NEWS LETTER

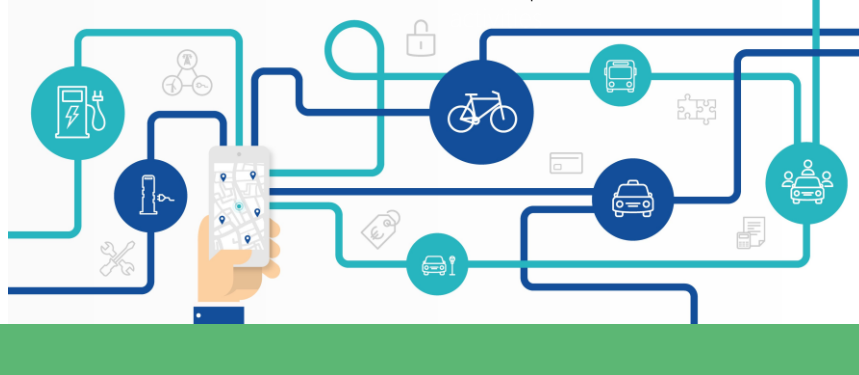## VEHICLES OF NEEDS, NOT VEHICLES OF ENGINEERING

STEVE UPDATES

With the STEVE project entering its last phase, lots of results are being delivered and a first assessment of their impacts is currently being carried out.

A wide range of technologies have been developed and integrated into the LEVs and pilots with the aim of improving the user experience. Developments to be mentioned are STEVE OBU, the secure GW, the SAMAY and

COYERO Apps, and the TOF (time-of-flight) cameras.

Several papers drafted by STEVE partners have been published and were presented during the 8th Transport Research Area 2020 in Helsinki.

Finally, despite the extraordinary situation related to COVID-19, great work has been done and the contingency measures put in place have proven to be successful.

MaaS and COVID19

Elaphe's Developments

Elaphe's proprietary Propulsion control Unit and in-wheel motor technology was tailored to the specific need of the EL-Vs in STEVE. The main goal is to gain maximum overall performance and increased reliability, while implementing cost effective solution. The test campaign run in realistic conditions has provided useful data for further performance optimization.

On-track testing of STEVE EL-Vs

Special focus was set to further optimize the NVH footprint, supporting I&M with the testing of the dual inverter and to prepare for the integration of torque vectoring algorithm into the PCU and perform efficiency testing (+2000km on proving ground with different drivers in multiple scenarios). Elaphe constantly continues to summarize and share on-field data about the powertrain behavior to supply back-to-back comparison with existing system in terms of the NVH, performance, driving comfort and efficiency.

In recent years, the MaaS concept (Mobility as a Service) has been increasingly present, and its implementation was thought to be unstoppable. This was before the COVID19 situation that has dramatically affected the transport sector with an almost unprecedented major drop in travel.

However, while there will unfortunately be casualties among the countless organizations related to MaaS, there will also be opportunities for those strong and positive enough to come out of the turmoil. The aim of MaaS is to provide multimodal mobility. The more options there are to get around, from public transportation to taxis and rental services to the healthy undergrowth of micro-mobility, the more resilient the community and society will be. The core idea of MaaS is to get people where they need to go, but how they will get there is not fixed.

In a time of emergency or disruption, the need for alternative modalities like LEVs and new alternative packages and services, like the ones offered by STEVE, is heightened.

Smarter Delivery with ELVs and Energy Efficiency

AnySolution's team meeting with representatives of Angel24

One of the mitigation measures taken in Mallorca and implemented by AnySolution has been to identify a delivery company (Angel24) which was already interested in promoting sustainable mobility. Angel24 is a company that within its Corporate Social responsibility strategy has included the use of ELVs for product delivery in the municipality of Palma de Mallorca (Spain). This best practice fits perfectly within the aims of the STEVE project and will now be smarter thanks to the use of the SAMAY App helping to increase energy efficiency in their routes.

