

**How Best To Talk With The Public About Mars,
Space Tourism, And Space Commerce**

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Abstract

As host of *The Space Show*, my radio talk show focusing on expanding space commerce, space tourism, and Mars exploration, I frequently receive questions and queries from the program's listeners. The overriding theme of this listener feedback strongly suggests that a significant part of the population does not understand the need for a space program that facilitates the development of space resources, space tourism, a human Mars mission, or even acknowledges the benefits derived from a successful space program. Clearly, space advocates, specific space program proponents, and even NASA do not successfully articulate the case for space development to a wide segment of our population.

This paper addresses the feedback received from listeners since starting *The Space Show* (formerly *Business Without Boundaries*) in June 2001. In addressing the issues raised by the listening audience, recommendations are offered for how best to both talk with and inform the general public about the importance of having an expanded space program, including a new off-Earth economy resulting from a much expanded commercial space industry. Developing a space economy and space resources requires widespread public support and constructive policymaking. Obtaining this support and enabling the creation of constructive space policies may largely depend on those in the space community doing a better job in helping the public to understand the benefits of space development. The recommendations contained in this paper can serve as a useful and productive guide to winning public support as well as influencing policy makers for the benefit of off-Earth commerce and opportunities.

Introduction

There appears to be a major disconnect regarding both the understanding and appreciation by the general U.S. population about enhanced space commercialization programs; space exploration; and private citizens working, living, and playing in outer space. Many factors contribute to this situation, some of which are inherent components of our ability to work and live in outer space, and many of which are largely a result of perceptions, which have largely been created by special-interest space industry and advocacy groups, governments, and the media. While this paper addresses several of the primary reasons for this lack of connection with the general public, the real focus of this paper is to offer constructive solutions supporting commercial space development and becoming a space-faring society.

In the course of offering solutions to some of the major problems highlighted in this paper, there must be a discussion of the benefits resulting from developing space resources. Thus, this paper reviews some of the most frequently cited benefits, from a society and cultural viewpoint, as well as from different individual viewpoints. Most of the time, space development advocates and space industry representatives offer benefits for doing something in space, but the benefits are either too general or simply not important to a wide variety of people. Often, the general public simply does not resonate with these stated benefits. This paper provides suggestions for discovering what really is important to people about space development.

Why Space Development?

Space development can mean something different for each person on this planet. Yet there are some facts that cannot be denied regarding space development so far. If these facts are at all useful in predicting future results, space development offers not only advances in science, technology, and other areas that can make positive differences in all our lives, but it also offers hope for a better tomorrow.

The American space program, under the auspices of the National Aeronautic and Space Administration (NASA), has been responsible for many incredible inventions that have benefited people all over the world, not just those in the United States or the wealthy industrial nations. The space program has produced important benefits in the fields of health, medicine, public safety, energy, the environment, resource management, art, recreation, computers, automation, technology, transportation, manufacturing, construction, and much more.¹ Some of these benefits include solar radiation blockers, diabetes pumps, spinal cord rehabilitation protocols, advanced body scanning, cardiovascular advances, global positioning location services, weather analysis and forecasting, environmental and wildlife analysis and protection through pollution control, urban planning, thermal protection for people, equipment, homes, and more.² From my experience with my radio program audience, however, unless a person has personal experience with these inventions and their benefits, or even knows they originated from the space program, just saying that wonderful advancements and improvements in medicine and other fields has resulted from the space program is not enough to convince people that space development should be a priority.

In addition to the many benefits mentioned above, an excellent book outlines what I consider to be one of the most important reasons for going into space, producing a powerful benefit for people everywhere on this planet. *The Overview Effect* by Frank White documents the “transformative effect” that space and the views of Earth from space have had on the astronauts, cosmonauts, and civilian visitors to space. This transformative effect has the power to dissipate and neutralize border disputes and other similar issues, bringing the world closer together and more peaceful. This was evidenced by the comments made by Congressman Bill Nelson when he rode the Space Shuttle in January 1966. At that time, Nelson said, "If the superpower leaders could be given the opportunity to see the Earth from the perspective from which I saw it—perhaps at a summit meeting in space in the context of the next century—they might realize that we're all in this with a common denominator."³

