

Mobility Made Easy: Digital Solutions for Seamless Transportation

From public and private transit to demand-responsive transport (DRT), with bike, taxi, car sharing, and other new mobility offerings – how passengers get from point A to point B is increasingly multimodal. The ability to make these choices at the touch of their fingertips is now a daily reality for most passengers. Digitalization plays a key role when enabling single applications that integrate real-time road and rail traffic information or pedestrian routing services allowing people to easily see which transportation options will result in the shortest and least expensive commutes.

As cities continue to expand, so too do the congestions on their roads. In many cities worldwide, commuters spend more than a work week a year (40 hours!) sitting in traffic jams. The integrated use of transport options can relieve cities – and their travelers – from this situation. Not only do intermodal options increase freedom of choice and can relieve riders from the burden of sitting in a traffic jam, but they also allow passengers to contribute towards more sustainable transportation with increased flexibility and reliability.

The key to promoting the usage of intermodal solutions is ensuring that these are user-friendly: multiple transportation options all available in one single application that allows passengers to pick, book and pay the fastest, most efficient option, according to their preferences and needs, with personalized and proactive features. Passengers receive exactly the information they need for route planning, booking and payment, as well as updates during their trip – Mobility as a Service (MaaS) at its best.

Mobility apps also provide transportation operators with more data about passenger demand and mode selection. Mobility Data Analytics allow for the determination of

travel patterns and their impact on the transportation network to support mobility strategy and planning with more informed decision-making regarding timetables, service upgrades and other operational demands.

Queuing for public transport tickets, worrying to pick the right one? Public transport is the backbone for urban mobility – but to make (or keep) it attractive, it must be easy, too. Smart ticketing is a key to this. New approaches like Check-in/Be-out or even Be-in/Be-out make it simple for travelers to use public transport – and they always get the best price charged for the trip made.

Then, MaaS becomes commonplace, and even necessary for an effective transportation landscape when it seamlessly includes new mobility offerings with public transport, such as microtransit, a form of DRT – covering the first and last mile.

The Siemens Mobility intermodal transportation portfolio includes digital solutions and services provided not only by Siemens Mobility, but also wholly and partially-owned subsidiaries, including HaCon, eos.upgrade, Bytemark and Padam, which are coming together with a shared common goal: enhancing the passenger experience with their combined power for mobility.

HaCon

HaCon, headquartered in Hannover, Germany, provides the HAFAS Mobility Ecosystem, a cutting edge software portfolio for public transportation, mobility and logistics. It enhances the passenger experience by creating smart and individually optimized itineraries. HAFAS generated trips integrate all available modes of transportation and consider real-time information. With 35 years of experience and a dedicated team of more than 370 IT and transport planning specialists, HaCon technology covers all aspects of Intelligent Transportation Systems and creates the ultimate end user experience.

For Mobility as a Service (MaaS), HaCon offers transportation operators the HAFAS Mobility Marketplace, an advanced platform which integrates intermodal trip planning and ticketing already in several countries and major cities, including Germany, Switzerland, Dubai and the United States. It enables cities and public transport operators to implement their mobility strategies. Furthermore, it empowers

passengers to easily access the plethora of transportation options available in any given region through individual apps. HAFAS has been deployed more than 80 times in high-density and high-speed transportation networks, setting new standards in terms of comfort, features and accuracy. For more information: www.hacon.de/en/

eos.uptrade

eos.uptrade provides online sales systems and ticketing solutions for transportation operators throughout Europe. eos.uptrade also offers a large selection of solutions for integrated timetable and fare information, mobile and web-based ticketing options for passengers, corporate clients, students, service and call centers as well as the integration of third-party sales channels and event tickets.

Currently, eos.uptrade has more than 80 customers in public transport (e.g. Hamburg, Berlin, Munich, Vienna) and in tourism who use mobile and online ticketing solutions with different interfaces to external systems. Operators enjoy the flexibility to manage their own interface with an easy access to the backend with the possibility to manage payments efficiently. For more information: www.eos-uptrade.de/en/

Bytemark, Inc.

