

ITALY: THE WONDER IN SPACE

What is it we like about Italy? It's the culture, the food, the wine and the countryside. Perhaps it's time we looked skyward and contemplate Italy's contribution to space exploration.



Cassini spacecraft and Saturn

Solar System Exploration

SATURN: The Cassini spacecraft was a collaboration between NASA, the European Space Agency (ESA), and the Italian Space Agency (ASI) to send a probe to study the planet *Saturn* and its system. The Cassini also performed flybys of Venus, Earth and Saturn.

There it is that little known agency, the Italian Space Agency (ASI). Here's a description of its contribution to the Saturn mission.

To ensure the critical function of telecommunicating with and transmitting data to Earth for the life of the mission, the Italian Space Agency (ASI) designed and built a high-gain radio antenna and a low-gain antenna. ASI also designed and built compact and lightweight radar, a radar altimeter, a radiometer, the radio science subsystem (RSS), and the visible channel portion of the VIMS spectrometer. All this equipment was essential to determine the surfaces and atmosphere of Saturn, its rings and its moons.

MARS: Beginning in 2016, another mission is underway, the ExoMars. Its mission is to search for traces of past and present life on Mars, to increase knowledge of the Martian environment and to identify possible risks for future human missions.

The European Space Agency has assigned to ASI and Italian industry the main leadership of the mission. In addition to the overall system responsibility on all the elements, Italy has the direct responsibility for the development of the ExoMars 2016 descent module and the control center that will operate the Rover. The Rover will perform a key mission objective of analyzing Martian soil to determine the evolution of Mars.

International Space Station (ISS)

ISS is now the largest human-made body in low Earth orbit and can often be seen with the naked eye from Earth. Italy plays a dominant role in the program of development and utilization of the ISS. In March 2001, Italy has become the third nation, after Russia and the United States, to send an ISS element into orbit. Through an agreement with NASA, Italy developed and produced three modules for the ISS that make up a considerable part of the habitable volume of the ISS. In addition, Italy will provide relevant engineering and logistic support for the modules during ISS' operational life.



In all, there are seven Italian astronauts, five of whom have stayed on the Space Station. One standout astronaut is Samantha Cristoforetti. She is the first Italian woman in space. She holds the record for the longest uninterrupted spaceflight of a European astronaut (199 days, 16 hours), and until June 2017 held the record for the longest single space flight by a woman. She is also known as the first person who brewed an espresso coffee in space.

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- <https://en.wikipedia.org/wiki/Cassini%E2%80%93Huygens>
- www.asi.it