A similar effect was reported by Saudi Arabian Prince Sultan Bin Salman al-Saud when he rode aboard the Space Shuttle in June 1985 and said, "I think the minute I saw the view for the first time was really one of the most memorable moments in my entire life. It really strengthens your convictions. To me, it's an opportunity to prove that there is no conflict being a Muslim, or any other religion. Looking at it from here, the troubles all over the world, and not just the Middle East, look very strange as you see the boundaries and border lines disappearing."⁴

In addition, the space program has proven to be a strong enabling force for world peace and stability. Despite the fierce competition and challenges that were present during the Cold War era between the former USSR and the U.S., there were no conflicts in space and many

treaties and agreements assuring cooperation were created and adhered to by the super powers as well as the United Nations. Today, former enemies are partners in space development, pursuing space commerce both jointly and competitively.

Since humans first ventured into space, the space development track record is a positive one for mankind. In today's world, beset with so many problems including terrorism, war, hunger, and environmental destruction, space has been a positive arena for humans to be their best. Space seems to be the place where people and nations can work together for positive solutions to our worldly problems.

Even with this enviable track record, space development has not excited people sufficiently to make space programs a priority for government funding and attention. Just understanding these accomplishments is obviously not enough. Based on my experience with *The Space Show* audience, I believe people have to directly connect with the space benefits to be able to personalize them and own them. Then and only then will space development be the priority that it should be. Thus, when talking about the benefits of space development and the space program, the discussion cannot be too general or impersonal.

Common Barriers Regarding Space Development

Industry advocates, policy makers, and others working toward becoming space-faring and expanding space commerce frequently cite barriers that prevent their space objectives from being realized. While the barriers cited are real and often present formidable issues to overcome, barriers are not always the reason why space development does not proceed at a faster rate.

The cost of accessing space is often cited as one of the barriers to furthering space commerce and development. While the cost to orbit a satellite is serious issue, it has not blocked most existing satellite and telecommunications companies from being financially successful. When cost is cited as a barrier, most often the reference is to the cost of launching one pound of material into low-Earth orbit (LEO) at a price of approximately \$10,000. This is accurate pricing for some launch vehicles, specifically the Space Shuttle. Such a price far exceeds any possible economic price for a putting one pound into LEO, or even for the more costly launches to higher geostationary orbits. There are many launch vehicle options, however, that launch a pound into orbit at much lower rates for differing payloads and orbits, although still at a high price.

Clearly, the high cost to orbit is not preventing today's commercial space companies from success or profitability. Today's commercial space industry, however, launches only cargo into orbit. Even if the cost to orbit was as low as \$3,000 per pound using an approved hypothetical rocket for carrying humans to space, imagine how costly it would be to take a crew of seven average-size astronauts into orbit, let alone its payload and supplies. When this barrier to space development is presented to the public, the public, on the other hand, sees successful telecommunication, satellite, and rocket companies. This is confusing: how can successful and profitable commercial space companies exist when the cost of getting to and from space is a serious barrier to space commerce and development?

Another common barrier to space development and commerce frequently cited is the lack of investment funding, especially for start-up and entrepreneurial business ventures. Generally speaking, obtaining sufficient investment capital for a space venture is difficult at best. However, just because a venture is not funded or is unable to obtain investment capital from the traditional investment sources, does not mean that the venture should be funded. Many such investments should not be funded when one closely examines the company's business plan and fundamentals.

Space business ventures must compete for financing with terrestrial business ventures. While there may be significant amounts of investment capital available over time, investment capital is still a finite resource. No matter what the economic condition of the country, the supply of capital is not unlimited. Often, the space venture is simply not competitive with a terrestrial investment opportunity so it is natural for the available investment capital to flow to the investment with the best combination of low risk, high potential return, and a solid array of fundamentals to help the business meet its goals. When a space venture is unable to get funding, one must look to see if the venture should have been funded in the first place.

These two factors—the high cost for space access and the availability of investment capital—are mentioned only to show that while they are barriers to developing space commerce, these obstacles are not completely at fault for delaying and, in some cases, thwarting space commerce. The same case can be made with many of the legal, regulatory, and other barriers to space development.

