but we have a lot of hard work ahead of us if we hope to attain its goals—to advance U.S. scientific, security, and economic interests through a robust space exploration program. Let me outline some things I think we will need to do to move this agenda forward.

First, what does the President's direction that this is "a journey, not a race" truly mean? If the United States were simply in a race, then, by definition there would be a finish line. The beauty of the Vision for Space Exploration is that the concrete milestones for the Space Shuttle, International Space Station, and the Moon also have longer-term goals such as robotic and human expeditions to Mars and elsewhere as well as the search for Earth-like worlds in other solar systems. However, while we are not rushing toward a finish line, we must have a sense of urgency about the task at hand.

We find ourselves at a critical juncture in the nation's space program. We – and when I say "we" I'm not just talking about NASA, I'm talking about every community represented in this room and other communities we have yet to tap into – "We" need to lay a strong and enduring foundation for the Vision for Space Exploration, through demonstrable progress with programs and hardware and through effective delivery of our message to the American

public and to citizens of other nations. Developing the strategic message is critical to building broad-based understanding and support and it is something I will be actively engaged in, with the help of all offices and Centers within NASA and the help of many of you here today. We have two years to set this solid foundation so that the Vision can endure through future Administrations and Congresses.

Completing the International Space Station and retiring the Space Shuttle in 2010 are doable goals, but it will require a lot of work on NASA's part as well as our partners in industry. We must also develop the Crew Exploration Vehicle along with the Crew Launch Vehicle. We have received the industry proposals for the CEV, and we're in source selection right now. We're also reviewing the proposals for commercial cargo and crew delivery to the International Space Station. After that, NASA will be selecting our industry partner for the development of the

CLV upper stage engine, and in a few years, we'll begin to develop a heavy-lift launch vehicle and a lunar lander.

We hope to demonstrate the commercial ISS delivery capability by 2010, and bring the CEV on-line no later than 2014 and potentially much sooner. The next several years of this transition from the Shuttle to the CEV will be one of the greatest management challenges NASA has ever faced.

The second point in moving the agenda forward: NASA cannot possibly carry out the Vision for Space Exploration alone. We all have a role to play in this great enterprise. Our nation's education system fosters innovation and educates the next generation of scientists and engineers through public and private schools all the way up through university systems. Industry plays an obvious and significant role and is a major partner for NASA. Nonprofits like the Space Foundation are also critical to this effort. Likewise, NASA collaborates with other federal agencies, in particular, the Department of

Defense. NASA and DoD partner on many technology initiatives and draw upon a very similar space industrial base. In two years, we plan to launch the Lunar Reconnaissance Orbiter to help search for evidence of water ice in the Moon's polar regions. This mission will build on the outstanding work of DoD's 1994 Clementine lunar mapping mission. We also hope that other nations will join us in this great enterprise of space exploration.

In just a few weeks, NASA will hold an Exploration Strategy Workshop to brainstorm and help define our comprehensive strategy for lunar exploration, including the role of the Moon as a stepping-stone to Mars and other destinations. Participants will include representatives from the international and academic communities as well as commercial industry. This workshop will present an important opportunity, along with many other inputs this year, to develop an overall strategy for lunar activities.

Mike Griffin has asked me to lead our agency's discussions with our potential commercial and international partners to help maximize the opportunities for productive collaboration on the Vision. Earlier this year, I traveled to Europe and met with leaders from our partner nations in Italy, Germany, France and the European Space Agency to begin a dialogue on how we can all work together to realize our exploration goals. In the coming months, I also plan to travel to Japan, Russia and Canada to engage them, in a spirit of partnership, to join NASA's mission to extend humanities' reach.

The third point in moving the agenda forward: All of us must train and nurture the next generation of engineers, scientists, mathematicians, and astronauts. I was amused and inspired when I read a passage in the Space Foundation's "Case for Space Exploration." It detailed an email from the mother of a space-enthused youngster to Dr. Tyson and it stated, "There are a lot of things I have to do to become an astronaut. But first I have to go to

kindergarten.” We hope to engage many of you here at the Space Symposium in alliances to help us reach out to the next generation of space explorers. Last week, I testified before the House Science Committee along with Education Secretary Margaret Spellings and other science agency heads about what we can do to better inspire kids to study and excel in difficult subjects like math, science, and engineering, the skills our nation needs most to carry out our space exploration missions. Space missions are simply the most technically challenging thing our nation does, and NASA has a special role in igniting student interest in science, technology, engineering and mathematics fields.

At NASA, we now have an education strategy that closely aligns the agency’s education investments to our projected workforce needs, given that nearly one-fourth of our scientific and engineering workforce will be eligible to retire in the next five years. A central premise of our education strategy is to develop productive partnerships

and alliances. As such, NASA plans to convene an education partnership summit later this spring to engage many of you in identifying education alliances to help us reach out to as many promising youth as possible.

As partners in our nation's space enterprise, I ask that the members of the Space Foundation join together to engage our fellow citizens to educate the next generation of American explorers—our future Lewis & Clarks—to prepare for this great journey.

I would like each of you to think about what it was that got you hooked by the powerful allure of space exploration. Was it something you watched on TV or a book you read? I would hazard to guess it wasn't just dreams, but actual and powerful accomplishments that spurred your passion.

It started for some of you many years ago when Yuri Gagarin, Alan Shepard, and then John Glenn first launched into space, or when President Kennedy boldly declared to the nation that it was "time for a great new

enterprise.” For others, that special feeling came 25 years ago when John Young and Bob Crippen expertly piloted the Space Shuttle *Columbia* on its maiden voyage.

In closing, I’d like to read for you a famous passage from Merriwether Lewis’s journal that he wrote while in Montana crossing the Rocky Mountains which speaks to the commitment that will be needed to carry out the Vision for Space Exploration:

This day I completed my thirty first year, and conceived that I had in all human probability now existed about half the period which I am to remain in this Sublunary world. I reflected that I had as yet done but little, very little indeed, to further the hapiness of the human race, or to advance the information of the succeeding generation. I viewed with regret the many hours I have spent in indolence, and now soarly feel the want of that information which those hours would have given me had they been judiciously expended. but since they are past and cannot be recalled, I dash from me the

gloomy thought and resolved in future, to redouble my exertions and at least endeavour to promote those two primary objects of human existance, by giving them the aid of that portion of talents which nature and fortune have bestowed on me; or in future, to live for mankind, as I have heretofore lived for myself.—

Carrying out the Vision for Space Exploration will be one of the most challenging and rewarding endeavors our nation will carry out in the 21st century. And thus, we need your help. I ask that each and every one of you in this audience join us at this critical juncture in our space program – as we embark upon laying a strong and enduring foundation for the Vision for Space Exploration – so that we may ensure that future generations have the capability to carry the torch of exploration far beyond our planet.