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Thank you, John [Elbon] for that gracious introduction. One of the great joys of my job is that I get to work with Boeing and so many of the world's leading technology innovators. I want to thank Boeing for sponsoring this luncheon and thanks to all our commercial partners in the room for all you do for America. You are the engine of progress that is moving our nation and our economy forward. We look forward to strengthening our ties as the commercial aerospace industry assumes a greater role in this new era of human and scientific space exploration.

Ladies and gentlemen, if you would indulge me -- I cannot begin this day without taking a moment to acknowledge that this is the 11th anniversary of 9-11. I think that the highest honor we can pay to those who lost their lives

and those who rushed into the flames and rubble that day to save lives, is to build on their sacrifice by carrying on the work of building our more perfect Union. That is what all of you do every day in your work to keep America in the forefront of technological innovation…in your efforts to expand the boundaries of human knowledge and exploration…in your commitment to improve life on Earth...and in your determination to leave this planet better than you found it. That has been the mission of AIAA for more than 49 years. As the world's largest professional society devoted to the progress of engineering and science in aviation, space, and defense, you have not only served the goals of NASA and our nation, you have benefitted all humankind.

So on this day of remembrance, let us honor the fallen by rededicating ourselves to making every day a day of service.

I also want to take a moment to honor the memory of two pioneers of our industry who passed away recently.

On July 23rd, we lost Astronaut Sally Ride, America's first woman to fly to space. And on August 25th, Neil Armstrong, the first human to set foot on the surface of the moon, passed away. Neil and Sally are best known for their pioneering achievements in space, but their service to our nation did

not stop there. In fact, even before joining NASA in the 1950's, Neil had served in both World War II and the Korean War as a Navy fighter pilot. He flew 78 combat missions in the Korean War. And after making history as the commander of the 1969 Apollo 11 moon landing, he remained one of the nation's greatest champions of space exploration. He also took on leadership positions in corporate America and in academia where he devoted himself to inspiring new generations of scientists and explorers. Sally Ride became the first American woman and the youngest American to make a space flight when she flew as a member of the STS-7 crew in 1983. Like Neil, she too was a true trailblazer. After leaving the astronaut corps she became a professor of physics at the University of California, San Diego. And in 2001, she founded Sally Ride Science, which allowed her to pursue her long-time passion of motivating girls and young women to pursue careers in science, math and technology.

Sally Ride and Neil Armstrong remind us, especially on this day, that we can develop all the technology we want, but in the final analysis, all of this is about people. It's about making life better here on Earth; about improving the human condition; expanding our knowledge; and expanding

our partnerships across Earth in pursuit of a larger goal that none of us could accomplish on our own.

That is what I want to talk with you about this afternoon. The theme of this conference fits perfectly with the mission NASA has pursued over the past four years: "Creating a Sustainable Vision for Space." That is what we and President Obama have been focused on since we arrived in Washington in 2009. But there is an old adage: "You can't know where you are going, until you know where you've been." So, I want to take a few minutes reviewing where we stood four years ago.

First, we inherited the decision by the previous Administration to end NASA's 30-year Shuttle Program. Second, faced with a consensus reached by the independent Augustine commission that America's human space flight program was on "an unsustainable trajectory" and that the Shuttle's follow-on program, Constellation, was critically over-budget and behind schedule we followed the committee's recommendation and retooled our human exploration program.

The framework for our new approach is contained in the bipartisan NASA Authorization Act of 2010, which supported the President's plans to extend

the life of the International Space Station, foster the development of path-breaking technologies, help create thousands of new jobs, embark on a fundamentally more ambitious strategy to expand our frontiers in space and launch a strong commercial space transportation industry. What a difference four years makes:

Over the last four years, the Obama Administration has proposed a record four-year investment of more than $74 billion in NASA to maintain America's leadership in space and spur scientific and technical discovery here on Earth.

