

Zalazone is an innovative Hungarian project related to Mobility and Vehicles. It establishes a full-range **validation facility for the vehicles and the communication technologies of the future**, enabling multi-level testing opportunities from prototype tests till serial products development.

A unique testing facility for **autonomous and electric vehicles** and an extended Central-European testing zone.



PROJECT CONCEPT



Férfelületek



Projekt 1. fázis

2017-2018



UNIQUE SERVICES



A multi-level testing environment

- Able to address all test levels of development process, including the Autonomous Driving tests
- Handling of prototype vehicles with internationally accepted standards and customer needs
- Full range service for customers on-site (fueling, electric chargers, meal, office, workshop etc.)
- Flexible and connectable track modules for special events and tests
- Test modules visually separated from the development and public areas
- Public road test opportunity for autonomous vehicles
- Attractive environment for presentations and conferences

Services

Proving Ground tracks and modules: Dynamical tests & Automated vehicle use cases

Technical services: Engineering & IT support services, Electric charger and fuel station, Vehicle repairing services, Mechanical repairing services, Mechanical and electrical workshop, Accredited vehicle inspection station

Other services: Authority office in place, Logistic partner (shuttle bus & prototype carrying), Visitor & event Center, Hotel and accommodation opportunity inside the zone

Education & Research opportunities

Co-operation with the Budapest University of Technology, the University of Pannonia, and the Széchenyi István University with main objective the researches of autonomous vehicles and electric transport systems, and the support of proving ground by engineering.

Involved trainings:

1. Autonomous Vehicle Control MSc in the English language
2. Autonomous Vehicle Programming MSc in the English language
3. Automotive Test Engineer BSc
4. Mechatronic Engineering BSc



Test track modules

Dynamic platform: Dynamic platform is a huge special asphalt surface which is suitable to perform high speed maneuvers on it under safe conditions. This platform is a test site for high speed (til 200 km/h) stability, brake and platooning tests. The whole surface can be watered.

Braking platform: Braking platform is designed to carry out ABS, ATC and ESP test with 8 special (different friction coefficient) surfaces and watering system which provides safe conditions for high speed car and truck tests. The module is connected to inner roads both sides that allows to perform high speed platooning tests on physical limits.

Handling course: High speed and low speed handling courses are for steering, ESP and other vehicle dynamic test elements. They have many alternative routes and diverse types of path. Watering system will be deployed in certain sections of handling course.

Rural road, highway, motorway: Multi-section inner roads provide motorway, highway and rural road test environment that satisfy road safety and design standards. These tracks allow to execute medium and high-speed tests in real circumstances. Different shape roads, tunnel, overpass, light, and radio frequency shielding elements are designed in this section. Variable terrain conditions can be found in this area.

High-speed oval: High speed oval track allows to perform high speed tests about 200 km/h. High speed oval will be fully covered by V2I communication technologies.

Extreme side-shifted road: 130m long 10 % side shift road which can be used in both direction and it is connected to rural road.

Bad roads: Bad roads-module has 8 defined surfaces with maximum 50 km/h design speed.

Slopes: Different slopes designed with high and low friction coefficient surfaces and watering systems that allow testing on different friction coefficient surfaces.

Noise measurement track: This module allows to carry out noise measurement tests which are necessary for European homologation processes. There is no kind of sound absorbing or any reflecting element near to measurement surface.

Water basin: Shallow and deep-water basins allow to carry out water resistance tests for vehicles.

Kickplate: Hydraulically operated elements will be deployed on track which will be used for driver trainings.

Smart City Zone: **Smart City Zone** is a city-like area to provide realistic traffic circumstances in a closed area that contains more environmental, traffic, traffic engineering and vehicle dynamic elements. There are different number and type of lanes, surfaces, and road geometry. The geometry of roundabouts is like the different public ones for better simulation. Different type of building and facades will be placed next to the street grid of Smart City Zone. All the communication technologies will be available in this area like Wi-Fi, cellular technology (5G test network) and intelligent transportation systems.

Project Co-operation

Zalazone is a co-operation project between the **Automotive Working Group of companies:**

ALMOTIVE / AVL / BME GJT / BOSCH / COMMSIGNIA / KNORR-BREMSE / CONTINENTAL / EVOPRO / NKH/ NI / SZTAKI / THYSENKRUPP PRESTA / TÜV RHEINLAND / ZF

That provide:

Detailed technical specification of the classic elements of vehicle dynamics and physical structure of the automated vehicle tests

Draft specification of the autonomous environment and related communication infrastructure

Technical proposal for autonomous vehicle public road testing

And the **ICT Working Group of companies:**

BME HIT / BME KJIT / BPC / ERICSSON / HUAWEI / KAPSCH / MAGYAR KOZUT / MAGYAR TELECOM / NFM / NMHH / NOKIA / ORACLE / RWE / SIEMENS / SWARCO / T-SYSTEMS / VODAFONE

That provide:

Detailed specification of the autonomous vehicle environment and related communication infrastructure

More info

[Zalazone presentation link](https://zalazone.hu/en)

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