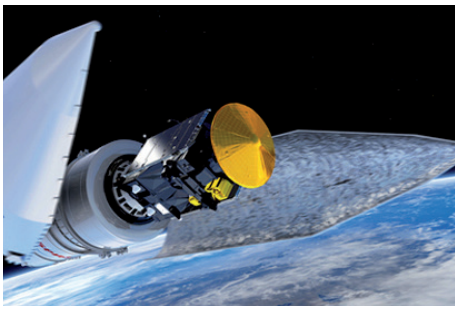

SPACE
EXOMARS, EUROPEAN MISSION TO MARS GETS UNDERWAY

The ExoMars (Exobiology on Mars) robotic mission, implemented by the European Space Agency (ESA) in cooperation with the Russian agency Roscosmos, has left from the Baikonur Cosmodrome, in the steppes of Kazakhstan, bound for the Red Planet to search under the surface for any signs of Martian life, past or present. On board the ExoMars lander is also the INstrument for landing-Roving laser Retroreflector Investigations (INRRI) of the ASI (Italian Space Agency) and INFN, first passive laser target on the Martian surface and the first beyond the Moon. The Schiaparelli lander, dedicated to the Italian astronomer who drew the first map of Mars, will land on the surface of the Red Planet after a seven-month journey. On board the lander - a concentrate of Italian technology, with Thales Alenia Space (Thales-Finmeccanica) as a leader industry among those which contributed to the mission - there's also the meteo station "DREAMS" (Dust characterization, Risk assessment and Environment Analyser on the Martian Surface), realized by the Italian Space Agency under the scientific guidance of INAF (Italian National Institute for AstroPhysics).

ExoMars has among its objectives the first measurement of electric fields on the surface of Mars and a map of methane sources of the Red Planet, possible indicators of microbial alien life. The mission will also continue beyond its operational phase thanks to the INRRI retroreflector that can be used as a new primary and precise geodetic reference point of Mars. INRRI will also be the forerunner of a probable series of micro-reflectors brought by future landers or rovers, which together will form a Mars Geophysics Network (MGN), a network of reference points for geodesy measurements of Mars and General Relativity tests. In the long run, MGN could become a precision positioning network similar to that of the laser retroreflectors of the Apollo and Lunokhod missions on the Moon. ■