



ERS POSITIONS AND INDIVIDUAL RESEARCH PROJECTS (IRP)

Fellow	Host institution	PhD enrolment	Duration
<i>ESR15</i>	NOKIA	Y	<i>36 months</i>
Project Title: Application of 5G Ultra-Dense Networks for the distributed implementation of immersive media rendering.			
Objectives: The goal of this project is to check through practical situations the applicability of low latency and high latency to scenarios where a 5G ultra-dense network is available, and therefore demonstrate that this technology is useful in real use cases. We propose the implementation of a virtual reality/augmented reality (VR/AR) application which provides an immersive experience to the end user blended with the local world using a light end device (AR goggles) with limited processing capabilities and power consumption. What we intend to explore is the possibility of using a fully untethered and mobile VR/AR solution without being limited by the capabilities of the end device. To do this the computational intensive tasks will be done in a dedicated platform in the network edge (e.g. a Mobile Edge Computing infrastructure) which may need to be extended with additional GPU features.			
Expected Results: To get a complex VR/AR application executed in real time on such a thin device we will shift the major part of the computing intensive tasks to a processor in the network edge (Mobile Edge Computing), so we will require an extremely efficient link in the 5G cell.			
Enrolment in Doctoral degree(s): Universidad Carlos III de Madrid (UC3M)			
Main (host) supervisor/Contact: Dr. Pablo Perez (NOKIA)			