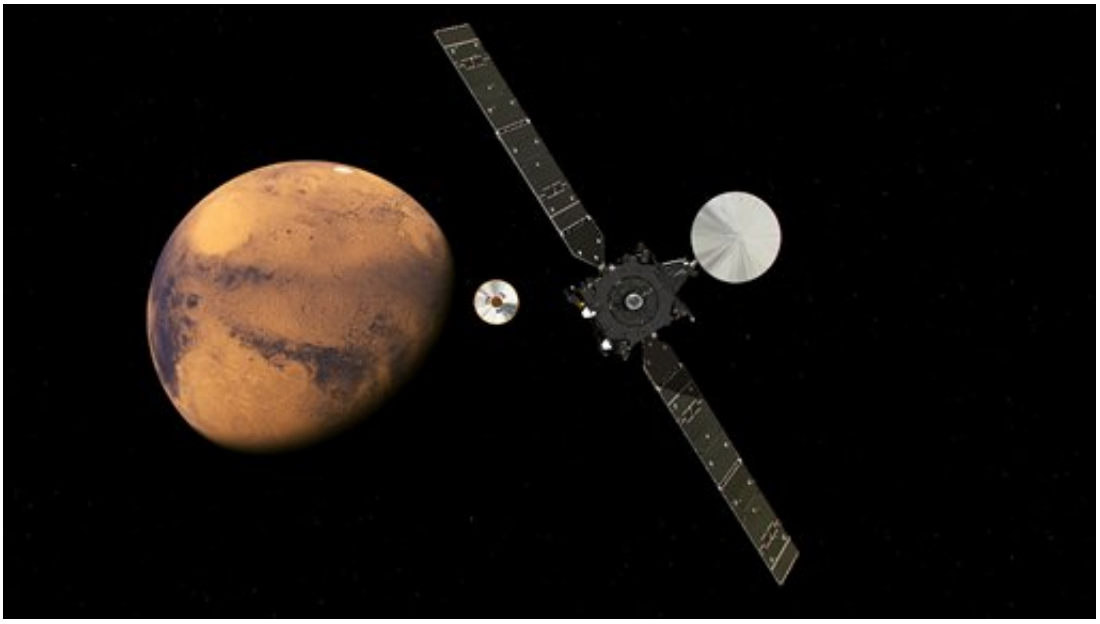
Mars probe enters atmosphere; word on landing awaited

October 19 2016, by Geir Moulson



In this artist impression provided by the European Space Agency, ESA, the ExoMars Trace Gas Orbiter, TGO, right, and its entry, descent and landing demonstrator module, Schiaparelli, center, approaching Mars. The separation was scheduled to occur on Sunday Oct. 16, about seven months after launch. Schiaparelli is set to enter the martian atmosphere on Wednesday, Oct. 19, 2016 while TGO will enter orbit around Mars. The probe will take images of Mars and conduct scientific measurements on the surface, but its main purpose is to test technology for a future European Mars rover. Schiaparelli's mother ship will remain in orbit to analyze gases in the Martian atmosphere to help answer whether there is or was life on Mars. (ESA ATG/medialab via AP)

The European Space Agency's experimental Schiaparelli probe entered the atmosphere of Mars on Wednesday, and scientists awaited confirmation that the craft had touched down safely. Its mother ship, which will analyze the atmosphere, went into orbit around the red planet.

