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Statement of Italy
Item 14. Space exploration and innovation

30 August 2021

Mr. Chair, distinguished delegates,

Italy had always attached great importance to space exploration and participated in several of the major missions launched by the European Space Agency and by NASA in the past decades.

Robotic and human exploration activities involve high-level scientific research and the development of cutting-edge technologies. They are potential harbinger of innovations, new services and applications that may contribute to improve life on Earth, like it has already happened in the past. We may very well affirm that space exploration activities are among the key contributors to human scientific and technological progress.

During this decade, Italy is determined to consolidate and strengthen its role in space exploration, by increasing the necessary resources.

The exploration of the red planet remains one of the main targets. Italy is involved in important programs and missions, such as ExoMars, the joint program of the European Space Agency and the Russian Space Agency, Roscosmos, which consists of two missions, a first one that took place in 2016 and which placed the Trace Gas Orbiter in orbit around the planet, and the second one that is expected to be carried out in the second half of 2022, and which will send the Kazachok surface platform and the Rosalind Franklin rover in the so-called Oxia Planum, on the surface of Mars. ExoMars main scientific objective is to investigate possible past and present life traces on the planet, as well as its

geochemical characterization, so as to acquire the necessary knowledge for future human missions.

Italy is the main supporter of this program. 40% of the total investment is Italian and Italian industries are ESA prime contractors for both missions and hold the overall system responsibility for all the elements. The Italian city of Turin hosts the Rover Operations Control Center (ROCC), which will control the rover surface operations as it searches for signs of past or present life through a 2-meter drill equipped with the Mars Multispectral Imager for Subsurface Studies, that are built in Italy.

The replica ExoMars rover that will be used in the ROCC Centre to support mission training and operations is fully assembled and has completed its first drive around the ROCC Mars Terrain Simulator in June, this year.

As regarding the Moon, Italy is among the twelve signatories of the Artemis Accords and participates in the NASA Artemis program for lunar exploration and beyond through its membership of the European space agency (ESA) and in cooperation with NASA. The Italian Space Agency manages this participation, which focuses mainly on the provision of key elements of the architecture of the program, such as orbital and ground habitation systems, as well as telecommunication and navigation systems. We aim at being an important participant in the future human stable presence on the Moon and on Mars.

Italy also participates in two missions that will help explore and study the planet Venus: the ESA mission EnVision and the US mission VERITAS, which are both expected to be launched around 2030.

To support missions in deep space, Italy, through the Italian Space Agency, is currently developing the activities of the Sardinia Deep Space Antenna, which shares part of the facilities and infrastructures with the Sardinia Radio Telescope (SRT), but has its own equipment and a specific control center to communicate with space vehicles. The center is able to provide support services for interplanetary and lunar missions, allowing scientists to pick up the extremely

weak signals emitted by the satellites and probes in deep space. Its debut took place during the final stage of the Cassini mission in the Saturn system, where the center followed the last days of the 20-year journey of the probe, before diving into the planet's atmosphere, on 15 September 2017. The Sardinia Deep Space Antenna is operational in the context of the NASA's Deep Space Network and provides communication and navigation services for the European interplanetary probes, in connection with the ESA's ESTRACK network.

As for the LEO region, Italy continues to support human exploration through the activities on the International Space Station (ISS).

As already mentioned in our general statement, the Italian astronaut of the European astronaut corps, Samantha Cristoforetti, has been appointed as Commander of the International Space Station (ISS) in 2022. We expect this to train the spotlight on the important role of women also in space activities.

Mr. Chair, distinguished delegates.

in conclusion, allow me to reiterate that space exploration is not only a source of inspiration and discovery. It is also a precious source of new technologies and services for the life on Earth. Italy will continue to be among its most passionate supporters.

Thank you for your kind attention.