



Experience makes the difference.

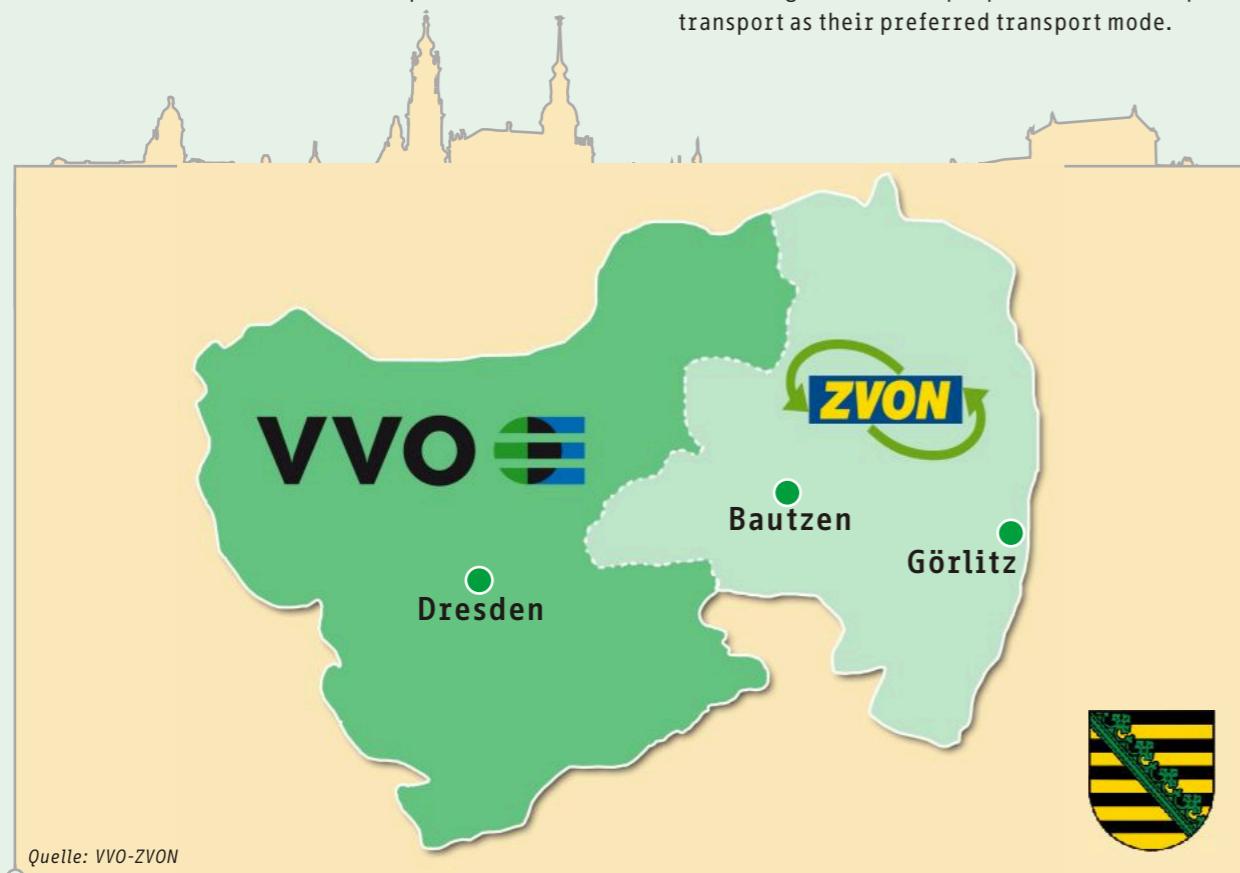


Public Transport Region East Saxony

### Well Informed.

The association-wide central system of the public transport areas, Oberelbe and Oberlausitz, will provide the collected actual data to all connected passenger information systems. Thus, in the future, passengers will be better informed about the actual traffic situation as well as actual departure times.

Due to the connection to the German railway information system and the passenger information systems of neighboring transportation providers, a much more dovetailed service of bus and train transport will be ensured – one further step to convincing even more people to count on public transport as their preferred transport mode.



Quelle: VVO-ZVON

20 transportation providers within VVO and ZVON are integrated in the fleet management system MOBILE-ITCS and manage their ticket sales within a single, fully client-capable system.

We reserve the right to make future modifications. © INIT, September 2010



### Regionwide Fleet Management and Ticketing System.

INIT implements an association-wide communication and fleet management system for the transportation providers that operate within the Verkehrsverbund Oberelbe (VVO) and the neighboring Zweckverband Verkehrsverbund Oberlausitz-Niederschlesien (ZVON). For the purpose of operation control and real-time passenger information, INIT's Intermodal Transport Control System, MOBILE-ITCS, will be deployed. In the scope of the region's public transport plan, this regional fleet management system will integrate with the urban fleet management system of the city of Dresden and the Germany-wide passenger information system of the German railway Deutsche Bahn AG (DB). This integration is a prerequisite for providing area-wide real-time passenger information in VVO and ZVON. Moreover, the system allows for intermodal connection protection between buses, trams and the regional trains; advantages that both ease the work for the transportation providers and enhance passenger satisfaction.



Drivers of VVO and ZVON are always well informed with EVENDpc.

