

Lori Garver, NASA Deputy Administrator
Maryland Space Business Roundtable Luncheon
Greenbelt, Maryland
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Good afternoon. Thank you, Anoop for that gracious introduction and thanks for inviting me to speak with you today. Been awhile since I have spoken here but it is always good to come. I know that there is a friendly rivalry between the Baltimore and Washington cities and suburbs of Maryland, especially this time of the year. But, I think it's safe to say that whether you are an Orioles fan or a Nats fan...whether you root for the Ravens or the Redskins, this is an exciting time to be a Marylander. Can you say "Parkway Series?" But this excitement isn't just about sports teams. I went to talk about another team that is having a championship season this year -- Maryland's world-class aerospace industry led by the men and women of The Goddard Space Flight Center under the fine leadership of Chris Scolese, along with the Wallops Flight Facility on the Eastern Shore and all of you.

This winning team has been put together over many years. Led by team captain, general manager, head coach, and MVP for space business in Maryland – Senator Barbara Mikulski. She has not only helps blaze the

trail to space – she has lit the path for us ahead. She works everyday to clean the brushes and boulders and personally her inspiration is a role model for me. Other members of this all-star team include, Congresswoman Donna Edwards, whose district includes Goddard and who works to advance our mission every day and of course, Governor O'Malley, who spoke to you last year and unveiled a bold new plan to increase Maryland's space business opportunities. The Governor's four-point plan calls on Maryland to:

- Exploit and enhance our leadership in R & D in space and earth science
- To commercialize space technologies to create new products, new wealth and new employment
- To promote launch activity at Wallops and creating jobs on the Eastern Shore and
- And to educate and train Marylanders for the space and earth science sectors

These goals align perfectly with NASA's overall goals. That is good news that we are meeting this challenge from a position of strength. This

alignment is helping us all have a brighter future. In the Governor's speech, he reported that there were 15,000 space industry jobs in this state that pay an average of \$110,000 a year. According to the Maryland Department of Business and Economic Development, "16 of the top 25 aerospace companies" in America are headquartered here in Maryland. Many of them are represented here today. Numerous other small businesses are benefitting from the work we do together. And we can all be proud of the role that NASA is playing in this economic success story. NASA's invests more than \$3 billion through Goddard and employs nearly 10,000 civil service and contractor workers. The President's proposed FY '13 budget of \$17.7 billion for NASA includes funds to continue this investment allow Goddard to continue its critical work on the magnificent James Webb Space Telescope in support of a launch in 2018. Our budget request also supports Goddard's work on many other missions in astrophysics, heliophysics, Earth sciences and planetary sciences, including our next major Mars mission, MAVEN, which will be launched just next year to study the Martian upper atmosphere. I'm especially excited about our work in the robotic servicing area. The robotic refueling mission – designed and developed at Goddard, is now on ISS. First in-orbit test to prove and advance the technology needed to perform robotic servicing on

spacecraft not designed for re-fueling and repair. Aligned with our overall strategy, this technology will lower risk and can open new markets – creating a more competitive U.S. industry.

In addition to the cutting edge work being done at Goddard, this state is also home to the Space Telescope Institute in Baltimore responsible for managing the science research being conducted by the amazing Hubble Space Telescope and the Johns Hopkins Applied Physics Laboratory (APL) in Howard County that has designed and built so many of the spacecraft and satellites NASA has launched over the past half century. APL designed and built the RBSP satellites we launched on August 30 as part of NASA's first twin spacecraft mission to explore Earth's radiation belts.

Maryland colleges and universities are at the cutting-edge of aeronautics and space research, with Johns Hopkins, Bowie State, Morgan State and the University of Maryland at the forefront. We've got a son in high school and believe me, his father in the audience, we would be ecstatic if he went to any of these schools

This state has also produced some of NASA's most outstanding astronauts, including TJ Creamer of Upper Marlboro, Ricky Arnold, who grew up in Bowie and Terry Virts of Columbia, Maryland.

This fall, with its first test launch from the Wallops Space Flight Facility on Virginia's Eastern Shore, the region is poised to join Kennedy Space Center as the second major spaceport to help service ISS, our foothold to then Universe, on the East Coast.

As you all know, under NASA's Commercial Orbital Transportation Services Program (COTS), we are providing investments to stimulate the American commercial space industry. As part of that program, SpaceX became the first commercial company to resupply the International Space Station in May. Under a similar agreement, Orbital Sciences is developing a new space transportation system to demonstrate its capability to deliver supplies to the International Space Station. The Wallops launch this fall and a full-scale test mission later this year is the result of the incredibly hard work of hundreds of Maryland workers at Goddard and Wallops.

