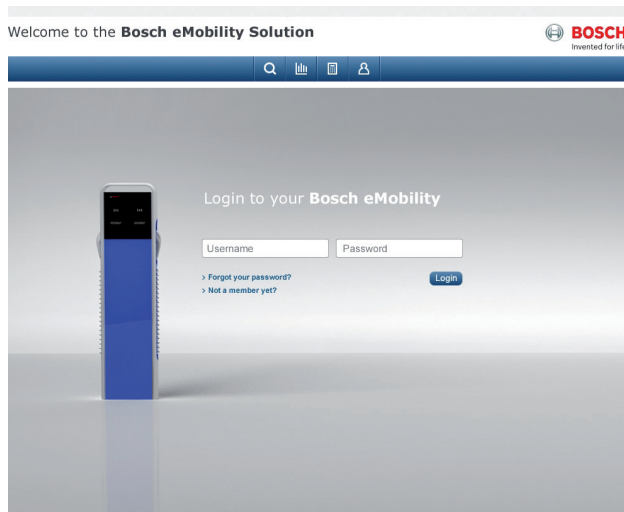


# Charging infrastructure as a service (SaaS) **eMobility Starter Package**

Bosch Software Innovations



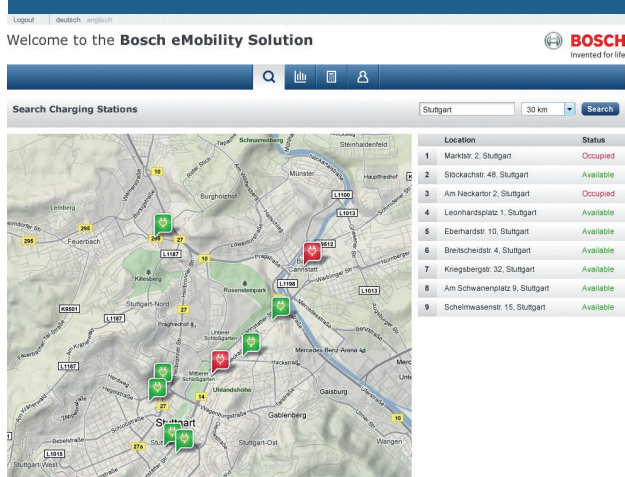
**BOSCH**  
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## Features

The eMobility Starter Package from Bosch enables running a charging infrastructure for electric vehicles. All core processes are operated by Bosch and provided as end-to-end “software as a service” (SaaS). State-of-the-art Internet services are used to interconnect distributed charging stations in a single network. Intuitive internet portals make it easier for operators and drivers of electric vehicles to utilize the charging infrastructure. All charging processes are reliably logged as the basis for billing.

## Map with charging stations and their status



## Your benefits

- ▶ Simple, fast, and cost-effective entry to electromobility through software as a service
- ▶ Highest operational system reliability and safety, provided by Bosch
- ▶ Intuitive user interface, high levels of user acceptance
- ▶ Cost-effective connection of charging stations via Internet technologies
- ▶ Futureproof, since more drivers and charging stations can be added
- ▶ Charging stations from a range of manufacturers can be connected thanks to open interface
- ▶ A safe investment due to functional extendibility and futureproof technology
- ▶ Basis for individual development of the local electro-mobility market
- ▶ Attractive rates for various contract periods
- ▶ Short-term contracts starting from 12 months possible

## Optional extension packages

- ▶ Seamlessly integrated Bosch charging stations
- ▶ Integration services for charging stations and various billing systems, e.g. in CRM systems
- ▶ Consulting packages for business models and cost-effective positioning in the electromobility market.