On Florida's Space Coast alone, the President has fought to invest close to $1.4 billion in NASA's 21st Century Space Launch Complex and Exploration Ground Systems. This investment will help us upgrade Kennedy Space Center's Shuttle-era facilities to support multiple users and make this a more flexible launch facility for the future.

And, since 2010, we have made significant investments in our Commercial Crew space program, the goal of which is to bring human spaceflight launches back here to American soil and end the outsourcing of these important jobs.

By 2017, we are planning to rely on American companies for safe, reliable and cost-effective crew transportation and rescue services for low-Earth orbit activities.

This will allow NASA to concentrate on building America's next generation space exploration system, the Orion spacecraft, and the Space Launch System -- the vehicle and rocket that will take American astronauts farther into space than any spacecraft developed for human spaceflight has flown in the 40 years since our astronauts returned from the moon.

Our deep space destinations include sending humans to an asteroid and to Mars by the mid 2030s and we are recruiting and training a record number of new astronauts for these missions.

Our dual-track exploration strategy is working. In May, SpaceX became the first private company to launch to the International Space Station, berth to the Station, and recover the Dragon capsule after a water landing – with cargo intact.

Later this year, Orbital Sciences Corporation, another commercial entity is planning to conduct its first demonstration mission of a similar cargo resupply capability

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Creating a "sustainable vision for space" is EXACTLY what our plan is allowing us to do. We have experienced all too many times, the cost and inefficiencies of relying solely on tax dollars for space activities. Indeed, for most space activities, this is no longer the case. Those most robust, technically advanced and efficient systems count on government spending for only a portion of their revenue (communications, remote sensing, tracking, satellite manufacturing to name just a few). It is only through sharing markets (and costs) with the private sector that we will truly create a "sustainable vision for space". This is how other industries advance as well as how much of our industry has advanced as well. The example of space communications really struck me the other day when Secretary Donely reminded us that the Air Force buys 70% of its comms capability from the commercial sector. Buying this service commercially allows the Air Force to spend less of its precious resources owning and operating these systems and helps secure a more cost effective and stable capability - all the while contributing to a growing US economic and security base.

Some say it is not the job of the government to help advance new commercial industries like space transportation, especially for human space transportation. But why should the way we develop this future

economic activity be any different than those that have come before? Where would our economy and our national leadership be if the government had not invested in biotech, in ARPANET? Where would we be without NASA's early investments in advanced communications? We invest in technologies, we partner with industry to develop capabilities of specific applicability to our government applications and then we serve as an "anchor tenant" all to buy down both technical and market risk.

Success of this plan will allow for a more "sustainable vision for space" because it will mean that more of the basic operational aspects of our programs will not be beholden to the government system of assigning how tax dollars are spent (with the obvious...and necessary...changes of elected leadership and annual appropriations processes that democracy demands). And., it will allow NASA to do what we do best -- explore even deeper into the heavens.

To that end, on July 2nd, which also marked the 50th anniversary of the Kennedy Space Center, I was at Kennedy Space Center, along with Senator Bill Nelson, Center Director Bob Cabana, and officials from

Lockheed Martin for the unveiling of the agency's first space-bound *Orion* spacecraft at Kennedy Space Center.

Orion is undergoing final construction and integration at Kennedy in preparation for its first test flight in 2014.

In 2017, NASA's Space Launch System (SLS), a heavy-lift rocket that will provide an entirely new capability for human exploration beyond low Earth orbit, will launch *Orion* on a mission to the Moon

During the past four years, we have also created a new Space Technology Program to spur innovation and build a future with more capabilities than today. And NASA has continued to perform amazing feats in science and launched missions that will provide data that will guide us for decades to come.

The whole world literally held its breath on the night of August 5th or the morning of August 6th (depending on which coast you stood) as NASA returned to Mars. After an astounding 352 million mile journey and a harrowing landing that demonstrated cutting-edge technology, Curiosity, the largest rover ever sent to another planet, is now in place and doing its job. This robotic laboratory will seek answers to one of humanity's oldest

questions as it investigates whether conditions have favored development of microbial life on the Red Planet. The mission is a critical planetary science mission -- and a precursor to sending humans to the Red Planet in the 2030's, a goal set forth by President Obama.

