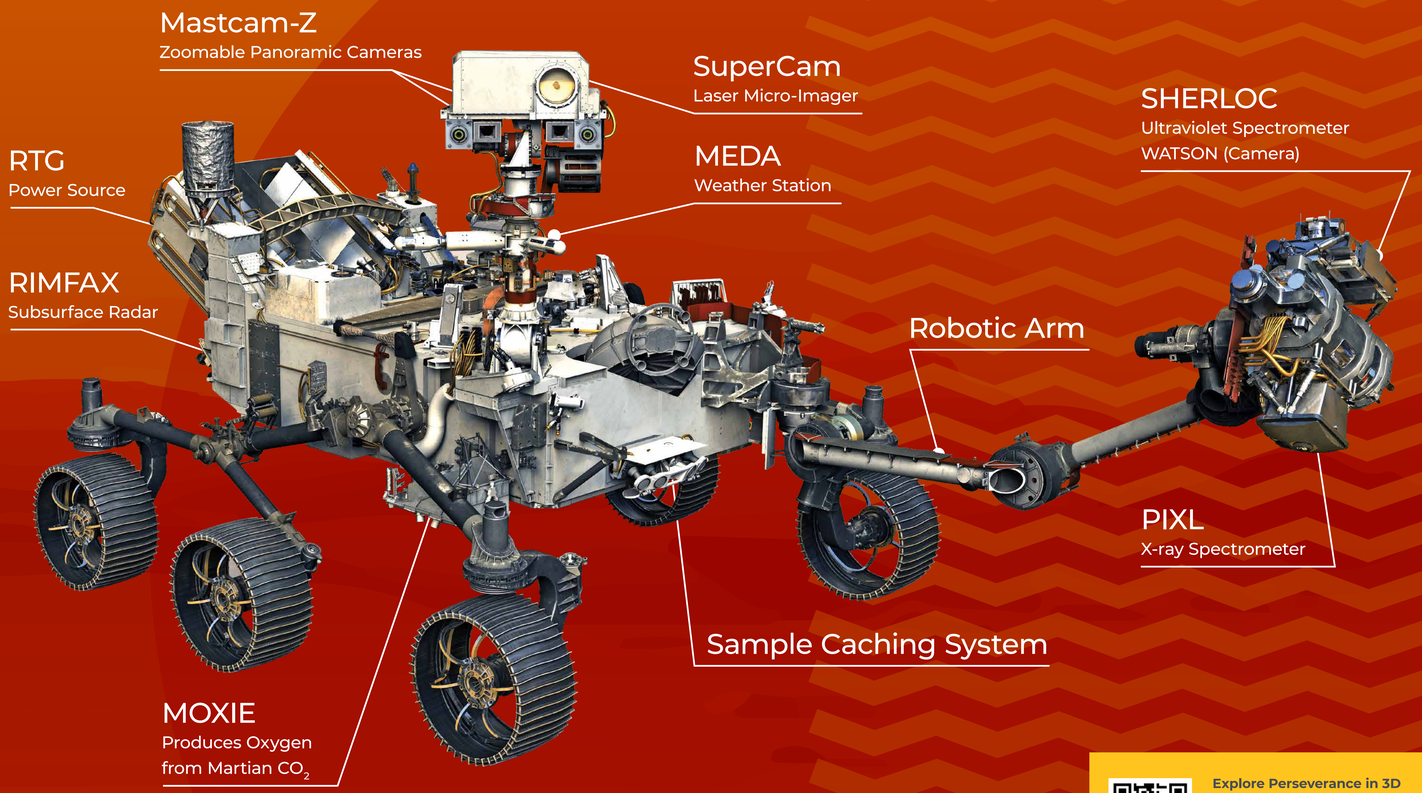
Mars Rover Perseverance 2020
Full-scale Model

The Perseverance rover uses its robotic arm to take a selfie with Ingenuity on Mars.
Courtesy of NASA/JPL-Caltech/ASU/MSSS

In front of you is a full-size model of NASA's Perseverance rover, which landed on Mars on February 18, 2021. The rover's mission is to search for Martian rocks that might contain evidence of ancient fossilized microbial life.

Perseverance is a mobile robot geologist. It houses several instruments to study the composition of rocks and soils. The rover also has a drill on the end of its robotic arm to collect air, rock, and soil samples that are then sealed in tubes inside the rover. After it collects the samples, Perseverance will place all the tubes in one location where future spacecraft may pick them up and return them to Earth for further study.

Model on loan from NASA/JPL



Explore Perseverance in 3D
This interactive 3D experience shows NASA's Perseverance rover on the surface of Mars. Scan the QR-Code with your mobile device to access the interactive.