## Typical partners for electromobility

- ▶ Municipal authorities
- ▶ Electric utilities
- ▶ Parking lot operators
- ▶ Commercial enterprises
- ▶ Hotels

## The eMobility Starter Package supports all the core processes of a charging infrastructure

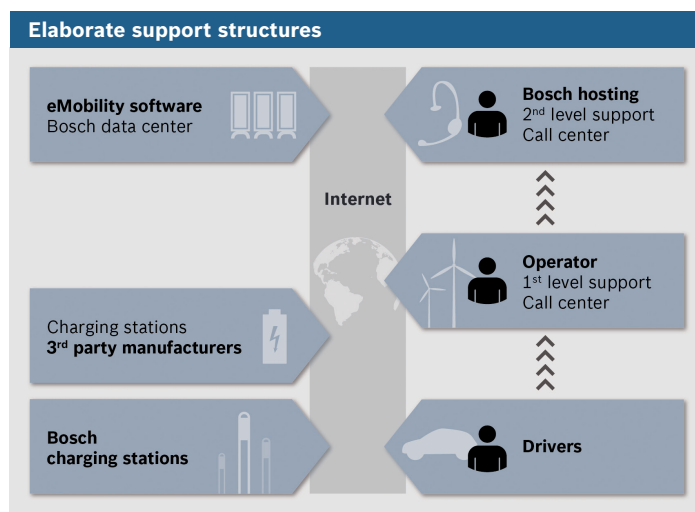
- ▶ Driver identification and charging of electric vehicles
- ▶ White-list function supports offline capability for reliable charging even when the public grid is down
- ▶ Real-time control and monitoring functions for geographically distributed charging stations, also remote
- ▶ Logging of charging processes as a basis for billing
- ▶ Searching, locating and, in the future, reserving available charging stations

### Data center service for the networking of charging stations

- ▶ Provisioning of software in the Bosch data center
- ▶ No need for customers or drivers to install software. All that is required is a web browser.
- ▶ Reliable system operation 24 hrs/7 days by Bosch
- ▶ 2nd level support is ensured 8 hrs/5 days a week, and customized options are available
- ▶ Open interface for charging stations from various manufacturers
- ▶ Security is ensured by encrypted communication (PKI)
- ▶ Charging stations are connected via the Internet (GSM, GPRS, UMTS, LAN)

### Convenient web portal for every driver

- ▶ Map with search function shows charging stations and their operational status
- ▶ Clear record of a driver's charging processes
- ▶ Drivers can register and edit profile data
- ▶ Registered drivers are identified via RFID
- ▶ Customer-specific branding of web portals



### Administration of charging stations via web portal

- ▶ Depiction of all charging stations and their operational status on a map, with search function
- ▶ Data processing for all charge processes, all charging stations and all drivers
- ▶ Administration of driver accounts: Assignment of RFID cards and administration of driver profile data
- ▶ Status monitoring for charging stations, communication network and servers
- ▶ Setting up new charging stations
- ▶ Ideal support for operator's customer service
- ▶ Includes introductory training for the operator on using the web portal (1/2 day, on-site)

### System operation

Bosch charging stations always offer a full range of functions:

- ▶ Remote access to charging station software and hardware via rendezvous servers (reset, restart, activate/deactivate)
- ▶ Provision, triggering, and execution of software upgrades
- ▶ Provision of configurations
- ▶ Encoded communication with charging stations and management of keys
- ▶ Support for the offline operation of charging stations
- ▶ Matching of user data with white lists

### Reliable logging of consumption data as a basis for billing

- ▶ Billing information is provided in itemized form (quantity, time, identity) via a file interface (e.g. to SAP).

### Optional extensions to the eMobility Starter Package

#### Option 1: Bosch charging stations

- ▶ Mode 3 charging stations with one or more charging spots for operation in public or private locations.
- ▶ 400V, 3 phases, 32A, 22kW per charging spot
- ▶ 44kW total power
- ▶ The role as system supplier enables maximum integration and functional coordination between charging station and operating software.

#### Option 2: Integration services for billing systems and charging stations

- ▶ Consulting for the integration of charging stations from various manufacturers and billing systems, e.g. in CRM systems
- ▶ Certification of the communication interfaces of third-party charging stations via Bosch certification body

#### Option 3: Consulting packages

- ▶ Market and technology consulting
- ▶ Business model development and model-based implementation
- ▶ Establishment of a business ecosystem

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