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RESEARCH CENTER FOR ASSISTIVE INFORMATION AND COMMUNICATION SOLUTIONS – AICOS

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PROJECT SPEC SHEET (EN)

AI4CAROPS – AI-POWERED INNOVATIONS FOR CAR WORKSHOP OPERATIONS

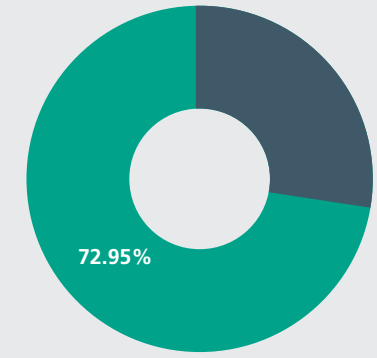
Project nº: 18234

Supported by: SIID - Sistema de Incentivos à Investigação e Desenvolvimento

Partners: Guisoft (coordinator), Fraunhofer Portugal

Start Date: 01/07/2025
Conclusion Date: 31/12/2027

Total eligible cost: 476.440,00€
EU Funding: 347.557,48€ (72.95%)



Context

The automotive sector in Portugal plays a vital role in the country's economy, making a significant contribution to both employment and its gross domestic product. Within this framework, the car repair workshop market is a cornerstone for ensuring the economic viability and sustainability of this ecosystem, as it supports the reliability, safety, and longevity of vehicles. However, workshops often face several limitations during vehicle reception that affect service quality and customer satisfaction. These include operational inefficiency, where manual and subjective processes can lead to less accurate diagnoses and longer service times, as well as errors and inconsistencies in diagnosing and estimating technical problems, which are generally based solely on professional experience without effectively leveraging the vast history of past maintenance and repair interventions

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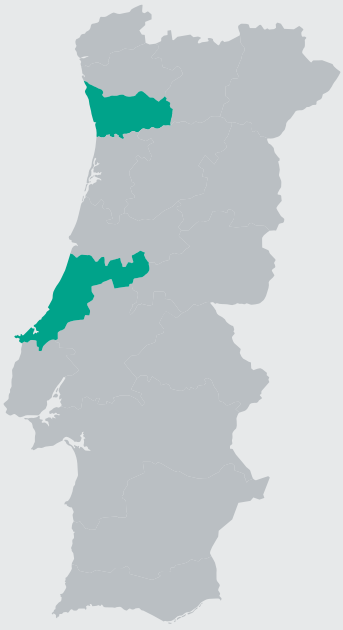
Goals

The AI4CarOps project aims to address these challenges through the implementation of an innovative integrated AI-based software solution, composed of a mobile app and a web app, to optimize vehicle reception in workshops.



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The mobile app will facilitate image capture of tires, dashboards, and license plates, with automatic data quality validation, while the web app will use AI to support decision-making by automatically analyzing both images and textual information from intervention histories. The system will feature computer vision modules for automatic tire assessment and dashboard warning detection, suggesting interventions and cost estimates based on historical data to achieve more accurate diagnoses and more reliable profit margins.

Impact

The results of the AI4CarOps project will be integrated and marketed as a new optional module of the ERP OfficeGest Master – Workshop Management Software, allowing GUISOFT to expand its commercial offering, which already serves more than 600 workshops. The solution will be validated in real-world production environments with current ERP clients. Real data will be used to develop and train the AI algorithms for automatic image and text processing, to reach a minimum Technology Readiness Level (TRL) of 6 and demonstrate potential at TRL 7.