

# NASA's Mars helicopter's third flight goes farther, faster than before

April 25 2021

---



This NASA photo shows the Ingenuity Mars Helicopter(C) hovering during its third flight on April 25, 2021, as seen by the left Navigation Camera aboard NASA's Perseverance Mars Rover

NASA's mini helicopter Ingenuity on Sunday successfully completed its third flight on Mars, moving farther and faster than ever before, with a

peak speed of 6.6 feet per second.

After two initial flights during which the craft hovered above the Red Planet's surface, the helicopter on this third flight covered 164 feet (50 meters) of distance, reaching the speed of 6.6 feet per second (two meters per second), or four miles per hour in this latest flight.

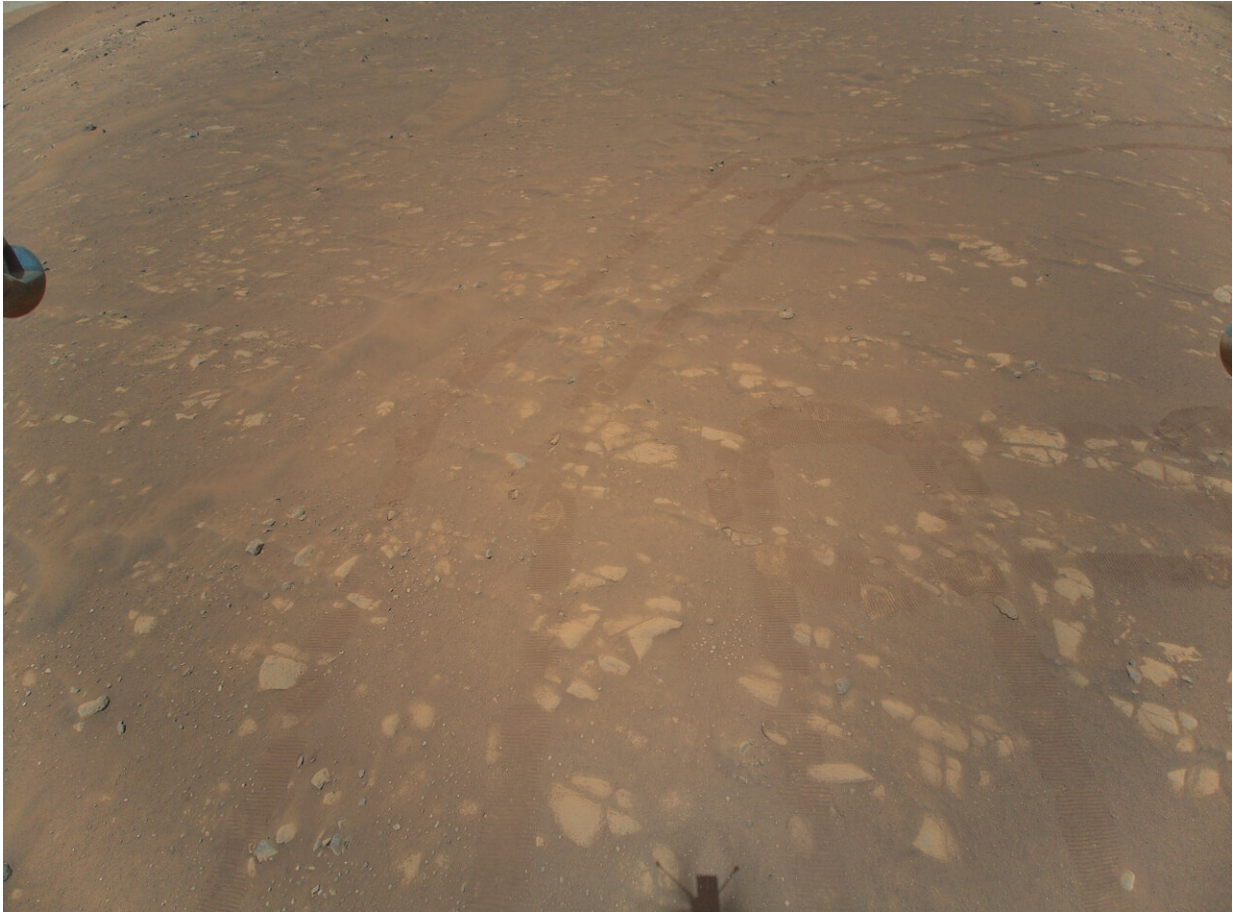
"Today's flight was what we planned for, and yet it was nothing short of amazing," said Dave Lavery, the Ingenuity project's program executive.

The Perseverance rover, which carried the four-pound (1.8 kilograms) rotorcraft to Mars, filmed the 80-second third flight. NASA said Sunday that video clips would be sent to Earth in the coming days.

