

CHARGE UP AT **Work!**

Intelligent E-Mobility Solutions for Companies



SUSTAINABLE CHARGING WHILE YOU WORK

High quality products for electric vehicle charging not only make your company fleet more economical, they also make it sustainable. While employees' or customers' vehicles are parked on the company's site, charging takes place efficiently and conveniently. Handling the charging systems is remarkably simple and innovative. Our system solutions also meet the highest standards in terms of quality and reliability.

The breadth of solutions in our product portfolio allows you to build a customised charging infrastructure for your company step-by-step. In addition to the charging infrastructure, we also offer you a professional, cloud-based solution for data management. Along with our network of partners, we are also pleased to support you with planning, installation, commissioning, maintenance and service.



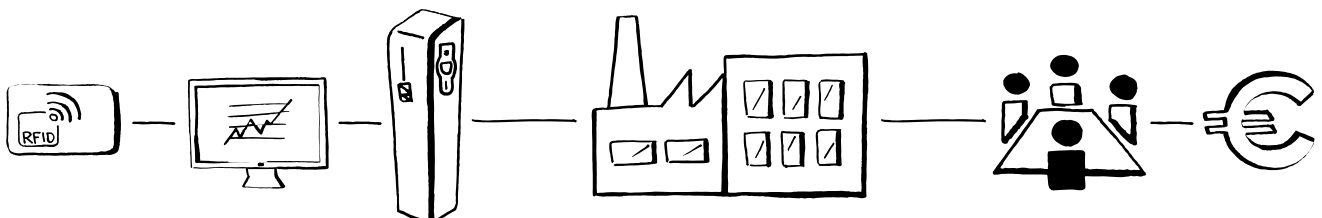
E-MOBILITY SUITABLE FOR THE ENERGY CONCEPT

In the case of company vehicles, businesses increasingly rely on plug-in vehicles and need intelligent charging solutions. Show your employees and customers that you too are addressing the issue of your company's mobility in a forward-looking and professional manner. The integration of electric vehicles into your own fleet promotes your company's energy efficiency and environmental management ethos.

By using renewable energies such as hydropower, wind and solar energy, you also reduce your company's ecological footprint.

"Sustainability in the company is obvious to me.
That's why we have changed our
company fleet to electric cars."

Gerald, 52 years, entrepreneur



AS A BUSINESS, WHAT SHOULD BE CONSIDERED?

Various key aspects should be considered when building a demand-based, sustainable charging infrastructure for a company. We briefly summarize the most important points.

Access permissions. You can specify different access permission modes for your infrastructure. Permanently open access to the charging points is an option if the electricity is to be made available without charge for visitors or company vehicles. With a locally networked concept, you can organize access via RFID charging cards, for example, if you want to set up an infrastructure for your employees at one location. A national networked solution allows you to manage both different locations and all access permissions from a central point. A central data management system is used to allocate the charging cards to the locations.

Networking capability. If your infrastructure is to be professionally managed, you need to interlink charging systems and data management software. The E-Mobility Gateway from MENNEKES is the ideal solution. It can be used internally within the equipment or externally, networks up to 16 charging points and connects them to a cloud-based software system.

Energy management. In addition, the E-Mobility Gateway allows you to operate the MENNEKES load management system, because electric vehicles have a large power requirement. If the power supply in your company is not large enough to charge all vehicles at the same time with full power, you can ensure operational safety and avoid expensive peak demand by regulating the power output accordingly.

Billing and operation. The question is whether you want to charge for the energy provided. If the electricity is to be made available free of charge, for example for visitors, other solutions are available than when the electricity provided is to be billed at a flat rate or depending on consumption ("kWh" or "-time-based").

Building a tailor-made charging infrastructure can sometimes be complex. We help you on the road to electric mobility and offer you professional, modular solutions from a single source.

