R&D PROJECT

COMSA CORPORACIÓN

Title of the project

Prevention of accidents on site through 3D vision and artificial intelligence

Acronym

PROVIDENTIAL

State of the Art

PROVIDENTIAL project **aims to develop a proof concept to acquire new knowledge to improve the digitization of works in order to guarantee maximum safety for the workers involved in it.** During the development of the project, the incorporation of new 3D imaging technologies and data fusion combined with processing based on artificial intelligence (AI) will be explored for the first time to optimize risk prevention procedures, monitoring and inspection of the work on site, optimize and invest in labor risk prevention.

General objectives

The main objective of the project is **the acquisition of new knowledge for the application of advanced perception systems in real work environments,** aimed in particular at guaranteeing worker safety.

Work Packages

*   **Hardware specification**
*   **Data Capture**
*   **Software development**
*   **Validation**

Results and conclusions

The feasibility and reliability of the presented multimodal system to detect workers and heavy machinery in a construction environment and thus generate alarms with the aim of preventing risks has been demonstrated.
The multimodal system (3D LiDAR, RGB, thermal) offers greater precision thanks to the precise combination of multimodal information, improving the performance of current sensors.
The reduction of false alarms has been proven when using three imaging modes of workers and machinery in a construction environment.

BUSINESS AREAS

Área de Infraestructuras

COMSA INDUSTRIAL, S.L.

Project duration:
19/11/2021-21/8/2022

BUDGET

CONSORTIUM BUDGET
272.569,00€

COMSA BUDGET
78.002,00 €

KEY WORDS
Artificial Intelligence (AI), Digitization of construction site, Labor risk prevention, Multimodal Sensor.

COMSA Responsible:
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