VW's factory of the future – with fiber solutions from R&M

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VW is giving work a new meaning. The motor manufacturing group is combining production and learning into an ongoing process, in a model they call "VW 5000". A factory of the future, supported by fiber solutions from R&M, is strengthening competitiveness at the Wolfsburg location.

VW is setting up a new environment to ensure that production in Germany will remain competitive in the future. Auto 5000 GmbH, a company within the Volkswagen group, is intended to demonstrate that top quality, reasonable production costs, secure, well-paid jobs and attractive profit margins are by no means incompatible but can in fact be combined into an intelligent process.

As well as optimising the business process, the VW 5000 concept focuses on employees and their individual contributions to productivity and added value. Dr Peter Hartz, a member of the managing board, calls this "workholder value". The 5,000 new staff see themselves as members of a network of entrepreneurs. They take personal responsibility for results and achieving objectives, especially in their own further education and occupational training, and gain competence in solving problems at the workplace.

Shaking hands on successful collaboration: Siemens IS&S technical manager Torsten Fock (left) and Stefan Neitz of R&M

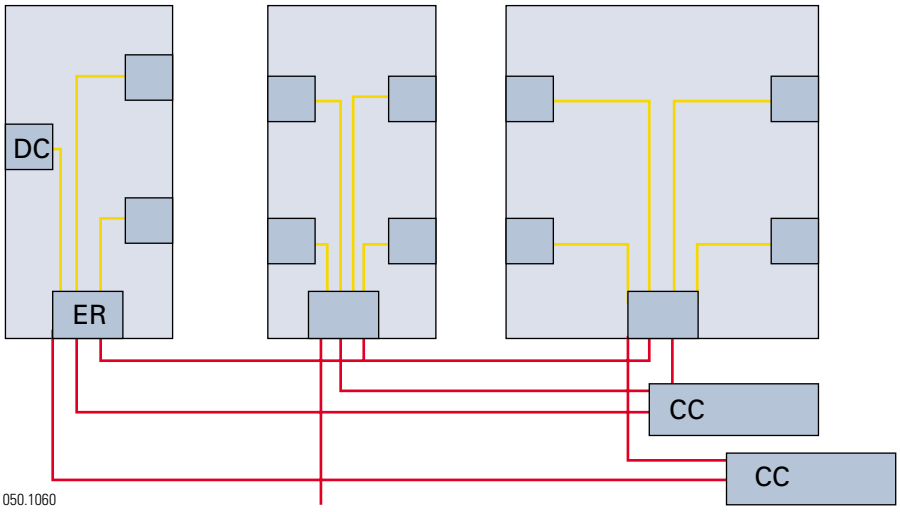
Learning with online support

Employee contribution to company development and competitiveness is expressed in a commitment to lifelong learning – within the production process itself. If, for example, someone is unable to rectify a fault in the assembly process, qualification modules developed on site are immediately available to him. The lessons learned are immediately practised by the team at the workplace, and the result is a feeling of achievement. Almost every time, this approach automatically yields the best solution.

Anyone looking at the complexity of industrial production processes and the ever shorter cycles in the automobile industry can imagine the communications outlay this model entails. Almost every workplace has to have a permanent connection with multimedia sources of information. Every section requires an infrastructure that permits rapid team management, short reaction time and a constant flow of information. Design engineers, buyers, suppliers, production teams, manpower planners, trainers, marketing and management – all need to be able to exchange enormous quantities of data in real time.

Logically: fiber to the desk

High-performance components were thus looked for when Siemens IS&S, the primary contractor, and VW's own network service provider K-DOI 35 were designing the platform for VW 5000. Information technology and manufacturing plant had to promote the objective of lasting competitiveness in every respect. The aim of the planners was to construct an innovative factory within a factory, in the new Halls 8 to 10 that were to be set up on the worksite at Wolfsburg. It commenced operations in November 2002.



Design sketch for the new network in Halls 8 to 10 of the VW works at Wolfsburg: the fiber solution has a clear, concentrated structure, from the computing centre, via an equipment room and distribution cabinets, right up to the workplace. (Graphic: K-DOI 35)

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Fiber to the desk (FTTD) was the logical choice for the new communications infrastructure in the halls. VW sees it as a model: on-site infrastructures that have long-term stability and are future-proof, flexible and strongly resourced can only strengthen the group's freedom of action and competitiveness.

During the selection procedure, R&M stood out as a particularly well-qualified supplier. Like the VW 5000 model itself, the R&M partnership with K-DOI 35 and the six installation firms involved is characterised by a hard-headed view of the future.

Efficient installation

The production halls of the VW 5000 project were fitted with a star-shaped cable configuration, integrated into two fully redundant networks and linked with two computing centres. It was possible to concentrate the interfaces into one equipment room per hall, each having a double cabinet for active and passive components and a break-out solution. Using copper cables would have required five times as many cabinet positions.

R&M also developed a specific faceplate for SC duplex adaptors. This simplifies termination identification, thus speeding up any retrofits and adaptations to meet new situations – yet another component in making VW future-fit.

Looking beyond this, the Auto 5000 GmbH project is something of a prototype for Central Europe as a production location. What is at stake here is what the successful factory of the future will look like. It's already clear that highly sophisticated optical cable networks will play an important role in it.

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Plus points for R&M

The primary contractor for the VW 5000 project, Siemens IS&S, the network planner and operator, K-DOI 35, and six installation firms, all gave their unambiguous vote in favour of R&M. Our plus points were these:

- a consistent optical cable solution and the highest-quality products mean a secure investment
- mature, proven products
- simple patching at the Unirack
- racks with the low mounting depth of 230 mm
- installation possible from front or rear
- resources for more panels
- reserve bundled loose tube protects the fibers
- customer-specific faceplate can be labelled
- highly qualified technical support
- training and on-site workshops