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Building Lunar Networks

By: [Robert H. Brumley, II](#)

NASA - the actual institution, people, and performance - is at a tipping point. It has an aging infrastructure, a brain drain of talent leaving for new space start-ups, and a fatigued management team trying to balance unrealistic congressional priorities with the realities of sustaining complex systems and people in space.

Rising space adversaries' recent successes combined with NASA's delays and missteps, are also straining the fabric of the institution and its limited political capital. This is creating the appearance that NASA is "Lost At Space," meaning in a place unknown to it before and not knowing what to do next. And, as of the time of the writing of this article, it is leaderless.



Worse, the world is no longer waiting for us. They have new alternative partners. Truly competitive adversaries are rising to challenge America's leadership in Space - not just the domain but the physical, geographic territory directly within which public and private multi-activity projects occur.

Previously, NASA had things other countries wanted and were willing to wait in line to participate, such as the Space Shuttle, the International Space Station, and even Artemis. We are losing these international space partners ever so quietly in favor of their own alliances and those of our competitors.

The list of agile competitors is growing rapidly - no longer just the Russians. These new challengers, some friends, some foes - China, India, Europe, UAE, Luxemburg, Japan - are directly challenging America's leadership in science, engineering, and actual in-space operations. They are building and deploying their own space stations, landing with their own systems on the lunar surface, delivered by their own launch capabilities. Whilst NASA remains mired in budget-straining dead-end programs (such as the international space station), dwindling launch options for Artemis, and unbelievably bad publicity.

Example: Artemis - The Sequel. An attempt to achieve a feat that was performed over 50 years ago, Artemis has become the poster child for the agency's current ills. It's years behind schedule and ahead only in cost overruns. Artemis is now the symptom of a larger, more immediate institutional problem, for which policymakers, media, think tanks, K Street, and particularly the Trump Administration, seek a cure. A cure for the nation's premier space institution, which can be deferred no longer.

The institutional cure, however, is not another next-generation government-funded space program. It is reform - driven within the institution with the problem - NASA itself. Reform must be driven by fresh leadership with the political strength to force the changes from within with the support of the political, economic, and popular support from outside the institution. Finally, meaningful reform to save the institution from itself. Yet, as of this article, NASA drifts.

The "what's wrong with NASA" debate is a DC constant refrain, even a cottage industry - where program by program, policy by policy is examined, questioned, and moved along with a policy shrug resembling

an under-performing child in elementary school.

Government, administration and Congress with NASA's cooperation fuel these follies by ever-shifting program priorities, policies, and budget priorities. Both institutions tolerate underperforming and unaccountable agency leadership and congressional meddling, whilst rewarding and buying loyalty from a coterie of aging aerospace companies used to open-ended, decades-long agency contracts. NASA's rinse-and-repeat leadership cadre is central to these terrible results, primarily the Office of the Administrator. Chief amongst all space executives globally, the NASA Administrator's professional experience reflects its achievements and problems - mostly aerospace executives, engineers, military retirees, scientists, and more recently, politicians with previous oversight responsibilities of the agency. Executives, Yes. Business executives, sadly No. Leaders? Yes, but in a direction provided, not necessarily one developed by them. Directionless.

The withdrawal of Jared Isaacman's nomination may indicate that real reform is coming or once again deferred. Isaacman is a business entrepreneur and a builder of companies. He knows what a balance sheet is, where capital comes from, how to hire and motivate people, and how to meet the expectations of his investors. He is also more than a successful businessperson. He is recognized by our country's most youthful, aspirational sector as a leader in the New Space sector. The fact that he has actually been to and experienced human space flight puts him in a unique category. One of credibility.

Isaacman said he still believes, as a New Space entrepreneur, in the potential future of NASA. He would have represented a convergence of the past and the future needed to create a true American Century of expansion into Space. Finally, he can speak to Wall Street and Silicon Valley with credibility few have. He is well-respected amongst the primary vendors to NASA and the aerospace firms. Yet maybe because he came up from the commercial side of the space sector, not the government side, he appears to be unqualified. Perhaps he could not be trusted with the institution. Or was he just New Space, too commercial? Maybe being too commercial implies real reform is at hand? Qualified, but not trusted. Perhaps.

