

**Remarks by the Honorable Sean O'Keefe
NASA Administrator
Lewiston-Auburn Economic Growth Council
Gray Athletic Building
Bates College
Lewiston, Maine
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Thank you Kathy (Kathy Leonard, Vice Chair, Lewiston-Auburn Economic Growth Council) for that very gracious introduction.

It's a real pleasure to be in this beautiful region of the country and to be your guest this evening here on the campus of one of our nation's best liberal arts colleges.

When the White House and Senator Snowe conveyed your request for me to join you this evening, I was honored to accept your gracious invitation. I was also thrilled to have the chance to see my mom and dad too!

Technology development and economic growth is a subject that is close to my heart, and I applaud the efforts of the Lewiston-Auburn Economic Growth Council's efforts to promote the continued prosperity of this region.

In this regard, congratulations are in order to Lewiston-Auburn for your being ranked by Inc. Magazine as one of the "Top Cities for Doing Business in America."

This listing reflects your strong job growth and your commitment to the foundations of economic vitality, including quality education and training opportunities, two subjects I'll touch on tonight.

What you have achieved with this ranking is no small accomplishment and I know from talking with progressive business leaders that they pay attention to these rankings.

Of course there are many engines that are fueling our nation's prosperity, and tonight I'd like to

discuss America's long-term investment in a forward looking, dynamic space program.

Here in Maine, where it is always such a pleasure to view the stars in all their glory at night, I look forward to talking to you about the President's new vision for space exploration, and what it will mean for the future of American innovation and technology development.

With the help of people who are constantly pushing the technology envelope we certainly go to some interesting places.

At this very moment our exploration rovers, Spirit and Opportunity are scouring around the Martian surface, building on their already incredible scientific return.

As many of you who have followed the space program know, Mars is a hard place to explore. It swallows up spacecraft. But these little rovers have vastly exceeded our wildest expectations.

I will always count among my most memorable experiences that evening in early January when Spirit landed on Mars. After we received the definitive word that Spirit was safely on Mars, I think we had a number of folks at the Jet Propulsion Laboratory who were so excited that they could have propelled themselves to Mars.

Opportunity, which is exploring an area called Meridiani Planum has really hit the scientific jackpot. It has discovered clear evidence that the landing site was once on the shoreline of a salty sea. Something changed the planet in very dramatic ways in its long ago history and that's worth further exploration. I'm further excited that these rovers have captured of the American people as evidenced by the 10 billion hits we've had on our web site since the year began.

I should add that Mars is not the only place in the solar system that is drawing NASA's attention these days. In late June, our Cassini spacecraft will enter into orbit around Saturn and later send the European Space Agency's Huygens (Hoy-gens) probe hurtling into the liquid atmosphere of Saturn's mysterious moon Titan.

Of course, our human crews will also continue to advance an ambitious research agenda on the International Space Station aimed at better enabling future astronauts to extend our exploration reach throughout the solar system.

This football-field sized research facility is now orbiting 250 miles over our heads with our ninth expedition crew, astronaut Michael Fincke and cosmonaut Gennady Padalka.

Incidentally, if you've never done so, I strongly encourage you to go outside some night to see the International Space Station passing overhead. It's a

stunning sight. The Space Station looks like a very bright star as it makes a stately arc across the sky.

Indeed, you can see the Space Station this tomorrow night at 10:00 p.m. for five minutes as it travels about 10 degrees above the western horizon toward the northeast.

You can go to our web site at www.jsc.nasa.gov to get detailed timelines that will help you scope out future Space Station flybys.

Now while NASA is a relatively small institution as federal government agencies go, with the support of the American people, we never stand pat, and are always striving to find new ways to pioneer the future, and in the process develop cutting-edge technologies that benefit all of us here on Earth.

And as these examples demonstrate, NASA is already hard at work implementing a vision President Bush set out four months ago for America's space

program to extend our exploration reach from the Earth to the Moon, to Mars and beyond.

We are tremendously excited about the new exploration challenge that President Bush has given us. The President has provided us with a new set of compelling, achievable and responsible goals for the space program.

I'd like to show you now a brief video that highlights the space exploration vision and what NASA will do to implement it.

(Video Presentation)

Let me now turn to what this means for the development of new technologies, and for the nurturing of a new generation of skilled scientists and engineers here in the Lewiston-Auburn area and around the country.

Along the way, the exciting potential of our space exploration initiative will help reverse a decade long trend of declining interest by students in math,

science and engineering fields, and help refresh NASA's talent pool and our national technology base overall.

From NASA's self-interested perspective, we are facing the graying of our workforce. One-fourth of our workforce will be eligible for retirement in the next five years. And while employment opportunities in science and engineering are expected to increase at a rate almost four times greater than for all other occupations throughout this decade, enrollment in science and engineering college courses has been in decline.

But this has broader national implications as well. A new report by the National Science Board says the nation is losing "a long-distance race" to maintain its edge in human scientific resources.

The Board pointed out that the U.S. ranks 17th among nations surveyed in the share of 18 to 24 year-olds who earn natural science and engineering

degrees, trailing Taiwan, South Korea, Italy and Ireland.

