



Traffic Control in Tunnels

We Get You Safely Through the Mountain

REFERENCE

Thuringia's Super-Ordinate Traffic Control System

Free State of Thuringia, Regional Authority for Road Construction



SAMPLE PROJECT

→ Traffic control system for Thuringia: coordinated traffic control with six integrated tunnels

The supervisory traffic control system for Federal Motorway A71's Thuringian Forest Kammquerung section was created by Heusch/Boesefeldt GmbH, under subcontract to QSG Verkehrstechnik GmbH, as the first system in Thuringia. The Eichelberg A71 Tunnel and Jena A4 noise protection system were integrated as an interim step. A subsequent extensions resulted in the establishment of a "supervisory traffic control system".

The traffic control system is a server system comprising two redundant units. Each unit consists of a data base processor and an application and user server. The systems work in "hot standby" mode this way.

The traffic control system manages the traffic taking into account information from the six integrated tunnels' operations equipment. For this purpose, the traffic control system is connected to the tunnel computers of the six individual tunnels and the supervisory control computer. The servers receive aggregated information from the traffic control system.

Traffic data is collected in 15 seconds intervals via the attached sensors.

Disasters across multiple tunnels are dealt with in a coordinated way supported by appropriate rerouting measures over subordinate nets. The rerouting alarm indication occurs via the rerouting system's automatic circuitry.

Coordinated Emergency Measures in the Event of a Disaster

- **Maximum Safety**
disaster control at the touch of a button
- **Optimally coordinated**
integration with the operations equipment
- **Always up-to-date**
data collection in 15 second intervals
- **Highly available**
with optional "hot standby"



CHARACTERISTICS

Integration with the tunnel server

- link to tunnel control technology.
- all operational conditions relevant to traffic can be automatically taken into account
- enables coordinated emergency measures
- communicates formatted and aggregated information to the tunnel server

Traffic Control Measures

- fast response in crisis situations: predefined scenarios can be called up "at the touch of a button"
- safety measures during malfunction: immediate lane closure or complete tunnel closure
- detour measures during tunnel closure
- speed regulation dependent on the situation in the tunnel (traffic jam, flat tire, etc.)
- integration of tunnel control into the supervisory active traffic management system

High availability system

- fully redundant hard and software environment: "hot standby" mode with automatic switch-over between primary and secondary system