

PSI smartcharging

Dynamic load and charge point management



HOCHBAHN

PSI 



PSIsmartcharging

Support for electromobility requirements

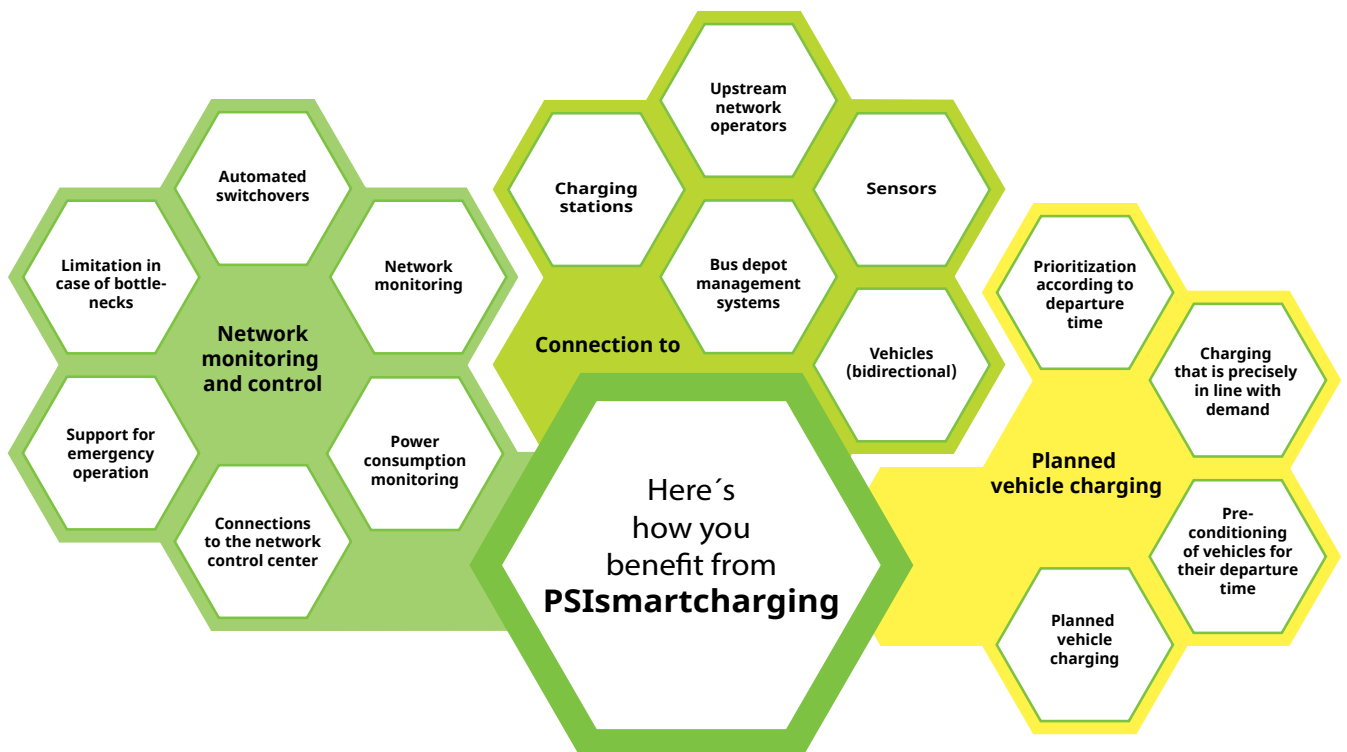
Modern bus fleets are increasingly being electrified. Therefore, it is necessary to ensure the availability of the vehicles through a load and charging management system. PSIsmartcharging comprehensively ensures the following aspects for you:

- The vehicles are securely charged and temperature-controlled at the time of departure
- The requirements of a multi-depot operation are taken into account, resulting in a unified approach
- The complex and volatile energy supply is effectively managed

- Market price signals are utilized to cost-optimize and achieve economic objectives

Thanks to its modular structure, our solution is almost infinitely scalable and expandable. PSIsmartcharging utilizes standardized communication interfaces to enable the greatest possible manufacturer independence. The targeted bundling of PSI expertise in the areas of power grid control technology, network technology, public transportation, and logistics achieves optimal benefits for the customer.

Discover how PSIsmartcharging reduces operating costs and optimizes energy management





PSIsmartcharging ensures safe e-bus operation in our cities

PSIsmartcharging communicates directly with bus depot management systems to meet current and future requirements of electric public transport. The batteries of electric buses are optimally charged to the required amount for their planned routes, including necessary safety aspects and reserves.

PSIsmartcharging continuously monitors the electrical grid, as even a few vehicles charging simultaneously may cause an overload in a low voltage line section. As a result, the power intake of the vehicles is monitored and controlled to match the available grid capacity. In the event of imminent overloading or other restrictions, the power is redistributed to restore a stable state.

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PSIsmartcharging at Hamburger Hochbahn AG monitors the grid and the connected equipment in multiple bus depots. The system determines and applies an intelligent charging strategy for the vehicles by taking the available power as well as operational requirements into account. This approach yields optimum efficiency, availability, and operational reliability.

Hamburger Hochbahn AG

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PSIsmartcharging – Future development

With the growing electrification of the bus fleet, the responsibility at the depot is expanding. In addition to the previous responsibilities, operating and monitoring the electric infrastructure is required and operating it safely is becoming increasingly challenging. Therefore, it is even more important to use a system that comprehensively meets the KRITIS requirements. PSIsmartcharging, with its modern IT architecture, will continue to cover all relevant legal requirements to the best possible extent.



Grid monitoring and control

- + Monitoring of the grid on all voltage levels
- + Automated switchover in case of a fault
- + Support for emergency operation situations
- + Flexible adaptation in case of congestions
- + Data exchange with the grid control center
- + Demand monitoring



Optimized vehicle charging

- + Charging that is precisely in line with demand
- + Prioritization according to departure time
- + Optimal planning of charging processes
- + Preconditioning of vehicles for their departure time



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Source: Front/ © Scharfsinn86-stock.adobe

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