What's Needed to Facilitate Space Commerce

Facilitating the expansion of space commerce and space development requires positive and constructive public policy and legislation, along with a supportive regulatory environment. While public financing is essential for many of the space programs, private sector investment is also crucial, especially in developing reusable launch vehicle (RLV), lunar, LEO, and other plausible commercial space ventures. In the midst of these requirements, it is important that investors, our elected representatives and policy makers, and the general public understand the importance and potential of space.

Furthering space commerce and developing our space resources can happen when we who know, value, and understand the many facets and diversity of space are able to lead, educate, persuade, advocate, and convince the public and the policy makers of the importance of these objectives. While the engineering, technology, science, and costs of space development are important, they pale in comparison to the necessity of reaching these objectives. Space is expensive, risky, mysterious, and complex. We are used to space being the complete domain of governments and their agencies, not the domain of people. And we have not personalized the benefits derived from space development and exploration.

The importance of obtaining funding and acquiring investors is a given in launching any new business or industry and the developing commercial space industry is no exception. While the importance of making sure the commercial space venture is properly planned and financially competitive with similar investment opportunities has been mentioned, it is also essential that a space company have a competitive management team and be able to communicate their plans to

investors, financiers, and those in charge of funding allocations. Two common mistakes exist in this category. First, the management team is often weak in appropriate business and management experience. Second, management often assumes cutting-edge technology or engineering sells the deal on its own. Except for the occasional space enthusiast who may want to invest or finance a space venture because of his love for space, this approach does not work with most investors and is usually counterproductive.

What is required by management is to assemble an experienced team with the ability to present and market its proposal to the financial community in a highly professional manner, stressing the business components of the venture, showing how the return on investment (ROI) assumptions are plausible, and clearly explaining the market for the goods or services produced. In short, the ability to communicate the essentials to those in the financial community cannot be overstated. An effective, concise, and fact-laden business plan executive summary is a good way to prepare for this type of presentation.

When speaking to individuals in the investment community, it is important to ask open-ended questions to find out what the investment attitudes are regarding the type of venture being presented. Understanding what interests the investor, his investment risk and ROI criteria is very important. By understanding the investor's investment strategy, the management team is then able to address these important issues in ways that help secure funding. If the venture to be funded falls outside the investor's criteria, then the management team is better off using its time and resources where it can be more productive. Thus, the ability to listen, question, and to interview those in the investment community to find out their views about space investments and their possible space investment strategy is fundamental to funding commercial space ventures and in obtaining public sector funding of space development projects.

Talking to the Public About Space Commerce, Tourism, and Space Development

Among the primary concerns and beliefs held by the general public about space commerce, space tourism, and space development, there is a strong sense that public monies should be spent on projects considered more worthwhile such as feeding the poor, medical and cancer research, solving our environmental problems, and establishing peace on Earth. Also, many believe that we have so badly messed up Earth, that we should stay out of space because we will undoubtedly do the same to everything we touch in space, including the Moon and Mars. These are difficult beliefs to counter, especially because the holders of these views are not always interested in receiving new, accurate information that might change their viewpoint. Presenting factual evidence to offset these views often results in the hardening of the views by the person holding them. Thus, one has to carefully listen and question the person to discover any underlying beliefs wherein the person might be open to receiving potentially new and view-shifting information.

Space advocates and proponents are well-known for stating what the space community believes are the most important benefits for going into space, regardless of what others may think. Such a discussion often centers around the need to save the human race from extinction should there be a life-extinguishing asteroid impact upon Earth, or saving humans from annihilation due to war, environmental meltdown and destruction, disease, or some other

destructive event. In addition, conquering the new frontier, opening it to civilization, nurturing the human spirit to explore and reach out, and developing new technologies and equipment that will help us on Earth are all reasons frequently cited for why we should be in space. These reasons, however, do not always connect or resonate with those participating in the discussion.

As with the investment community, it is essential that space advocates and proponents, industry leaders, and policy makers ask questions to find out why space is or is not important to the person or group being addressed. When this approach is undertaken, not only do we find out the key facts underlying the beliefs of others, but we can also discover why the person or group may not have any interest in space. Finding out why there is no interest in space can be just as important and useful as finding out why the interest is there. If we make proper use of this information, we can develop ways of communicating with these people to better explain how and why space may benefit them and their interests.