Our best and brightest are being drawn into other professions. A regeneration of our nation's commitment to exploration and discovery may help reverse this trend.

As we move forward on our long-term exploration plans we're also putting a lot of effort in reaching out to our next generation of explorers. And educators will tell you you have to start young.

We're quite excited, for example, about a new NASA-sponsored program called Explorer Schools. This program is joining educators, administrators, students, and families from a select number of fifth through eighth grade schools across the country in sustained involvement with NASA's research, discoveries and missions.

We announced yesterday in Florida our new Explorer Schools for 2004, and among them is the

John F. Kennedy Memorial School in Biddeford, Maine, as well as the Biddeford Middle School. Each year we select a new group of schools to participate in this program, so we look forward to welcoming more Maine schools to this effort.

I should also mention that thanks to new legislation the President recently signed, NASA is beginning a new Scholarship for Service Program, which will provide financial assistance to promising students and an opportunity to work for NASA. In this way, we intend to truly build up the bench strength of our agency.

Finally, we seek to inspire that next generation of explorers through our new class of astronauts who will help carry out our space exploration vision in the year ahead.

Our 11 new astronauts who were introduced to the country just last week are truly a remarkable group of individuals. They include a Peace Corps

veteran, a former migrant worker who grew up to be an aerospace engineer, three professional educators, including a teacher who attended Space Camp, and in the case of mission specialist astronaut candidate Chris Cassidy, who grew up in York, Maine, a Navy Seal.

Chris is truly someone that school kids here in Maine and throughout the country can look up to. After distinguishing himself on the basketball court at York High School, he became an outstanding student at both the U.S. Naval Academy and at MIT, where he earned a degree in Ocean Engineering.

He's served two tours of duty as a Navy Seal in our war on terror in Afghanistan and now plans to be the next explorer to step foot on the moon.

Now even as we pay attention to assembling the talent pool that will help us get to the Moon and beyond, we are also moving out on the nuts and bolts work of extending our space exploration reach.

Through our new strategic plan, we've already begun investing in the concept of a stepping stone approach to future space exploration activities.

Our strategic plan and budget also provides NASA engineers and scientists direction to develop the enabling capabilities for a successful long-term space exploration program. We know that regular space access can only be achieved by improving safety, reliability and affordability.

We have indeed accomplished a great deal in NASA's 45 years, but in the greater continuum of human history, we are just now at the beginning of this age of space exploration.

I'm reminded of a remarkable piece that David McCullough wrote-- a historical biography of John Adams, the second President, in which Adams lamented that the USS Constellation, the pride of the new American fleet, and the symbol of U.S. resolve to engage in global commerce, the vessel that would

demonstrate we were a nation to be reckoned with lay at anchor in Boston Harbor for days and days at a time because the weather wouldn't permit it to sail.

In space exploration, we are in the equivalency of that time. A force of nature, which has always either enabled or deterred new advancement, limits us. And that is the weather. We are in the same mode right now with space exploration, an age of sail. Conditions must be perfectly right for us to proceed. For example, power generation, propulsion and human factors challenges must be overcome for us to be able to explore space more extensively. In this quest, we aspire to the "Age of Steam."

The President's Commission on Implementation of the U.S. Space Exploration Policy, capably led by former Undersecretary of Defense and Secretary of the Air Force Pete Aldridge, with the support of top people from the business community and academia is also helping us plan for Project Constellation and

other elements of our space exploration program. The Commission will issue its final report next month.

We are quite confident that the pursuit of this vision will spur technological developments that will lead to new products and services and tangibly improve the lives of people throughout the world.

Just as the Apollo program led to important advances in computing and electronics, the potential spinoff benefits from this broad based exploration program could be considerable. Since that time, MRI's, cataract detection, and heart pumps are all examples of NASA technologies used to advance our exploration goals being applied to productive use in society.

We believe the technology development necessary to execute and implement the president's vision will accelerate advances in robotics, autonomous and fault tolerant systems, human-

machine interface, materials, life support systems and novel applications of nanotechnology and microdevices.

Let me add that as the President has stated, we intend to promote commercial participation in this bold exploration agenda to further U.S. scientific, security, and economic interests. Indeed, for every dollar spent on the space program, seven dollars flows through the economy.

While we will no doubt be working with the traditional aerospace industry as this journey unfolds, we must reach out to a wide array of businesses to tap new ideas and concepts.

Many of you may very well play a meaningful role in helping make this great exploration adventure possible. With a little imagination there are multiple products or services that will contribute to our unfolding space exploration activities. In turn we believe the technologies we will develop might

provide new business applications in numerous unanticipated ways.

I know one other thing that gives me great hope. Young people are absolutely thrilled human beings may soon be headed to the cosmos, and that they may be among the first to explore the surface of Mars.

The President has described a promising vision for our future in space. As he has said, "Exploration is not an option we choose, it is a desire written in the human heart."

We are just at the beginning of this journey, and I look forward to working with all of you as it takes us to heights unimagined and into frontiers unknown.

Once again I thank you for the opportunity to speak this evening, I thank you for your contributions to the growth and development of this wonderful Lewiston-Auburn region, and I look forward to taking your questions.