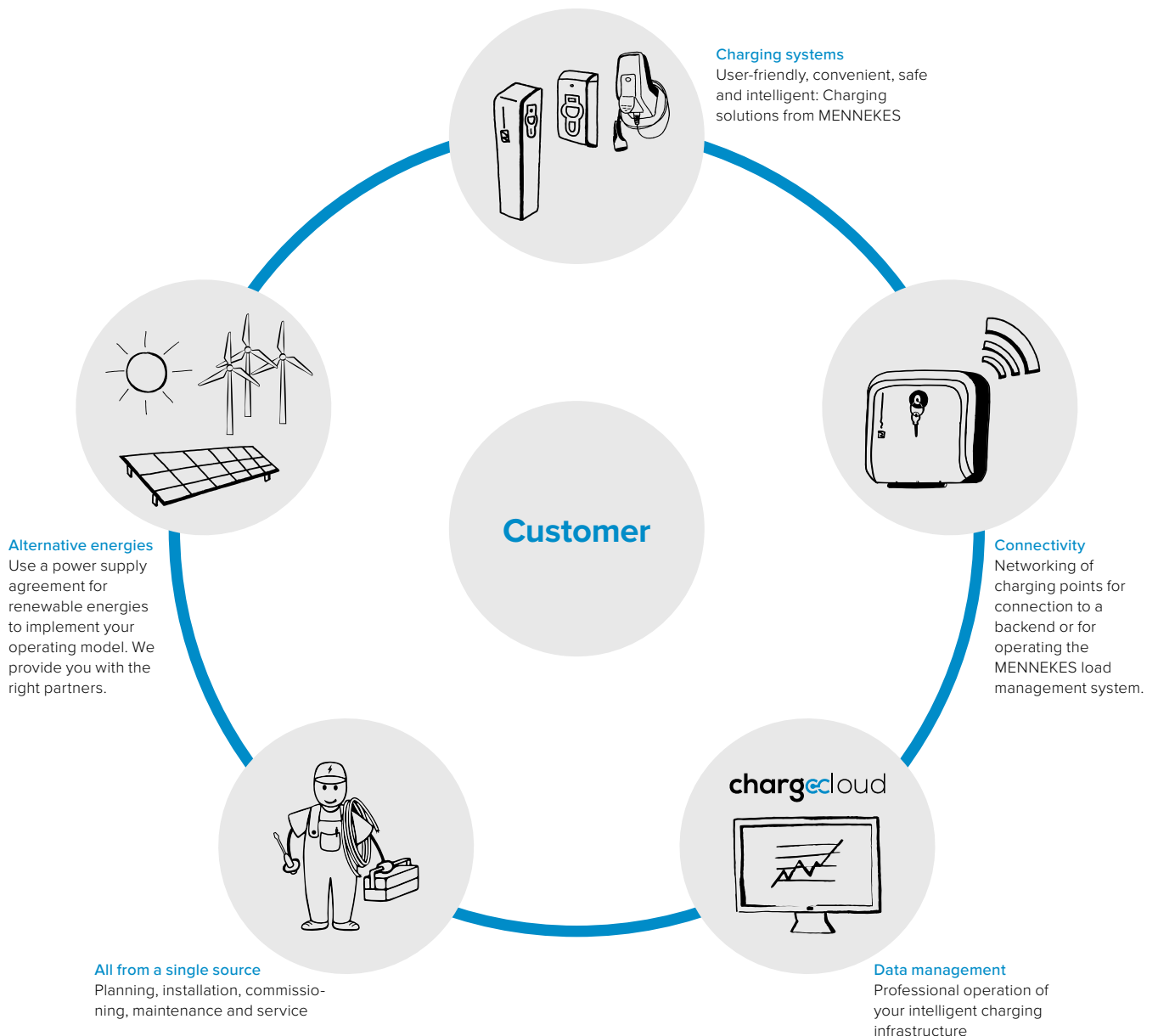


"As an business owner, I appreciate the flexibility of MENNEKES. We began with 10 charging stations and are currently planning to expand to a more complex charging infrastructure. The MENNEKES products are designed to allow you to start on a small scale, without networking and management. We now intend to network with intelligent software solutions and so make our operation professional. We thought of everything from the outset and were very well advised. We are fit for the electric future!"

MODULAR PRODUCT PORTFOLIO - PERFECT FOR COMPANIES

With MENNEKES, you have a strong partner at your side in the field of electric mobility. From initial consultation through selection of the right charging systems and software solutions to planning, installation, maintenance and service, including transfer to operators, MENNEKES and our partner network offer you solutions from a single source.

This results in a portfolio tailored to your needs, which offers intelligent solutions for electric mobility requirements.





CHARGE ELECTRIC VEHICLES WITH THE SAFETY OF THE EXPERTS

Robust, networkable, future-proof, user-friendly, attractive design: MENNEKES offers professional solutions for your individual requirements. All products are pre-wired for connection for trouble-free installation. They meet the requirements of international standards, and are therefore reliable and extremely resistant.