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# Innovative Technology for the Verkehrsverbund Oberelbe and the Zweckverband Verkehrsverbund Oberlausitz-Niederschlesien

## Future-proof Vehicle Equipment.

Almost 1,000 vehicles of VVO and ZVON will be equipped with the bestseller **EVENDpc**, INIT's on-board computer and ticket printer integrated in one device. A number of standard interfaces and modules for announcements, voice communication via GSM and data radio transmission via GPRS, as well as the integrated GPS receiver and WLAN functionality make the **EVENDpc** a sound investment for transportation providers operating in rural areas. An integrated card reader for contactless smart cards allows for any specification of electronic fare management, e.g. on the basis of the VDV core application standard. This standard developed by the German Transport Association VDV will be deployed in this project. Therefore, the **EVENDpc** for VVO and ZVON will also be equipped to validate Barcode-based tickets.

With the help of the global positioning system, GPS, the pc-based, on-board computer/ticket printer continuously determines the current position and schedule adherence of the buses. Divergences exceeding the threshold are reported via the public mobile radio network to the Intermodal Transport Control System, **MOBILE-ITCS** by INIT. About 36 work stations are connected with the system. Thus, the dispatchers of all companies integrated in the system always have all transport operations in view. On the basis of the current schedule adherence, and considering initiated dispatching measures, **MOBILE-ITCS** calculates the actual departure times for the real-time passenger information.



The **EVENDpc** also supports validation of bar-coded tickets. Passengers swipe their previously purchased bar-coded paper or mobile phone tickets past the integrated scanner.

## EVENDpc: Multifunctional Driver Support

The **EVENDpc** features an on-board computer using Windows® XP Embedded that offers a future-proof platform for all applications in the vehicle and allows for the use of standard software.

With **EVENDpc**, INIT offers for the first time a PC-based, complete solution for all ticketing and ITCS functionalities in the vehicle. The device integrates announcement functions and communication modules for handling voice and data radio via GSM, GPRS/UMTS and EDGE, as well as the transfer of mass data via WLAN.

The driver operates all ITCS and ticketing functions comfortably through an 8.4" (21cm) full-color touch screen. Therefore, the driver interface for the handling of sales and ITCS functions provides a clear rendering of all operational functions. Moreover, the device offers a fully graphical passenger display as well as the ability to utilize various card readers. To support all kinds of ticketing, the **EVENDpc** features not only an integrated proximity module for contactless smart cards, but also a barcode scanner to read coded tickets stored on paper or on mobile phones.

## Full Multi-client Capability.

With the interoperable and multi-client capable fleet management system, service operation of the transportation providers VVO and ZVON is perfectly managed within one system. Yet, the sensible data of each company are secured by the sophisticated user management system. Which partner is allowed to access which data, and which functionalities can be executed by which company or dispatcher is defined in the system. This way, the association only gets access for the overview of data and passenger information, and individual operators can access their complete data set, but not the data of other operators.



Source: VVO-ZVON

The Intermodal Transport Control System, **MOBILE-ITCS**, and the background and clearing system, **MOBILEvario**, perfectly implement the complex client structure of VVO and ZVON.

## High-performance Ticketing System.

The clearing and ticketing administration system, **MOBILEvario**, is also completely multi-client capable, which offers great support to the transport associations. To offer the passengers an attractive ticketing portfolio, transport companies require a high-performance clearing back-office system. This is why the innovative fare management system, **MOBILEvario**, not only offers classic features for data management and processing of sales data, but thanks to the integration of a modern Customer Relationship Module (CRM), it also allows for cashless clearing systems with pre- or postpaid methods including marketing concepts like best-price-schemes. The prerequisite for ticketing systems such as this is the collection and maintenance of customer data. This can be done via an Internet portal and/or by service personnel of the transportation provider.



Photo: VVO-ZVON

Cross-association operation is easily realized – the Regionalbus Oberlausitz GmbH (RBO) e.g. operates in both VVO and ZVON.

## Benefits for Passengers

- ▶ Updated passenger information – passengers are informed about connections – especially in case of delays
- ▶ Connection protection in case of minor delays
- ▶ Always current head sign and next stop displays in the bus (GPS location)
- ▶ Avoidance of being too early; improving punctuality (permanent computation of schedule deviation)
- ▶ Shorter travel time (Traffic Signal Priority)
- ▶ Better audible announcements (digital radio standard, digital announcements)
- ▶ More security (emergency function, positioning)
- ▶ Sale of the transport associations' complete ticket portfolio onboard

## Benefits for Drivers

- ▶ Automated next stop announcements (GPS location; digital PA)
- ▶ Standardized data terminal and interface (compact device ticket printer/onboard computer)
- ▶ Improved voice quality (digital radio standard)
- ▶ Automated duty log on and log off
- ▶ Prioritized call in an emergency; "Silent Alarm"
- ▶ Electronic ticket control with 2D barcode reader (mobile phone tickets, online tickets, subscription chip card)
- ▶ Reduction of tickets prone to forgery

## Benefits for Transportation Providers

- ▶ Multi-company communication, spare part provision, maintenance (standardized infrastructure)
- ▶ Simple installation and exchange – lease to subcontractors (compact device ticket printer/onboard computer)
- ▶ Better, faster dispatching (positioning)
- ▶ Automatic data up and download vehicles (Wireless LAN)
- ▶ Listen-in function for emergencies ("Silent Alarm")
- ▶ Performance and quality control (statistical data)
- ▶ Revenue control with electronic check function
- ▶ Extended marketing possibilities