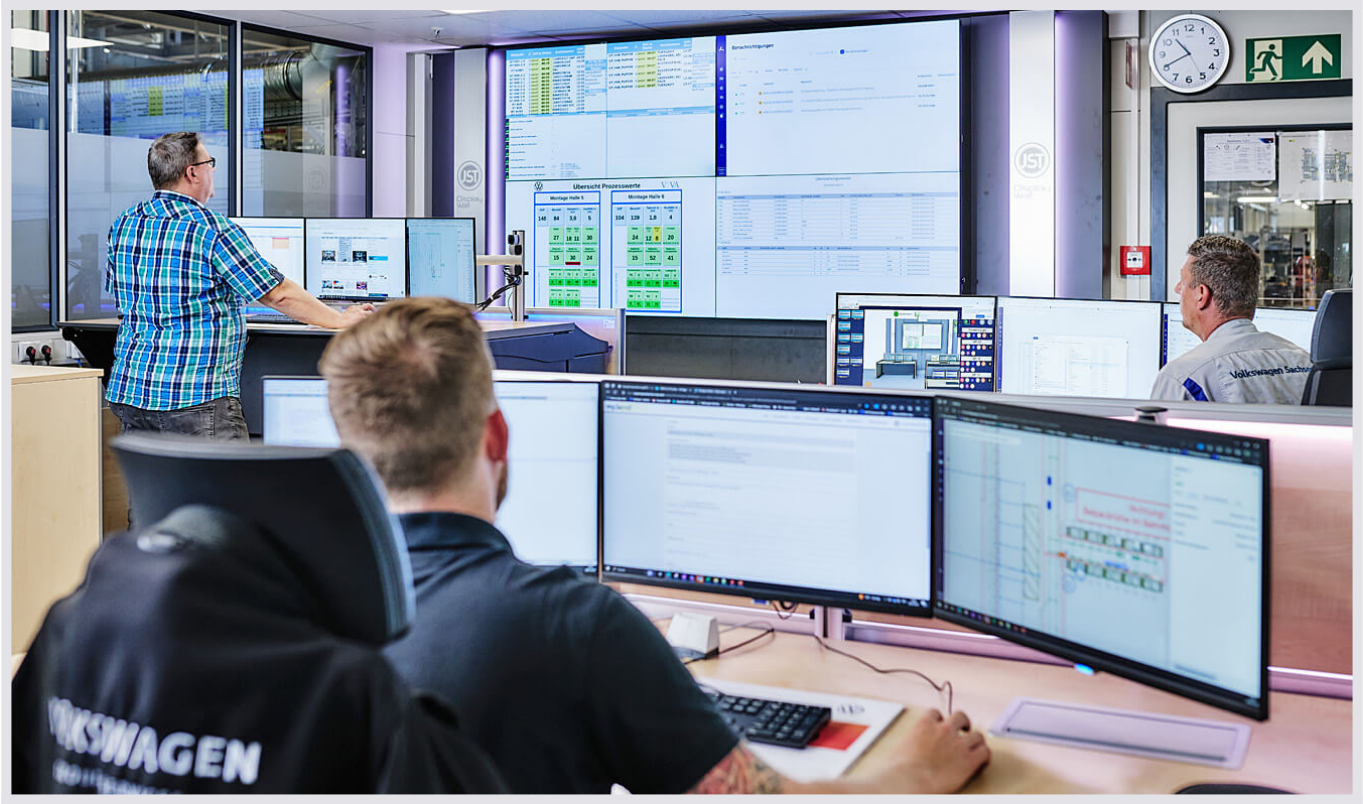
Client:

Kategorie: Production control center.

AGVs: Autonomous transport robots increase efficiency in logistics and assembly



JST control center: The smart factory is no longer a distant goal for the future at Volkswagen in Zwickau. The development into an Industry 4.0 site is making great strides; here, for example, in the control center for monitoring the automated guided vehicle systems (AGVs), which link assembly and intralogistics into an efficient process.

Shorter process times combined with advantages for employees, who are relieved of physically heavy and ergonomically unfavourable work. The benefits of automated guided vehicles are obvious: Whether windscreen, headliner or tailgate – everything moves through the assembly halls at the Volkswagen plant in Zwickau as if by magic. Induction loops in the floor make it possible to organize the internal material flow more efficiently.

