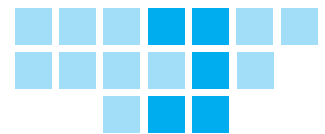


IVU.suite at VMS



MULTI TENANT FLEET MANAGEMENT AND CASHLESS TICKETING



INITIAL SITUATION

In a transport area of more than 5,000 square kilometres the Central Saxony Transport Group VMS (Verkehrsverbund Mittelsachsen) guarantees seamless connections as well as a uniform fare zone for three administrative districts and the city of Chemnitz. In total, the 17 transport operators involved have around 80 million passengers annually. Until 2018 there were large differences between the companies in terms of their technical equipment: The Chemnitz transport company was using their own ITCS solution, while the regional transport operators in the association area and the urban transport services in Zwickau had no modern fleet management systems, which prevented connection management and real-time information.

OVERVIEW

Employees	approx. 4,000
Vehicles	approx. 1,000 buses, 110 trams, 80 railways
Transport services	approx. 80 million passengers annually
Operations	City and regional transport with buses, trams, and trains
Objectives	Multi-tenant ITCS Uniform standardised real-time information Automatic connection assurance
Special features	Cashless ticketing in buses
IVU products	IVU.fleet, IVU.cockpit, IVU.box, IVU.fare, IVU.ticket

OBJECTIVES

VMS decided to introduce a multi-tenant operation control system in order to bring all transport operators up to uniform technical standard, and to improve the service for the passengers in the association region. The association had a particular focus on automatic connection assurance across the different operators as well as standardised real-time information in the transport association.

SOLUTION

The VMS decided on the IVU.suite's integrated products. The basis for this is the multi-tenant operation control system IVU.fleet together with the on-board computer IVU.ticket.box, which IVU installed in around 1,000 buses by the end of 2021. In addition, the IVU.box.server was installed in 100 trams.

IVU.fleet is a complete ITCS that continuously monitors all of a trip's aspects: From the vehicle status to the timetable situation to the current vehicle deployment. If there are irregularities on a route then the system automatically warns the dispatchers in the transport operators' control centres and offers them suitable actions.

The driver-operated on-board computer IVU.ticket.box continually records the vehicle's position and transfers it to the control centre via mobile communication. Additionally, it connects the vehicle peripherals in order to transfer real-time information to internal and external display screens, for example. The on-board computer software IVU.cockpit supports the driving personnel with trip information and delay information.



The IVU.ticket.box with the payment terminal P400 from Verifone accelerates the payment process when boarding.

IVU.ticket runs on the on-board computers for the ticket sale in buses. The software supports the cashless payment at the directly connected payment terminal P400 from Verifone. Colourful self-explanatory icons on the 3.5" colour touch display lead passengers through the entire payment process. The integrated NFC reader also enables contactless transactions, which significantly accelerates the payment process.

The central background system IVU.fare also simplifies the management of fare money in the transport association. It contains all data that is necessary for processing the ticket sale, including fares, devices used, the sellers, and their authorisations.

OUTCOME

The integrated IVU system creates a consistent database for uniform standardised processes. This makes it possible for VMS to offer their passengers continuous real-time information. In addition, the automatic connection assurance informs drivers and dispatchers if the previous trip is behind schedule. The waiting bus then delays its departure from the stop for longer, so that the passengers can reach their connection – this is an important service improvement for the passengers in the evening and in more rural regions.

"With IVU's complete system we are taking a step in the direction of comprehensive public transport integration in Central Saxony. This allows us to increase the efficiency of our connections and provide our passengers with uniform information everywhere."

Rebecca Schürer

Team Manager, Data Management /Transport Systems | VMS