



SPACE: The Way Forward

Marion C. Blakey
Forum Club of the Palm Beaches
Monday, April 12, 2010 11:45 a.m.

Remarks as prepared for delivery

Thank you Bob ... It's a pleasure to be here in South Florida after the rough winter we've had in D.C. ... And then, of course, there was the weather as well!

At the time I was invited to speak to you all I didn't realize the significance of today's date ... April 12th. Forty-nine years ago, Soviet cosmonaut Yuri Gagarin became the first human in space ... and the first to orbit the earth in Vostok 1. Twenty-nine years ago was the first orbital flight of the space shuttle – STS-1, the Columbia. And, just four years later, on April 12, 1985, former Sen. Jake Garn of Utah became the first sitting member of Congress in space when he flew on the 16th shuttle mission.

Now given things in D.C. these days, I'm guessing there may be some other folks in Washington you'd like to see in orbit right about now, but we won't go there.

But there's another important event in Washington in the next few weeks. On May 15th, my organization, the Aerospace Industries Association, is hosting the finals of the eighth annual Team America Rocketry Challenge. TARC, as it is known, is the world's largest rocket contest and approximately 7,000 students from across the nation compete each year.

Just from your area alone, four teams from Plantation High School will be among the top 100 teams qualifying for the finals in Virginia, and a chance to compete in an international fly-off in London.

These young men and women are the rocket engineers of the future. But, the question is: Where will they be working? What will the future of the space industry look like for them? Can they look to the stars for inspiration, or will they be earthbound?

Now we're all looking forward to President Obama's coming here to Florida in a few days to discuss the future of NASA and our space program. And, just last Thursday NASA

Administrator Bolden provided further detail on the budget and the money being allocated to support the agency and its future activities.

The President has a strong team with Charlie Bolden, Lori Garver and the others at NASA. They've got a tough, but important job, in front of them and they are more than up to the task.

Certainly, we all agree exploration of space is an important goal — one that has significant benefits for the nation and the world. Sending people to Mars will be a pivotal moment for humanity. What we hope, however, is that the President will lay out the plan to get us there.

Articulating the vision is not enough, we must have specific milestones and the funding to achieve them. The future of our manufacturing workforce and our space industrial base has much at stake in what he'll tell us and the decisions he makes.

What will happen if the United States lacks a strategy to explore the universe? Will Floridians be forced to change the motto above the soaring space shuttle on your state quarter from "Gateway to Discovery" to "Museum of Discovery?"

At AIA, we represent the aerospace industry and know what will happen if there isn't a detailed plan with milestones and goals. Our member companies - - many of whom have facilities up and down the Space Coast – I could tick them off: AAR, Boeing, Embraer, Harris, L-3, Lockheed Martin, Northrop Grumman and UTC - - they know what will happen.

We're at a pivotal point with the space program. Will we continue our progress forward or will we relinquish our hard fought international leadership position? The U.S. space program must continue to adapt. We need to have clear goals and a plan to achieve them. Right now, the budget is driving space policy and goals. Policy and goals should be driving the budget, not the other way around!

Let me propose a way forward. So what should be the cornerstones of our policy? ... First, U.S. leadership in space is critical to our nation's prosperity. Second, there is no substitute for the hands-on experience gained from human exploration of space. And, third, we must develop a national space strategy.

To begin with, U.S. leadership in space plays a significant role in our national life.

The world looks to America to provide that leadership. There is no doubt that other countries' space flight programs are eroding the U.S. lead in space. While international cooperation is fine, we've always had the lead. Have we truly considered the impact of relinquishing that responsibility? And will it be too late to recover once it's gone?

As we all know, Russia is clearly a leader. They send astronauts to the International Space Station, along with a great deal of cargo. They will be charging Americans and others about \$50 million a seat for a round trip. China is also leading. Since the Chinese orbited a "taikonaut" in 2003, they've advanced to multiple crews, orbital maneuvers and space walks at about the same pace as the U.S. and USSR during the moon race – with far fewer flights. The Chinese are

sending up their first space station next year, with talk of a lunar mission within a decade. India is now planning an astronaut training center in 2012 and a human launch around 2015.