Industry 4.0 also for warehouse logistics and assembly

At Europe's largest e-car factory, warehouse logistics and assembly are also fully in line with Industry 4.0. Manually moved transport cranes, forklifts or the familiar warehouse "ants" are a thing of the past at the

high-tech site in Saxony. Autonomous transport robots – equipped with load handling devices, laser scanners and smart sensors – are the formula of the future. They move everything from small parts to loads weighing tons.

"The systems communicate with each other for this purpose"

One person who knows the processes on site and the “cooperation with the steel colleagues” inside out is Michael Beier (Head of Material Control Center and Monitoring, AGV Control Center Assembly Zwickau). He describes the automated processes: “The required vehicle parts are assembled and packed in the external warehouse. They are then transported to the plant by lorry. From unloading onwards, the automated guided vehicle systems take over and transport the load units to the desired location on a time-controlled basis. The time control and order management systems communicate with each other for this purpose.”

Control room follows the Smart Factory concept

The entire process is monitored by a team of operators who work in three shifts in the newly created AGV control center for assembly. The new control room, which follows the Smart Factory concept, was installed in co-operation with JST – Jungmann Systemtechnik®. This is not the first time that VW Saxony has drawn on the know-how of the control room experts. The warehouse control center for materials management was implemented jointly a few years ago. With great success: “We wanted to work with JST again, particularly because of our positive experience with the material control center,” reports Michael Beier.

Operator team benefits from fast familiarization

The operator team for the current project is made up of “old hands” and “new heads”. “This has the advantage that the employees benefit from the experience of their colleagues and were able to support each other during familiarization,” says Michael Beier. As a result, everyone quickly appreciated the ergonomic and technical options available to them with the JST installation.

Control center helps to visualize processes in the system

Whether Stratos X11® console, the ergonomic bestseller in terms of control room furniture, large screen technology or its flexible control with the JST MultiConsoling® – Michael Beier knows the value of the new equipment: “The control station with its functionality helps us to visualize the various sub-processes within

the system. We don't have to guess where the fault might be; the large display wall shows us this directly." What might a malfunction look like? "It is possible, for example, that a bicycle is in the way, meaning that the lane is blocked. The control center personnel can then intervene on site and initiate the corresponding system adjustments in time or order control so that the process can start up again."

Praise for execution and installation time

However, it was not just the performance of the individual components that was particularly important to the project manager. The trusting cooperation with JST Consultant Volker Weimer was also an essential aspect for him and – last but not least: "The installation of the new AGV control station went really quickly!"

Some of the operators in the new AGV control room were already familiar with the optimizations made by the JST technology components from the material control station that was installed a few years ago. This allowed the employees to support each other during the familiarization phase. The photo shows from left to right: Willi Tröger (AGV planning project team), Uwe Menge (Production Supervisor Automated Guided Vehicles, Assembly) Michael Beier (Head of Material Control Center and Monitoring, AGV Control Center Assembly) and Silvio Schmidt (Production Supervisor Automated Guided Vehicles, Assembly).

„We wanted to work with JST again, especially because of our positive experiences.“

Michael Beier (right) // Volker Weimer

Head of Material Control Center and Monitoring, AGV Control Center Assembly Zwickau // JST Consultant

"It used to be the case that employees often reported process disruptions: Attention! Something's wrong here!" Rico Trautmann recalls the early days of automation. As automation progressed, Volkswagen had to find answers to the question: What happens when these employee voices are no longer heard?

When looking for a solution via a pilot project, the IT project manager focused on working in the control room and the possibility of "using data to see whether our process is working and how we can optimize it". Rico Trautmann: "The employees in the control room shouldn't spend hours looking at a monitor that doesn't change. They should only become active if there is a fault in the process." This is precisely where the pilot project "showed what JST technology can do. When the need finally became apparent, everything fell into place. Today, the functions of the JST hardware support us as an extremely suitable tool for displaying system messages automatically."

