5G VR education in Segovia

Objective: Group seminars using VR technology, 5G and Edge Computing, applied to the teaching and dissemination of Segovia's architecture.

Description: development of an application based on virtual reality technology to enable IE University, in its Segovia campus, to give virtual online seminars. The developed application allows multi-user access to a virtual classroom, to attend a seminar specialized in Segovian architecture, and specifically on the building that houses the headquarters of IE University in that city, the monastery of Santa Cruz la Real, of great architectural value. This tool offers didactic resources for the specialist giving the session, such as the possibility of projecting 360º videos, the use of a blackboard, or the generation of a 3D model of the monastery building. Three hyper-realistic 3D spaces have also been generated using photogrammetry techniques: the courtyard and main entrance, the cloister and the chapterhouse, where students and specialists can access and walk around freely, in order to expand "in-situ" on the content of the training.

For the project, an area of the IE University building in Segovia was equipped with 5G indoor coverage, from which the virtual seminar can be accessed. The 5G combined with the use of Edge Computing deployed in Segovia for this use case, allows the 3D rendering of these spaces on the network, freeing the VR glasses from this processing requirement. This allows students to use their own 5G cell phone and a cardboard like VR HMD, which is much more affordable, while maintaining an equivalent experience to that provided by high-end devices with local rendering, which are more expensive devices. This gives a boost to new experiences applied to education and broadens the target audience that will be able to access them.

Press release
Video report