At www.chargeupyourday.com you can put together your charging infrastructure in just a few steps, according to your needs and facilities. You will also find a trained installer near you. Or consult one of our MENNEKES Quality Partners.



MENNEKES Charging Columns

2 charging points (maximum of 22 kW) per column, with and without an integrated E-Mobility Gateway, individual foiling possible



MENNEKES Wall Charging Station

with and without fastened charging cable, 1 charging point (maximum 22 kW), individual foiling possible



AMTRON Wallbox

with and without fastened charging cable, suitable for wall or floor mounting (accessories required), 1 charging point (maximum 22 kW)



E-Mobility Gateway

For the networking of up to 16 charging points, with integrated, local load management, OCPP for backend connection or local user administration



Wide range of accessories

Protective covers, large range of charging cables, testing equipment, installation and foundation kits





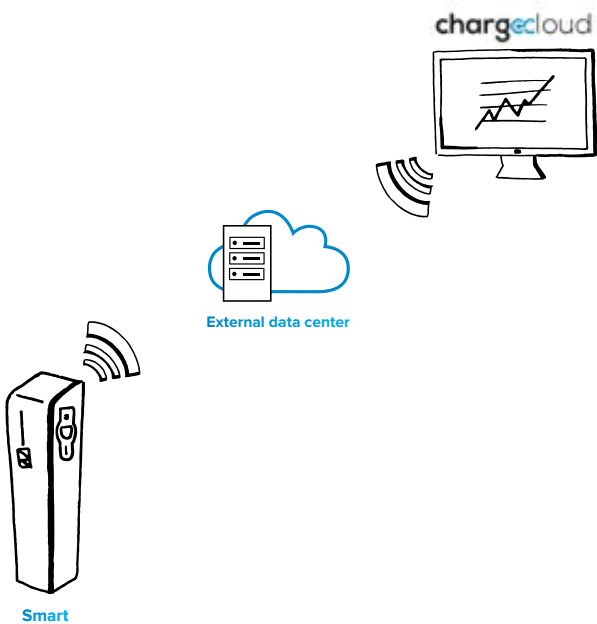
ALWAYS THE RIGHT SOLUTION

MENNEKES solution example [1] - Stand alone

For the electric vehicle company fleet, parking is the new charging. Charging solutions designed specifically for your company not only save time - above all they are cost effective. MENNEKES offers both complex systems and basic solutions for practical charging. For example, if you have separate parking spaces on your premises for employees or customers, or if you are just starting out with a charging infrastructure, we recommend the charging solutions of the "Smart" and "Premium" product groups.

This has the advantage that it is freestanding and can be networked - e.g. on a software backend. When placed centrally between two parking spaces, two electric vehicles can be charged simultaneously at the two available charging stations.

Please refer to the following pages regarding the operating capabilities of the charging infrastructure, especially page 13.



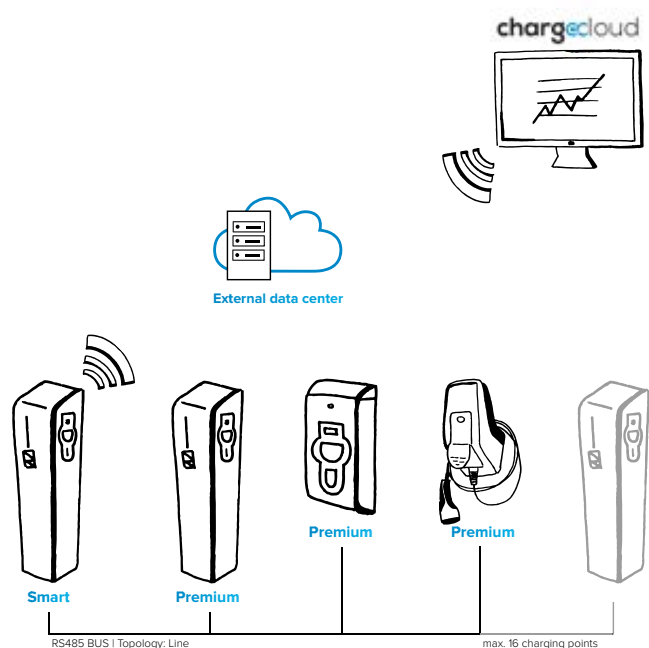
OPERATING MODE 1	Stand alone / Permanent authorization enabled	locally organized, not networked
OPERATING MODE 2	Enabled for all charge cards	
OPERATING MODE 3	Local organization charge cards / Whitelist	
OPERATING MODE 4	Professional operation via chargecloud, Management charging columns and users	zcentrally organized, networked
OPERATING MODE 5	Integration of the charging columns in a professional billing system, including direct payment and roaming	