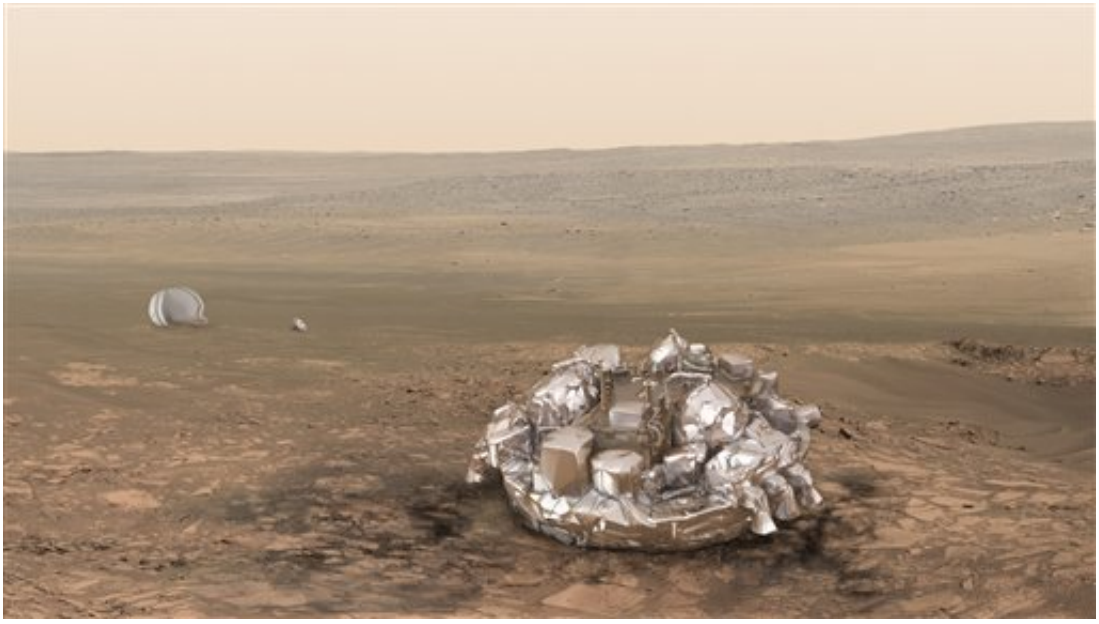
Schiaparelli was released from the mother ship, the Trace Gas Orbiter, on Sunday. Scientists said the gentle approach would turn into a six-minute hell ride when the probe plunged into the hot, dusty Martian atmosphere and hurtled toward the surface at 21,000 kilometers an hour (13,050 mph).

If all went to plan, Schiaparelli would deploy a parachute and then thrusters to slow down to 10 kph (6.2 mph) before hitting the surface.

Don McCoy, the manager of the ExoMars project of which the two craft are part, said some data had been received from the lander confirming its entry and the deployment of its parachute. More information was expected later Wednesday.

"We can't conclude the real status of (Schiaparelli) at the moment but indeed it did enter the atmosphere," McCoy said at mission control in Darmstadt, Germany.

Landing a spacecraft on Mars is notoriously difficult and several past missions have failed, including the European Space Agency's previous attempt in 2003 with the rover Beagle 2. It made it to Mars but its solar panels didn't unfold properly, preventing it from communicating.



