

Press release

Freelancer.com Launches NASA Microgravity Tank Venting Innovation Challenge

The global challenge offers a US\$80,000 prize pool to revolutionize spacecraft propellant tank venting for the future of space exploration

SYDNEY, Australia - 12 October 2023 – [Freelancer.com](https://www.freelancer.com) (ASX: FLN) (OTCQX: FLNCF), the world's largest freelancing and crowdsourcing marketplace by number of users and jobs posted, today announced a new global innovation challenge on behalf of NASA aimed at crowdsourcing solutions for spacecraft propellant tank venting in microgravity.

As space missions travel farther and longer, they may require that propellant tanks be filled in space, which introduces new obstacles and complexity. The **Who Let the Gas Out?: NASA Tank Venting in Microgravity Challenge** launches today and calls on the global community to brainstorm innovative solutions for venting gas and vapor mixtures from propellant tanks in microgravity without letting liquid seep into the vent.

Venting propellant tanks in space has historically been rare, but the necessity grows with advancing space travel missions. An efficient solution could result in increased transfer efficiency, reduced task duration, and a simpler system for fluid transfer.

"As space missions expand in scope and duration, mastering in-space propellant tank filling has become imperative. This latest challenge aims to solve a unique issue where no viable solution currently exists, meaning anyone with a feasible solution can contribute to future space missions. We're excited to see what new, innovative ideas our freelancers will submit," said Trisha Roberson, Program Manager, NASA Open Innovation Services (NOIS2) at Freelancer.com

Participants are invited to devise concept designs for solutions fitting existing propellant tank designs or external to a tank. External designs are particularly appealing given the potential savings in revamping and requalifying heritage propellant tanks.

Global innovators and thinkers participating in this challenge will not only have a chance to shape the future of space technology, but will also compete for a chunk of the \$80,000 USD prize pool, with the top spot securing a \$30,000 USD award.

More in-depth details surrounding the challenge, including guidelines, timelines, prize allocations, and the criteria for concept proposals can be accessed here:

<https://www.freelancer.com/contest/2319906>

Challenge Information

Controlled propellant tank venting in space is needed for future missions, especially for extended endeavors to the Moon or Mars and satellite repositioning. For successful in-space liquid transfers, a tank must be vented in microgravity without expelling the valuable liquid.

Current solutions require designing spacecraft with larger tanks, but can lead to issues such as reduced thruster performance and increased technical risks. This method, while functional, isn't optimal for future missions with bigger tanks or faster transfer timelines. A refined venting solution is needed. One that prevents liquid loss and doesn't compromise the spacecraft's efficiency or safety.

A proposed concept must meet or exceed key performance parameters defined in the Challenge, ensuring resilience against corrosive environments during extended mission durations, while also mitigating safety risks, adapting to space-related conditions, and withstanding launch vibrations. Furthermore, the solution should present a novel or improved approach, including variations or enhancements, distinct from prior efforts

Prizes

1st Place	\$30,000
2nd Place (two awards)	\$15,000 each
3rd Place (two awards)	\$10,000 each
Total Prizes	\$80,000

If less than 5 candidates are deemed viable, then additional prize funding can be allocated to remaining viable identified candidate(s)

Challenge

Schedule

Challenge Launch	October 11, 2023
Challenge Close	February 22, 2024
Judging/Awarding	April 9, 2024

For more information about the challenge, head to: <https://www.freelancer.com/contest/2319906>

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About Freelancer.com

Twelve-time Webby award-winning Freelancer.com is the world's largest freelancing and crowdsourcing marketplace by total number of users and projects posted. More than 69 million registered users have posted over 23 million projects and contests to date in over 2,000 areas as diverse as website development, logo design, marketing, copywriting, astrophysics, aerospace engineering and manufacturing. Freelancer also owns Escrow.com and Loadshift. Freelancer Limited is listed on the Australian Securities Exchange under the ticker ASX:FLN and is quoted on OTCQX Best Market under the ticker FLNCF.

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