The lateral flight was a test for the helicopter's autonomous navigation system, which completes the route according to information received beforehand.

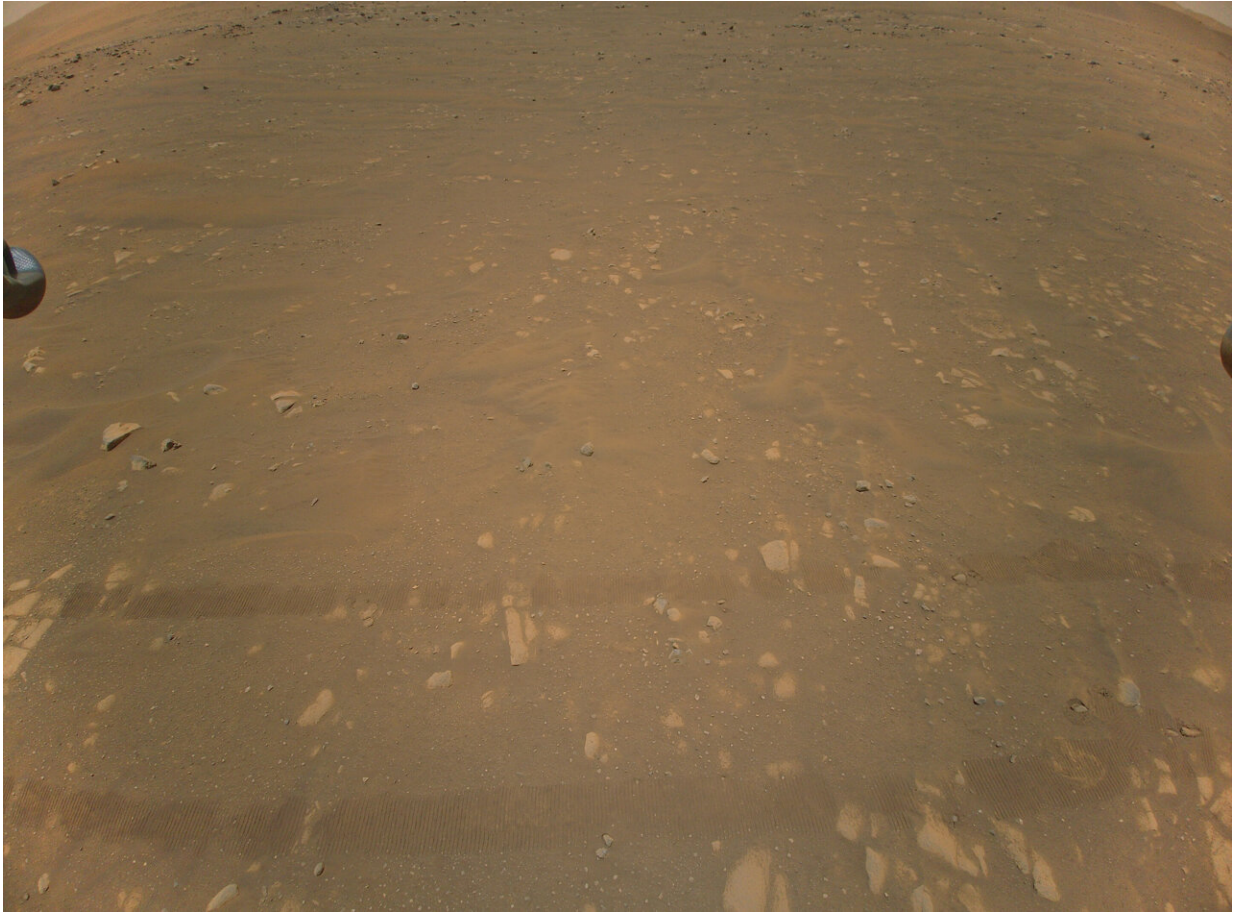
"If Ingenuity flies too fast, the flight algorithm can't track surface features," NASA explained in a statement about the flight.

Ingenuity's flights are challenging because of conditions vastly different from Earth's—foremost among them a rarefied atmosphere that has less than one percent the density of our own.



This NASA photo obtained April 25, 2021 shows the first color image of the Martian surface taken by an aerial vehicle while it was aloft





This is the third color image taken by NASA's Ingenuity helicopter. Credit: NASA/JPL-Caltech

This means that Ingenuity's rotors, which span four feet, have to spin at 2,400 revolutions per minute to achieve lift—about five times more than a helicopter on Earth.

NASA announced it is now preparing for a fourth flight. Each flight is planned to be of increasing difficulty in order to push Ingenuity to its limits.



