

# Telefónica and Ericsson reinvent live entertainment with 5G power



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Telefónica and its strategic partner Ericsson have shown this afternoon, in the Agora of the Spanish company's stand at MWC 2024, the keys to the experience of technology, art and music that unfolded the historic concert offered on the evening of 26 February at the Gran Teatre del Liceu.

Telefónica hosted a unique concert by Chinese pianist Lang Lang in what was the first major event as part of the company's Centenary, which will be celebrated on 19 April. Together with two leading partners in their fields, Igor Studio and Musion 3D, Telefónica and Ericsson managed to enrich the physical world with the virtual world thanks to the 5G network they are jointly developing.

Both companies agree that 5G technology, already available, enables memorable, anywhere, quality-assured experiences no matter where users are located. 5G stand-alone (SA) capability enables the transport of different data streams while ensuring the performance requirements of each. Thus, it is possible to guarantee critical data packets for simultaneous video and audio, thousands of audience connections or fully immersive viewer's interactions with the show and the artist.

Telefónica and Ericsson built a 5G SA Private Network at the Gran Teatre del Liceu using the Ericsson Private 5G solution to guarantee the link bandwidth, low latency (the time it takes for a data packet to be transmitted over the network) and the absence of jitter required for this experience. This private network was configured for 5GSA using 100Mhz of Telefonica's 3500 MHz band spectrum.

To reproduce Lang Lang's holographic twin, several cameras were used to film every detail of his performance. The images were then transmitted in 4K format, taking advantage of the high sustained upload capacity of 5G to create a high-quality holographic representation in real time.

Lang Lang's finger movements on the holographic piano were interpreted and transmitted through the mobile network via an audio protocol. The audio signals were decoded on the real piano, triggering an automatic playback system to play the piece of music through the holographic representation of the pianist.

The key requirement was to ensure that Lang Lang and his holographic twin performed in perfect synchronisation with the audio thanks to connectivity with minimal latency and minimal jitter, two features of 5G.

Telefónica's Global CTIO, Enrique Blanco, recalled that Monday's event served as the kick-off for the company's 100th anniversary celebrations:

To mark Telefónica's centenary, we have worked with Ericsson to offer an innovative experience, fusing music, video and immersive experiences through holograms in a single show. To do this, we have leveraged the unique characteristics of Telefónica's 5G network, with its high capacity and low latency. We have shown how it is possible to combine technology and art, integrating the real world and new communication formats such as holograms, breaking down barriers between the physical and virtual worlds. The result has been an unprecedented experience that combines real and digital objects interacting with each other in an enriched reality show,

Andrés Vicente, President and CEO of Ericsson Spain and Portugal, explained Monday's event at the Liceu as the first of many innovative experiences enabled by 5G:

This is a significant step into the future of live events, demonstrating how 5G connectivity can break the limits that fixed elements impose. Mobility, multiple scenarios, physical and digital interactions with high quality video and music are now possible, delivering never-seen-before immersive experiences. It paves the way for the entertainment industry to explore powerful new monetization strategies and innovative artistic representations, while also improving efficiency and sustainability

The creative and artistic direction of the concert was provided by Igor Cortadellas, CEO of Igor Studio, who presented the overall design of

the show and the importance of involving the live audience:

Art and technology in its most refined version at the service of communication between people, is what brings us together in this event celebrating 100 years of a company that has been and is at the forefront in this field,

Ian O'Connell, co-founder of Musion 3D, revealed some more insights into the double piano experience and how the difference between the real and virtual piano and the real Lang Lang and his holographic representation was almost imperceptible to the audience:

Together with Ericsson, we are proud to be part of this incredible project that marks the beginning of Telefónica's centenary celebration. Thanks to the extraordinary capabilities of 5G, we have been able to take large-format, high-speed holographic technology to the next level to transform live performances and further enrich the audience experience

The concert kicked off with a 'flock' of 36 drones that flew for five minutes over the stage to end up forming a huge Telefónica logo and a number 100, the years that the company is celebrating.

Lang Lang, unanimously considered by critics to be the best pianist of his generation, then reinterpreted popular classical pieces by Bach, Mozart, Beethoven, Schubert and Mendelsohn. And, for the first time, he was able to share his emotions and his artistic world with the audience thanks to a jacket connected to sensors and illuminated with LED lights which he wore during the concert and which allowed the audience to feel his heart beating to the rhythm of the music.

During the concert, Lang Lang directly involved the audience by asking for their collaboration to form music chords with their mobile phones and join the artist. This collective creation moment culminated an evening in which the audience felt part of the show thanks to an unprecedented fusion of technology, music and art.

For more information: Telefónica at MWC 2024

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