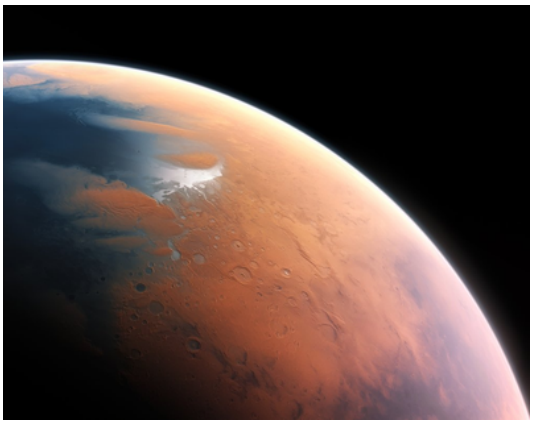
Advanced topics in the Solar System

B2

Mars and its exploration / *Mars a jeho průzkum*

Mars

Mars is the second most explored planet in the Solar system, second only to Earth. It is a cold, desert world with a very thin atmosphere but geological evidence suggests that liquid water once flowed across its surface. Today, scientists study Mars to understand how a planet can lose its atmosphere and search for "biosignatures", pieces of evidence of ancient life once present thriving on the planet.



Source: European Southern Observatory

Mars, as it once possibly was

to thrive - prosperovat
evidence - důkaz(y) (nepočitatelné)

Mars is home to Olympus Mons, a volcano nearly three times the height of Mount Everest, making it the tallest mountain in the entire Solar System.

Perseverance: A Robotic Scientist

The Perseverance rover, which landed in Jezero Crater in 2021, is the most sophisticated laboratory ever sent to another planet. Its primary mission is to collect rock and soil samples for a future return to Earth. To navigate the rugged Martian terrain, the rover utilizes advanced artificial intelligence and was accompanied by Ingenuity, the first helicopter to achieve powered flight on another world.

Perseverance also tests technologies for future human missions. An instrument called MOXIE successfully demonstrated how to produce oxygen from the carbon-dioxide-rich Martian atmosphere. This "in-situ resource utilization" is critical for future astronauts, who will require oxygen for breathing and as a propellant for their return journey to Earth.



Source: Maxon Motor

- rugged [rʌg.ɪd] - drsný, hrbolatý
- ingenuity [ɪn.dʒəˈnjuː.ə.ti] - důvtip, vynalézavost
- perseverance [pɜː.sɪˈvɪə.rəns] - vytrvalost, houževnatost
- propellant [prəˈpel.ənt] - pohonná látka / palivo (pro rakety)

Why was the MOXIE instrument important?

What year do you think humans will land on the Red Planet, why do you think so?