This black and white image was taken by NASA's Ingenuity helicopter during its third flight on April 25, 2021. Credit: NASA/JPL-Caltech

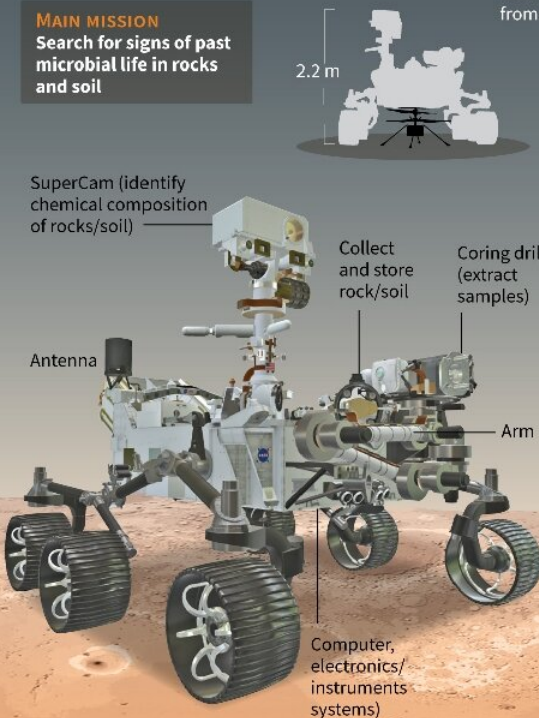
## NASA's Mars Perseverance rover and helicopter

- Launched: July 30, 2020
- Landed: February 18, 2021
- Mission duration: At least 1 Mars year (687 Earth days)

### PERSEVERANCE ROVER

**MAIN MISSION**  
Search for signs of past microbial life in rocks and soil

2.2 m

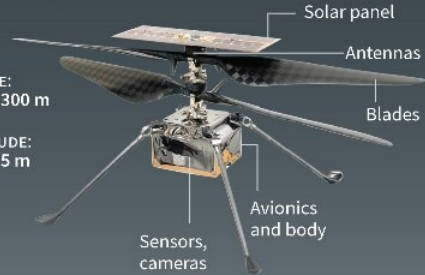


### INGENUITY HELICOPTER

**MAIN MISSION**  
First test of a powered flight on another planet

Take off, fly, and land with minimal commands from Earth sent in advance

RANGE: up to 300 m  
ALTITUDE: up to 5 m



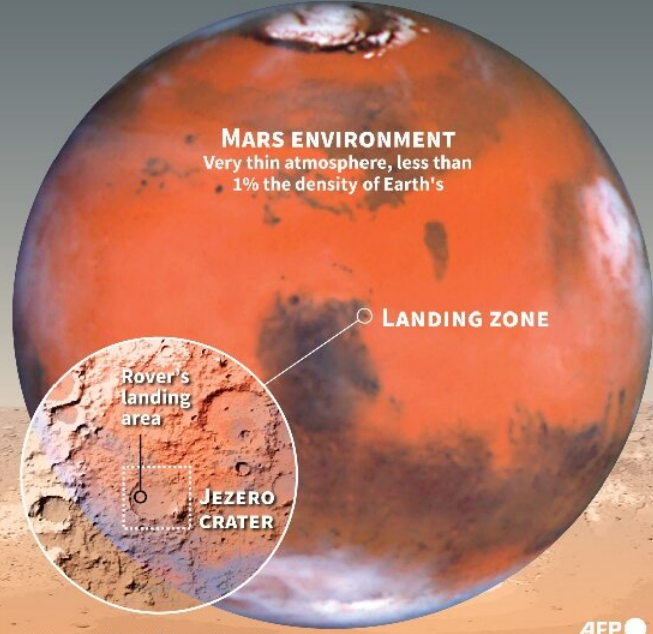
### MARS ENVIRONMENT

Very thin atmosphere, less than 1% the density of Earth's

LANDING ZONE

Rover's landing area

JEZERO CRATER



Source: NASA/MOLA Photos: NASA/JPL-Caltech Steve Lee (University of Colorado), Jim Bell (Cornell University), Mike Wolff (Space Science Institute) AFP

Graphic on the Mars Perseverance rover and Ingenuity helicopter

The Ingenuity experiment will end in one month in order to let Perseverance return to its main task: searching for signs of past microbial life on Mars.

**More information:** NASA: [www.jpl.nasa.gov/news/nasas-in ... ther-on-third-flight](http://www.jpl.nasa.gov/news/nasas-in-...-ther-on-third-flight)

© 2021 AFP

Citation: NASA's Mars helicopter's third flight goes farther, faster than before (2021, April 25)  
retrieved 21 June 2024 from <https://phys.org/news/2021-04-nasa-mars-helicopter-flight-faster.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.