Intelligent fare management and smart ticketing

IT-TRANS 2020: Exhibitors present digital solutions for urban mobility (Part 3)

Karlsruhe/Brussels, December 9, 2019. Intelligent fare management and ticketing is not only a means of generating and administering revenue but also an important component to the mobility-as-a-service concept. Smart ticketing is designed to combine mobility services and give users a consistent and easily accessible transport offering. What are needed are open ticketing systems that meet all the requirements for flexibility and enable new mobility services to be integrated.

ID-based ticketing platform

At IT-TRANS 2020, Scheidt & Bachmann is presenting new forms of ticketing and innovative payment options and also showing how data can be used effectively. The entire range of the ID-based FareGo Suite ticketing platform will be on show – from Check-in/Check-out to Be-in/Be-out. The open system can handle any contactless ticket media and offers maximum flexibility for transport companies and their passengers. With the newly developed FareGo 360 data management suite, transport service providers can maximize the availability of their fare collection system and increase passenger satisfaction as a result.

Android-based ticketing software solution

An online dashboard and Android apps form the basis for the ticketing system that the Serbian company Bus Logic is showcasing at IT-TRANS. The complex software solution for bus companies operates with a cloud database, a cloud management portal and Android apps. The apps handle bus ticket sales, e-card validation and sold ticket control. The system has an embedded translation engine so it can be used worldwide.

Contactless ticketing: open, accessible and scalable

Calypso Networks Association (CNA) is presenting two projects at IT-TRANS: a free, open-source solution for contactless ticketing and a white paper with best-practice examples. This non-profit organization has developed Eclipse Keyple, an open-source SDK (Software Development Kit) and an API (Application Programming Interface) for contactless ticketing, available free of charge at www.keyple.org. The scalable Keyple software does not lock you into...
a specific ticketing system and turns complex ticketing systems development into a simple integration. Dedicated plugins ensure that ticket processing works with any hardware and is compatible with all transport and event management architectures.

**Next-gen ticketing at IT-TRANS**

Together with Siemens Mobility and HaCon, Hamburg based eos.uptrade offers digital services and solutions. Check-in/Check-out (CiCo) and Check-in-assisted/Check-out (CiaCo) solutions are the fastest-moving and most cost-effective forms of next-gen ticketing and can be seamlessly integrated into existing apps. Passenger check in and out of the means of transport by swiping. There is no need for new hardware in the vehicles. Payment for tickets is automated. The CiaCo solution also gives passengers an automated notification to remind them to check out manually. CiCo and CiaCo can be expanded into Check-in/Be-out (CiBo) or Be-in/Be-out (BiBo) solutions if required. With BiBo, the app automatically detects where the journey starts and ends. A mix of GPS tracking, Bluetooth beacons and motion tracking ensures that every trip is recognized correctly. Billing is automated via deposited funds at the optimum price.

**Best price algorithm and check-out reminder**

With the FAIRTIQ app from the company of the same name based in Bern, Switzerland, passengers check in simply by swiping. The app simplifies ticket purchases and requires no fixed sales/validation infrastructure. When the passenger swipes out at the end of the journey a best price algorithm calculates the optimum ticket for that journey. Using advanced geo-location algorithms, the system computes the distance traveled, including any intermediate changes between rail, bus, subway, tram and boat. The app can be used across borders and includes fraud detection. The system is running across Switzerland covering all types of public transport and all 250 operators. It can also be used in Germany, Austria, and Liechtenstein.

**Timetables and fares bundled across different regions**

HanseCom of Hamburg is showcasing its Handy-Ticket Deutschland app at IT-TRANS to demonstrate how a mix of different traffic systems can be orchestrated for maximum customer convenience. The app bundles the timetables and fares from different regions. As a result, registered passengers can purchase tickets in all participating regions, in selected regions even across
network borders in just one transaction. With the API (Application Programming Interface) third-party apps or new offers such as e-scooters or parking tickets can be integrated. HanseCom is also presenting its new interregional easyTicketApp which offers simple ticket purchase. With Abo-Online, HanseCom provides a virtual customer center for 24/7 subscription sales in real time. This web-based solution is available for self-management of private customers and for use in customer centers. Also on display for the first time is the new key account module, which is specifically tailored to the requirements of corporate customers.

**Mobility solutions for public transport authorities and operators**

LIT Transit from Slovenia is showcasing its entire portfolio at IT-TRANS. LIT Ticket is a solution for automated fare collection and revenue management. Mobile ticketing is based on payments via QR code or NFC. LIT back-office systems work together with IoT devices and a variety of customized interfaces to offer a range of fully integrated, real-time solutions.

