LANCOM Systems delivers fail-safe connectivity to coordinate the world's largest Moon and Mars analog mission

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Vienna, October 13, 2025—In preparation for future missions to the Moon and Mars, the Austrian Space Forum (OeWF) is coordinating the first worldwide series of analog simulations from October 13 to 26, 2025. As part of “World’s Biggest Analog,” 17 research institutions on five continents are for the first time simulating human life beyond the planet Earth, simultaneously and under the most realistic conditions possible. The Austrian Space Forum assumes central control from the Mission Coordination Center in Vienna. Fail-safe communication is crucial to this. For over ten years, the OeWF has relied on networking solutions from Rohde & Schwarz Networks and Cybersecurity.

As the first international Moon/Mars simulation, World’s Biggest Analog simulates the long-term presence of humans on the Moon and Mars in 17 so-called habitats around the globe simultaneously. These are habitats that replicate the conditions in space as closely as possible. For two weeks, more than 200 researchers from 25 countries will explore how people will be able to live and work in space in the future, what challenges they could face, and how this could be achieved through a globally networked research mission.

The OeWF Mission Coordination Center in Vienna serves as a “ground station” where all information converges. A stable communications infrastructure is essential for connecting with the analog astronauts at the outposts, for data exchange, and for monitoring the mission. Communications are based on highly robust radio and networking technology from the German network and security supplier Rohde & Schwarz Networks and Cybersecurity.

Dr. Gernot Groemer, Director of the Austrian Space Forum: *“Fail-safe communication is just as important for the mission as the oxygen supply in the analog astronauts’ spacesuits. The technology must be absolutely reliable. LANCOM Systems' network devices offer exactly this quality."*

Constantin von Reden, Managing Director of Rohde & Schwarz Networks and Cybersecurity: *“As a partner of the Austrian Space Forum, LANCOM has for many years been a guarantor of highly available connectivity under the most adverse conditions—from glaciers to deserts. We are delighted to be equipping the Mission Coordination Center, the control center for the first worldwide series of Mars and Moon simulations, and that we are able to contribute to this exciting research project. I wish everyone involved every success!”*

Since 2012, Rohde & Schwarz Networks and Cybersecurity has supported the OeWF space-exploration team with highly robust radio and networking technology. LANCOM hardware was used, among others, on the analog missions in Morocco in 2013, on the Kaunertal Glacier in Tyrol in 2015, in Oman in 2018, in the Negev Desert in Israel in 2021, and in the Ararat Province in Armenia in 2024.

Images are available for download **here** and can be used free of charge provided the image rights are stated.

Further information

More information about World’s Biggest Analog is available here:

https://www.worldsbiggestanalog.com

Dr. Gernot Grömer and analog astronaut Dr. Carmen Köhler provide exciting insights into why modern network technology is crucial for the success of future space missions in the podcast "Innovations Unplugged" from LANCOM's parent company Rohde & Schwarz:

https://behind-innovation.podigee.io/10-wi-fi-on-mars-why-network-technology-is-mission-critical-to-keeping-analog-astronauts-connected

About World’s Biggest Analog

World’s Biggest Analog (WBA) is a global project dedicated to the study of alien habitats. This includes analyzing alien habitats, minimizing the challenges they pose, and documenting the results and observations. In the future, habitats and settlements will emerge on the Moon, Mars, and in their orbits, built by various nations, private companies, and

government agencies. In 2025, WBA is simulating these settlements by conducting an international mission in analog habitats around the globe. The analog mission is taking place simultaneously in each habitat, so that a total of twelve identical and simultaneous studies will be carried out. Further information about the mission is available on the following website:https://www.worldsbiggestanalog.com

About the Austrian Space Forum

The Austrian Space Forum (OeWF) is a private space research institution, as ESA's first Ground Based Facility in Austria we operate a vertical treadmill to simulate different gravity-levels, and a network for spaceflight specialists, business/industry and people interested in space. We conduct Mars Analog Missions on a regular bases, involving scientists and institutions from all over the world. The OeWF is playing a leading role in two international Cube-Sat missions that detected space debris in Near Earth Orbit from 2022 to 2024. We cooperate with international research institutions and companies and are in constant dialog with the media and decision makers. With 250 members from 20+ nations, the Austrian Space Forum focuses on scientific excellence, starts, shapes and networks careers and has been inspiring people all over the world since 1998. https://oewf.org