Courtesy of NASA/JPL-Caltech

Graphic content courtesy of The Museum of Flight, Seattle

A Changing Planet

Today the surface of Mars is a frozen desert. But we see evidence that Mars was once warmer and wetter. Perseverance landed in Jezero Crater, near an ancient river delta. In this image, you can see the dried riverbed curving from the upper left to the middle of the image. Long ago, a flowing river carried dust and silt. The flowing water slowed and the silt dropped to the bottom of the lake. Over time, this process slowly built up the delta, layer by layer.

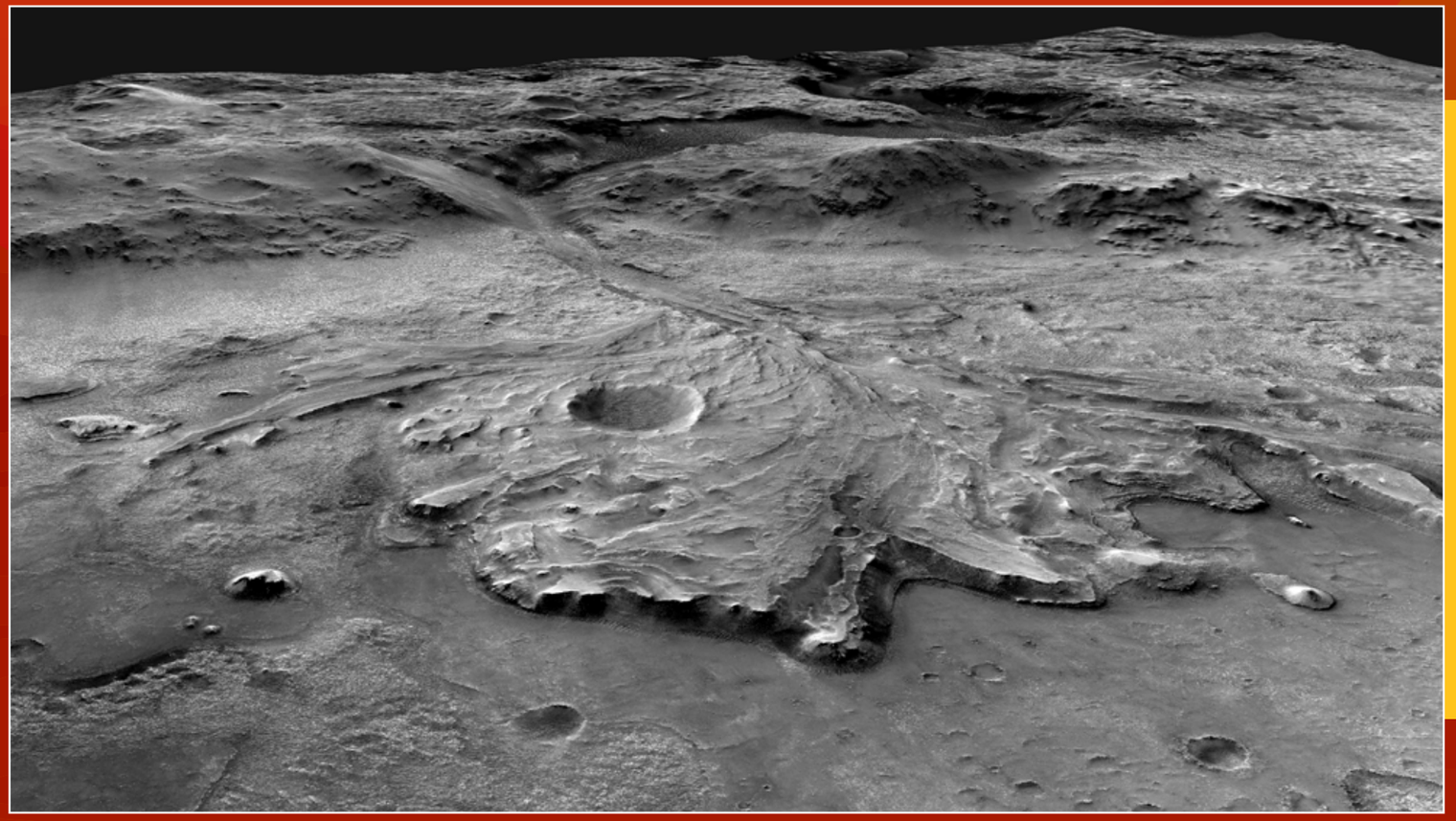


Image courtesy of NASA/JPL-Caltech/USGS

Perseverance is finding evidence that rocks in Jezero Crater interacted with liquid water long ago. It is studying river delta rocks, searching for deposits of clay and carbonates. Minerals like these only form in the presence of water and are known to preserve evidence of fossils and other biosignatures here on Earth.