**Contactless EMV payment systems**

Eurocard, Mastercard and Visa (EMV) form the basis for EMV debit and credit card payments, as used by Ridango of Estonia on public transport and presented at IT-TRANS. In public transport, the retail-like Known Fare Transaction (or Model 1) payment method enables passengers to know the exact amount being charged at the moment they present their card or smartphone to the reader. A further development of this is the Mass Transit Transaction, or Model 2. In this case, all the transactions are aggregated into a single batch and processed at the end of the day. In this way, passengers always get the best price. Lastly, Model 3 means using a bank card to validate a pre-purchased ticket. The Ridango Ticket Payment System (TPS) supports all payment models. Contactless payments require a high level of security so the TPS system is fully PCI-DSS-certified.

Monet+ from the Czech Republic is also presenting a public transport EMV tokenization solution called Switchio. This system is ready to use, easy to implement and compatible with various types of payment terminal. The architecture provides maximum flexibility and allows multiple purchasers to be connected and purchasers to be changed without reprogramming the terminal application.

**Passenger flow analysis – a basis for revenue allocation**
The new SIGNON EPPsta software tool (Evaluation & Passenger Projection of Statistics) from Berlin-based SIGNON is an efficient solution to the problem of evaluating and extrapolating of passenger numbers. Statistically verified passenger volumes are an essential basis for planning capacity requirements of timetables and vehicle deployment timetable and for assigning revenue streams to the various transport companies and mobility service providers. For passenger flow analysis it is necessary to know the number of passengers boarding and alighting at the stops. As only some of the vehicles are fitted with sensors at the doors, total passenger volumes can only be determined using complex statistical extrapolations. The number of measurement runs (by vehicles fitted with sensors) must be adequate, and passenger volumes at different times and also for special events must be taken into account.

**Ticket printing with two printing units and two paper rolls**

GeBE Elektronik und Feinwerktechnik is showcasing its GeBE-COMPACT Twin thermal printer at IT-TRANS which INIT from Karlsruhe is using in its VENDstation stationary ticket vending machine. The special printer features two printing units with two paper rolls and is suitable for public areas thanks to its high-quality printing units, durable cutter and roll holder in stainless steel. Each of the two printer units can be positioned independently of the other.

**Pay as you use – eTicketing as an app**

TAF from Jena presents the new TAFpayU eTicketing solution. It combines real-time information, check in/be out, modern payment methods and mobile ticketing in one app. TAFpayU stands for “pay as you use” and is based on the concept of ticketing as a service. Transport companies can use the app solution flexibly as a service model without being tied to a contract. This makes it suitable for small and mid-sized transport companies.

**DISCLAIMER**
The published articles reflect the personal opinions of the authors (in this case the exhibitors at IT-TRANS) and do not represent the views of the International Association of Public Transport (UITP) or Messe Karlsruhe. Minor changes have been made to the texts supplied by the exhibitors. Date: December 2019 | Subject to change without notice.

**Photos and captions**
Caption Bus Logic: The Bus Logic Ticketing System operates with a cloud database, a cloud management portal and relevant Android apps via which bus tickets can be sold, e-cards validated and tickets checked.
Copyright: Bus Logic

Caption CNA: Ticketing for MaaS, best practices for durable systems – the White Paper aims to help ticketing systems achieve long-term objectives in terms of performance, development and integration.
Copyright: CNA

Caption eos.uptrade: eos.uptrade offers the full range of next-gen ticketing, including Check-in/Check-out (CiCo), Check-in/Check-out-assisted CiaCo, Check in/Be-out (CiBo) and Be-in/Be-out (BiBo) solutions.
Copyright: iStock, smartmockups.

Caption FAIRTIQ: FAIRTIQ is showcasing a ticketing app for the public transport companies which simplifies ticket purchases and uses a algorithm to calculate the best ticket price.
Copyright: FAIRTIQ

Caption GeBE: The VENDstation ticket machines from INIT feature the robust GeBE-COMPACT Twin printers that GeBE Elektronik und Feinwerktechnik is presenting at IT-TRANS.
Copyright: GeBE

IT-TRANS, International Conference and Exhibition on Intelligent Urban Transport Systems, made its debut in Karlsruhe in 2008. Within a short period of time, the event – which is held every two years – established itself as the sector’s most important platform to be dedicated to sustainable, digitally networked urban mobility. The next IT-TRANS will be held from 3 to 5 March 2020 at Karlsruhe Trade Fair Centre.

Organiser: International Union of Public Transport (UITP) and KMK
Sponsors: Trapeze, INIT, Scheidt & Bachmann, Cityway, Luminator Group, Systemtechnik, Clever Devices, Atron, moovel, IVU, PTV
Patron: Andreas Scheuer, Federal Minister of Transport and Digital Infrastructure (BMVI)
Strategic partners: Transport associations VDV (Germany), ASSTRA (Italy), ITS Spain, TechnologyRegion Karlsruhe, Karlsruhe Transport Authority and Karlsruhe Profile Region for Mobility Systems
Trade fair: Approx. 270 exhibitors on 28,000 square metres
Conference: 150 speakers in 30 sessions with practice-oriented presentations, panel discussions and workshops
Further information: www.it-trans.org, Twitter and LinkedIn