ALWAYS THE RIGHT SOLUTION

MENNEKES solution example [2] - "Master Satellite"

For larger employee car parks, it is a good idea to network the charging infrastructure in a so-called "master-satellite" architecture. In this case, the smart charging column with its integrated E-Mobility Gateway acts as a "master" and can network and control up to 16 charging points. The gateway also provides local load management for the downstream charging infrastructure and can connect to a backend, for example to the chargecloud.

You can combine different MENNEKES product groups in order to build a perfectly customised E-Mobility solution for your company. If you only want to use load management, of course you can also operate the charging solution without using the chargecloud. We adapt ourselves entirely to your requirements. Please also pay attention to the options for operating your charging infrastructure on page 13.

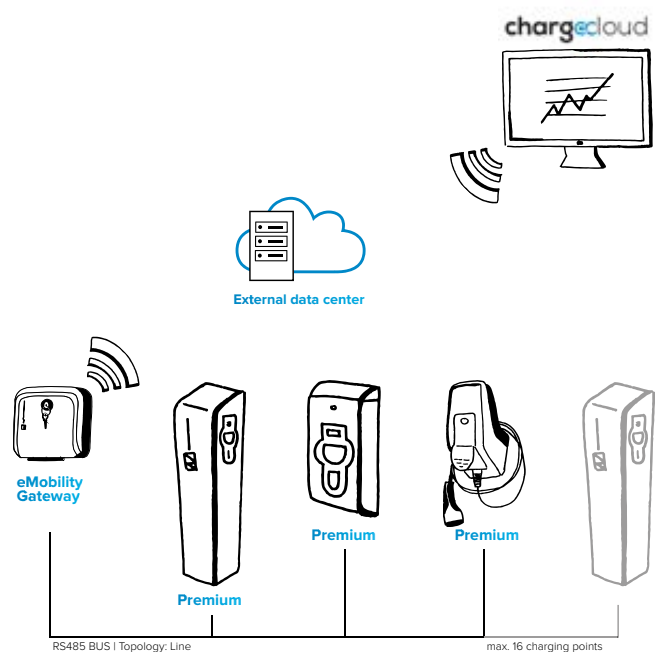


ALWAYS THE RIGHT SOLUTION

MENNEKES solution example [3] - Networking with external gateway

In underground garages, there is often poor wireless reception or a confined space for setting up a smart charging column. For this situation, we offer the solution via an externally installed E-Mobility Gateway. In such a topology, this also acts as a master and can network up to 16 charging points. Local load management and the connection to a backend, such as the chargecloud, can also be implemented.

