



Electric Mobility

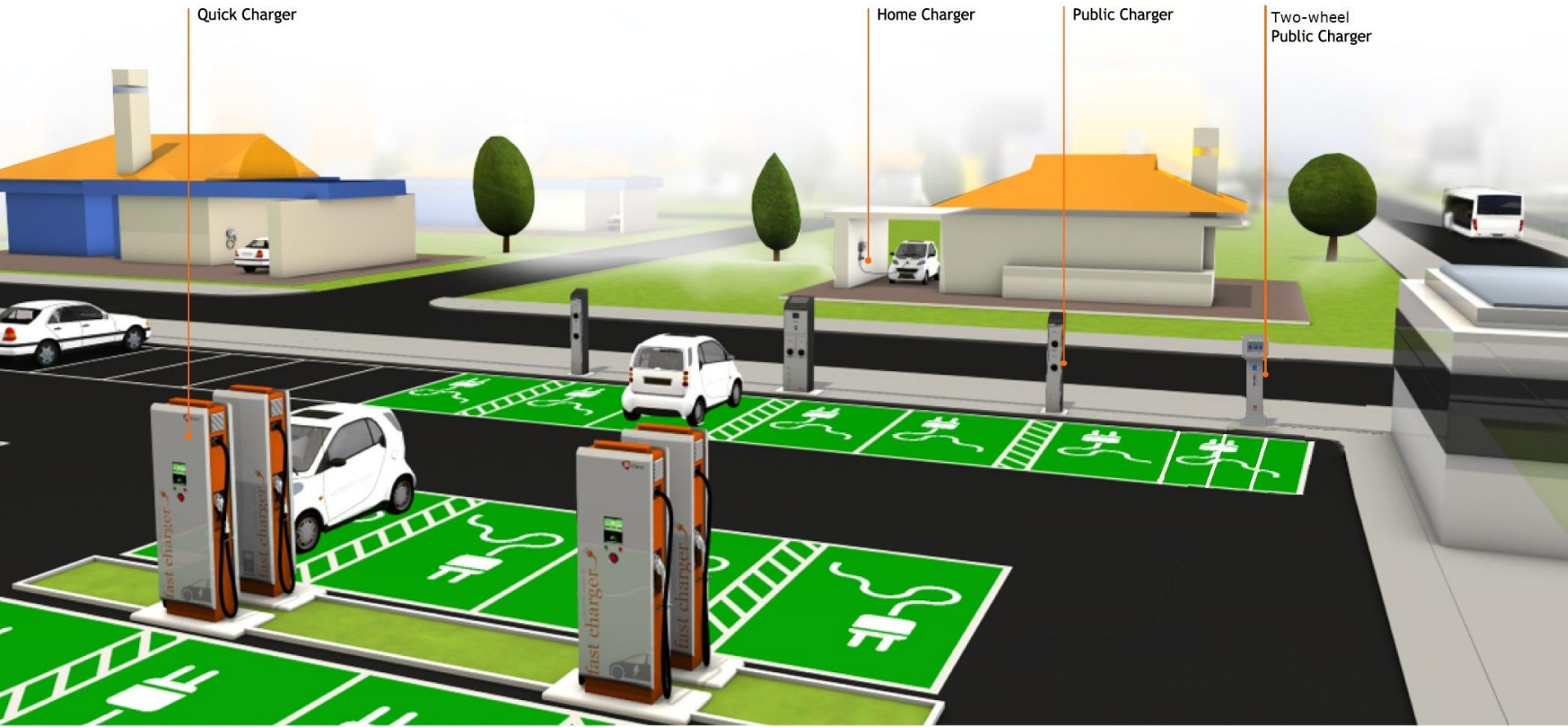


Technology that moves the world
www.efacec.com

EV Charging Solutions



We believe in **Electric Mobility** as the future of urban mobility. This is why **EFACEC** has developed a full range of products covering all requirements of electric vehicle charging system - from **Home Chargers** to high power **Fast Chargers**, all according with the latest industry standards.



