



Rockin' Romania: How Holokid broke barriers for holographic technology over a 5G network

5G/READY

PROJECT OVERVIEW

Picture this: You're at a rock concert, watching four guitarists, a drummer, and a keyboardist on stage perform in perfect sync. The sounds, the visuals, the experience—it's flawless. You might have been fooled though because only three of the four guitarists are actually standing there in front of you. Come again?

How this was made possible, you ask? Luca Mihail, a talented 11-year old guitarist was asked to join rock band Vita de Vie on stage during their performance at Romexpo in Bucharest. The only catch was that Luca had severe stage fright. Not wanting to turn down the opportunity to play with the band, the producers turned to Vodafone Romania to help find a way Luca could still perform, but without the intimidation of the live audience. With the help of Musion 3D, a leader in ultra-realistic, life-sized, interactive 3D holographic

video shows and effects, Dejero's state-of-the-art mobile transmitters and receivers, and Vodafone Romania's rock-solid 5G network, they were able to holographically place Luca on the stage while he played in a private studio, two kilometers away. They named him, Holokid.

Quite a spectacular display, the collaborative effort didn't miss a beat—literally. The hologram technology is created using projection to give the illusion to the audience through reflection, light, shadow, movement, and contrast, that fool the brain into thinking a 3D display is being seen. Bringing the trio's strengths together through hologram technology, mobile transmitting, and network stability, Musion 3D, Dejero, and Vodafone Romania created a world-first crowd experience.

“ The introduction of 5G in Romania represents an important milestone, not just for us, but also for the telecom industry, as it brings a new technological standard for communication and social interaction. Vodafone Romania's vision is to enable a truly digital society, and by organizing this demo event with a hologram, we aimed at giving a taste of 5G technology's potential and our excitement for the future. ”