Rico Trautmann

IT Project Manager, Volkswagen Zwickau

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The components used in this project:

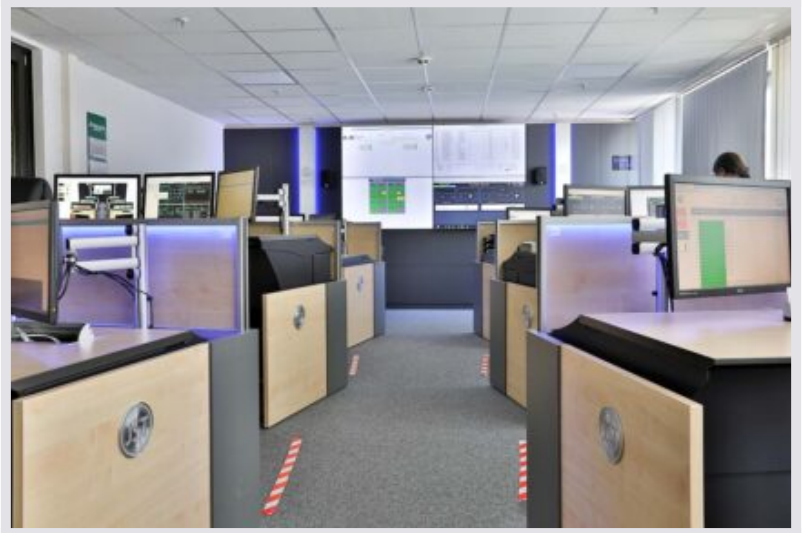
DisplayWall with special S-PVA panels for reliable 24/7 operation - optional with proactive alarm function

MultiConsoling® System – complete control room system for workplace, monitor wall and other systems

myGUI® user interface - in the intuitive 3D design of your control room for maximum user comfort

Stratos X11® control room desk – optional with height adjustment and proactive AlarmLight system

Other projects with a similar task



VW Saxony, material control station

Volkswagen

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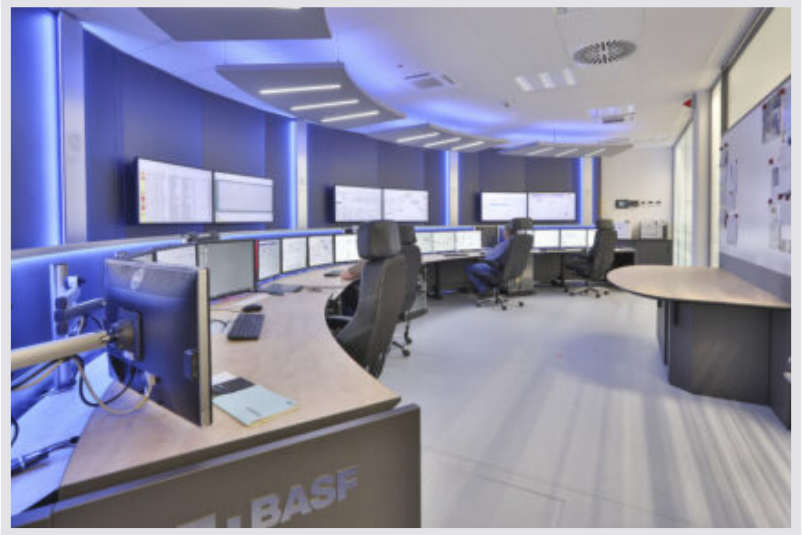

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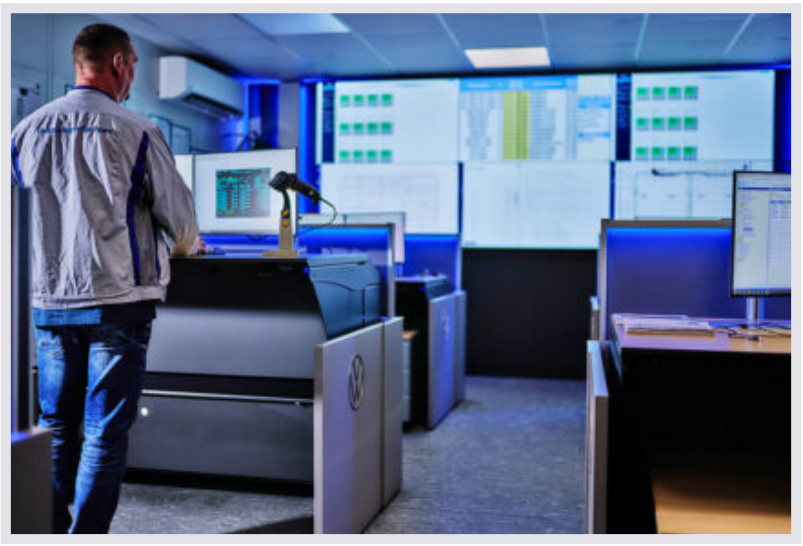

VW Saxony, AGV control center body construction

Volkswagen

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