# Railway track inspection with 5G and drones

**Objective:** to digitalise railway infrastructure inspection tasks in order to make them more efficient and improve the management and safety of railway infrastructure maintenance.

**Description:** Telefónica has implemented in Ourense and Pontevedra (Galicia) a solution for remote inspection of railway tracks with 5G and drones, which has become the first experience of flying beyond the line of sight of the drone pilot (BVLOS - Beyond Visual Line Of Sight) with 5G technology for infrastructure inspection.

This use case, developed in collaboration with Ineco, Adif and Huawei, allows remote piloting of a drone equipped with high-resolution cameras and a 5G modem to collect images of Adif's railway tracks as they pass through the towns of Barra do Miño (Ourense), Os Peares (Ourense) and Filgueira (Pontevedra) and transmit them in real time thanks to the characteristics of the new 5G technology. Likewise, these images are processed with Artificial Intelligence (AI) which allows the automation of the inspection of the road. In addition, the AI algorithm hosted on the edge is able to detect different elements of the road by registering their position. The use case also includes an application for Oculus virtual reality glasses that allows the inspection camera images and the telemetry data from the drone to be viewed in an integrated way and in a single device with a 360-degree view, thus enriching the remote inspection work.

Press release

Additional References



5G    Uplink Capacity    Dron    Virtual Reality + Augmented Reality    Edge Computing




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