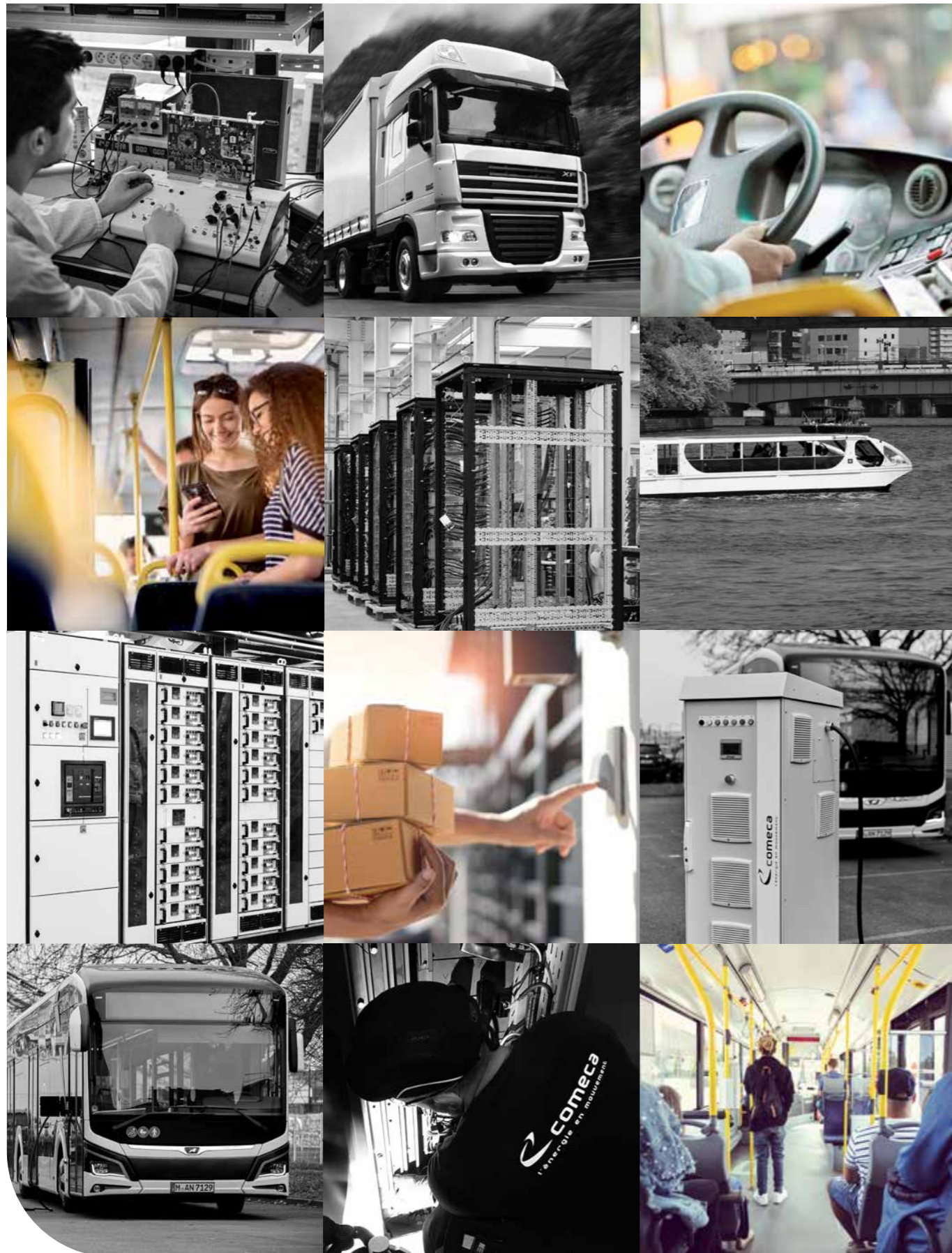


TRANSPORT
& E-MOBILITY:
CHANGE'S IN THE AIR!

