# PROYECTO I+D+i



## PROJECT PARTNERS



**BUSINESS AREAS**
Área Infraestructuras

**PROJECT DURATION**
Oct 2022- Set 2026

**TOTAL BUDGET:**
7.695.180 €

**COMSA's BUDGET:**
1.118.512 €

**KEYWORDS**
PPE, Artificial Vision, UWB, Tags

**COORDINADOR DE COMSA**
Daniel Sánchez

## Title of the Project

"HIGH PERFORMANCE ULTRA WIDE BAND SYSTEM FOR MULTI-SECTOR APPLICATIONS"

## Acrónimo

**WIBAND**

## State of the Art

Construction is a sector in which, given its singularities (working conditions, tool handling, socio-economic profile of workers,...), technologies such as Ultra Wide Band, IoT or Artificial Intelligence do not usually have high rates of penetration, and much less return on investment, since the final results do not reflect the expectations raised at the beginning of the projects. And other technologies that intended to interact with the user (virtual reality and augmented reality) or to certify specific parts of a process, as could be the blockchain technology, are in the same situation.

However, the application of these technologies, is still experimental, and do not work at full capacity, or their return on investment is not sufficient, for the problems to be solved, not achieving a relevant degree of penetration in any of the fields under study in the project, remaining, in the best of cases, as technological demonstrators on a laboratory scale.

## General objectives

COMSA will work on the applications of these high-performance systems in the construction sector. The objectives are:
*   To monitor PPE through the use of technology based on UWB tags
*   **Design and develop a technology based on artificial vision** that recognizes and validates the correct positioning of PPE by the worker.
*   Investigate and **design a tool capable of detecting anomalies in the use of PPE** by workers on construction sites based on the data obtained from the UWB Tags and the artificial vision systems installed on the construction site.
*   Investigate the design of a tool based on UWB-Radar that allows marking the **areas of special security** and detecting people who access into these exclusion zones to give security warnings in real time to both the person accessing the area and the person responsible for the work.
*   Use UWB-radar combined with artificial vision and UWB-tag to **detect intruders or construction personnel who do not use PPE correctly.**

## Project activities

*   WP1: Research to evolve UWB-TAGS technology
*   WP2: UWB-RADAR technology research
*   WP3: R&D Vertical use cases
*   WP4: Demonstrators and technology validation

## Results and conclusions

The project is in the execution phase