

5G robotics for industrial facilities supervision

Objective: constant evolution of 5G technology, coupled with advances in robotics, opens new doors to the supervision, surveillance and remote operation of industrial environments, also offering a complement to people in cases where their physical integrity is at risk. On this occasion, Telefónica's key technologies, such as 5G, Edge Computing and Network Slicing, are enabling the remote teleoperation of one of the most advanced robotic elements in the world: Spot Enterprise.

Descripción:

The Agora session, '5G Robotics for Industrial Environments', highlighted the contributions of Telefónica's 5G and Edge Computing technology with a live demonstration recreating a use case in an electrical substation. The ultra-low latency, high reliability 5G connection enables remote tasks to be performed using state-of-the-art service robotics in scenarios with potential physical risk to human personnel.

Thanks to the application of these technologies, the Spot Enterprise robot is controlled remotely and in real time from the operations centre located at Telefónica's offices in Barcelona (Torre Diagonal) using the Alisys robot fleet teleoperation platform, being able to climb steps and overcome unevenness. It also has an articulated arm that allows it to perform basic manoeuvres with high precision, such as opening doors, lowering levers or deactivating alarms.

The benefits of implementing this type of robotics include increased safety and fewer accidents in the workplace. These solutions can be used as a complement when moving to assess a possible unexpected risk situation in the field, making possible to take the appropriate decisions (detection of false alarms, requesting assistance from Security Forces and Corps, etc.), without the need to take risks by sending physical personnel to the site.

In addition, the ultra-wide bandwidth of 5G allows to send numerous video streams simultaneously, automate routine procedures by carrying out autonomous surveillance rounds, supported by a 360° camera (night vision cameras, thermal cameras, etc.) and the use of sensors that send critical information to the control centre. During the performance of these routine procedures, relevant information is obtained, which makes possible to enrich operations and even create synergies between internal processes.

With the reinforcement of Edge Computing, several sites can be remotely managed, allowing savings in the management and maintenance of their infrastructures. It is a transversal and versatile technology that is perfectly adaptable to the needs and characteristics of the sites and companies where this solution would be applied.

Live demo at MWC22

Press release