It is also part of a renewed national commitment to space exploration and a new bipartisan space policy that backs it up. 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. And two years ago

President Obama set a goal of sending humans farther into space than we have ever been – to an asteroid by 2025 and to Mars in the 2030s.

A bi-partisan consensus was reached in Washington that the best way to do that was for NASA to acquire services from commercial companies to deliver cargo and crew to the International Space Station.

Allowing us 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.

This dual track exploration strategy is producing tangible results and the teams here in Maryland and across the nation are making steady progress.

In July, the first space-bound Orion spacecraft arrived at Florida's Kennedy Space Center and is now undergoing final construction and integration in preparation for its initial test flight in 2014.

And 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 and Goddard and Wallops will be at the center of the action.

Our commercial crew and cargo efforts are based on a simple but powerful principle: By investing in American companies—and American ingenuity—we are spurring free-market competition to give taxpayers greater value – leveraging our investment, while enabling NASA to do what it does best—reach for the heavens. This reduces the costs of space launches, decreasing the costs of our science payloads, national security payloads and commercial launches. This will help win back America’s launch market.

It also will allow us to end the out-sourcing of American aerospace jobs and bring them right back here to Maryland and to other states all across the country.

This strategy of transitioning activities from NASA to the private sector is not unique or new. This is how the government advances technologies and opens new markets in many industries and NASA has followed this path in many areas as well. But we realize it is often difficult to “let go” of our past activities. As we have been retiring the space shuttle’s this last year, it has reminded me of the emotions that many of us as parents go through when

our children leave the nest to go off to college. I am going through this now, as my youngest child prepares to go to college next year. There are certainly times when I feel wistful and sad – as we do when we have been saying goodbye to the shuttles. But there is also a sense of accomplishment, (and maybe a bit of relief) at where they have come and what the future holds in store. Most importantly, we feel pride for their achievements.

Which brings me to another often overlooked aspect of our space business partnership here in Maryland – NASA’s technology transfer program and the vital role it plays in boosting this region’s economy and strengthening the nation’s global competitiveness.

The benefits of NASA research are all around us: Knowledge provided by weather and navigational spacecraft; millions of passengers and packages traveling safely by air every day; efficiency in ground and air transportation; super computers; robotics; solar- and wind-generated energy; the cameras in many cell phones; biomedical technologies such as advanced imaging and infant formula; and the protective gear that keeps our military, firefighters, and police safe have all benefitted from the Nation’s investments in aerospace technology.

NASA is committed to moving technologies and innovations into the mainstream of the U.S. economy and we actively seek partnerships with U.S. companies that can license NASA innovations and create spin-offs in areas such as health and medicine, consumer goods, transportation, renewable energy and manufacturing. And Maryland is a big part of this innovation strategy.

Since 2001, through our Small Business Innovation and Small Business Technology Transfer efforts, NASA has invested nearly \$57 million in 62 Maryland companies and more than \$1.2 billion nationwide. One of our Maryland spin-off companies, Techno-Sciences, Inc. of Beltsville, has partnered with Goddard to create the ground station component of an international search and rescue effort known as Cospas-Sarsat that has saved more than 30,000 lives since 1982. More than 40 countries participate in the effort and more than one million rescue beacons are in use around the world. In 2010 the dramatic rescue of Abby Sunderland, the 16-year-old girl whose boat was damaged in the middle of the Indian Ocean during her attempt to become the youngest person to sail around the world, was aided by a hand-held search and rescue beacon that was developed by NASA engineers at Goddard.

So, it is clear – NASA and Maryland are ushering in this new era of American space exploration together. Governor O’Malley called Maryland’s space business part of the “Innovation Economy.” And while that means more jobs, business growth and investment for the people of this state, the benefits of our Innovation Economy cannot be measured solely in terms of dollars and cents. Over the last half century, through the courageous exploits of trailblazing astronauts like Sally Ride and Neil Armstrong, and the daily dedication of NASA workers, including the men and women of Goddard, America’s aerospace industry represented by the members of the Maryland Space Business Roundtable has lifted the spirits of a nation, inspired new generations of scientists and explorers, expanded our knowledge of the universe and improved life here on Earth. That is really the bottom line of what we do. Thank you for your service to Maryland, to NASA and to our nation.