



# HIRSCHMANN

A **BELDEN** BRAND

## Transparency for Multivan.

### Automotive

Industrial Ethernet creates comprehensive network solutions for the Volkswagen T5 production



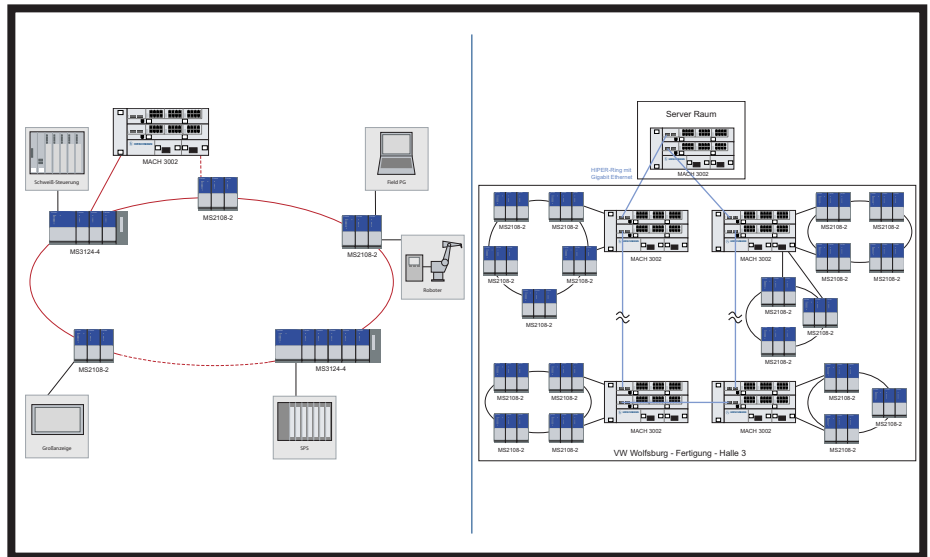
With the new Multivan, the fifth generation of the VW Transporter has its debut at the Volkswagen location in Hanover-Stöcken. It is full of innovation, which also made itself felt in the production concept. For the first time in the VW company, all levels were connected via Industrial Ethernet. The vertical integration brings new transparency and dynamics to the entire business process.

The base for dynamic business processes in the global production structures of VW is the consistent transparency on all company levels. In this respect, the integrated network of the T5-production set new standards. A real-time enabled full duplex Ethernet switch from Hirschmann™ links all areas of production from pressing work, body construction, paintwork and assembly through the VW communication

network spanning all locations. The TCP/IP-Protocol (TCP=Transmission Control Protocol; IP= Internet Protocol) enables communication without breaks in media over all levels. For the first time the entire data flow, including cycle-based data, runs on Ethernet.



At the location in Hanover, 750 multivans are produced daily.



MACH 3002



RS2 - FX/FX

### Project parameters

Over the past ten years at the Hannover location, shared Ethernet has been used, based on the established star coupler technology from Hirschmann™. But the network was not real-time enabled on the basis of 10BASE5. It impressed with regard to both observation and operation features. With the latest, switched network generation, the special demands for automation processes and production plants can be met. A significant role in this achievement is also played by the real-time capability of the Ethernet. Further important characteristics of current networks are a high availability, including rapid, automatic reconfiguration following disturbances, full redundancy if required, EMV and stability against temperature and vibrations.

### Requirements

- 5500 active ports
- Old field busses on station level obtained everywhere where they are functional and cost effective.
- Real-time capability
- High network availability
- Simple network diagnosis and maintenance
- SNMP management
- Adaptation and exchange possibilities throughout
- Autonomous operation of production cells and production lines through function-oriented allocation of the network members

### Solution

- Full duplex Ethernet switches with the possibility of a closed ring structure
- Modular MACH 3002-switches on area level
- RS2-switches between station and plant level
- Two-bus structure on the station level
- Twisted-Pair cabling for 10/100 Mbps-Ethernet transfer (10 BASE-T) on the station level/ field level.
- Fiber optic cabling for fast Ethernet and Gigabit transfer on plant level and for the connection of the areas networks.

### Why Hirschmann™?

According to product manager, Ulrich Lichtblau „Our specifications with particular function demands have been implemented extremely well, due in large part to the overall competency of both Hirschmann™ and DS DATA SYSTEMS in the area of Industrial Ethernet networks and cabling.“