

Press Release MWC 2024

Telefónica incorporates haptic technology in an immersive experience generated from its network and the Edge

- The operator has developed an unprecedented multi-sensory immersive gaming experience, generated entirely from Telefónica's network, which combines state-of-the-art Extended Reality graphics and haptic sensory technology.
- The use of Telefónica's Edge Computing, combined with the low latency of fiber, enables a pioneering experience far superior to what VR glasses could generate locally on their own.
- Telefónica Edge Haptic Arena allows gamers to compete in a futuristic, high-definition virtual world where they engage in a highly dynamic and immersive one-on-one battle.

Madrid, 26th February 2024. – Telefónica presents at the Mobile World Congress (MWC), which begins today in Barcelona, a new concept of gaming experiences, called Telefónica Edge Haptic Arena, in which the most advanced technologies have been combined to create an unprecedented immersive experience generated from the operator's network.

Telefónica has managed to combine in this demonstration the technologies of immersive Extended Reality (XR), specifically Virtual Reality; haptic technology, which facilitates the incorporation of touch-related sensations into the game; fiber, which provides the necessary low latency for extreme multi-user interaction; rendering or creation of images in Nvidia's cloud, executed in Edge Computing centers connected to the operator's network; and the 3D environment generation capacity of the Unreal 5 graphics engine.

This combination allows players to compete in a futuristic, high-definition virtual world where the low latency of communications makes it easy to maintain a highly dynamic one-on-one game by virtually throwing balls that bounce off each other and all the obstacles in the virtual environment, with the winner being the player who hits the opponent the most. The haptic technology makes it possible to 'feel' the balls on the body, as users are equipped with a special vest that allows them to transmit the sensations. In addition, there will be an external player station that will be able to throw balls at the participants in the arena from a turret placed on the sides of the field, making the experience more intense for the players.

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This is a very demanding use case due to the interaction required between players, so it is essential to have the minimum latency achieved by Telefónica's network capacity.

This type of immersive solutions, generated from the network and supported by low latency communications and Edge Computing centers, provide numerous advantages such as the ability to generate XR experiences of a much higher quality or the reduction of the complexity of XR devices and their battery consumption, since the viewer becomes practically a mere video player, leaving the rendering or generation of graphics on the network.

In addition, these solutions make it easier to reduce the barrier of entry for end users to hyper-realistic XR experiences and, by incorporating the sense of touch into the experience, make it more viable to create increasingly immersive and higher quality solutions, not only in gaming or eSports, but also in the field of education and entertainment; emergency and security training; health training and even immersive rehabilitation therapies, among other use cases in the B2B field.

In the development of this pilot, Telefónica has collaborated with the Spanish startup Extendra, a technology company specialized in the creation of virtual reality applications in SaaS mode that respond to the specific needs of different industries and sectors of activity. Since its creation in 2017, Extendra is also a benchmark for the quality and hyperrealism of its applications that organically integrate the most innovative technology -haptics, IoT sensors, blockchain and artificial intelligence- always guaranteeing a unique and memorable experience for the end user.

Leonor Ostos, Innovation Manager at Telefónica Spain, says: "With the development of initiatives such as Telefónica Edge Haptic Arena, we want to highlight the immense possibilities that the generation of XR experiences from the network with rendering technologies that the cloud gives us. In fact, it allows to overcome the computational limitation of the devices, greatly increasing the quality of immersive experiences that we can obtain and allows to implement multi-user and collaborative scenarios, only possible thanks to the low latency provided by our network. At Telefónica we make the best network capabilities available to our B2B customers so they can develop innovative end-user solutions".

Telefónica Edge Haptic Arena is one of three demos that the Company is presenting at its MWC booth. Together, these three experiences showcase a unique value proposition based on Telefónica's ultra-fast networks and innovative technology solutions.

For more information: [Telefónica at MWC 2024](#)

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