Gen. Kevin Chilton, head of U.S. Strategic Command, describes space as a “contested domain,” where once we regarded it as a sanctuary. It is in our national interest to stay in this domain and not yield primacy. A loss of leadership dims the bright bulb of opportunity for many engineers and scientists and aviators to say nothing of students coming behind. Space leadership is a driver of innovation ... a measure of world stature ... and a source of national pride. That’s why other nations are making the investment.

U.S. investment in space exploration has been an impetus for global technological and economic advances. It has focused science and industry on new problems and new solutions. From GPS to breast cancer detection ... scratch resistant lenses and engine lubricants ... the science behind space has produced everyday marvels. NASA Administrator Charlie Bolden says he wants the agency to be a “big-picture innovator” that contributes strongly to future economic growth.

I applaud that and I believe we must continue our commitment as the world leader in space exploration and maintain our hard-won edge in discovery and innovation.

Second, there is no substitute for human space exploration ... and it is critical for our national prosperity.

When it comes to exploring, machines can do and see things we cannot, but the best scientific instrument is still a well-trained pair of eyes and hands.

Can you imagine a robot being programmed to say, “One small step....” as it places a titanium foot upon the surface of Mars?

Even the so-called “robot guys” admit there is no substitute for manned exploration. Cornell University’s Steve Squyres, who helps run the Mars rovers, said recently that “the best exploration and the most inspiring exploration will be done by humans.” He argues for a return to the moon by humans as a way of flexing NASA’s deep-space muscles before moving on to near-earth asteroids and other destinations.

Let’s face it, it will be a long time – if ever – before a robot could repair the Hubble telescope or make the many adjustments needed to add modules to the International Space Station. In many cases, robots are excellent precursors to humans for certain space missions. But, ultimately, an astronaut is much more efficient. An astronaut could do in several days the six years of work done by the Mars rovers.

Underneath it all, America is a nation of explorers. The day we cease to be explorers and revert to armchairs and joysticks is the day we begin to dwell on past achievements rather than future adventures.

That must not happen on our watch.

We believe NASA's human exploration of space beyond low Earth orbit should be treated as a national priority and given the funding needed for timely development and implementation.

I would be remiss if I didn't spend a couple of minutes on the International Space Station. It truly is a marvel – a national orbiting laboratory that promises new discoveries for mankind and sets new standards for international cooperation in space. Next month it is going to be presented one of the nation's most prestigious awards – the Collier trophy.

However, let me be clear, there is a significant difference between exploring low Earth orbit – where the shuttle and International Space Station operate – and travelling to the moon and beyond. That takes greater expertise, innovation, and technological advancement.

Finally, we must develop a national space strategy.

Shifting plans for U.S. human space exploration further demonstrate the need for a national space strategy. We need to coordinate space efforts across all agencies at the highest level. The President has extended our nation's participation aboard the ISS until at least 2020. But what comes after that? Do we just turn off the lights and go home to Earth, without a clear destination or timeline to work toward? Space planning takes years and for us to be ready for what follows 2020, we need to start planning now.

In his famous 1962 speech at Rice University, President Kennedy said, "We choose to go to the moon in this decade and do the other things not because they are easy, but because they are hard, because that goal will serve to organize and measure the best of our energies and skills."

And let me remind everyone, Kennedy made his clarion call on the heels of a devastating recession in the early 1960s, with high unemployment rates and very high inflation. And he had the Vietnam War to pay for! Sound familiar?

Kennedy didn't say we'd go to the moon today; he said, 'this decade'. So what we need in President Obama's comments and the plans we expect him to lay out is a commitment to action. We need clear goals, milestones and dates, the building blocks and metrics of a concrete commitment to human spaceflight beyond low earth orbit. A lack of urgency and specificity will not sustain the vision and, as we know, where there's no vision, the programs – and the skills and workforce that go with them – perish!

Having a mighty goal or a series of goals embedded in our nation's space strategy will serve to organize NASA's work and that of Congress as well, since there will always be defined programmatic objectives that need to be funded. And it will measure our energies and test our skills, and keep America in the forefront of space.

Just a few weeks ago, AIA held its first Space Leadership Forum and brought together the leading figures in industry and government for a frank discussion about the future of U.S. space operations. I can share with you that participants were very open in discussing their strengths – and their weaknesses – and there was almost unanimous agreement that a clear space strategy is needed.

