Advanced technology solutions for the global electrification of mobility

Excellent hardware meets innovative IT services – innogy eMobility Solutions
innogy is taking eMobility to the next level

innogy’s comprehensive and modular set of IT solutions is used to manage and control charging infrastructure and to provide smart eMobility services worldwide.

Electric vehicles are silent, drive emission-free and can currently cover approx. 400 km (248.5 miles) at a time. But eMobility also includes a functioning technology and a growing number of charging options. This is where innogy eMobility Solutions comes into play. We offer innovative technologies and products that make the charging experience seamless and convenient in everyday life.

We develop and produce our own hardware and software combined in individual and innovative charging solutions for our clients all around the globe. Our products are based on mature technology that is constantly being further developed and market-leading digital services that are suitable for any charging infrastructure – at home, in transit or in public areas.

Our technology in numbers:

- **1.3 mill.** charging sessions in 2019
- **42,000** charging points installed worldwide
- **14,600** networked charging points
- **1,300+** business clients in technology & eMobility services
- **99.8%** IT back-end system availability
- **16 mill. kWh** transferred energy in 2019
Deliver innovations with strong tech competencies

We leverage our strong technology competencies to deliver innovative charging hardware products and digital service solutions worldwide.

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**Charging equipment**

- **Hardware development**
  - AC/DC charging hardware development competencies with state-of-the-art technology

- **Manufacturing**
  - Scalable production capacities to capture market dynamics and increasing growth rates

- **Installation & maintenance**
  - Worldwide partner network for the installation and maintenance of network connections, civil engineering and project management tools

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**IT services & solutions**

- **Software development**
  - IT front-/back-end development competencies to develop comprehensive software solutions

- **Software as a Service (SaaS)**
  - Infrastructure resources and volume to provide scalable and economical software services

- **Network operations**
  - The eOperate portal, a network operation centre to exercise global charging network monitoring, control and management

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**Value-added smart services**

- **Payment & billing**
  - PCI data security-compliant payment processing and billing for seamless mobility services

- **Future smart service**
  - In-depth market expertise to capture trends and market demands

- **Data analytics & services**
  - Big data and advanced analytics capabilities to offer and enable data services, such as POI, scores, predictive maintenance and utilisation

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1 Payment Card Industry
innogy has already installed charging stations in more than 20 countries worldwide. Within the last two years, innogy has established new subsidiaries in the United States and the United Kingdom.

In 2018, innogy acquired BTC Power, a company with a full DC product portfolio and production and procurement capacities in Asia. Therefore innogy is your perfect partner for international electric mobility projects with a local network of partners, subsidiaries and resources.
Global setup

Headquarters in Dortmund, Germany
Global strategy, Product management, Product development, Int. sales & market management:

• innogy eMobility Solutions (Dortmund, GER)
  Global AC & IT development, operations EU
• innogy eMobility UK (Swindon, UK)
  Regional sales entity
• innogy eMobility US LLC
  Recargo (Los Angeles, US)
  PlugShare app, global IT front-end development & data;
  BTC Power (Santa Ana, US)
  Global DC development & operations NA
• BTC Power (Cebu, Philippines)
  Global production of AC & DC hardware
Cutting-edge hardware for home, work or any business needs – our AC charging stations.
The AC charging stations from innogy make charging EVs simple. Our products are designed to suit everyday requirements. They range from charging boxes for the garage at home to charging stations in public spaces. In addition to the home charging solution, the majority of charging processes are carried out at semi-public and non-public charging points. Especially the availability in companies is decisive for fleet vehicles and employees with private vehicles. In addition, semi-public loading facilities in multistorey car parks, retail stores and hotels are also visited by EV drivers.

Emission-free driving – easy and convenient

It made eClick!
All eBox models can be easily attached to the eClick docking station using just a screwdriver. If you upgrade your model, you can install it yourself without any need for an electrician.

eBox smart
- Fast charging up to 22 kW
- For installation at home and SMEs
- With or without integral charging cable
- Standby mode with proximity sensor
- Activation and authentication via eCharge+ app
- Connectivity via Wi-Fi
- Easy and fast commissioning via Bluetooth
- Highest security standards

eBox professional
- Fast charging up to 22 kW
- For installation at home or at your business, for fleets, hotels, customer car parks, etc.
- With and without integral charging cable
- Standby mode with proximity sensor
- Easy payment with eCharge+ app, RFID and Plug’n’Charge
- Connectivity via Wi-Fi, LAN or mobile network
- Prepared for ISO 15118 – vehicle communication and SmartGrid
- Highest security standards

eBox touch
- Fast charging up to 22 kW
- For installation at home or at your business, for fleets, hotels, customer car parks, etc.
- With 5” touchscreen
- With and without integral charging cable
- Standby mode with proximity sensor
- Easy payment with eCharge+ app, RFID, NFC and Plug’n’Charge
- Connectivity via Wi-Fi, LAN or mobile network
- Prepared for ISO 15118 – vehicle communication and SmartGrid
- Highest security standards
Seamless charging – fast and flexible

**ePoleDuo**
- Parallel charging of two vehicles with two individually selected, integrated eBoxes (eBox smart, eBox professional or eBox touch)
- Free-standing, space-saving, ideal for fleets or public charging points

**eStation smart/smart RFID**
- Parallel charging of two vehicles
- Charging power up to 22 kW AC for each charge port
- Billing in line with calibration law
- Robust design delivers vandalism protection
- Design customisable by foils
- Use of RFID cards possible
- Connection to the innogy IT back-end via mobile phone (or RFID card – with the eStation smart RFID)
- Prepared for ISO 15118 – vehicle communication and SmartGrid

**eStation BTC**
- High-power charging configuration with up to 400 kW: each power unit can be powered with up to four 50 kW power engines
- Dynamic power allocation and sharing in 50 kW increments
- Customisable backlit acrylic topper
- Modular system architecture with up to two power units and/or up to two dispenser units

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**Systematic fast charging hardware for transit charging – our DC charging station**

The key factor for charging in transit is speed. Accordingly, “filling up the battery” – depending on the battery capacity – takes about half an hour using our DC charging station. During this time, your customers can shop, eat something in a restaurant or take their children to the playground at the rest areas nearby.