Integrated, ultra-fast charging solutions for large vehicles, buses, trucks, utility vehicles

COMECA GROUP KEY FIGURES



100%
electrical
energy

90%
Repeat
business

360°
Design of
electrical
infrastructure

> 99%
availability

50 to
640
kW

20
years of
contracted
engagements

100 +
countries

60 +
years
of experience

1200 +
employees
around the world

PRODUCTION CAPACITIES RENOWNED ACROSS EUROPE

For over 60 years, COMECA has developed and marketed power electronics and power conversion equipment. Since 1993, we have specialised in the manufacture of electric vehicle charging systems. In 2010 COMECA

was the first European industrial operator to receive CHaDeMO certification. Our engineering, production and service teams are appreciated across Europe by all manufacturers and operators of electric vehicles.



COMECA, PARTNER IN YOUR ENERGY TRANSITION

REDUCING CO₂ EMISSIONS
AND NOISE POLLUTION

Using electric vehicles reduces CO₂ emissions by almost 77%*. To ensure urban environments become cleaner, COMECA can help you install daytime and night-time charging points.

Through the high efficiency of the power delivery function and very low consumption by chargers when on standby, COMECA guarantees the best operational return on your investment.

*source: avere-france.org

INTEGRATED E-MOBILITY OFFERING

FROM SIMPLE SUPPLY
TO CHARGING
MANAGEMENT



COMECA provides a comprehensive and consistent approach to the supply of electricity and charging management for electric vehicles. We manufacture and supply chargers, we connect them to the electricity grid, control, and supervise them.

A CONNECTED INTEGRATED OFFERING

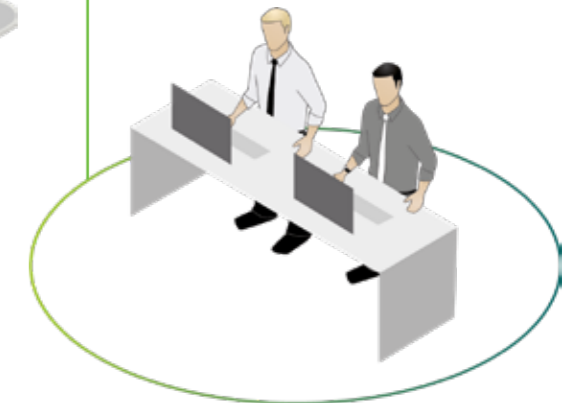
By merging its **vehicle charging and power distribution solutions**, COMECA proposes simplified project management and a single point of contact for seamless project coordination. Our integrated offering adapts to all your needs while remaining **scalable**. We build and supply supervision systems for your station equipment, as well as solutions to limit your investment and energy spend.

Our **Smart Charging solution** lowers the power configuration required and offers a choice of energy supplier at the best price to meet your needs. This solution includes our identification of the best financial scenario using the **price per kWh** component, while ensuring maximum **vehicle availability**. Furthermore, our supervision offering provides an overall view of your station, charging availability, as well as consolidated reports for your **energy balance**.

RAPID CHARGE

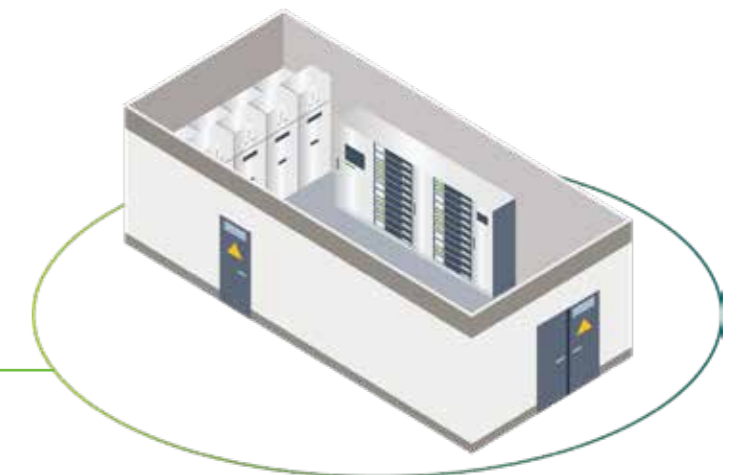


SUPERVISION



ULTRA-RAPID CHARGE

ELECTRICITY DISTRIBUTION



RAPID CHARGE

COMECA designs and builds **chargers to meet your needs** as well as the whole electrical installation. Chargers are available from 50 kW to 160 kW per charging point to deliver a full charge to your battery whatever its capacity (kWh). Fixed or scalable **electrical distribution boards**, include metering, measurement and the associated means of communication. Suitable power cable sizing makes the deployment of this integrated offering easier.

