PSIprins

Mercedes Benz AG is using PSIprins for over 25 years now

Mercedes-Benz

PSI

Energy demand of large industrial corporations

PSI control system accelerates the workflow at Mercedes Benz AG

From manual grid operations to an established control system

Large industrial corporations such as Mercedes Benz AG have a high power demand, especially if spread out across multiple locations. Therefore, setting up a stable grid infrastructure is extremely important and ensuring a high supply quality is essential.
Until the 1990ies, the power grid was managed without computer support. This required numerous on-site staff for grid meter reading, executing switching operations, detecting errors in the grid, and activating the appropriate counter measures.

The increasing requirements due to the energy transition and the growing complexity of the electricity grid make this more expensive. So the most obvious solution was to install a control system reducing the work load, outage times, and increasing efficiency. Mercedes Benz AG has never regretted the installation of a PSI control system (formerly BTC).

Company summary:
Mercedes Benz AG (formerly Daimler AG) is one of the most successful car manufacturers in the world.

Source: Mercedes Benz AG

> We are using the PSIprins grid control system for more than 25 years and it has become indispensable for us. It has facilitated grid operations in numerous ways.

Axel Eichhorn
Mercedes Benz AG

Since the introduction of the control system, a lot has changed at Mercedes Benz AG:

+ Workload reduction:
PSIprins has digitalized the manual monitoring and control operations making the grid control center operation more effective and efficient.

+ Increased supply quality:
The integrated alarm management supports predicting and preventing outages.

+ Fast service restoration for the factories:
Mercedes has reduced the fault resolution time for busbar problems from 24 hours to 3 hours by using PSIprins.

+ Facilitating telecontrol:
PSI control systems communicate with a broad range of telecontrol protocols. This enabled Mercedes Benz AG to efficiently integrate the existing telecontrol system into the control system.

+ CO_2 management:
The control system supports integrating and monitoring PV generation resulting in a higher share of renewable energies, resulting in reducing the CO_2 emissions. The ability for remote operation of stations and transformers reduces the staff requirements compared to manual on-site switching operations, which indirectly also reduces greenhouse gas emissions.

+ Centralization of power grid monitoring and control for multiple sites:
Being satisfied with the existing system, Mercedes Benz AG decided to integrate two additional sites (Bremen und Rastatt) into the PSI grid control system in 2022. This expands the system beyond the two largest locations Untertürkheim and Sindelfingen providing a holistic view of Mercedes Benz AG's power grid. The standardization in the control system allows comparing measurements and simplifies the coordination between sites. Furthermore, the operation of a single central control center is more efficient than a control center at each site.

> "I am particularly looking forward to the continuing this productive collaboration: in the next step, Mercedes Benz AG will connect the control system with PSIcommand's switching management functionality and thus achieve further optimization of monitoring and controlling the power grid. The particular challenge here will be the modeling of multiple voltage levels."

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