



Project Property

Freiburger Verkehrs AG (VAG) Automatic vehicle location and control system VICOS-LIO

“Various aspects indicate that the role of service providers will be perceived differently by the German local authorities in the future. Thus, it is extremely important that transport authorities possess comprehensive documentation on performance kilometres travelled on regular and non-scheduled services.”

Wolfgang Plöger, Head of Planning, Freiburger Verkehrs AG

Over 100 SmartInfo passenger information displays have been in use at the bus and light rail stops of Freiburg im Breisgau - and thus throughout the city's entire light rail system - since summer 2000. These displays form part of the VICOS-LIO automatic vehicle location and control system (AVLC). Communication between the vehicles and displays takes place using an analogue quasi-synchronous radio system. The vehicle equipment boasts IBIS2 on-board computers and supports the system by means of logical location. Thanks to traffic light preemption and transfer protection, public transport is thus extremely attractive, punctual, and reliable. Passengers of Freiburger Verkehrs AG can require timetable information by SMS and receive a reply on their mobile phones in real time.

The functionalities

- _ VICOS-LIO automatic vehicle location and control system
- _ Quasi-synchronous radio system
- _ IBIS2 on-board computers, IBISplus from mid 2009
- _ Logical location and infrared beacons
- _ SmartInfo passenger information with acoustics
- _ VICOS-LIO-Data data supply
- _ Loading and downloading of software and data to/from vehicles using infrared technology (DATIR-IRIS2)
- _ Transfer protection
- _ DIVA/VICOS-LIO-DATA data coupling
- _ Schedule information via SMS

The system at a glance

Control centre

- _ 3 dispatcher workplaces, 1 stationary info station, 1 remote info station

Radio system

- _ Analog quasi-synchronous radio system, 1 duplex data channel, 5 simplex data channels, 3 base stations

Vehicles

- _ 85 buses, 65 light rail vehicles

Dynamic passenger information

- _ Over 100 SmartInfo displays with acoustics, controlled by radio communication

Depots

- _ 1 central depot

Software interfaces to third-party components

- _ DIVA planning program by MDV, IRMA passenger count system on some routes, evaluation of passenger numbers with planfahrt and ISAS2, AEG antenna system, PERDIS personnel planning (ID systems), EFA timetable information system

Freiburger Verkehrs AG

The buses and light rail vehicles of Freiburger Verkehrs AG (VAG) travel a distance equal to more than 18 times the distance between Earth and the moon each year. With 4 light rail and 27 bus lines, VAG enjoys a huge level of acceptance with customers. About 72 million passengers are carried by this transportation company each year.