THE EXOMARS 2016 TRACE GAS ORBITER

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The European Space Agency (ESA), in close cooperation with NASA, has established the ExoMars Programme to investigate the Martian environment and habitability, and to demonstrate new technologies paving the way for a future sample return mission. Within this programme, the first mission consists of an ESA orbiter that will carry an Entry, Descent and Landing Demonstrator. It will be launched in January 2016 with a NASA supplied Atlas V rocket. The scientific goals of the mission are to study Martian atmospheric trace gases, with a focus on chemical species that could reflect the existence of extant active processes (geological or biological). More specifically, the mission will detect the chemical compounds, characterise their spatial and temporal variability and localise their sources on the surface. Five instruments from US and Europe will be accommodated on the orbiter to achieve these objectives. Following an aerobraking phase, the scientific mission is expected to begin in spring 2017 for a period of at least one Martian year. The presentation will focus primarily on the description of the mission, responsibilities between ESA and NASA, payload, and schedule.