ULTRA-RAPID CHARGE

This ultra-fast charging mode **exceeds 200 kW** and can reach **640 kW**. But to do so it needs a pantograph system instead of a CCS connector. COMECA builds, supplies and installs **turnkey ultra-rapid charging stations** with the electrical distribution board, charger and connector equipment required. Our **connected stations** offer **real-time** communications with your operators so they can monitor operations, alerts, perform remote maintenance, etc.



AMBER 2

50 TO 160 KW

This range of chargers blends design and technological innovation. It is modular and can be extended to deliver up to 160 kW of power. Designed to sustainably support the environmental transition of cities and metropolitan areas.



ENVIRONMENTAL

Environmentally-sound thanks to the Smart Charging option, which synchronises each charge to save energy.



CONNECTED

Remote monitoring and supervision of each post and the power supply.



INTEROPERABLE

Compatible with all electric vehicles using the CCS2 standard.



PERFORMANCE

Optimised energy consumption thanks to high efficiency.



EXTENDABLE

Modular design enabling power delivery up to 160kW.



RELIABLE

Ensures continuity of service by redundant backup of the power function.



CHARACTERISTICS

CHARGE: UP TO 2 VEHICLES AT SAME TIME

DIMENSIONS: 680 MM (L) X 800 MM (W) X 2000 MM (H)

ADJUSTABLE SCREEN TO MEET OPERATOR NEEDS.

AVAILABILITY RATE 99.94%.

IEC61851-1 -23, -24
ISO15118
DIN 70121



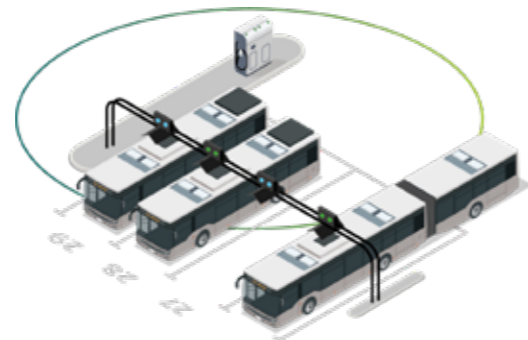
Designed and built in France

OVERHEAD MAST

50 TO 640 KW

Charge at depot

The flexibility of AMBER2 means your depots are equipped with multiple charging points for an ultra-compact solution. Up to 8 charging points and 640 kW by overhead mast, to efficiently charge bus batteries at night or in daytime, in under 2 hours.



INTEROPERABLE

Compatible with all electric vehicles using the CCS2 standard.



EASY TO MAINTAIN

Very easy to access, light spare parts.



RELIABLE

Adapts to all exterior and interior environments.



PERFORMANCE

Optimised energy consumption thanks to high efficiency of 94%.



EXTENDABLE

Modular design enabling power delivery up to 640 kW.



CONNECTED

Remote monitoring and supervision of each post and the power supply.

CHARACTERISTICS

- CHARGE: UP TO 8 POINTS FOR SIMULTANEOUS CHARGING.
- COMECA 100% EXPERT IN LARGE VEHICLES.
- OPTIMISED SPACE IN THE DEPOT.
- SUITED TO HIGH-CAPACITY BUSES.
- AVAILABILITY RATE 99.94%.