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Our digital toolkit for a powerful IT back-end – eOperate

Don’t waste your energy in non-stop taking care of your charging infrastructure management. With innogy eOperate we give you the toolkit to manage your charging points via the high-standard software. The cloud-based system is able to configure, control and assist your charging infrastructure via an online interface flexibly and independently. Furthermore, with the Open Charge Point Protocol (OCPP) fully implemented, eOperate is able to support the integration of third-party hardware.

**Basic connection to IT system**
Recording of charging data per loading point and access via online portal

**Activation management**
You decide who is allowed to load at what price. We take care of payment and billing.

**API gateway**
By using our API gateway the eOperate services can be seamlessly integrated into an existing IT environment.

**Point of sale (POS)**
Customise charging infrastructure to the local conditions by using opening hours control, voucher management, POI data and payment by direct payment.

**Software updates**
Software updates for compatibility with all electric vehicles

**Detailed charging point information**
Information on the location and condition of the charging points (incl. remote maintenance option)

**User administration and authorisation management**
Create and configure access permissions for your user groups.
The charging process begins immediately once the measurement tariff (power, duration, etc.) has been selected. The eCharge+ app combines your public and private charging activities. It also enables a simple, comprehensive analysis of charging data at home for private charging stations: eBox smart, eBox professional and eBox touch.

The innogy eCharge+ app is the key front-end application for payment and billing based on your customers’ electricity consumption. It enables your customers to find available charging stations based on their current location or destination and real-time information. Using the respective charger ID, the individual QR code or by searching on the map, they can select the charging point they want to use. In addition to a contract-based payment option, your customers can also pay directly using, for example, pay with PlugShare, PayPal or a credit card.

The White Label app and innogy’s updated eCharge+ app provide detailed real-time information on charging stations and offer your EV drivers a number of different payment options.

We continue to work on the app to expand its feature portfolio and enhance the user experience.

All expansions at a glance
- Dynamic pricing
- Integration of additional payment methods (e.g. Maestro, credit card, PayPal)
- Expansion of all features to do with charging@home
- Integration of POIs in the vicinity of charging stations

innogy’s tangible charging experience – the eCharge+ app

Scan the QR code and discover how fascinating it is to be smart – with the eCharge+ app.
Our way to integrate eOperate into your IT system

The API gateway will serve as the foundation of future cloud services that will allow our eOperate services to be seamlessly integrated into your existing IT environment.

Charge data records 1.1
The CDR interface enables business partners to download a comprehensive set of detailed charging records. This data contains timestamps, address information, consumed energy and all corresponding IDs of the charging session.

EMAID management interface 1.1
This API provides access to all functionalities concerning EMAID (eMobility account identifier) management, which includes RFID settings, the activation and deactivation of accounts and the change of account properties.

Mobile API 4.0
Mobile API 4.0 makes operations for contract-based charging possible. Allowing a third-party client to get real-time information about a charging point, continue charging sessions and receive charging data.

POI interface 1.3
The POI service provides a full load of POI asset data of charging stations and notifies business partners in case of status updates, making static and dynamic station data available in own applications.

1 Point Of Interest, all information relating to the charge point
Together with our strong partners, we are looking for global and focused strategic mobility solutions to consolidate our leading position as a global eMobility technology provider in the market.

DKV Euro Service (GER)
DKV Euro Service is one of the leading and most experienced mobility service providers in Europe, especially for fleet customers, with over 220,000 customers and a network of more than 60,000 public charging points. DKV uses hardware, software (eOperate) and technical services from innogy to manage its entire charging infrastructure. This is currently happening in Germany, from 2020 it will also happen in the Netherlands, Austria, France and Benelux.

Chanje (US)
Chanje’s first customer, FedEx has purchased 1,000 electric delivery vans, which will be charged overnight, for a massive pilot programme at over 40 sites. This is why Chanje has selected BTC Power as their technology partner. BTC Power is providing quickly a turn-key charging solution for Chanje electric delivery vans, consisting of dual-port DC charging stations with cable management and a comprehensive charger management back office.

Flexcharge (DK)
Flexcharge is a Charge Point Operator (CPO) and a partner in Denmark for more than 500 parking spaces in the centre of Odense. To date, over ten parking spaces have been set up with the new innogy eBox professional. Flexcharge and innogy believe in innovation and enjoy a strong technical relationship, with which they are able to support the end user with high-tech system-integration solutions.

Unico Energia (IT)
The energy, efficiency and eMobility company is developing a strong network through hotels, sport clubs, business and parking spaces. It relies on charging infrastructure from innogy for its eMobility offers on their sites. Thanks to its partnership with the world market leader for parking space management Skidata IT, the company is installing 300 AC charging points in Italian car parks, which are managed by innogy eOperate, which is connected directly to Skidata.

Suncor/Petro Canada (CAN)
Suncor/Petro Canada is the largest player in the Canadian energy industry and operates more than 1,500 filling stations across the country, doing business as Petro-Canada. Together with BTC Power and innogy, Suncor has equipped more than 100 fast charging points in 2019 at 50 points along the Trans-Canada Highway. As well as providing the hardware, innogy and BTC Power provide the needed IT back-end services to manage the infrastructure.
Are you interested in becoming a partner of innogy?
For more information visit: www.innogy-emobility.com/en