Test Stands Make Way for Reusable Robotic Lander

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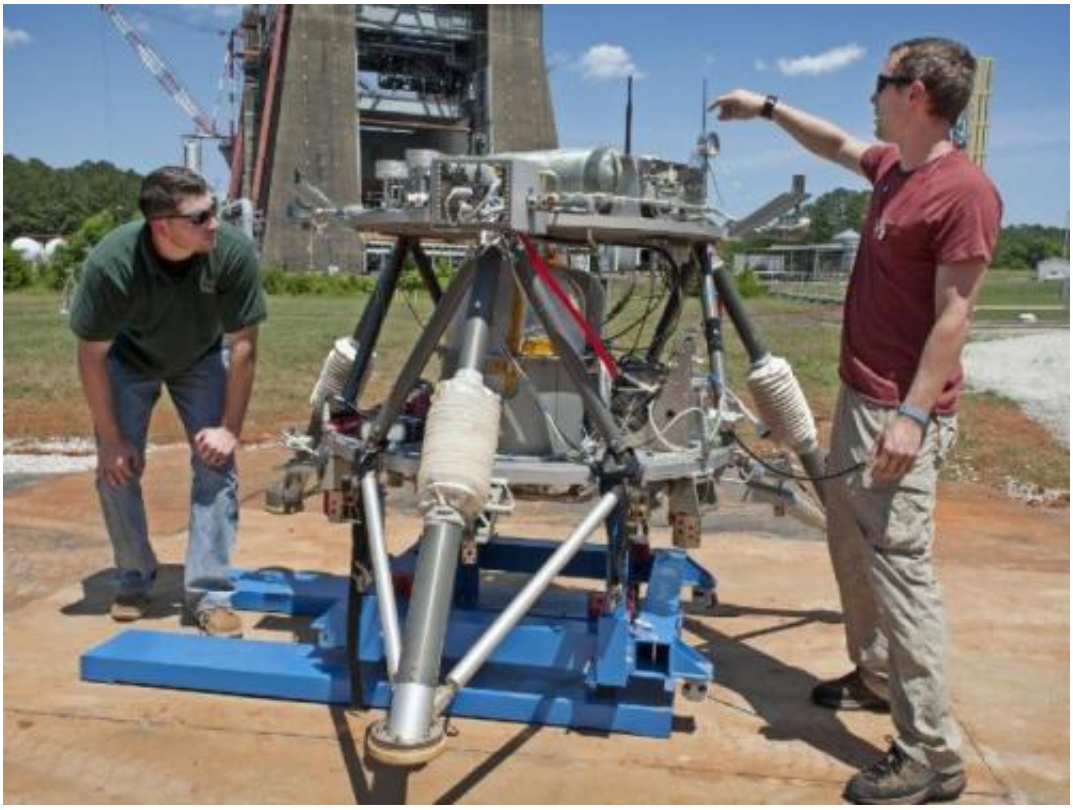
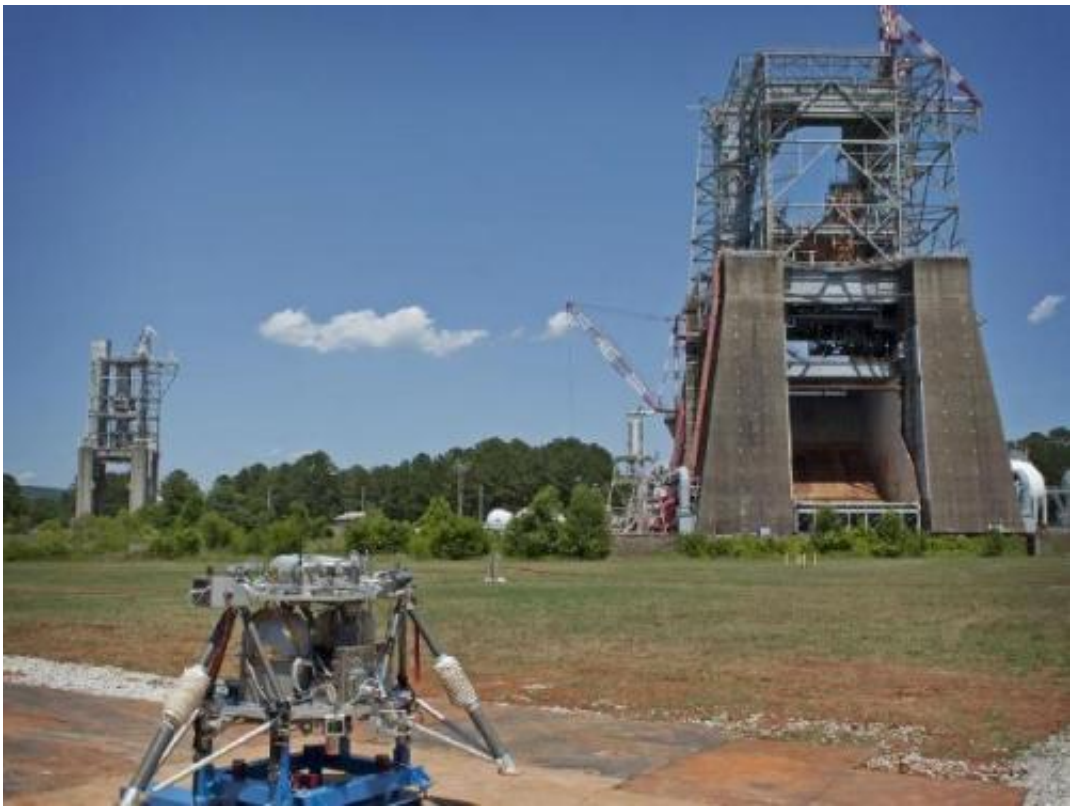


Marshall Center engineers Logan Kennedy, right, and Adam Lacock check out the lander prototype, dubbed the "Mighty Eagle." (NASA/MSFC/Fred Deaton)

The landscape around two historic test stands at NASA's Marshall Space Flight Center in Huntsville, Ala., has changed and now features a free-flying robotic lander that will demonstrate automated rendezvous and capture technology.

This guidance, navigation and control software could aid in the capture of orbiting space debris, in-space docking with a fuel depot, docking of a robotic lander with an orbiting command module and the rendezvous of multiple unmanned stages for deep space human exploration of the solar system.



The "Mighty Eagle" robotic prototype lander is now being tested near Marshall's historic Saturn-IC Static and F-1 test stands. (NASA/MSFC/Fred Deaton)

The lander will be equipped with automated rendezvous and capture technology that contains a camera that allows the vehicle to locate its target and image processing software that generates control commands to guide it to rendezvous with the target.

The test series begins with strap down tests to check out the lander's control systems, continuing with higher altitude flights and moving into hover and translation flights, ascending to a maximum height of 180 feet.

This smart, versatile, robotic lander was developed by the Marshall Center and Johns Hopkins University Applied Physics Laboratory in Laurel, Md., for NASA's Planetary Sciences Division, Headquarters Science Mission Directorate. Key partners in this project include the Von Braun Center for Science and Innovation, which includes the Science Applications International Corporation, Dynetics Corp. and Teledyne Brown Engineering Inc., all of Huntsville.

Provided by NASA