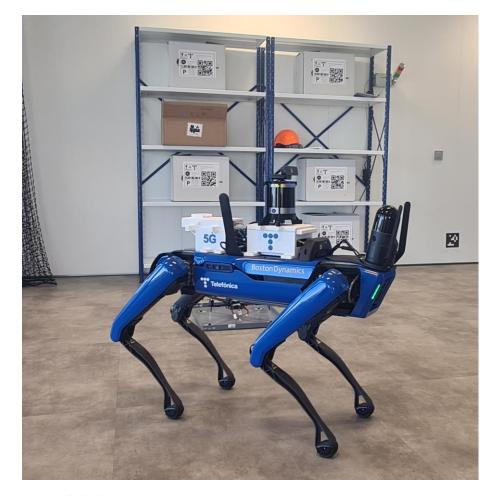# Remote digital twin

**Objective:**

New technological paradigm oriented to the exploration and 3D capture, autonomously and in real time, of unknown remote environments or those that need to be monitored.

**Description:**

This demonstrator combines 5G technology, autonomous mobile quadruped robotics and cloud technology for the unassisted and autonomous 3D capture of a physical space. The Spot robot follows an autonomous route through the physical space to be replicated, and thanks to an on-board LIDAR (which can measure both distances and infer the texture of the environment being travelled), the 3D point cloud that characterises the space is generated. This information is sent in real time via the 5G connection to the cloud infrastructure where it is subsequently processed graphically. This post-processing makes it possible to generate a precise 3D digital twin of the physical location, which can even be viewed using Quest 2 glasses. The application of artificial vision technology for the recognition of elements in these industrial environments, whether for logistics tasks, remote maintenance or perimeter security, all automated and unassisted, is also of value. This allows an optimisation of human resources dedicated to remote sites, or an improvement in the safety conditions of the equipment, when it comes to places where, due to the type of activity carried out there, there is a certain risk for the operators when carrying out basic maintenance and supervision tasks.

Press release