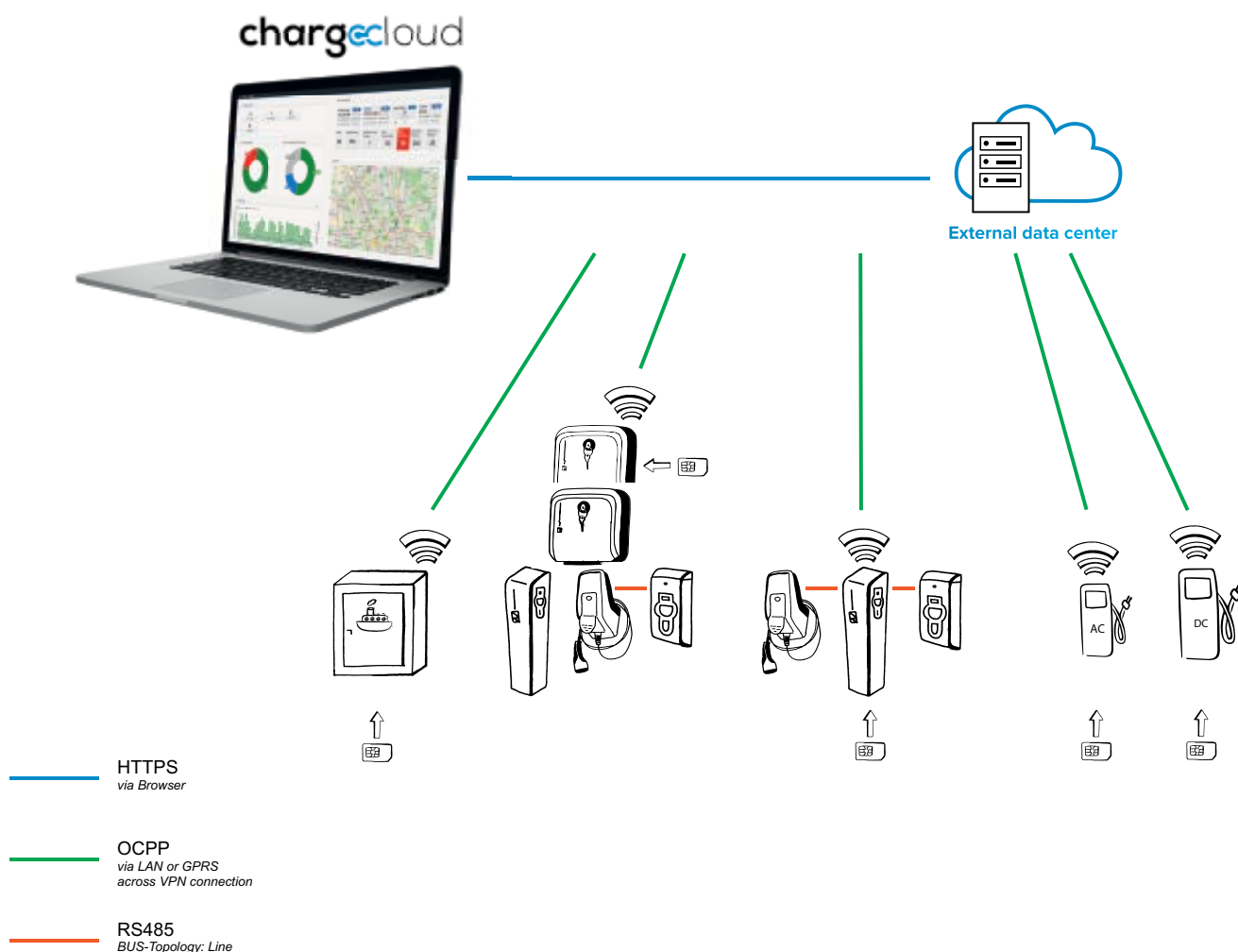
Combine different MENNEKES products and build a charging infrastructure that takes account of local conditions and requirements. We help you to realize an individual charging infrastructure and develop a practical, reliable solution.



CHARGECLLOUD - MANAGE AND PROFESSIONALLY OPERATE THE CHARGING INFRASTRUCTURE

For operating networked charging infrastructures, the chargecloud software service is the perfect solution. It allows you to professionally monitor your charging solutions and supports analysis by providing all the necessary data in real time.