Numerous other science missions are also currently expanding our knowledge of the solar system and improving life here on Earth. At this very moment a stream of data is flowing to us from missions orbiting the Sun, Mercury, the Moon, the asteroid Vesta, Mars, and Saturn. We now have missions on the way to Jupiter and Pluto. Sixteen Earth Science missions currently in orbit study the Earth as an integrated system. Two weeks ago, we launched NASA's Radiation Belt Storm Probes, the first twin-spacecraft mission designed to explore our planet's radiation belts.

The Hubble, Spitzer, Chandra and Fermi space telescopes continue to make groundbreaking discoveries on an almost daily basis. And we're on track in the construction of the James Webb Telescope, the most sophisticated science telescope ever constructed.

Last year, the Messenger spacecraft entered orbit around Mercury. The Ebb and Flow satellites began mapping the gravity field of the Moon. And Juno launched on its way to Jupiter. Also in 2011, Aquarius produced the

first global view of ocean surface salinity and the Suomi National Polar-orbiting Partnership satellite began making observations of Earth's weather and climate.

I want to conclude by clarifying a couple of misconceptions about NASA's direction. Some have claimed that we are adrift with no clear human spaceflight destinations and no plans for the future. Nothing could be further from the truth, and those who perpetuate that myth only hurt our entire industry – and undermine our nation's goals -- at this critical time. Period.

The truth is, we have an ambitious series of deep space destinations we plan to explore, and are hard at work developing the hardware – and the technologies – to get us there.

In fact, we just recently delivered a comprehensive report to Congress outlining our destinations which makes clear that SLS will go way beyond low Earth orbit to explore the expansive space around the Earth-moon system, near-Earth asteroids, the moon, and ultimately, Mars. Let me say that again: We're going back to the moon, attempting a first-ever mission to send humans to an asteroid and actively developing a plan to take Americans to Mars.

It's a bold plan, risky but achievable. It's all outlined in a new NASA report called, "Voyages," which I urge you all to read [hold up copy]. We have copies for you here today and it's on-line at nasa.gov.

And considering that we announced the selection of the SLS design only one year ago, on September 14th, 2011, that is a very impressive list of destinations, achievable because of the hard work of thousands of dedicate men and women at NASA and in the aerospace industry.

Finally, there are some who believe that NASA has lost its edge and is no longer the world's leader in space. In fact, some have suggested that we're now number three. Sounds to me like they're either woefully uninformed or, worse, betting against America. That is never a good bet.

So, for those who think our space program is in decline, I have this simple message: **President Obama and NASA have "Created a Sustainable Vision for Space." America continues to lead the world in space exploration. We're successfully undertaking missions that other nations can only dream about, unleashing the entrepreneurial spirit of American industry to do what it does best and investing in game-changing technology that will revolutionize space travel and life on earth. The best days of our space program are ahead of us. And**

have no doubt: America's space program is better off than it was four years ago.

And so is the entire aerospace industry. According to the latest year-end report from the Aerospace Industries Association, 2011 marked the eighth straight year of sales growth with annual sales projected to top $218 billion. Even with the transitions occurring in the space industry, that sector's sales increased to a projected $46.4 billion in 2011. And with more than 624,000 people employed, our industry continues to be an engine of job creation.

All of that is true because of all of you. I want to again thank AIAA for its support to NASA and America's aerospace industry through the years. And I want to thank all of our supporters in government, industry, and academia for supporting our vision to reach for new heights and explore the unknown, so that what we do and learn will benefit all humankind.

As NASA prepares to journey to places in space no human has ever gone before, we stand on the shoulders of Neil Armstrong, Sally Ride and many of you who have laid the foundation for an even brighter future. As the Armstrong family said in their statement on Neil's passing, he would want us "to be willing to explore and push the limits" of our abilities. That is our mission and this is our moment.

Thank you.