

5G VR Education Torre Caleido

Objective: VR technology applied to education, with rendering on the Edge, allowing access via 5G connectivity to an interactive multi-user virtual classroom.

Description: VR technology is a tool that enables the generation of educational experiences that can significantly improve learning processes and outcomes by providing interactive and engaging content, immersive experiences, and flexibility and independence for students.

This use case involves the development of a VR application for multi-user access to a virtual classroom, to attend seminars remotely, and where didactic resources are offered to the specialist teaching the session, such as the possibility of projecting 360° videos, a whiteboard or the generation of 3D models of specific objects. Likewise, 3D spaces related to the subject taught are generated using photogrammetry techniques or similar. Spaces where students and specialists can access, to be able to expand "in-situ" the content.

The application uses the computational capacity and low latency provided by the Edge Computing combined with 5G connectivity, to perform 3D rendering of these spaces on the network, enabling students to use low-end equipment (mobile with 5G connection and cardboard VR goggles), maintaining an experience similar to that provided by high-end devices with local rendering.

VR glasses with 5G Split-rendering capability, a new generation of devices that integrate direct connection capability to a 5G network, will also be explored.

This project expands on the one carried out at [IE University's Segovia](#) site. The main location for the project will be the Torre Caleido, the new headquarters of Instituto Empresa at Madrid, which is collaborating entity in the project, along with the IE University campus in Segovia and other IE locations in Madrid.



Realidad Virtual



Edge Computing



Baja Latencia



Capacidad Downlink



UNIÓN EUROPEA