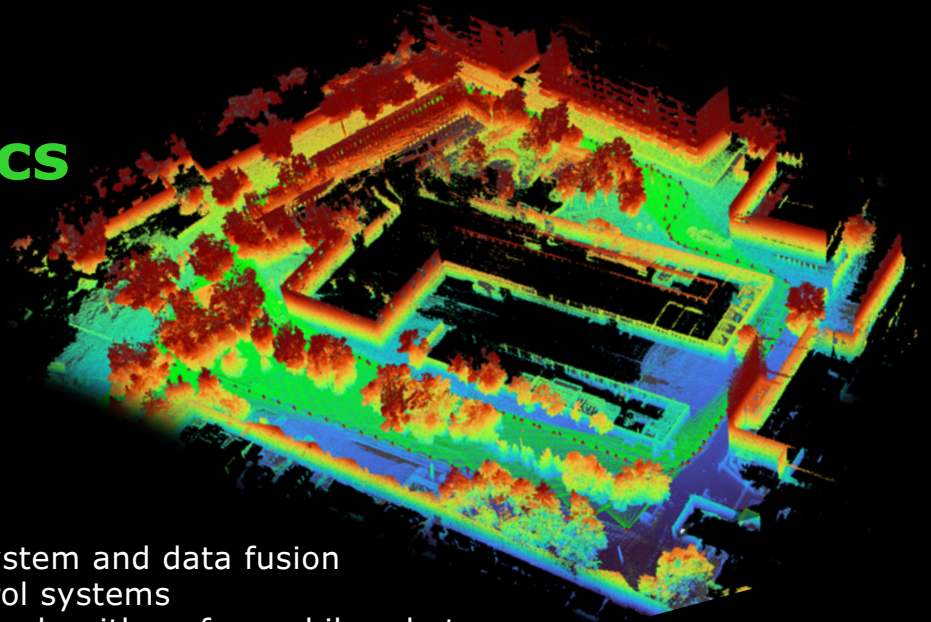




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Robotics



Visualization of
trajectory on 3D map

Research area

- Vision-based perception system and data fusion
- Decision-making and control systems
- Localization and navigation algorithms for mobile robots
- Simulators with sensor behaviour for various forecasts

Developed solutions

ALTRAX & PAWO

Off-road platforms developed for autonomous mobility research and operation in challenging terrain conditions. The platforms can serve as demonstrators, test vehicles, or technology platforms for defence, security, and industrial applications.

Autonomous Mobility System

The solution includes autonomous navigation software and fleet management tools. The developed algorithms enable localization and navigation of autonomous robots operating in various environments, including indoor and outdoor industrial facilities as well as off-road terrain.

Multi-Sensor Data Acquisition System

A comprehensive platform for collecting, synchronising, and managing data from LiDAR, radar, cameras, GNSS, IMU, and environmental sensors.



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Artificial Intelligence



pimot.lukasiewicz.gov.pl/en/

Research area

- AI-based computer vision for automotive and industrial applications
- Object detection, tracking, and safety monitoring
- AI-powered logistics analytics
- Embodied AI for industrial and military automation

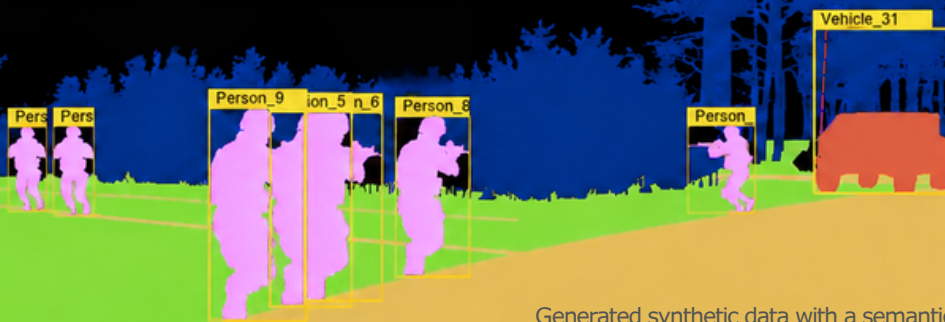
Developed solutions

Vision-based detection systems

Models and algorithms enabling object detection in RGB and thermal camera images. The solutions can be used to detect distant objects, obstacles, and safety-critical zones.

Synthetic Data Generation Simulator

A simulation environment based on the Unity engine that enables the generation of realistic synthetic datasets for artificial intelligence applications.



Generated synthetic data with a semantic mask