Mars Helicopter Ingenuity

2020
Full-scale Model

Look up! Hanging above you is a full-size model of the Ingenuity helicopter that hitched a ride to Mars with the Perseverance rover. On April 19, 2021, Ingenuity made the first-ever powered, controlled aircraft flight on another planet. Several flights followed soon after.

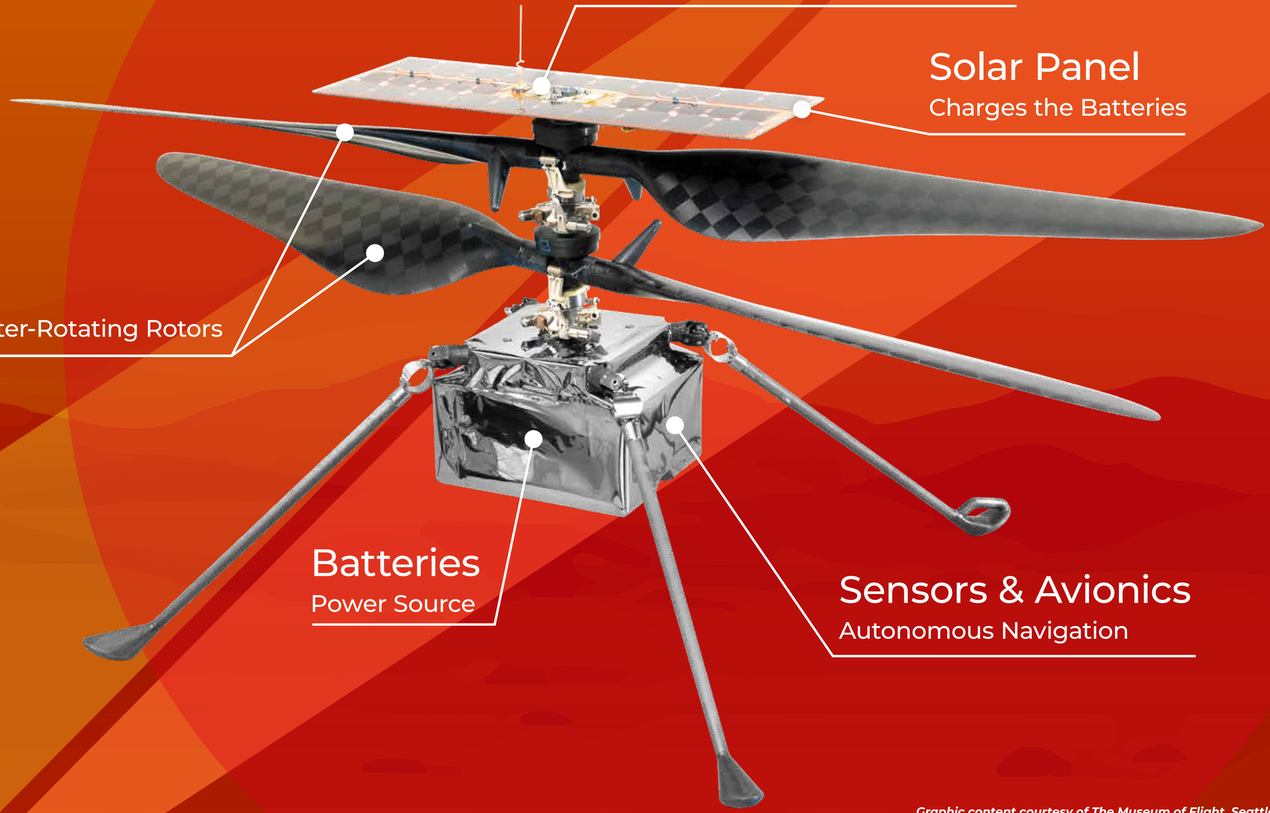
To get airborne in Mars's thin atmosphere, Ingenuity is very light, weighing just 1.5 pounds in Mars's lower gravity. The helicopter's carbon fiber blades rotate at 2800 spins per minute, or about 10 times faster than an Earth helicopter does.

Ingenuity acts as a scout for the Perseverance rover, sometimes imaging features the rover cannot reach and other times investigating rocks that the rover might investigate further.

On loan from NASA/JPL

Ingenuity captured this image of Perseverance's backshell and parachute during its 26th flight on April 19, 2022.

Image courtesy of NASA/JPL-Caltech.