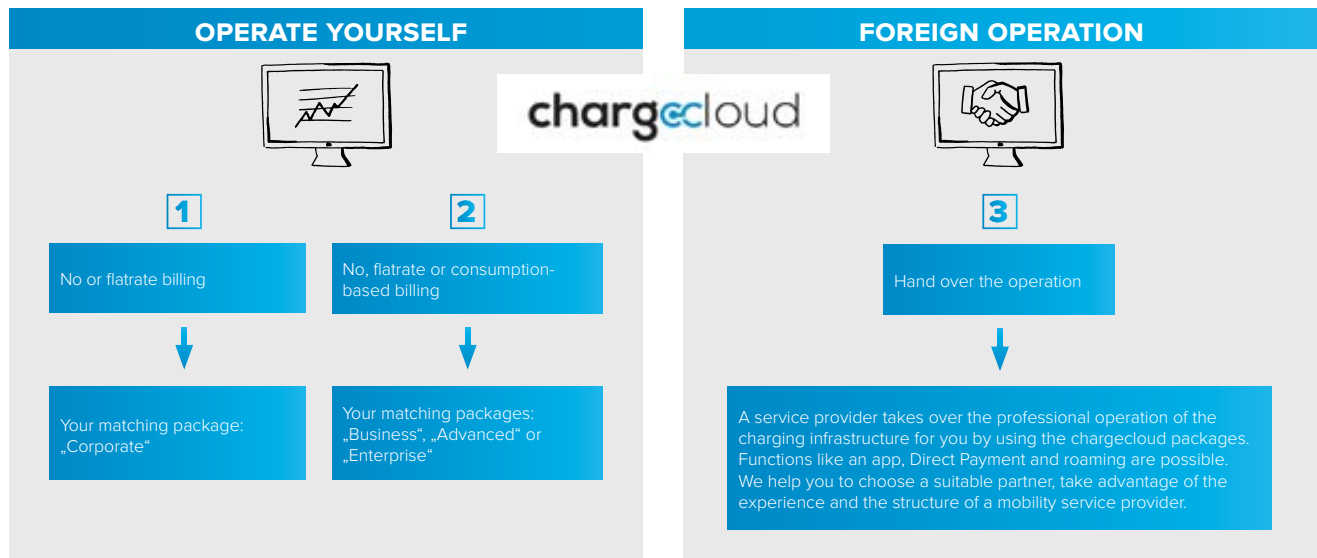
With the help of chargecloud, you control the access rights of users and organize the technical operation of the charging infrastructure. Comprehensive remote control, service and maintenance functions help you to eliminate interference. Detailed information about the chargecloud can be found at: www.chargecloud.de



OPERATOR MODELS WITH THE CHARGECLLOUD. FLEXIBILITY THROUGH NETWORKABLE CHARGING SOLUTIONS.

A networkable charging infrastructure, combined with the chargecloud, offers you a wide range of operating options. Become an operator and start with a small solution for managing charging points and users via the corporate package [1]. Or commercialize your charging infrastructure with the aid of the "Business", "Advanced", or "Enterprise" packages [2].

You can also arrange for your charging solutions to be operated by a service provider. Use the experience of a professional operator, including its infrastructure and services [3]. We will be pleased to help you find a suitable partner. No matter which route you take. Stay flexible from the outset and rely on networkable solutions from MENNEKES.



EXPLANATION OF CHARGECLLOUD FEATURES:

	Corporate	Business	Advanced	Enterprise	
E-Mobility basic functions	✓	✓	✓	✓	Includes all basic functions for the operation of charging infrastructure
CRM / contract management / pricing / billing / reporting	✗	✓	✓	✓	Comprehensive customer management, Establishment of pricing, billing processes & reporting
Automatic billing	✗	✓	✓	✓	Automatic generation and mailing of PDF invoices using Word templates
Payment by SEPA direct debit	✗	✓	✓	✓	with own bank account (SEPA XML + account statement import)
Connection to payment service providers	✗	✗	✓	✓	Requirement for ad-hoc access, plus transaction costs
Ad-Hoc access (direct payment)	✗	✗	✓	✓	plus transaction costs at payment service providers
WhiteLabel-App	✗	✗	✗	✓	chargecloud standard app in own design including updates
e-Roaming within chargecloud	✓	✓	✓	✓	normal transaction costs for providers
Number of customer accounts	unlimited				no additional fees per customer account
Number of charge cards	unlimited				no additional fees for managing RFID cards
Number of user accounts	100				additional user accounts on request
Full access to REST web services	✗	✓	✓	✓	Standard web services included; Full access for connection to IT systems, own app, etc.
External roaming via Hubeject	○	○	○	○	plus Hubeject fees
Externes Roaming via e-Clearing.net	○	○	○	○	plus fees from e-Clearing.net

✓ = contain
✗ = not included
○ = optionally

FULL CONTROL AND OPERATIONAL SAFETY FOR YOUR CHARGING INFRASTRUCTURE

Manage access rights

Modern fleet management includes keeping an overview of the condition and utilization of the charging infrastructure at all times. A simple way to gradually adapt access management to your current needs is essential here - especially if you are only starting to build your electric mobility fleet.

MENNEKES offers solutions that can be implemented at any time without the need for a new hardware installation and thus enable optimal adaptation to your growing requirements:

Step 1: Charging solutions with open access, for example for customers and visitors

Step 2: Access to charging points can be controlled locally via RFID tags (e.g. employee ID cards or new charging cards to be issued).