STEVE vehicles operating in a self-service-rental-system in Villach

COVID-19 mitigation time is finally over in Austria and the demonstration activities have restarted, continuing the test-drives through the STEVE-App's car-sharing-function. The two STEVE quadricycles in Villach are ready to be shared by a testing-group until the end of the demo-phase. The users also have the possibility to switch from the JAC vehicles to the E-Bike-Sharing-System, offering as such a real "e-mobility-as-a-service".
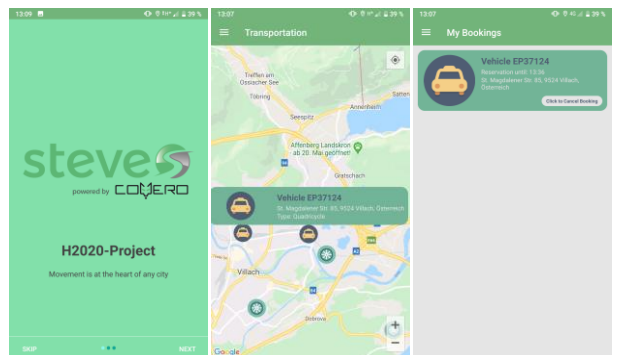
The test-group in Villach consists of around 50 users who will test and provide feedback on the services, enabling improvements and modifications of the sharing service. For safety reasons every test-user has been offered training on the e-vehicles to learn about light-vehicles and the handling of these specified STEVE-cars. Through the STEVE-App it is possible to see the current location of the cars on the map, to select the vehicle and rent it without the need of anybody giving out the keys. As a result, a user can reserve the car with the app and subsequently, when approaching the vehicle, the app will open the doors – all automatically and remotely via backend. At the end of the rental, the app will also automatically lock the car. This service gives users the freedom to rent the cars at any given time for all their individual mobility-needs.

The STEVE vehicles can be charged everywhere, but specific charging stations have been installed at Villach's main railway station, at the Carinthian University of Applied Science and at Infineon Technologies Austria AG. With these locations the project perfectly reaches students, commuters and citizens.

The second phase with the car-sharing service will run until October 2020 in Villach and it is expected to receive good feedback on the services and to get useful data regarding mobility behaviors

Training of test-users in Villach

Screenshots of the STEVE car-sharing App

Meet the STEVE Team

Gorazd Lampič
STEVE Partner
CEO Elaphe Propulsion System

"*Elaphe integrates seamlessly in the wide range of light-EV topologies and services to showcase the evolution of future mobility systems. With conviction to achieve specific need in STEVE, improving the overall performance in maneuverability, efficiency and reliability while reducing costs. I am looking forward that the networking among the companies involved in the project will open new possibilities and provide technical solutions to help reconsider the perception about electrical, shared and connected Mobility.*"

Markus Pistauer
Leader of WP5
CEO at CISC

Founder of CISC in 1999, his technical interests cover the fields of embedded and cyber physical systems, modeling, simulation and optimization techniques.

"*The STEVE project give us an excellent opportunity to provide a flexible mobile platform that can act as a service marketplace for new business opportunities using cloud services, data analytics and business intelligence to create new offerings for consumers and enterprises in combination with e-mobility services supporting the European Green Deal.*"

STEVE Demonstrators' Updates

Past & Upcoming Events:

The STEVE project has been and will continue to be presented at different conferences, workshops and other kinds of events:

- Cross-fertilisation Webinar on scenarios on electric mobility, 28th May 2020

- Evaluation Workshop of STEVE User Centered Services, Villach, Austria, 23rd June 2020

Due to COVID19, contingency measures have been implemented by AnySolution for Calvià's pilot: the geographical coverage of the pilot has been expanded (now also including the municipality of Palma in addition to Calvià) and two additional target groups (commuters to the University of the Balearic Islands and a delivery company using LEVs) have been added to residents and tourists. Merchandising has been produced so as to encourage e-bike users to download the SAMAY App and fill out the STEVE questionnaire.

STEVE Merchandising in Calvià

Participants during the workshop

On the 23rd of June, a working group composed of members of Stadt Villach, FH Kärnten, Kelag and Infineon met up to work on the qualitative evaluation of the first iteration of Villach's demonstrator, based on 52 test drives.

During this evaluation workshop, the preliminary results and answers from the questionnaires showed a positive user acceptance of LEVs and STEVE services.

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