IEC61851-1 -23, -24
ISO15118
DIN 70121



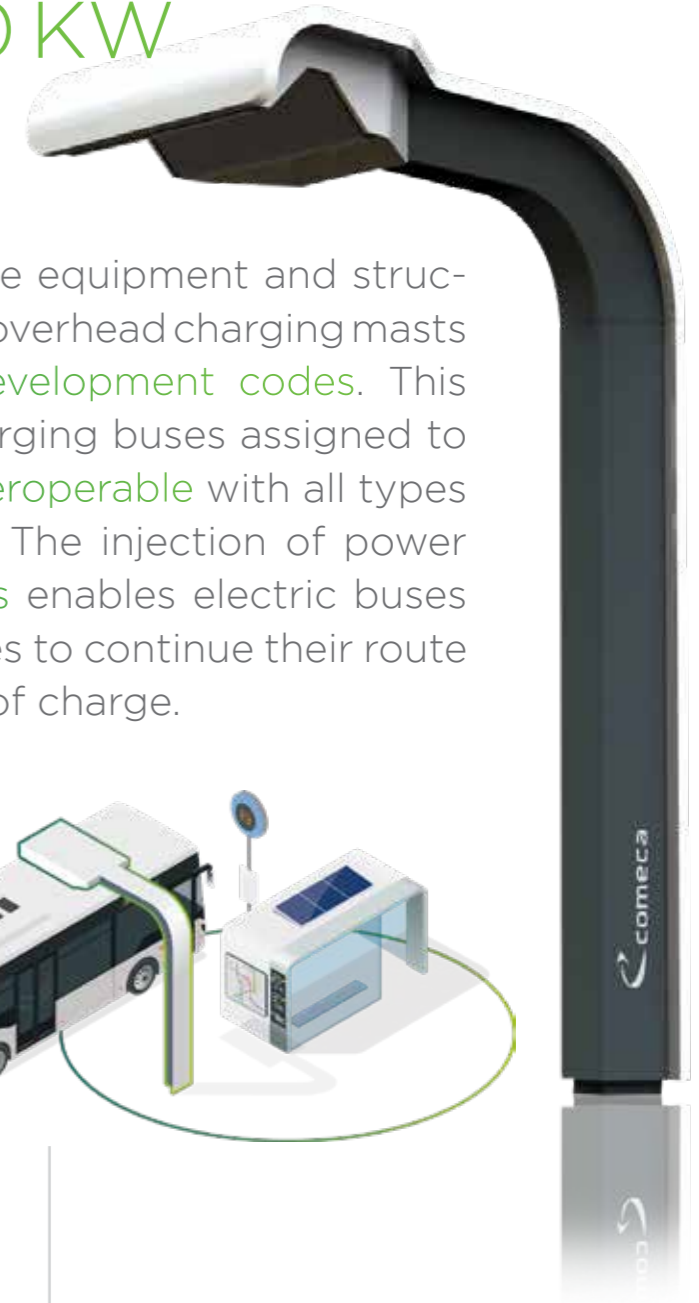
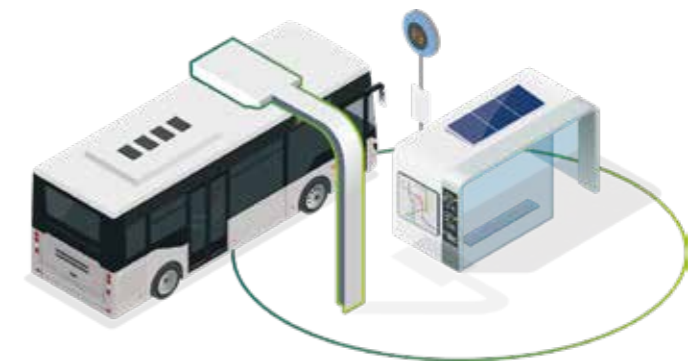
Designed and built in France

DOME

50 TO 640 KW

Opportunity charging

COMECA builds all the equipment and structure, with customised overhead charging masts as per city urban development codes. This range is suited to charging buses assigned to long routes and is interoperable with all types of ISO or DIN buses. The injection of power for just a few minutes enables electric buses operating in large cities to continue their route with a boosted state of charge.



INTEROPERABLE

Compatible with all electric vehicles using the CCS2 standard.



PERFORMANCE

Charging a bus in 4 to 10 minutes at a stop or change of driver.



RELIABLE

Ensures continuity of service by redundant backup of the power function.



CONNECTED

Remote monitoring and supervision of each charging point in the city area.

