

# REXASI-PRO



**REXASI**  
PRO

## REliable & eXplainable Swarm Intelligence for People with Reduced mObility

The REXASI-PRO project aims to release a novel engineering framework to develop greener and Trustworthy Artificial Intelligence solutions. The project will develop in parallel the design of novel trustworthy-by-construction solutions for social navigations and a methodology to certify the robustness of AI-based autonomous vehicles for people with reduced mobility.

### GREENER AI SOLUTION

Planet-caring is a dimension on which we cannot neglect, today. We will develop an AI-Based system to orchestrate the fleet of AI-Based Swarm and a dataset optimisation for REXASI-PRO algorithm which is based on topology (in order to compress the dataset without compromising data). Both systems will reduce costs and power consumption.

### TRUSTWORTHY BY CONSTRUCTION

The functioning of AI system requires appropriate respect for potentially vulnerable persons and groups, such as persons with disabilities and others at risk of exclusion.

### ROBUST, SAFE, SECURE & RELIABLE AUTONOMOUS WHEELCHAIR

In the context of social robotic navigation, trustable environmental sensing is essential to guarantee robustness against uncertainties, malfunctions, and disturbances. A smart-sensing subsystem will be designed with the aim of providing trusted event detection.



**DISCOVER THE PROJECT**



# Work Packages



## Ethics

The functioning of AI system requires appropriate respect for potentially vulnerable persons and groups, such as persons with disabilities and others at risk of exclusion. We will create a multi-phase framework for assessing ethical issues of a Multi-Robot Systems and Data Collection Platform supporting people with mobile disabilities gap.

## Exploitability

We will work on the definition of a roadmap of the certification and commercialization of autonomous wheelchairs by developing an exploitation strategy to support the adoption solution in the market. It will include an analysis of the main non-economic aspects relevant for a successful implementation.