At the meeting, AIA member Tom Marotta, the CEO of Marotta Controls, a supplier of fluid controls for aerospace, emphasized the importance of a roadmap moving forward. “We need something we can bank on for space.”

Practically speaking, what agencies need to be involved? I would suggest NASA, Defense, NOAA, other offices within Commerce and the intelligence community. There should be input from the administration’s National Security Council and the Office of Science and Technology Policy. Comment should also be sought from industry and academia, as well.

Why this coordination? Decisions made by one agency can have a significant impact on investments by the aerospace industry, and may result in the loss of capabilities that other government agencies rely on. Recent decisions at NASA, for example, will result in loss and disruption of thousands of space jobs – especially in the solid rocket motor sector that also is critical to Defense Department missions. Turning the spigot off for NASA’s industrial base may mean dry holes for other agencies.

National-level strategy and coordination – as called for by the President during his campaign – helps us see the big picture and set the right national course for maintaining national competitiveness and leadership in space.

Now, what might such a strategy look like? We believe it should set out our goals for at least a generation so long-term investments can be made. It should establish milestones toward those goals. A strategy must address the requirements for our industrial base, our current and future workforce and space’s role as critical infrastructure. And of course, the strategy must be backed with appropriate financial resources.

NASA, for example, gets about half a penny of every tax dollar. Yes, that’s correct. Polls show most Americans believe the figure is much larger.

And this is an investment that will yield a return. Let’s be clear about the potential rewards, whether they be natural resources, or jobs or scientific innovation. As someone said, “Columbus didn’t go to the New World to catalogue plants.”

Industry is concerned that without an exploration program and strategy to keep NASA’s goals in focus, funding for the agency’s research can be diverted by Congress without serious political repercussions, since there is no concrete goal.

Now, let me address the transition to commercial launch. Commercial space development has matured. I saw much of this in my five years leading FAA, which licenses commercial flights and oversaw the competition for the X Prize. Real progress has indeed been made.

It is wonderful that innovative private companies will provide space delivery and transportation services. I’m a big believer in commercial space, but I would caution that scattering a thousand seeds of technology funding around will never grow an impressive topiary. NASA is the only

American entity capable of mounting major human spaceflight ventures beyond low Earth orbit and will probably remain so for many years to come.

And yes, I understand the concerns about safety. In fact, the current concerns about the safety of commercial space operations mirror those that arose during the early days of commercial aviation. Safety will always be and should be a huge concern and a high priority. But there is nothing inherently unsafe about commercial space operations and, carefully regulated and monitored, I believe their track record will be a very good one.

However, although investment in commercial space will create new opportunities, we are concerned that the proposed cancellation of the Constellation program in the President's budget may have a lasting impact on our manufacturing workforce and the unique skills they bring to our industrial base. Especially as this occurs when the shuttle already was facing retirement and its workforce was going to be forced to move elsewhere.

Congress is working on ways to mitigate the impacts of pending job losses, particularly related to the currently planned retirement of the shuttle. I like legislation introduced by Rep. Suzanne Kosmas of Florida's 24th district, which will provide displaced aerospace workers with stipends and incentives to become teachers of science, technology, engineering and mathematics. And, she said just last week that she's hoping the president can find ways to mitigate the expected job loss. We endorse this idea.

So, in closing, I'm reminded of the words of astronomer and visionary Carl Sagan, who said: "Somewhere, something incredible is waiting to be known."

Do we want to be remembered as the generation that merely gazed at the stars instead of going beyond them? Let's not mistake shooting for the stars as a starry-eyed view of the world. The vision that carried man – and woman – into space is grounded in the reality of thousands of highly-skilled and high-paying jobs.

Shifting our focus is not necessarily a bad thing as long as the focus is on keeping America strong and in the lead. Presently, however, our vision is blurred and we are seeking that focus. Despite the financial troubles that lapped at his feet, President Kennedy stepped up to the challenge and urged us forward, with a goal and a vision and a plan. This is what we require, a roadmap for the future, with milestones along the way and a sense of urgency that this is important to our country and proclaims in clear terms that this is who we are as Americans.

Thank you for listening. I will be happy to take some questions.

###