CHARACTERISTICS

- CHARGE: UP TO 10 KM RANGE CHARGED PER MINUTE
- DIMENSIONS: 2 400 MM (L) X 1 000 MM (W) X 2 000 MM (H)
- AVAILABILITY RATE 99.94%.

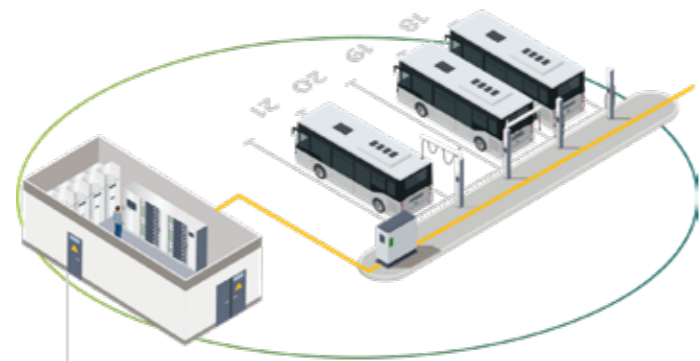
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ISO15118
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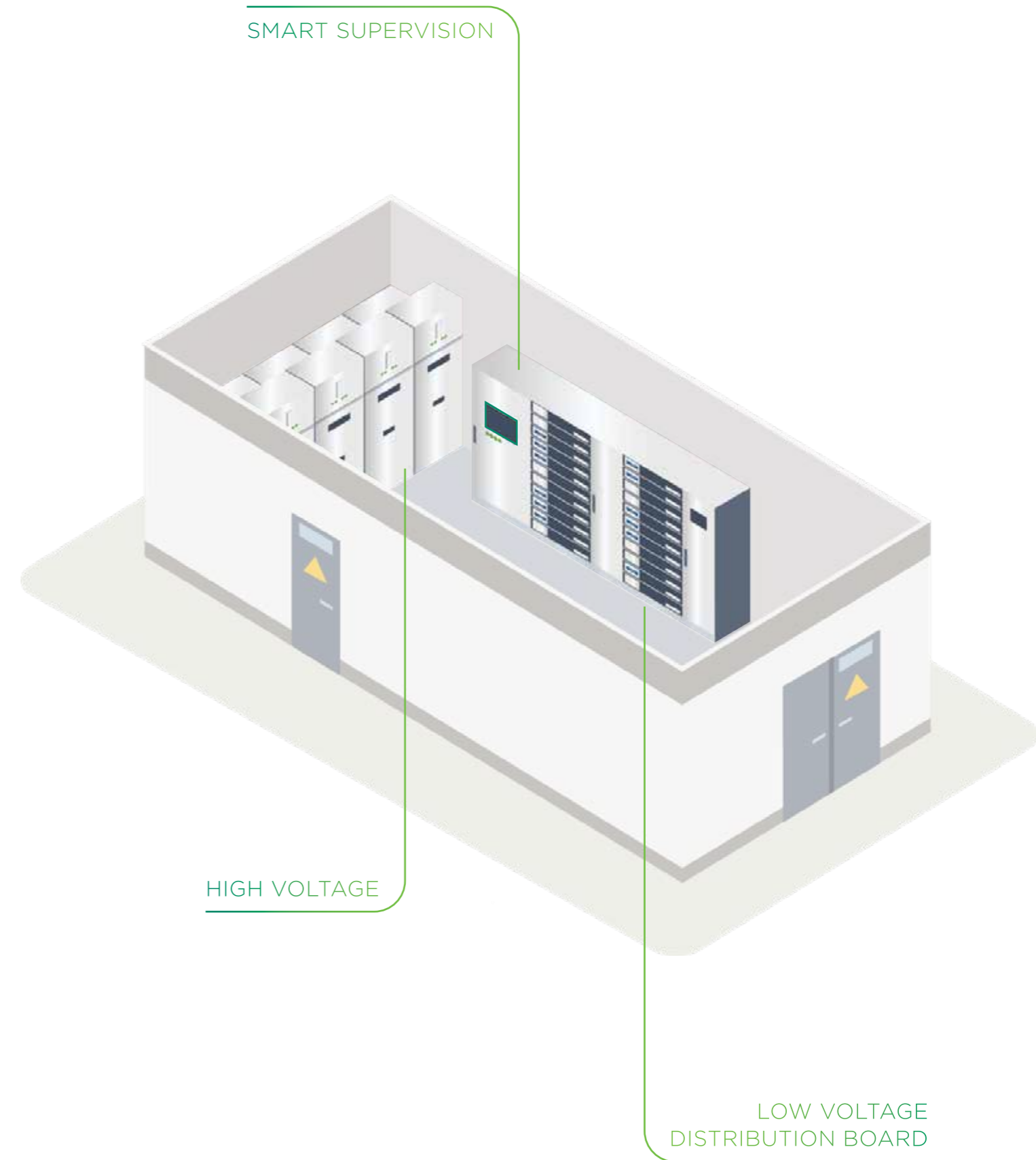
Designed and built in France