Imagine what his first actions might have been. It is tough to glean insights from his testimony, which offered the usual reassurances to specific government and commercial constituencies without any details. Never straying from the script. It is a painful performance to watch the verbal maneuvering around direct answers to avoid direct consequences. In my own words, however, I think he was trying to say, ". . . *no worries, no cuts that will hurt your district or state. Yes, I support Artemis - The Sequel. And yes, let's go to Mars. Be reassured that I will support your district's and state's economic interests, specifically your continued investment in your NASA Centers.*" Obligatory confirmation speak. Which leaves one wondering what he would have done. What can any nominee really say? Not much more than Isaacman. And his nomination has now been pulled. NASA is back to being leaderless and lost in the business of Space.

Assuredly, the Administration' does not like bad publicity. They like successes, not problems. So, what is the Administration to do? Finally draw the line between the government's role in the Space and private sectors, emphasizing the power of private capital over taxpayer funding to achieve our national goals. Trust your next nominee to draw, defend, and enforce that line. That is what Isaacman might have done. That is what leaders do.

The appropriate roles and goals of government and the private sector have been the subject of endless policy statements and even legislation for nearly five decades. Attempts to define the appropriate role of government agencies and our private sector in exploiting and developing the emerging Space sector have been a D.C. blood sport since the Reagan Administration. Balancing budget fights and local economic benefits have been the battlefields - not reform, modernization, or commercialization of Space-related activities. But things are different now. It is time for action, not debate. It is time for American businesses to take the giant leap forward, and just go.

Wall Street and Silicon Valley have deemed Space *a business sector* worthy of their attention and, most importantly, their capital. To financial firms, Space is just a place, a marketplace, to consume goods and services designed, built, launched, and benefiting American businesses, along with - maybe - some foreign partners.

No government budget can compete with the power of American capital. For example, NASA's dwindling annual budget of \$25B is less than 10 percent of SpaceX's market capitalization of \$350B. Yet NASA has

a habit of spending 10 times on programs amortized over decades that any private CFO would not approve of. American capital demands firms do more with less, not less with endless capital.

It is not that Space is not a place for vision and aspirational exploration. Now that American capital has committed to it as a marketplace - a physical place for selling goods and services - bottom lines and market share matter more than aspiration. The pressure of American capital, moving out in front of NASA, specifically Artemis - The Sequel, will reform the agency, not end it. American capital investing in all aspects of the Space domain will demand less regulation, more flexibility in operations, and more certainty in trade rules potentially applicable to Space, such as: antitrust, the GATT, IP protections, dispute resolution, and proactive security. NASA merely must learn how to work with American capital or be left behind. NASA must also realize it can no longer compete with American capital. Like water, capital will find the least path of resistance and will flow around it.

So, who will be the real change agent for the reform of NASA? The Nation's Businessperson—not Musk, Isaacman, or Bezos. America's businessman is President Trump's businessman, the Secretary of Commerce, Howard Lutnick.

The Commerce Secretary sits atop the broadest platform of advocacy for American capital. His department's remit is international trade and controls, the patent office, federal labs oversight, promotion of technology transfers, economic development, and the Census Bureau. His department listens not only to American business and its engines of capital but also to our trading partners. He can bring clarity to the debate about commercial space and its potential. His department has an Office of Space Commerce - Reagan set it up - to be an advocate, not a regulator of America's commercial space expansion. Finally, as all influential Commerce Secretaries must have, he has the President's confidence. Howard Lutnick, in partnership with American Capital, is the change agent for the institution's reform - NASA. Let us give him room to run while the President looks for another nominee. Maybe a leaderless NASA for now might be the reform we all need. Maybe.