SPACE GENERATION ADVISORY COUNCIL

Perspective Blog - August 2023

Let's Return to Mars Sample Return

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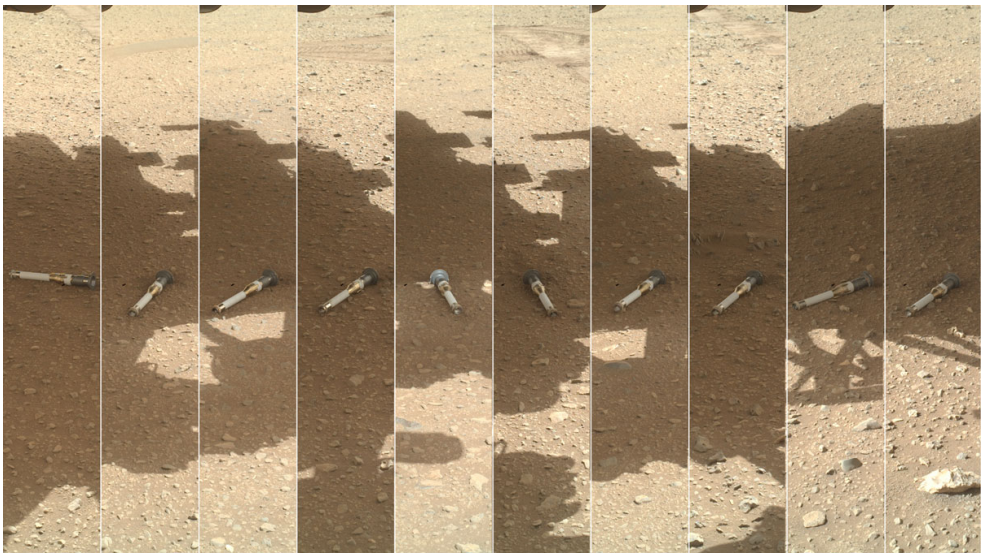
The latest budget to pass the US Senate Appropriations Committee contained a blow to the Mars Sample Return (MSR) mission: either stay on budget or you won't have any budget at all. The bad news continues–if MSR does get canceled, the majority of the funds will be redirected to Artemis rather than to another planetary science project.

$5.3 billion for returning a couple of tubes of Martian dirt to Earth may seem exorbitant, but let's talk over budget military projects to provide some context. Throughout the 2000s and 2010s, the US military was hoping to create state of the art ground vehicle systems through its Future Combat Systems (FCS) project. FCS was eventually deemed a failure–the Army had nothing to show for the tens of billions of dollars already invested, and final cost estimates for the program were at over $200 billion.[1] The dire state of the program eventually led to its effective cancellation–a complete sunk cost for American taxpayers. Another example: the Space-Based Infrared Systems satellite project, meant to improve the US's ability to track intercontinental missiles, had its original budget of $4.1 billion increased over 250% to $10.4 billion[2]. In fact, these ballooning budgets are fairly typical in the US military, and have been for some time. In 2006, the Pentagon reported "that 36 of its major next-generation weapon systems are over budget, some by as much as 50 percent."[3]



NASA photomontage of samples ready for collection and return (NASA/JPL-Caltech/MSSS).

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[1] Francis, Paul. 2007. *Defense Acquisitions: Future Combat System Risks Underscore the Importance of Oversight*. Government Accountability Office. https://www.gao.gov/assets/gao-07-672t.pdf.

[2] "Troubled Space-Based Infrared Satellite Program Finally Gets Off the Ground." National Defense Magazine. Accessed July 22, 2023. https://www.nationaldefensemagazine.org/articles/2011/7/1/2011july-troubled-spacebased-infrared-satellite-program-finally-gets-off-the-ground.

[3] Wayne, Leslie. 2006. "Pentagon Struggles with Cost Overruns and Delays." *The New York Times*, July 11, 2006, sec. Business. https://www.nytimes.com/2006/07/11/business/11overruns.html.

The 2023 budget for the US military is over $800 billion.[4] NASA gets $32 billion.[5] Remaining on-budget and on-time is in the best interest of every American taxpayer–but why penalize planetary science? Let's not cancel this key opportunity to better understand potential life on Mars as well as the origins of our home planet.

Author Bio: Anja Sheppard is a Ph.D. student in Robotics at the University of Michigan. She is passionate about creating an inclusive and ethical future for space exploration.

[4] Garamone, Jim. 2022. "Biden Signs National Defense Authorization Act into Law." U.S. Department of Defense. December 23, 2022. https://www.defense.gov/News/News-Stories/Article/Article/3252968/biden-signs-national-defense-authorization-act-into-law.

[5] USASpending. 2022. "USAspending.gov." USASpending.gov. December 30, 2022. https://www.usaspending.gov/agency/national-aeronautics-and-space-administration?fy=2023.