ELECTRICITY DISTRIBUTION

Depending on your required power balance, we propose a matching electrical architecture to connect the power grid to the charging station. Depending on the power intensity, the installation will feature low-voltage equipment or will include a high voltage incomer, a transformer and one or more low-voltage distribution boards.



<p>FLEXIBLE Service indicators available and dimensions suited to containerisation. Energy is re-injected into the power grid from the vehicle battery (V2G).</p>	<p>EXTENDABLE Systems are designed to be scalable to meet new requirements (IS 223 to IS 333).</p>
<p>RELIABLE Safety and reliability ensured by NF 61439 and NF C-15-100 certification for the whole assembly.</p>	<p>ROBUST Adapts to all exterior and interior environments (minimum IK9).</p>
<p>EASY TO MAINTAIN Specific board formats to meet operator protection criteria for use and for maintenance (2b to 4b).</p>	<p>CONNECTED Digital protection and power supervision to ensure availability and cost control.</p>



CHARACTERISTICS

CALCULATIONS FOR DESIGN.
ELECTRICAL EQUIPMENT SUPPLY.
COMECA YOUR 360°PARTNER.
VALIDATION BY INDEPENDENT CERTIFICATION BODY.

IEC61851-1 -23, -24
ISO15118
DIN 70121

Designed and built in France

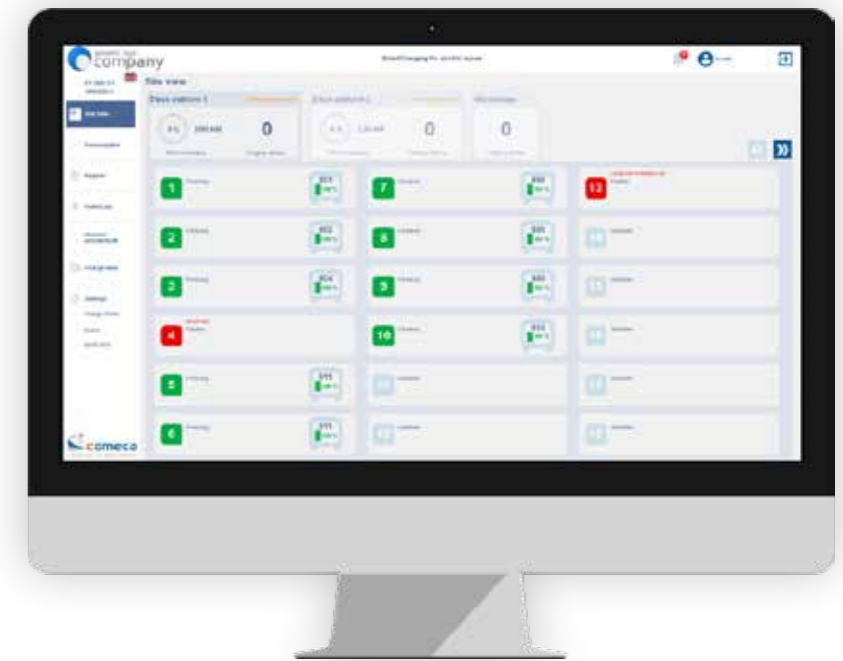
A CONNECTED FLEET

SUPERVISION: FOR A COMPREHENSIVE VIEW OF YOUR INSTALLED FLEET

Full information about your charger fleet can be viewed in a single application.

