

NASA goes green: NASA selects green propellant technology demonstration mission

August 16 2012

NASA has selected a team led by Ball Aerospace & Technologies Corporation of Boulder, Colo., for a technology demonstration of a high performance "green" propellant alternative to the highly toxic fuel hydrazine. With this award, NASA opens a new era of innovative and non-toxic green fuels that are less harmful to our environment, have fewer operational hazards, and decrease the complexity and cost of launch processing.

Today's use of hydrazine fuel for rockets, satellites and spacecraft is pervasive. Hydrazine is an efficient propellant and can be stored for long periods of time, but it also is highly corrosive and toxic. NASA is seeking new, non-toxic high performance green propellants that could be safely and widely used by rocketeers, ranging from government to industry and academia. Green propellants include liquid, solid, mono-propellant, which use one fuel source, or bi-propellants, which use two, and hybrids that offer safer handling conditions and lower environmental impact than current fuels.

"High performance green propellant has the potential to revolutionize how we travel to, from and in [space](#)," said Michael Gazarik, director of NASA's Space Technology Program at NASA Headquarters in Washington. "An effective green rocket fuel would dramatically reduce the cost and time for preparing and launching space missions while decreasing pollution and harm to our environment."

Following a solicitation and peer-review selection process, NASA chose

the Green Propellant Infusion [Mission](#) proposal and a team lead by Ball and co-investigators from the Aerojet Corporation in Redmond, Washington, the U.S. [Air Force](#) Research Laboratory at the Wright Patterson Air Force Base in Ohio, the U.S. Air Force Space and Missile Systems Center at the Kirkland Air Force Base in New Mexico, NASA's Glenn Research Center in Cleveland and NASA's Kennedy Space Center in Florida for the new mission.

NASA's Green Propellant Infusion Mission is expected to be developed and flown in approximately three years. The Space Technology Program will provide \$45 million for the mission, with some additional cost-sharing by mission co-investigators.

This demonstration will bridge the gap between technology development and use of green propellant. The team will develop and fly a high performance green propellant, demonstrating and characterizing in space the functionality of the integrated propulsion system. Such a demonstration will provide the aerospace community with a new system-level capability for future missions.

Maturing a [space technology](#), such as a revolutionary green propellant, to mission readiness through relevant environment testing and demonstration is a significant challenge from a cost, schedule and risk perspective. [NASA's Technology Demonstration](#) Missions Program performs this function, bridging the gap between laboratory confirmation of a technology and its initial use on an operational mission.

More information: For more information about NASA's Space Technology Program and Technology Demonstration Missions, visit: www.nasa.gov/oct

Provided by NASA

Citation: NASA goes green: NASA selects green propellant technology demonstration mission (2012, August 16) retrieved 7 May 2024 from <https://phys.org/news/2012-08-nasa-green-propellant-technology-mission.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.