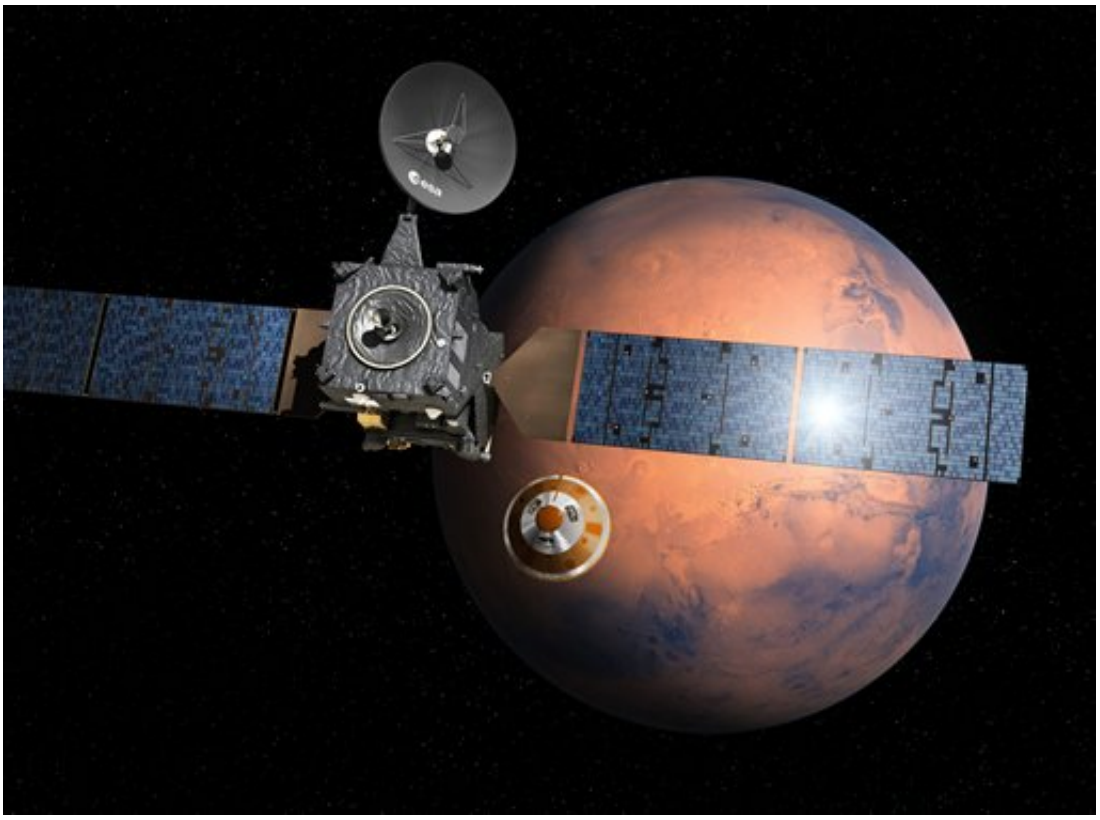
Artist impression of the Schiaparelli module on the surface of Mars provided by the European Space Agency, ESA. . On Wednesday Oct. 19, 2016 Schiaparelli will enter the martian atmosphere at an altitude of about 121 km and a speed of nearly 21 000 km/h. Less than six minutes later it will have landed on Mars. The probe will take images of Mars and conduct scientific measurements on the surface, but its main purpose is to test technology for a future European Mars rover. Schiaparelli's mother ship ,TGO, will remain in orbit to analyze gases in the Martian atmosphere to help answer whether there is or was life on Mars. (ESA/ATG-medialab via AP)

While Schiaparelli has some scientific instruments on board, its main purpose is to rehearse the landing and test technology for a European rover mission to Mars in 2020. NASA has successfully placed several robotic vehicles on the planet, including the Opportunity and Curiosity rovers.

Schiaparelli left for Mars in March aboard a Russian rocket together with the Trace Gas Orbiter.

The orbiter, which also has NASA-made instruments on board, will analyze methane and other gases in the atmosphere.

Methane is created by biological or geological activity and breaks down within a few hundred years once it reaches the atmosphere, suggesting there is biological or geological activity on Mars now or in the recent past.



Artist's impression provided by the European Space Agency, ESA, depicting the separation of the ExoMars 2016 entry, descent and landing demonstrator module, named Schiaparelli, center, from the Trace Gas Orbiter, TGO, left, and heading for Mars. The separation was scheduled to occur on Sunday, Oct. 16, about seven months after launch. Schiaparelli is set to enter the martian atmosphere on Wednesday, Oct. 19, 2016 while TGO will enter orbit around Mars. The probe will take images of Mars and conduct scientific measurements on the surface, but its main purpose is to test technology for a future European

Mars rover. Schiaparelli's mother ship will remain in orbit to analyze gases in the Martian atmosphere to help answer whether there is or was life on Mars. (ESA/D. Ducros via AP)

The prospect of finding even microscopic organisms on Mars has excited scientists for some time, but so far none has been discovered.

The ExoMars program, which comprises the current and 2020 mission, is ESA's first interplanetary mission jointly undertaken with the Russian space agency Roscosmos.

Employees sit in the contol center of the European Space Agency (ESA) in Darmstadt, Germany, Wednesday Oct. 19, 2016. ESA and its Russian partner Roscosmos hope for a successful landing of the joint space probe of mission ExoMars on Mars. (Uwe Ansspach/dpa via AP)

More information: ExoMars mission: www.esa.int/Our_Activities/Space_Science/ExoMars