

VR 5G Education

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 to perform the 3D rendering of these spaces, enabling students to use low-end equipment (mobile with 5G connection and smartphone VR headset), enabling a likewise experience 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.

One of the scenarios planned for the project will be the Caleido Tower, new *Instituto Empresa* HeadQuarter, and collaborating partner in the project.



Edge
Computing



Virtual Reality



Low Latency



Downlink
Capacity