Working with more than 20 transit agencies worldwide, Bytemark's core offering is a comprehensive suite of products that digitize transit passes, tickets and fare media in multiple innovative ways. By offering transportation operators with a variety of cloud-based, fare validation solutions, Bytemark supports them with back-office portal management, data analysis and operational recommendations. For passengers, these solutions make traveling simpler and more instantaneous by means of web-based and smartphone-based purchasing experiences. For more information: www.bytemark.co

Padam Mobility

Newly added to the Siemens Mobility intermodal solution portfolio, Padam Mobility makes public transport more efficient thanks to an AI-powered on-demand transportation software as a service (SaaS). The solution – either app or web-based - allows passengers to book their shared ride easily and drivers see their itinerary evolve in real time, thanks to a powerful dispatch, algorithms and traffic data integration. Transport operators can easily manage and supervise operations in real time and collect data to improve the service for users with the management

interface. In addition, Padam Mobility's simulation tool enables public transport authorities to validate the best solution for their needs, as it delivers data such as expected waiting times, cost estimations or filling rates. For more information:

www.padam-mobility.com/

Connecting from the First to the Last Mile: Intermodal Solutions at Work

One Country, One Platform

Austria

Together with [Verkehrsauskunft Österreich](#) (VAO), HaCon is providing access to intermodal door-to-door solutions throughout Austria. Integrating train, bus, car, bicycle, and walking, the app provides users with the fastest, most efficient options from the first to the last mile. It compares route timing depending on the type of transportations combined for users to get from the first to the last mile and to be able to quickly decide on one of the various options. It integrates data from 15 public transportation operators throughout the country, making transportation simpler for the 8.7 million Austrian residents and more than 20 million tourists per year.

Denmark

In Denmark, HaCon helped Rejseplanen to integrate several demand-responsive and shared mobility services into one platform. From public transport in Copenhagen to taxis and ride-sharing, passengers can opt for the most efficient intermodal route that gets them where they need to go. Although this has been successfully done in other locations, it is the first time that an entire country's transportation system has been integrated into one platform. Even those in rural areas can benefit from Mobility as a Service (MaaS), offering transportation options independent of private car ownership. For more information on the project watch:

www.youtube.com/watch?reload=9&v=x60CCM28X8E

Andorra

Siemens Mobility, HaCon and eos.uptrade will create an intermodal mobility platform for Forces Elèctriques d'Andorra (FEDA), an organization that was appointed with the creation of this platform by the Government and the seven councils of Andorra. The platform will integrate all transportation modes across the entire country. It includes public buses, on- and off-street parking, electric bike-sharing and chargers for electric vehicles. The platform will allow riders to view the information in real time

and manage payments across the various modes of transport. Andorra is investing in the platform in order help them achieve their sustainability goals, including lowering carbon emissions and promoting public and multimodal transport.

Smart City, Smart Platform

Bay Area, USA

Bay Area Rapid Transit (BART) in California has successfully teamed up with HaCon to provide its riders with the brand-new BART Trip Planner: Available both as a web app and native apps for iOS and Android, the application guarantees a seamless, multimodal door-to-door travel experience including real-time information. It integrates transit data from more than 30 operators in the nine Bay Area counties, including buses, trains, ferries, and cable cars. In addition, the BART Trip Planner goes beyond just public transportation, by featuring walking, bicycling and car routes, in order to give users a realistic comparison of their transportation options. For more information: www.hacon.de/en/news/press/

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This press release and additional material are available at:

www.siemens.com/press/uitp2019

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Siemens Mobility is a separately managed company of Siemens AG. As a leader in transport solutions for more than 160 years, Siemens Mobility is constantly innovating its portfolio in its core areas of rolling stock, rail automation and electrification, turnkey systems, intelligent traffic systems as well as related services. With digitalization, Siemens Mobility is enabling mobility operators worldwide to make infrastructure intelligent, increase value sustainably over the entire lifecycle, enhance passenger experience and guarantee availability. In fiscal year 2018, which ended on September 30, 2018, the former Siemens Mobility Division posted revenue of €8.8 billion and had around 34,200 employees worldwide. Further information is available at: www.siemens.com/mobility.