Benefits:

- real time monitoring
- consumption reports
- alert tracking
- energy balance
- availability



SMART CHARGING: OPTIMISE CONSUMPTION AND ENSURE YOUR FLEET AVAILABILITY

Our solution seamlessly coordinates charging based on the **operating range** of your vehicles. The **OCPP** standardised protocol enables it to communicate with all vehicle brands. The computer system is installed at the depot to ensure **cybersecurity** protection. It interconnects all the chargers, syncs with your calendar tool and delivers all the functions you need.

Benefits:

- optimised electrical infrastructure
- control over energy savings
- maximum fleet availability
- vehicle pre-conditioning
- customised configurations
- customised reports
- reliable data storage

REMOTE MONITORING / REMOTE MAINTENANCE: KEEP AN EYE ON YOUR CHARGING STATIONS

Whether for small, isolated charging stations or for a countrywide network, our remote monitoring solution enables you to keep an eye on the **operational state of your charging infrastructure**, wherever you may be, using a PC, tablet or mobile device.

FUNCTION	REMOTE MONITORING	REMOTE MAINTENANCE	SUPERVISION	SMART CHARGING
State of charging infrastructure	X		X	X
Text message alerts		X	X	X
Email alerts		X	X	X
"Power" dynamic displays			X	X
"Charge" dynamic displays			X	X
State, alarm and fault logs			X	X
Monthly reports on operations, availability, consumption and charges			X	X
Option for multiple sites			X	X
Energy consumption balancing and optimisation				X
Dynamic management with customer scheduling system				X
Vehicle pre-conditioning				X

REMOTE MONITORING
SUPERVISION AND
SMART CHARGING

OPTIONS & ACCESSORIES

- Customised colour and flocking: logo, stickers, RAL colours, etc.
- Anti-graffiti coating.
- Vandal-resistant system: reinforced door locks, specific key tool, invisible screw attachments.
- Multi-lingual touch screen 4.3" IP65.
Data accessible directly on post:
 - Battery State of Charge (%SOC).
 - State of post (standby, charging, stop, charge full, alarm, fault).
 - Event log.
 - Maintenance mode.
 - Remote administration server.
- Plug & Charge: authorises charging using a fleet badge or a mobility operator card (Chargemap, Easytrip, New Motion, etc.).
- Additional power modules: additional modules can extend posts up to 160 kW where applicable.
- Remote indicators: status light totem pole featuring the three main states of the post (charging, available, unavailable).
- Custom power configuration: specific power delivery or limitation.
- Vehicle to grid (V2G): Reversible charger where energy is re-injected into the power grid from the vehicle battery.
- Mobile charger: compact and easy to handle, enabling easier vehicle maintenance in the workshop.

LOAD
BALANCER

MAST

DOME

CCS
CONNECTOR

WINDER

PANTOGRAPH



COMECA E-MOBILITY SERVICES



01. BUILD

All our services are available on a one-off or contractual basis. Our service offering covers everything from charging systems to power distribution:

- Installation & commissioning on site
- Level 1 to 3 training for operators
- Servicing
- Preventive and/or corrective maintenance up to level 5
- Audit and expert assessments
- Remote technical assistance
- Remote diagnostics and troubleshooting
- Definition of a maintenance plan
- Spare parts management
- End-of-life recycling



02. INSTALL



03. MAINTAIN



04. UPDATE & SUSTAIN



COMECA CHARGERS ALREADY IN USE ACROSS EUROPE:



Paris
La Rochelle
Le Haillan
Périgueux
Trappes
Aix-en-Provence
Toulon
Bergerac
Grenoble
Strasbourg
Vesoul
Vézily
Rome
Berlin
Aix-la-Chapelle
Ingolstadt
Munich
Brussels
Luxembourg
Amsterdam
Dublin
London
Newcastle
Bedfordshire
Geneva
Rolle
Oslo
Madrid
Barcelona
Bilbao
Zaragoza





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