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Forget Pluto, comets or Mars – let's go back to the moon

By **Dominic Basulto** December 12, 2014

This has been an exciting past month for space exploration. We've seen [a historic landing on the surface of a comet](#) and [the launch of Orion](#), NASA's next-generation spacecraft. And, starting in January, we'll begin to see [gorgeous, never-before-seen imagery of Pluto](#), thanks to the New Horizons spacecraft. There's certainly reason for optimism. According to NASA Administrator Charles Bolden Jr., the Orion launch unofficially marked "[Day One of the Mars era](#)." So here's what might seem like a backward-looking proposition: Sending a manned mission to the moon — not to Mars — should be the primary national space priority for the United States.

The biggest reason, quite simply, has nothing to do with the level of today's science or technology and everything to do with national pride and global influence. If America doesn't go back to the moon and eventually establish a permanent lunar base there, someone else will. And whichever country is most active in moon exploration will have the biggest say in the moon's future development.

The most likely candidate to do so is China, which [soft-landed the Jade Rabbit rover on the moon at the end of 2013](#). Moreover, Chinese scientists have floated various draft proposals for a manned mission to the moon as early as 2025. To make that a reality, [China is working on developing new rockets for manned moon missions](#). And [there are plenty of other contenders](#) — including Japan, India and Russia, as well as a host of private companies — who

18 — [still remaining in](#)

Fine, okay, you say that NASA has seen that, done that, been there, and has no need to send a man or woman to the moon to prove the United States is still No. 1 in space and a global technology leader. That's essentially [the Buzz Aldrin argument](#) for thinking big and moving on to Mars. After 45 years, there's no need to relive past glories, as the legendary Apollo astronaut has repeatedly pointed out. The United States, he says, [shouldn't be spending billions to launch a new Apollo-style program](#). But even fellow astronauts, [including man-on-the-moon Neil Armstrong](#), have

advocated for more focus and direction to NASA's human spaceflight program, and that usually means less emphasis on going to Mars.

And there are reasons for going back to the moon that go beyond just national pride. Based on the learning and experience we have on sending manned missions to the moon, we can prepare for manned space exploration elsewhere. We're just not ready for manned exploration to Mars quite yet.

[This is the argument recently made by celebrity astronaut Chris Hadfield](#), who, it could be argued, has [45,000 different reasons](#) why he should be considered a space authority. Speaking at a Guardian Live event at the Royal Geographical Society in London Dec. 7, [Hadfield took issue with the recent focus on manned missions to Mars](#). His words were stark: "If we started going to Mars any time soon everybody would die." And then to clarify, he said: "We don't know what we are doing yet. We have to have a bunch of inventions between now and Mars."



In short, once we establish a manned lunar program, and perhaps even a permanent lunar research base on the moon, we can use that to build experience and knowledge for going further, maybe even to Mars. As Christopher McKay, a planetary scientist with NASA, has pointed out, [there are six good reasons NASA should build a research base on the moon](#). We need to practice living on the moon before we can realistically think about forming colonies on Mars, he says. We also need to learn how to assess the health impacts of living in space.

And there's another reason — a purely commercial reason — for going back to the moon. A manned lunar program could open the door to new industries such as space tourism and establish the moon as a refueling or way station for longer trips elsewhere, such as to asteroids. Plus, there is now growing speculation that resource extraction on the

moon that wasn't feasible a generation ago may now be possible, opening the door to the creation of new mining industries. For example, [the Chinese are reportedly looking into the possible mining of resources like helium-3](#), which could theoretically be used to fuel nuclear reactors.

Sending a manned exploration mission to Mars by the mid-2030s is a wonderful idea. [It's the type of big idea that resonates with the public, with NASA and with the government](#). Back in 2010, it was the type of big idea that was part and parcel of the Obama Administration's message of hope. But is going to Mars within the next decade "hope" or "reality"? [Even NASA admits that it will be at least seven years before there are any crewed missions in the new Orion spacecraft](#), which puts us at 2021 before anything really big happens in the "Mars era."

It has now been 45 years since a man last walked on the moon, and that's far too long. It would be embarrassing if China or another of the "Asian space race" nations ends up doing something America should have done a long time ago. When we look up at the moon at night, we should think first and foremost about the legacy of America's brave moon innovators, not about lost chances.

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