- Catalin Buliga, CTO Vodafone Romania

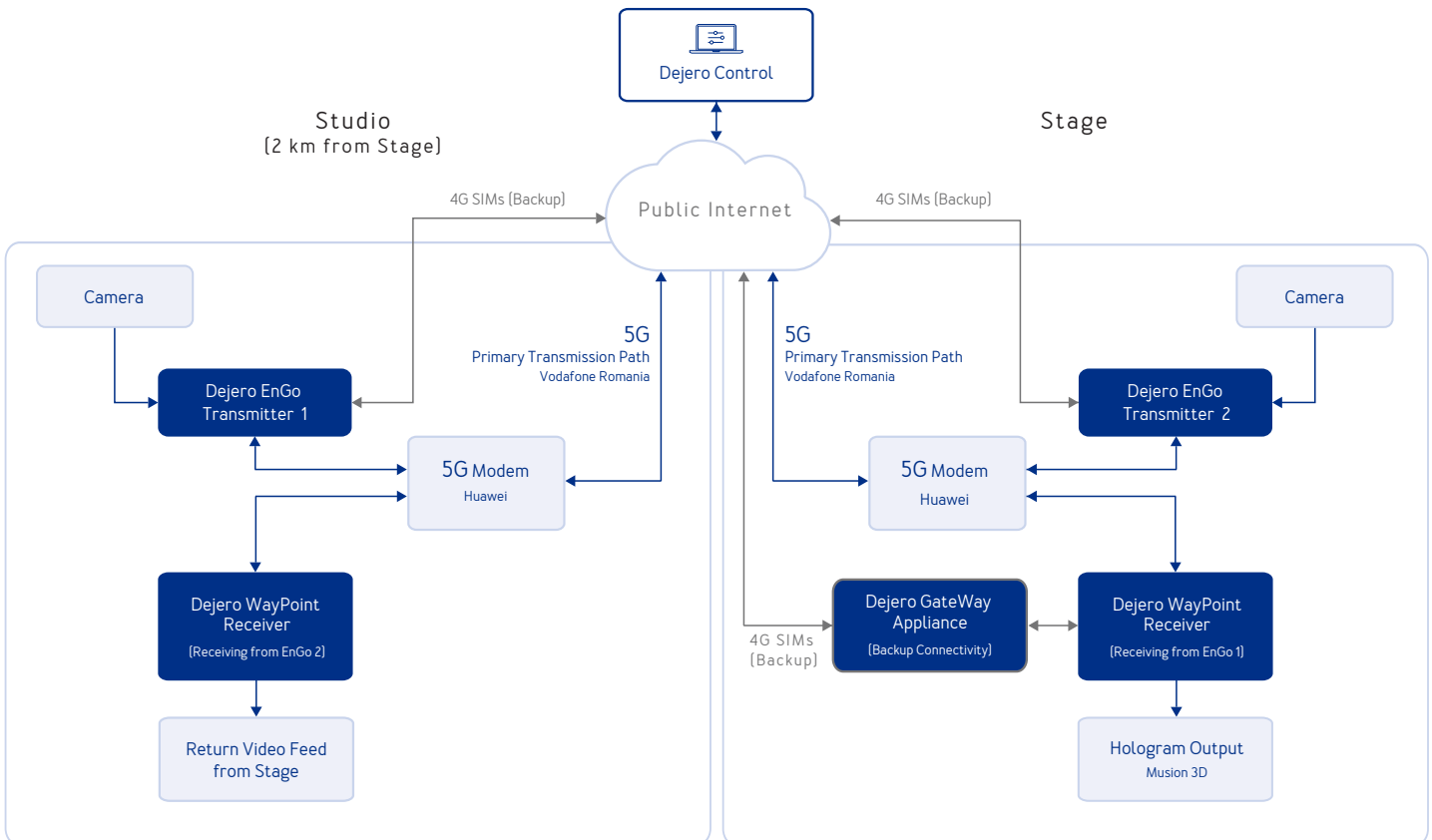
THE TECHNOLOGY

Relying on each company’s strengths, this project involved moving a large amount of data across Vodafone Romania’s 5G network between the two locations—where Luca was located, and the live concert. Latency became the driving concern—without absolute synchronization between the audio and video channels, the effect would fall flat. Even the slightest delay would cause a ripple effect between hearing the audio and seeing the visual representation of Luca on the stage. There was essentially no room for error.

The project relied on a Dejero EnGo mobile transmitter, which features patented Smart Blending Technology, for the reliable transmission of Luca’s hologram over the 5G network. The signals were synced to both the venue and a return video and audio feed to Luca in the nearby studio. Dejero also assisted the production team with its renowned technical support during project conception, set up, and live production.

Musion 3D designed and assembled an image capture room that included a monitor for Luca to see the audience without feeling the pressure of actually being there live, on stage. Musion 3D designed the stage with considerations about how the illusion would look to those in the audience, and those streaming the event live on television and social media.

THE WORKFLOW



THE EXPERIENCE & RESULTS

A stunning world-first project, that one journalist compared to “Armstrong’s first step on the moon”.

The event gathered thousands of fans, was live-streamed on Facebook, and became Vodafone’s 2019 flagship television commercial in Romania—with over 2 million YouTube views to date. The project was also nominated for three awards at the 2019 International Broadcast Convention (IBC), winning an [IABM BaM award in the Project, Collaboration or Event category](#), and a CSI Magazine award for “best 5G project or innovation”

The whole holographic experience warmed Luca up to the idea of performing in front of a live audience without actually being there in person. As you’ll see in the [Holokid video](#), Luca decided to bring himself to life by hopping in a car, driving the two kilometers to the live stage and performed the remaining concert in person! It was quite an impressive display of courage and opportunity for Luca who overcame his stage fright by being acclimated to the crowd through the live transmission of his holographic self.



THE FUTURE

Catalin Buliga, the CTIO of Vodafone Romania, has been overwhelmed with the response in Romania post-Holokid project. In an IBCTV interview, he talks about how the CEO of a medical insurance company reached out to him to see if the same technology could be used to allow doctors to perform seminars and live direction during life-saving procedures.

Although holograms have appeared on stage at live events in the past, the cost, technical restraints, and set-up time previously involved have rarely made it justifiable. With the use of 5G combined with holographic technology and reliable connectivity, we will see its use not just in the field of live concerts and entertainment, but also in TV production, keynote speeches, and more.

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