NASA's self-driving Perseverance Mars rover is breaking records

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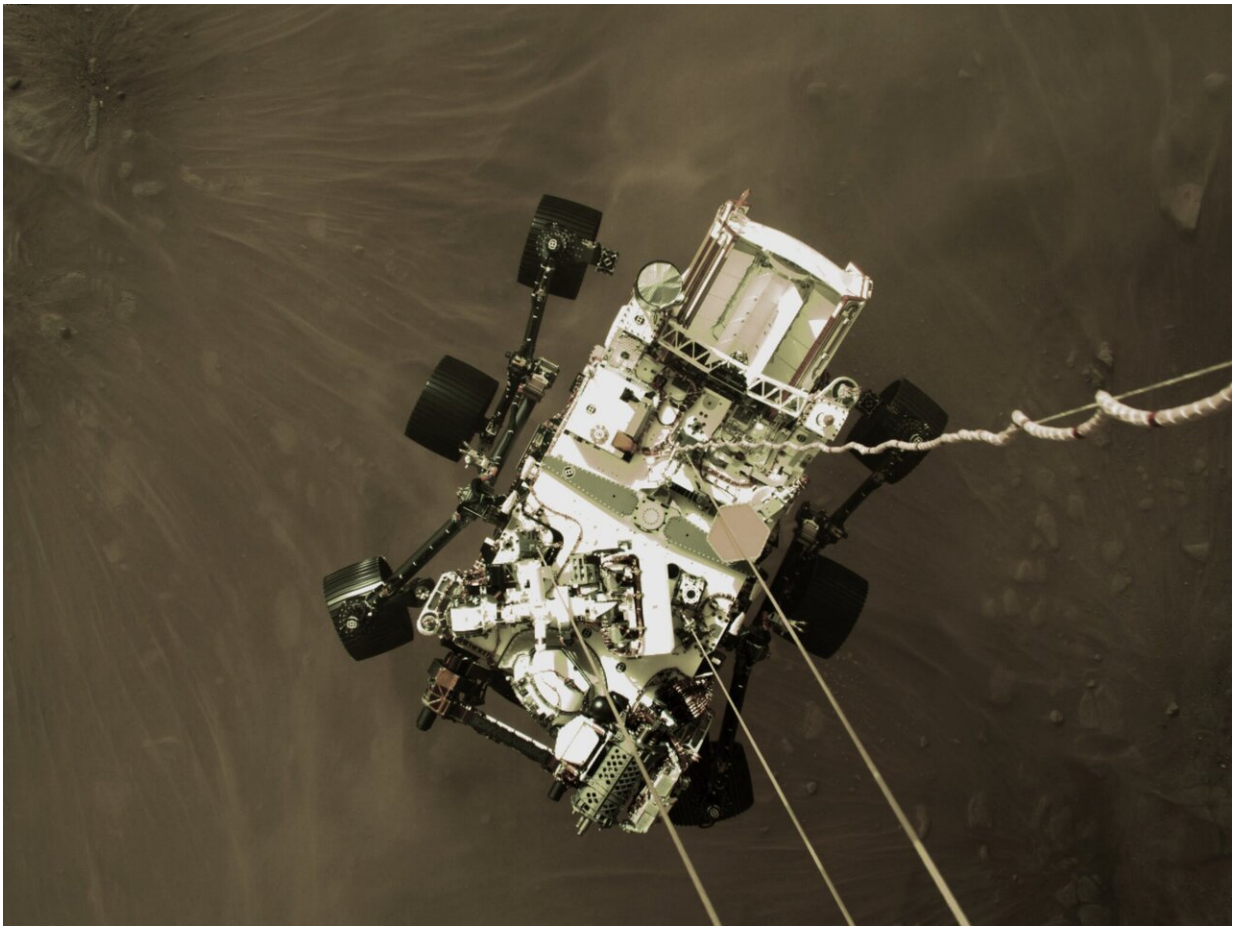

This high-resolution still image is part of a video taken by several cameras as NASA's Perseverance rover touched down on Mars on Feb. 18, 2021. A camera aboard the descent stage captured this shot. A key objective for Perseverance's mission on Mars is astrobiology, including the search for signs of ancient microbial life. The rover will characterize the planet's geology and past climate, pave the way for human exploration of the Red Planet, and be the first mission

to collect and cache Martian rock and regolith (broken rock and dust). Subsequent NASA missions, in cooperation with ESA (the European Space Agency), would send spacecraft to Mars to collect these cached samples from the surface and return them to Earth for in-depth analysis. The Mars 2020 mission is part of a larger program that includes missions to the Moon as a way to prepare for human exploration of the Red Planet. JPL, which is managed for NASA by Caltech in Pasadena, California, built and manages operations of the Perseverance and Curiosity rovers. Credits: NASA/JPL-Caltech

NASA's Perseverance Mars rover is using its self-driving capabilities as it treks across Jezero Crater seeking signs of ancient life and gathering rock and soil samples for planned return to Earth.

With the help of special 3D glasses, rover drivers on Earth plan routes with specific stops, but increasingly allow the rover to "take the wheel" and choose how it gets to those stops. Perseverance's auto-navigation system, known as AutoNav, makes 3D maps of the terrain ahead, identifies hazards, and plans a route around any obstacles without additional direction from controllers back on Earth.

Now the rover can drive through these more complex terrains, which helps Perseverance achieve its science goals and break driving records. The rover is traversing from an area near its landing site, "Octavia E. Butler Landing," to an area where an ancient river flowed into a body of water and deposited sediments (known as a delta).

More information: To track Perseverance's drive, visit mars.nasa.gov/mars2020/mission/where-is-the-rover/

For more information on Perseverance, visit mars.nasa.gov/perseverance .

Provided by Jet Propulsion Laboratory