



How and why the Pentagon is laying the groundwork for an economy on the Moon

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The Pentagon's Defense Advanced Research Projects Agency (DARPA) has just launched a study called LunA-10 to explore infrastructure needs for a future lunar economy. The aim is to kick-start an economy on the Moon in the next 10 years.

This is something to be celebrated. DARPA has a remarkable history of success in catalyzing economic infrastructure. Our modern life is built upon innovations seeded by DARPA's investments, including the internet, GPS and the voice recognition software you use on your phone and other smart devices.

The contributions to our economy have been staggering. GPS has driven \$1.4 trillion in economic growth since 1983. The internet is currently worth \$7.2 Trillion per year globally, and contributes \$2.45 trillion to U.S. GDP — almost 12 percent, and continues to grow at 22 percent per year or 10 times faster than the overall economy.

Just imagine what DARPA might do for space.

Of course, DARPA did not build the internet or GPS. Nor is DARPA going to fly to the Moon or build anything on it. Rather, DARPA builds the foundational technology for these things, and NASA and the commercial space industry do the rest.

As a government operation, DARPA is tiny at about 220 employees. So how do they do it? DARPA builds foundational technology by rapidly deploying its large discretionary pocketbook to create a portfolio of investments across multiple universities and small businesses (usually in competition with one another) to rapidly explore what is possible, and then they accelerate the winners.

DARPA is typically called upon to work on high-risk, high-reward technologies that could significantly affect the nation. This is just such a case, and kudos to the Biden administration for mobilizing DARPA to work on advancing the fundamentals of an economy on the Moon and in the space between Earth and the Moon, known as a "cislunar" economy.

Why DARPA, and why now? As NASA Administrator Bill Nelson has put it, "we're in a space race," and with stakes even higher than those of the 1960s space race. As I have detailed in two books on the topic, the U.S. is pushing to exploit the vast resources of outer-space and to build an off-world industry — a new industrial revolution which will determine leadership in the international system.

This is not a race to get anywhere first, but rather to lead in creating a new engine of economic wealth. China has also recognized that "the earth-moon space has become a new frontier and a new space commanding height for human activities," that "the earth-moon space contains rich material resources and unique environmental resources," and that "in the next 10 years, space activities in the earth-moon space will show a blowout growth."

For China, the goal is to industrialize the Moon, and create a Moon-Earth Economic Zone to return a continent's worth of economic productivity — \$10 trillion per year by 2050. Thus, China recognizes that it should "seize the opportunity to carry out the Earth-Moon space infrastructure planning as soon as possible," and that "now is the critical time for the space infrastructure to expand to the earth-moon space."

So does the White House, which has authored a "National Cislunar Strategy," as well as synergistic strategies to develop in-space manufacturing and technology development in low-Earth Orbit. NASA has followed suit by developing its Moon to Mars Objectives and Development, which for the first time gives a priority to building a cislunar economy and supporting infrastructure. But this is a whole-of-nation effort, and NASA cannot do it alone. DARPA's LunA-10 is well aligned with both the national strategy and NASA's objectives.

In fact, NASA is already collaborating with DARPA on LunA-10, building on decades of successful collaboration to advance civil space applications such as launch, in-space servicing, robotics and advanced propulsion.

A fast-paced program like LunA-10 — just seven months, with large investment — offers a chance to truly catalyze commercial industry participation and even international participation, which is how we get to a Lunar economy in 10 years.

This is a pivotal time. We are on the verge of the first-ever off-world economy. This is not the time to back down, or shy away. This is absolutely the right time to bring in the team trained to think outside the box and get things done quickly.

Peter Garretson is a senior fellow in defense studies at the American Foreign Policy Council, and author of "Scramble for the Skies: The Great Power Competition to Control the Resources of Outer Space" and "The Next Space Race: A Blueprint for American Primacy ." He hosts the AFPC Space Policy Initiative's Space Strategy Podcast.