FACTS

SIMUSAFE & closing remarks

SIMUSAFE H2020 project carried out research on at-risk transportation situations by looking at dangerous road designs as well as the altered driving conditions that frequently impair road users. Post COVID 19 period impacted the projects final stage, hence the third research cycle was extended by 6 months by the commission to compensate for the lockdown restrictions affecting all partners at various times.

Our mission

SIMUSAFE aims to improve driving simulator and traffic simulation technology to safely assess risk perception and decision making of road users: pedestrians, cyclists, motorcyclists and powered two wheelers (PTW), and vehicle drivers.

Objectives Achieved

The goal of SIMUSAFE (SIMUlator of Behavioural Aspects for SAFEr Transport) following the FESTA-V model methodology is to develop realistic multi-agent behavioural models in a transit environment where researchers will be able to monitor and introduce changes in every aspect, gathering data not available in real world conditions. Cycle 1 and Cycle 2 objectives were achieved. Cycle 3 simulator tests (SD) were performed as permitted by local and global COVID19 guidelines collecting data to improve the analytic tools for the production of meaningful data for intervention planning regarding risk intervention, particularly under different Altered Driving Consciousness (ADC). The Cycle 3 objectives were achieved with limited participant numbers.

SIMUSAFE by numbers:

Project start: 1st June2017
Project ended: 31st May 2021
Project Funded under: H2020-EU.3.4. N. 723386
Overall budget: € 8 739 480

Simulators and Environments utilised Post COVID19 conditions:

The project partners carried out data collection despite being hampered by COVID 19 lockdown and restrictions. As per setup for each individual partner, due to restrictions a limited number of simulators were utilised in various locations. Partners in various countries focused on different simulators in Cycle 3 of the project, to diversify the collected data and uploaded to ZENODO (zenodo.org) under SimuSafe H2020 Project for future use and analysis:

- **MDH &APTIV** – Car data
- **UGE** – PTW data
- **IBM** – Bicycle data (all data from C1,C2 and C3 **ITCL** and **Coventry University**)
- **UPORTO** – Pedestrian data
- **BrainSigns** – Biometric data
- **UCSC** – Psychometrics and Cognitive tests data

Collaborations and Accomplishments:

The project's disseminations have reached a wide an audience starting in late 2017. It has also attracted various commercial interest, as to collaborate and utilise the data and outcomes of the research. To name a few, a Memorandum of Understanding (MOU) between EFA and the Traffic Psychology Unit of University Sacro Cuore di Milano (UCSC) was signed for developing new strategies on road safety. SIMUSAFE partners have also met with representatives from Phantasma Labs about possible uses and improvements of SIMUSAFE's Open Access data. Moreover ITCL Technology Centre and representatives from Link Innova met with HEBO which is a bike and motorbike safety equipment brand. Possible collaboration on the safety devices that have been designed within the project, such as the patented helmet with integrated alcoholmeter, and the wide range of SIMUSAFE data collection in four types of simulators for trial simulators.

At the end of the project in May 2021, partners had attended more than 20 conferences with relevant publications and have also organised conferences during the post COVID phase to reach wider audiences. Three online workshops mainly focusing on AI-enhanced human machine interaction, machine learning and traffic simulations were delivered with wide international attendance. Five theses in total were completed by UPORTO and MDH. At least four journal papers were published hence with the completion of the Cycle 3 data analysis, this number is expected to reach higher values.

Overall SIMUSAFE has created initial steps towards the creation of new safety devices and possible new training modules on utilisation of biometrics and knowledge on machine learning for traffic simulation (AI), simulator setups for further road safety research. To further assess details of the dissemination activities and their potential in the post project period, it is predicted that open access data will have higher impacts.

Publications, datasets and outputs of the research cycles:

All public deliverables regarding the first two cycles have been uploaded to the project website. Preliminary analysis and results of research cycle 3 have been carried out within the limited time period. ZENODO (zenodo.org) will host most of the public data for further analysis and research will be made available to all interested parties. This will also enable the evaluation of scenarios which are not possible even with naturalistic driving (dangerous conditions, multiple monitored actors in the same scene, under influence of substances).

Online presence & News: As the project comes to an end, all activities in the past and the future collaborations that will take place can be found via the project's website (simusafe.eu) or SIMUSAFE on Twitter (@simusafe) for the project. Regarding the future updates, news, and results these may well be published on these portals hence the open data will be made available on ZENODO for wider benefit of research. Stay tuned!