vCharM
Enterprise-Grade Charging Station Management System

What is vCharM
vCharM is a charging and load management back-end. It is designed to operate many charging points at high availability. Once a charging station has been connected to vCharM, each charging point can be conveniently configured, monitored and controlled.

The software can be used to cover a variety of cases: It can be applied to manage charging points and vehicles in fleets, depots or parking lots, either as a stand-alone software or integrated into an existing fleet or depot management system. In addition, it can also be used for the installation and maintenance of charging points.
Depending on the use case the features will be configured.

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Overview of Advantages
- Charging station manufacturer-independent solution using standardized communication protocol OCPP 1.6J, OCPP 2.0 and OCPP 2.0.1
- Optimized for fleet operators, e.g. bus depots, special vehicle fleets, company vehicle pools, car parks and other electric vehicle fleets
- Optimized load management for vehicles with and without smart charging according to ISO 15118 and DIN 70121
- Connection to fleet management system for automated exchange of vehicle data
- Vehicle authorization via RFID, PnC, Autocharge and other methods
- Control of vehicle preconditioning via Value-Added-Service according to VDV 261

The browser-based front-end provides easy access to all information and controls required for the operation of electric vehicle fleets.
Features

> Load Management
Manage load consumption dynamically with configurable charging strategies. The operator decides on the prioritization by selecting the strategy that suits best.

> Charging Station Control
Monitor, configure and control charging stations via the user interface. For communication with the charging station the protocols OCPP 1.6J, OCPP 2.0 or OCPP 2.0.1 are used.

> Vehicle Preconditioning
Monitor and control individual vehicle preconditioning via the implementation of Value-Added-Services according to the VDV 261 standard.

> Vehicle Authorization
Manage and verify vehicle authorization requests with established technologies such as RFID, PnC and Auto-charge.

> Reports
Generate and analyze reports with statistics of finished charging sessions. Pre-defined reports can be customized and exported if desired.

> Fleet Management
Integrate existing fleet and depot management systems and optimize the load management or pre-conditioning control. Also automated data exchange for telematics data with your vehicle tracking system is possible.

> Clearing
Log transactional data of charging sessions in a law-conform manner. Meter readings are centrally recorded and processed. The data is made available for billing transactions.

> User Front-end
Use vCharM from a browser-based front-end with a modern and intuitive user experience. It can be adapted to the respective user role and is available in different languages.

The vCharM architecture provides a REST interface for the integration into other management systems. The exchanged data can be used to optimize the charging sessions and the operational business.

Supported Standards

> OCPP 1.6J, OCPP 2.0 and OCPP 2.0.1
> VAS/VDV 261
> ISO 15118
> DIN 70121
> IEC 61851
> IEC 63110 (planned)

Hosting Variants
vCharM can be operated on-premises or in the cloud, depending on the customer requirements. It is even possible to combine the benefits of both models and operate vCharM in a hybrid mode.

Glossary

- API: Application programming interface
- OCPP: Open Charge Point Protocol
- PnC: Plug and Charge
- REST: Representational State Transfer
- RFID: Radio-frequency identification
- VAS: Value Added Services
- VDV: Verband Deutscher Verkehrsunternehmen

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