

5G Virtual Reality Endoscopy Congress

Objective: to use the fibre connection of the operating theatre of the Quirónsalud hospital in Málaga, and to broadcast live five endoscopies in the Telefónica District, using 5G to view the surgical sessions with glasses connected to both the 3.5 GHz and 26-28 GHz bands.

Description: he Virtual Reality Endoscopy Congress was the first medical congress in Spain in which a total of five endoscopies were broadcast in real time using 5G technology, fibre and virtual reality, via the connection between the Hospital Quirónsalud Málaga and the auditorium at Telefónica's headquarters in Distrito T in Madrid. Those attending the congress were able to see the entire operating theatre immersively, the video generated by the endoscopy source and all the parameters of the operation, such as the type of scalpel or the cutting power, as well as the patient's constants (heart rate, respiratory rate, etc.). They also interacted in real time with the doctor who performed the operations in Malaga.

The following elements have been deployed for the realisation of this use case:

- Fibre connection in the Quirónsalud group's Malaga hospital.
- In the operating theatre: 360° camera, ambient camera and camera of the endoscopy machine itself.
- 5G coverage in 3.5GHz and millimetre band in Telefónica's Distrito T, for connectivity with virtual reality glasses.
- Oculus Quest 2 and Pico Neo 3 virtual reality glasses.
- Infrastructure at Edge, for video and audio processing via WebRTC.

In addition, medical advice has been provided at all times by the Institute of Advanced Digestive Endoscopy, led by the head of the Digestive Medicine Department at Quirónsalud Hospital, Dr. Pedro Rosón.

In this way, with the use of 5G and immersive reality technology through the glasses, remote surgery interventions are made possible, for different purposes such as technical assistance to the medical team, or also for educational and/or training sessions, with assistants who can see and participate in the intervention from different locations.

[Press release](#)