It is also important that those in the space community avoid talking down to others, regardless of their views or level of knowledge about space matters. Being condescending is counterproductive to winning support for space development and financing.

Going into space, let alone Mars, is costly, risky, and complex. To become a space-faring nation and culture, we need to do it with support and help from many people and groups, not just the few represented by the space community. Therefore, understanding the reasons people have for wanting to be in space or not is a crucial first step to building the alliances and partnerships needed to facilitate space development. Understanding that our reasons or benefits may not matter to others is important. Realizing that we need to make sure that the resulting benefits from our space programs connect on a personal level with those we are addressing is important.

In talking to guests and listeners of *The Space Show*, it has become obvious that selling the negative is less than productive. The better responses come from people who are upbeat and provide positive reasons and explanations for space development. Talk about destroying the Earth, its environment, humanity, and destructive asteroid impacts upon Earth, while resonating with some people, in general does not inspire, motivate, or win people over to being proponents of programs designed to further space commerce, space tourism, and space development. Fear and negativity are not good selling points.

Recommendations

Having a positive dialog with people about space development and its benefits is very important. Avoiding space and technical jargon and speaking the same language as the person or group being addressed facilitates a productive exchange of ideas and information. The goal is not to dazzle or impress, but to include those outside the space community in the discussion of why it is important for humanity to be in space.

Rather than making our ideas of the benefits the only important ones, allow the benefits expressed by others to become part of the dialog. At the same time, let people know that the benefits being discussed represent the views of a wide ranging part of society, and that the space

community acknowledges the validity and importance of people's views about space development, space settlement, and humanity's place in space.

One crucial recommendation refers back to working with investors and financiers. For the most part, these people are not space advocates or involved in the space community. They invest primarily for profit as part of their businesses. While there are secondary reasons, we must be able to successfully address their primary reason if we want them to play a role in financing in our space ventures. Thus, we need to be able to speak the investment language. We need to know what their hot buttons are and what causes their disinterest in the project. And above all, we must present realistic business plans that are competitive with terrestrial investment opportunities.

Always anticipate the unexpected when talking about space. People may have many reasons for liking or disliking space. We should be able to accept their reasoning even if we disagree. In any event, avoiding placing them in an uncomfortable position or putting down their ideas are certainly desirable objectives.

When talking about the benefits derived from developing space, being specific rather than abstract, academic, or general is preferred. Do not assume that we as advocates know all the benefits. Start with a very broad brush and narrow the discussion based on feedback from those involved in the discussion. The goals, to increase support for space development programs and how best to talk to the public about space development, should be held in sharp focus throughout the discussion.

Conclusion

Space advocates and those interested in space development, space commerce, returning to the Moon, or sending humans to Mars need to do a better job in presenting their case to the public, politicians, and the media. Bridging the communication gap can best be done by finding ways to personalize the benefits so that people will know why space development or sending humans to Mars is beneficial for them. This personal connection is very important and requires attentive communicating, including listening. Both of these skills are fundamental to being able to speak to a person's interest or lack thereof in space development, and to winning their support for space programs.

Space is expensive and dangerous, especially a manned Mars mission. It is therefore imperative that we have positive, constructive enabling policies, legislation, and regulations designed to facilitate our space development and exploration goals. We need to be inclusive, not exclusive, to realize these goals.

I believe it is also important to recognize that space development is no longer the domain of the government and NASA. Expanding space commerce and becoming space-faring is now a global effort, involving many nations that have divergent and competitive interests with the U.S. We need to find ways to work with other countries and their space programs to make space an addition to all our lives. Thinking globally about space development, settlement, and project financing will certainly be helpful in humanity's quest to become truly space-faring.

References

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 2. Ibid, (multiple pages throughout the book)
 3. White, Frank. 1998. *The Overview Effect: Space Exploration and Human Evolution*. 2d ed. p.265. Washington DC: American Institute of Aeronautics.
 4. Ibid, pp. 45, 256-7, 259.
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