The experimental vehicle named Ingenuity flew higher and longer in its second flight on Mars.NASA's engineers already made history on Monday with the 39.1–second flight of Ingenuity, a small helicopter, in the thin atmosphere on Mars.The device broke apart carbon dioxide molecules in the Martian air.At 5:33 a.m. Eastern time –– it was 12:33 p.m. in Jezero crater on Mars –– Ingenuity autonomously lifted again off the red surface of Mars, kicking up a cloud of dust as it ascended.Other activities on Perseverance are also gearing up. NASA reported on Wednesday the success of an experiment on the rover called MOXIE in generating oxygen.It reached a height of 16 feet, tilted itself by 5 degrees to move seven feet sideways, hovered and turned to point its color camera in multiple directions, then returned to its starting point to land.That advance will be crucial for future astronauts arriving from Earth –– both to create something for them to breathe and to generate propellant for their return to Earth."It sounds simple, but there are many unknowns regarding how to fly a helicopter on Mars," Havard Grip, Ingenuity's chief pilot, said in a NASA news release.Adjusting the commands sent from Earth to Mars appears to have solved the problem.The remaining flights are to further stretch Ingenuity to its limits.On Thursday, they added to their success when the experimental vehicle flew higher, longer and riskier.MiMi Aung, the project's manager, said on Monday she hoped the last one may travel as far as .some 2,300 feet from its starting point