35 – Is Space Policy Becoming Irrelevant?

SUMMARY

Starlink revenue is now exceeding NASA human spaceflight budget. Given the much greater cost-effectiveness of private launch systems, one must start wondering if NASA will remain relevant when companies have the capability of accomplishing so much more with more money and capability.

The chapter argues that space policy makers need to recognize that our programs need to align with the direction that the leading space launch countries are headed.

WHERE SPACE POLICY IS REQUIRED

Clearly, there are certain activities in space where companies are not able to turn a profit and hence government needs to provide funding. For example, probes and landers on Mars cost billions of dollars and yet it is unlikely that the commercial marketplace is going to pay enough for that information to cover the costs. So, there will always be a place for government space funding and hence space policy.

Human spaceflight has, for decades, been primarily in the domain of governments. Examples are NASA's Apollo Program, Space Shuttle, and International Space Station. Yet, they paid commercial companies to develop and operate the systems but, because the funding was almost completely from the government, then space policy determined the programs and their operations.

WHERE SPACE POLICY IS UNNECESSARY

Yet there are sectors of space operations that don't require ongoing government funding. Unmanned communications satellites are now an example of that. For decades, GEO comm satellites have been highly profitable and not requiring government subsidies to survive. Yes, government can be a customer, but they are just one customer among many.

The more recent example of this is SpaceX's Starlink constellation which is generating now more than $10 billion annually in revenue. Yes, governments also purchase their service but even without that revenue, SpaceX would be able to easily survive. Another interesting example is Planet (Lab) with a constellation of 200 high resolution satellites. They sell images from their frequent overflights for business intelligence and governments.

There has been recent discussions about the establishment of data centers in space. If successful, this would likely be developed using mostly private funding. Another potential example in the medium-term future would be large-scale LEO tourism where NASA-funded CLD stations just aren't sized to receive that many tourists so private LEO station companies would need to step up to that market demand.

THE GRAY ZONE

But nowadays, we find ourselves in a very interesting situation. Increasingly, the desire is to use NASA to stimulate the development of space economies whether in LEO, cislunar space, or on the Moon. The hope is that NASA can pay companies to develop a service which it can use and yet they can also serve the marketplace so that NASA becomes just one customer among many.

The best example of this was the COTS (Commercial Orbital Transportation Services) Program where SpaceX and Orbital Sciences were paid to develop new rockets to launch cargo to the ISS. Studies found that the $ per kilogram savings was between 4 and 10-fold! And the COTS Program resulted in SpaceX not only barely surviving but it has now gone on to returning the launch market back to the United States and now thoroughly dominating the global launch market.

COMPARED WITH NASA'S HSF BUDGET

NASA's Budget Size

Space policy matters to the extent of what it can buy. That is to say that NASA's $7.5 billion annual HSF budget is not peanuts. That amount can accomplish a great deal. But if it is ineffectively spent then it has that much less impact / relevance.

As mentioned earlier, SpaceX's Starlink revenue as of 2025 is greater than $10 billion annually. That grew a whopping 53% compared to 2024. So even now, SpaceX's revenue exceeds that of NASA's HSF budget, and we can reasonably anticipate that in a couple of years, SpaceX's revenue will far exceed NASA's HSF budget. So, how will that affect space policy? Who will set direction when NASA no longer has the greater budget? It's not that NASA will become irrelevant, but that space policy will be localized to those areas for which only government leadership makes sense while other areas transition to private / commercial operations.

GOVERNMENT NEEDS

First, there are certain goals that are specific to governments that do not so strongly apply to private enterprise. Here are a few relevant examples:

Beating China

There is a great power competition between the United States and China, and the stakes are high. Countries around the world are looking as to which country is in the lead and will respond accordingly. As mentioned in the China Chapter (38), the long-term significance is more greatly impacted by who develops the permanent International Base. But it does matter to some extent who wins the battle between who next arrives on the Moon. It seems clear that, without NASA funding, the lunar landers are not going to be built in time if at all. NASA's funding and hence space policy is essential.