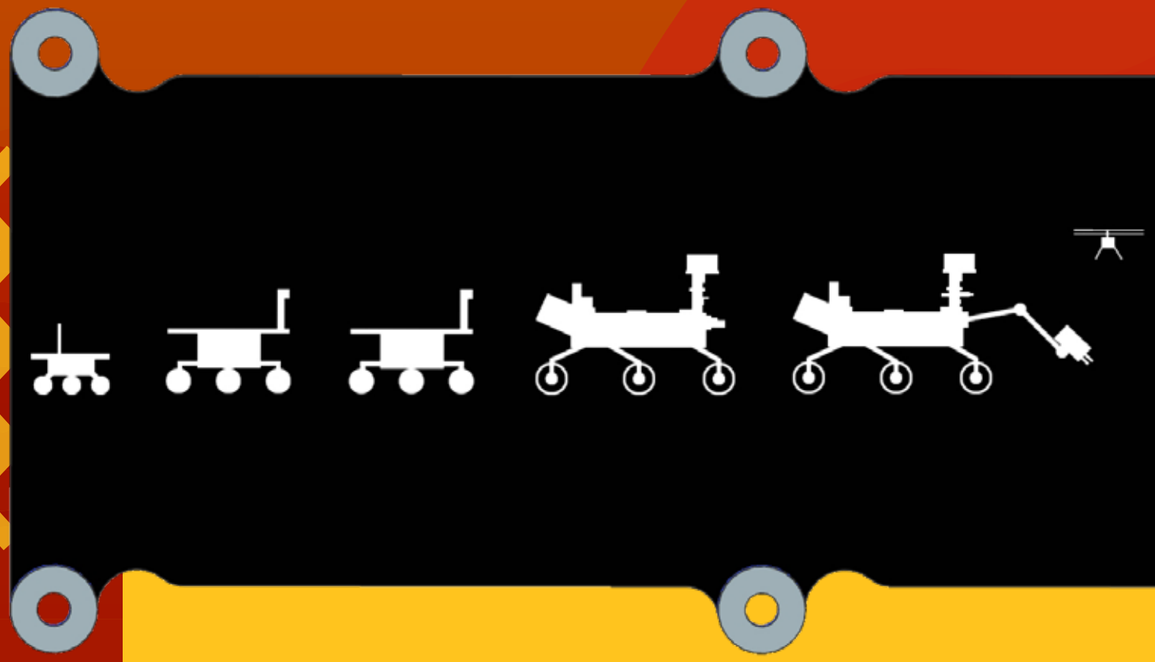
Graphic content courtesy of The Museum of Flight, Seattle

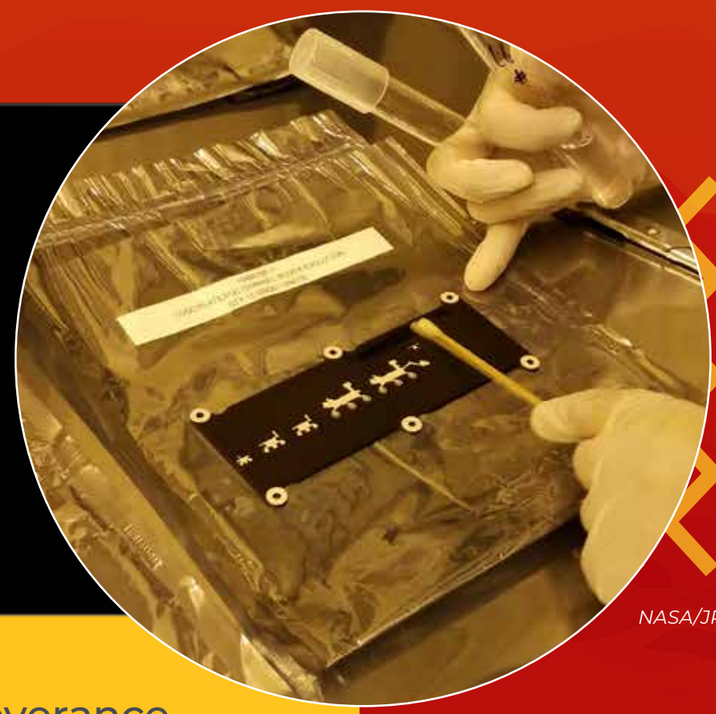
Missions to Mars

Flyby, orbiter, lander, and rover missions from the United States, Soviet Union, Russia, Europe, the United Arab Emirates, India, and China have investigated Mars's surface and atmosphere since the 1960s.

In front of you is a full-size model of one of NASA's twin robot geologists, Spirit and Opportunity, which landed on Mars in 2004.

In August 2012, the Mars Science Laboratory Curiosity rover landed in Gale Crater and began its science investigations. Curiosity's data show that long ago, this crater contained streams, pools, ponds—and even mud. Curiosity studied rocks in the middle of the crater to learn about the area's geology and history.





NASA/JPL-Caltech

This image shows the metal plate onboard Perseverance that depicts all the rovers that have driven on Mars. The rovers have grown in size, and each one is more adept than the last at exploring difficult terrain. From left to right: **Sojourner** rover (1997), twin rovers **Spirit and Opportunity** (2004), then **Curiosity** (2012), and **Perseverance** (2021). The **Ingenuity** helicopter is also pictured, illustrating the first powered flight on Mars.