



Faculty of Transportation Engineering and Vehicle Engineering
Budapest University of Technology and Economics

BME Traffic Lab would like to join a consortium for Horizon-CL5-2023-D6-01-02 (Generation of scenarios for development, training, virtual testing and validation of CCAM systems)

We can contribute to 2 specific actions from the 10 actions required by the Topic:

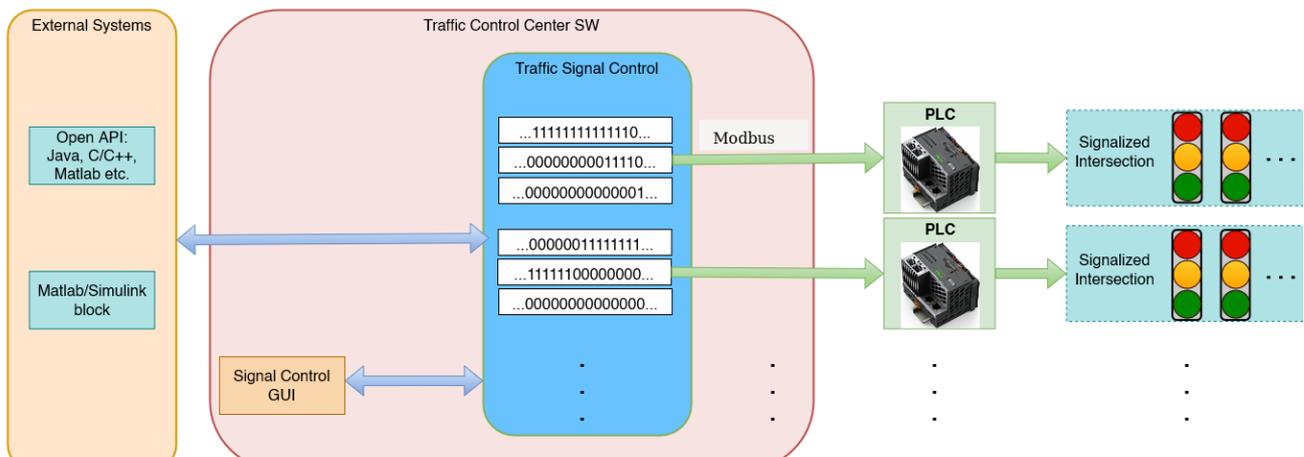
“3. (...) automatic processing chain with standardised, open interfaces to enable the efficient and seamless use of data from different sources.”

“7. Demonstration, assessment of the potential (...) coverage of complex traffic environments including the interaction with other road users (e.g. pedestrians, bicyclists).”

Our approach:

We are developing a fully customizable road traffic control system at [ZalaZONE Proving Ground](#) such that traffic lights can be controlled freely during CAV or CCAM testing together with standardized V2X solution (SpaT/MAP, CAM, DENM, Sensoris). The cloud based control center is made available to external systems via open API. A digital twin of the controlled area is also underway.

<https://youtu.be/xqlAXqNLARo>



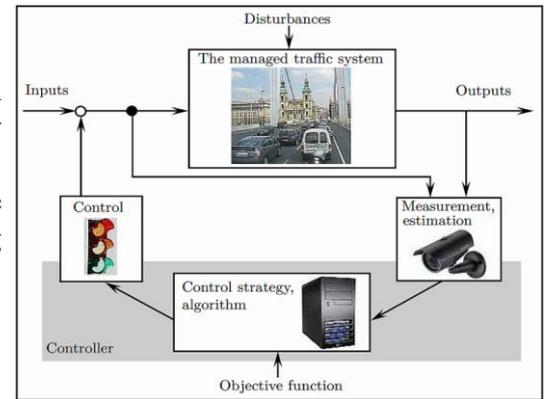
Our further competencies range from data fusion to dynamic and predictive road traffic modeling and control approaches. Another important element of our approach is the co-simulation: we have demonstrated experience in realizing digital twins of the considered traffic network based on real-time data, microcopic and mesoscopic traffic simulations.

<https://youtu.be/Ct1HDgYEw6g>

https://youtu.be/5cHIJ_2xgNk

BME Traffic Lab <http://www.traffic.bme.hu/>

The scope of the lab involves road traffic modeling, simulation, and control using classical and data-driven methods. We do scientific research on integrating highly automated vehicles with the traffic infrastructure. Moreover, we have close ties to players in the Hungarian automotive industry and the ZalaZONE Proving Ground (specially created for CAV and CCAM testing).



Competences and references relevant to the topic

- We can use the test tracks of the ZalaZONE Proving Ground for real-world testing and validation.
- We have an autonomous test vehicle and traffic control devices (controllers, signal heads, etc.).
- We have licenses to several state-of-the-art simulators, such as IPG CarMaker, PTV Vissim/Visum, VTD Vires, PreScan.
- We have experiences to use these tools to create complex co-simulation systems.
- [List of publications](#)

Budapest University of Technology and Economics (BME, www.bme.hu)

With its regular high-ranking positions (between 200 and 800) BME is among the top universities (2-6%) globally. At the university's 8 faculties and 76 departments, there are 1,200 lecturers teaching 5,000 subjects and 10,000 courses each semester. In the H2020 Framework Programme BME has ranked #2 among the Hungarian institutions (67 funded projects). The University is an active member of the European Engineering Learning Innovation and Science Alliance (EELISA) European University, the CESAER association of universities of science and technology and the European University Association.



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