Foreign Policy (govt-to-govt relations)

It may be that Blue Origin could eventually develop its own fleet of lunar landers and infrastructure on its own dime. But even if it did that, it wouldn't play the same role with other countries that the United States could play. There is something to government-to-government relations that private companies simply cannot replicate. This is why an explicit policy for the ILEP and ILB phases founded on a policy of full utilization of reusable heavy lift vehicles is critical.

Sending Our Values

Scott Pace (former Executive Secretary of the National Space Council) commonly points out an important point about America's goals in space:

> *"It is not just our machines or our people that we send to space. It's our values. It's who we are. It's things like rule of law, democracy, human rights, and a free market economy."*

One way or another, some country will be the first to establish a permanent and growing base on the Moon. As they develop the infrastructure and the population begins to grow, it is that country that will decide which values dominate. Dear reader, who would you prefer to establish the values of humanity's spread beyond Earth -- The US or the CCP??

SPECIFICALLY, THE MOON

Elon's Interest in the Moon

Elon is absolutely committed to Mars because he believes it is the only planet that has sufficient resources for full self-reliance (FSR). The design of Starship is specifically for Mars entry, and the fleet of Starships is sized to transport enough passengers and cargo to establish a city on Mars with a population reaching a million by 2050. He has publicly committed Starlink revenue towards the Starship development followed by Mars infrastructure.

But, Elon has also clearly and repeatedly indicated that he believes that a government "Moonbase Alpha" (MBA) should be built. Examine, for example, the artistic image that SpaceX has publicly released illustrating a Starship landing at a very large lunar base.

Recently, there has been the idea that Elon has completely backed away from the Moon by calling it a "distraction". Yes, he did say it is a distraction. But he wasn't saying that Moonbase Alpha shouldn't be built. Rather, he was specifically replying to an X post on January 3, 2025, by Peter Hague who suggested that "Mars people" and "space habitat people" should extract oxygen on the Moon and sell it including to those (i.e. SpaceX) going to Mars. Now, anyone who understands delta-V knows that this idea doesn't stand up under scrutiny. It takes delta-V (i.e. propellant) to slow down to enter a Lagrange point. Further, it takes delta-V to speed back up to get on a trans-Mars injection. But the real killer is the delta-V it would take for said lunar oxygen to be lifted off the lunar surface to the Lagrange point and then the delta-V to return the tanker back to the lunar surface. So, to this bad idea, Elon specifically stated, "No, we're going straight to Mars. The Moon is a distraction..." So, Elon has never wavered from his belief that a base should be established on the Moon. He was only rejecting the idea that lunar-derived propellant would help efforts to get to Mars.

That said, Elon has never indicated that any Starlink revenue would be directed to lunar development. Elon doesn't believe it possible to achieve FSR on the Moon. Rather, SpaceX's involvement would be to provide transportation on a commercial basis for cargo and crew for America and other countries. If US decision-makers direct space policy in that direction, then SpaceX will be there to accept those contracts. If, on the other hand, lunar development is limited to a few astronauts conducting the occasional science mission or if space policy views the Moon as only a steppingstone to Mars, then the Starship fleet won't be used to its full extent for lunar development.

THE PURPOSE OF THIS BOOK

In this book, the Plan has been presented about how America can:

- **SEIZE** the historic prize by writing the story of humanity's spread beyond Earth starting with the Initial Permanent Crew
- **GAIN** tremendous international appreciation by leading other countries in the very broad exploration of the Moon
- **LEAD** the world in establishing a large and growing International Lunar Base
- **FACILITATE** a lunar marketplace of international companies competing to provide goods and services making private settlement possible
- **INSPIRE** upcoming generations with a future beyond Earth filled with potential

A billion young people could watch America's Initial Permanent Crew.

SO, HOW IMPORTANT IS LUNAR SPACE POLICY?

For the Moon, space policy is critical. Without a policy taking full advantage of the fleets of reusable heavy lift vehicles, lunar development could be greatly delayed. Alternately, lunar development could be taken up by other countries who understand the potential leaving America largely out of the picture. The choice is ours. But, considering how much is to be gained by pursuing the Innovative Plan and how much is to be lost by failing to do so, the opportunity should not be missed to provide the necessary policy leadership at this time.

The policy can't be limited to committing to taking advantage of the reusable fleets but not developing surface systems. Rather, space policy needs to lay aside the Tradition Plan to open up the necessary budgetary space.