

Hytera DMR Solution Secured OMAN by UTMB Ultra Marathon Race

Client
UTMB

Industry
Sport

Project time
2018-2019

Products
DMR Conventional System
RD98XS DMR repeaters
MD78X mobile DMR base stations
PD66X DMR handheld radios



Introduction >>

Oman's first ultramarathon took place in difficult mountainous terrain, but Hytera was able to supply a DMR radio network with repeaters linked together by satellite to provide continuous coverage along the whole of the 137km long course, which ensured race organisers, medical teams and volunteers at checkpoints were connected at all times.

The Background >>

The Sultanate of Oman's first-ever mountain ultramarathon was held in 2018. It was organised by the prestigious UTMB (Ultra-Trail du Mont-Blanc) based in Chamonix, France and local company Oman Sail. The 137km race took place in the Jebel Al Akhdar, the Green Mountain, with participants having to negotiate difficult terrain not just in daylight, but also at night.

The organisers needed a highly reliable and robust communication system to ensure the smooth and safer operation of the event, and to help showcase the unique qualities of Oman to the international participants. The organisers contacted Hytera Oman's local partner, Mustafa Sultan Telecommunication LLC (MSTL), to deliver the required radio system.

The Challenges >>

The race starts in the village of Birkat Al Mawz and the runners have to ascend more than 7,800m of elevation. The course takes them through ancient, deserted villages across plateaus, stunning ridges and beautiful wadis, before finally descending into the spectacular mountain village of Misfat Al Abriyyin and onto the finish line.





A challenge for both the runners and the radio team was the high altitude. The radio system needed to provide complete coverage along the whole of the course, including in the highest mountain ranges of Oman.

The radio system had to provide communications to the emergency services, including the police, medical support team, and volunteers stationed at all the check and rescue points around the clock for the 48 hour duration of the marathon.

In addition to providing the necessary voice services at the check and rescue points, these had to be connected to the control room located at the finish line in Al-Hamra - all without the availability of any IP links.

The Solution >>

Hytera and MSTEL designed the radio solution based on deploying Hytera DMR repeaters to cover 18 checkpoints/water stations and 6 rescue points. However, the mountainous terrain made it impossible to set up microwave links to create the network backbone to connect up all the repeaters. So instead, the team opted to use satellite links with 1.5 Mbps of bandwidth.

The equipment for the event included 6 Hytera RD98XS DMR repeaters, 70 Hytera DMR PD66X hand held radios and 7 Hytera DMR MD78X mobile base stations in the field using a combination of both repeater and DMO (direct mode operation) channels. The location of the repeaters was carefully selected by the Hytera and MSTEL technical team to deliver the best possible coverage at all the checkpoints.

The team also implemented a backup support plan whereby the location of repeaters 4 and 5 were precisely chosen to provide direct connectivity to and from the control room. This provided backup coverage for 4 out of 6 rescue points and 9 out of 18 checkpoints in case the satellite backbone connectivity failed.

The Benefits >>

The network allowed volunteers, marshals and race controllers to remain linked and in communication range of each other from start to finish line. This ensured the race ran smoothly, efficiently and safely. For example, event workers could quickly organise pick-ups for those runners who dropped out of the race at various different points along the course.

Voice from Customer >>

"We would like to express our sincere appreciation for your team's excellent efforts in the installation and operation of Hytera DMR System for the UTMB event by Oman Sail. The UTMB event is one of the most difficult marathon races in the world. It's the first time it has taken place in the Middle East. Thanks to the Mustafa Sultan Telecommunications Co LLC and Hytera Support team, which helped us in solving the problems of such an important event. Also, thanks to Hytera for the high quality system, which made sure communicating was convenient and reliable. We hope Hytera can achieve more and more success and look forward to cooperating with Hytera again."

——Malik Al Khadhoori, Head of IT, Oman Sail



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