

## Mobility

# Słomczyn: An autonomous passenger van tested by the Polish Automobile and Motorcycle Federation [photos]

At the motodrome of the Polish Automobile and Motorcycle Polish Automobile and Motorcycles Federation [Polski Związek Motorowy, PZM] of Słomczyn, a presentation of an autonomous passenger van was organised today. The objective was to test passenger reaction to their first experience of going by a driverless bus. PZM wants to be involved in making Poles ready for the inevitable - in the opinion of experts - implementation of autonomous vehicles in public transport.

Among the participants - apart from drivers - there were also children, but also adults without a driving license. The masterminds wanted to research the participants' feelings and perception, their awareness of autonomous vehicles, and also level of acceptance of solutions applied therein. The outcomes will be utilized to identify training needs. It was Poland indeed that was selected as a test venue because of - among others - a relatively high average vehicle age, in comparison to other EU Member States.

### Users quite satisfied

The pre-defined route consisted of straight sections and corners. There was a narrowing, and an obstacle along the route, the vehicle had to detect and overcome autonomously. Initial opinions by the research group were quite favourable. They highlighted curiosity they felt when riding the bus, and also no sense of threat whatsoever (some of the participants explained it by low speed).

Among the issues raised, there was an issue of joystick operation mode, sensible to even slight finger movements, hence causing trouble for the elderly, unaccustomed to operating such devices. The general perception was, however, positive. One needs to wait, however, for a comprehensive evaluation of the study results.

### Riding with an operator as one of many options

The EasyMile EZ10 passenger van based on mechanics by Ligier, provided for test purposes, is a level 4+ autonomous vehicle. This means it is able to go autonomously along a pre-programmed route. Software was delivered by a Polish developer, whose name has not been revealed yet. The same bus supported a regular route in a pilot program in Gdańsk in the summer of 2019.

Speed of the vehicle has been mechanically limited to 20 km/h. The reason behind that were safety issues: in case of an emergency braking at a higher speed, passengers could get injured. The vehicle has been equipped with high volume LiFePO batteries and two steer axles. For obstacle detection, there are LIDARs installed at every corner, and 3 cameras. One of them is inside the vehicle - its job is to monitor concentration of the operator, if in an operator driving mode.

The vehicle can work in two modes. In the first one, the operator, with use of a special joystick, selects driving direction (forward or reverse), and turning direction (left or right) and angle. In the second one, the software takes control. A user interface allows then to select the route (from a list of pre-programmed ones), to start, to open the door and to open the wheelchair lift platform. If one of the passengers considers situation on the road dangerous, they can themselves stop the vehicle in an emergency.

### Collaboration for technology development

Partners of the "Drive 2 the Future" consortium are 31 entities from all over Europe. There are transport companies among them (such as the Wiener Linien), universities (e.g. the Technical University of Berlin),

vehicle manufacturers (e.g. the Italian Piaggio), and NGOs (such as PZM). Their common declared goal is to help design a new branch of transport - autonomous vehicles - to meet requirements of future users (drivers, passengers and operators) as much as possible. This is exactly the aim of tests such the today's one.

The research project is co-financed by the EU. Apart from autonomous road vehicles (cars and vans), the tests involve autonomous drones, trains (a train between terminals of one of Berlin airports), and even ships.

The link to the original text:

<https://www.transport-publiczny.pl/wiadomosci/slomczyn-mikrobus-autonomiczny-na-testach-w-pzm-zdjecia-72518.html>