Step 3: A higher-level backend organizes the accesses to the charging infrastructure. This also makes it possible to implement control elements such as a smartphone app or web-based ad-hoc access.

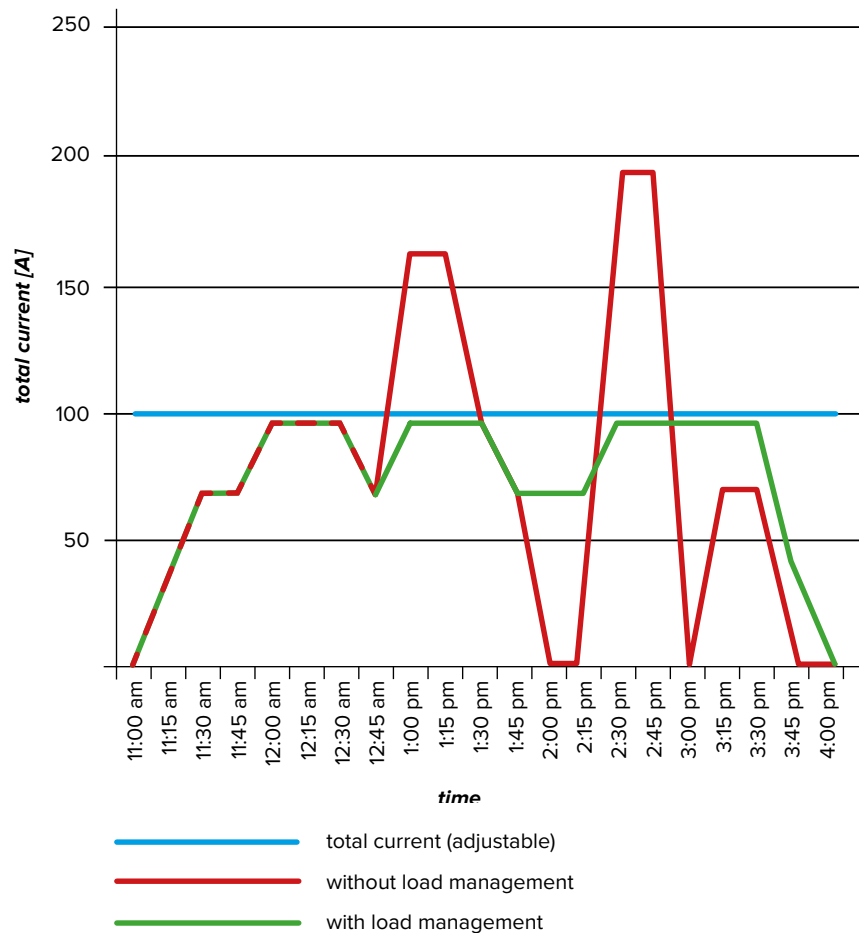
By assigning charging processes to users (steps 2 and 3), it is also possible to create the basis for billing. This keeps you in full control of your charging infrastructure, its utilization, and user access.

Operational safety and cost control

At times, when many of your vehicles are charging simultaneously, you need operational safety. As long as sufficient power is available for all connected vehicles, they can be charged with full power. If the sum of the currents of all used charging points exceeds the specification of the maximum current value, the MENNEKES load management function comes into action and the charging currents for the used charging points are reduced. At each charging point, it is ensured that the adjustable minimum current is available. MENNEKES products ensure high availability and operational reliability. In addition, extremely costly peak demand in the power supply are avoided.



MENNEKES LOAD MANAGEMENT



MENNEKES, A STRONG PARTNER

Whether you are building a stand-alone solution or a networked charging infrastructure: through our experience gained in the business with industrial plugs and connectors, we know the operational conditions for indoor and outdoor use. Reliability and operational safety are two essential requirements for a professional charging infrastructure. If your charging stations don't work, you can't charge vehicles. MENNEKES is a pioneer of modern electric mobility and to date has supplied several thousand charging points, many of which are networkable systems.

In addition to the hardware for different fields of application in public and semi-public spaces, MENNEKES and its partner network provide assistance with planning, installation, commissioning and maintenance. Since 2016, MENNEKES, together with powercloud GmbH and RheinEnergie, has been operating the modular, cloud-based "chargecloud" software solution for the operation of charging points, customer management and the billing of charging processes. When it comes to intelligent charging solutions, many companies rely on the professionalism and competence of MENNEKES.





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