Complete product line on Charging Stations

Energy Management and energy efficiency solutions

Home & Condominium Charge

AC Public Charge

Quick Charge (DC & AC)

Network Management and Grid Integration

Electric Bus

Private Chargers (Homechargers)

3,7 - 7,4 kVA 1 phase
11 - 22 kVA 3 phase
Cable or socket



Three phase, 11- 22 kVA,
Mode 3



Customized Support Design



Single phase, 3,7 - 7,4 kVA,
Mode 3

RENAULT
ZE **CE**

Home Chargers

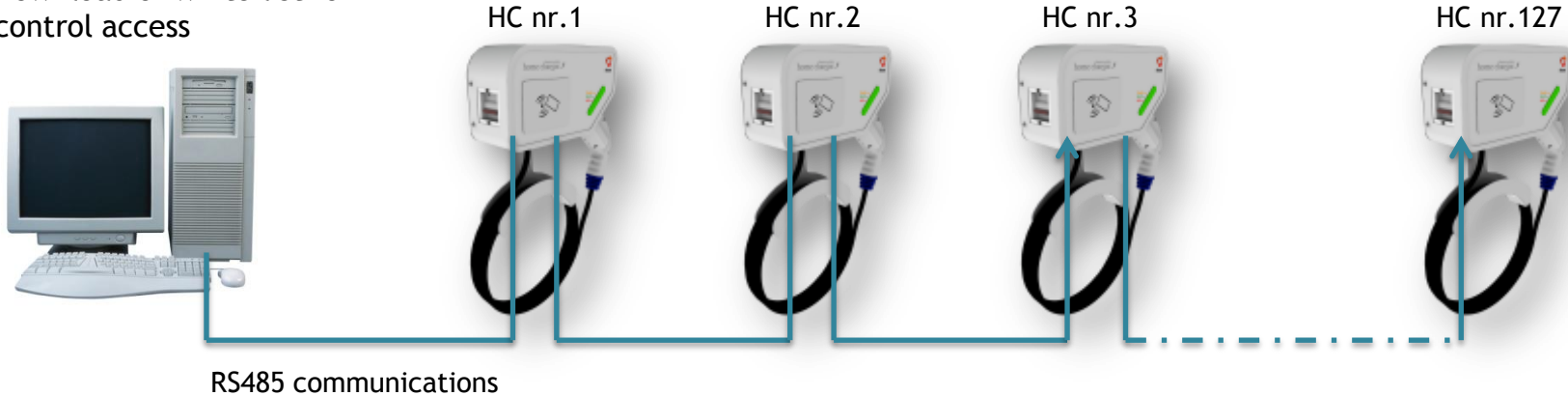
Semi-Public / Condominium Solutions



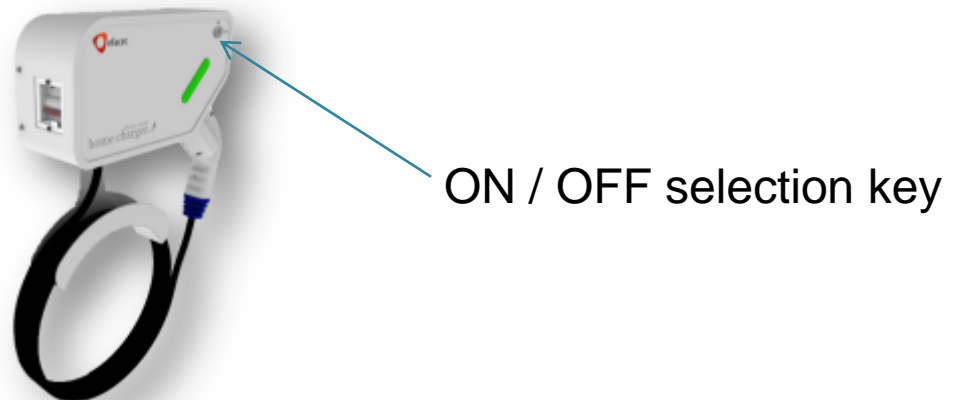
Private Solutions - access control

RFID Access

Download of white list for RFID control access



Physical Key



Home Chargers

Semi-Public / Condominium Solutions



Private Solutions

Semi-public network using central and satellite units, with local management or connected to remote management back-office system;

Central Unit



The Satellites technology uses the same type of controller as the Home Charger

SAT nr.1



SAT nr.2



SAT nr.3



SAT nr.127



Download of white list for RFID control access;
Event list: Start charging, energy, charging time, etc;
Communications to NMS(GSM, wireless...);

AC Public Chargers solutions



Modular Chargers



Non-Modular Chargers



Pole/wall mount Chargers



(Schuko)



(IEC60309)



Type-2 socket

Choose the power of your energy!

Multiple configuration between the different powers

Modular Chargers



Choose the color of your energy!

Main features

Modular/Non Modular Constructions
Combination of different output power modules

Master Slave configuration
(Up to 254 slaves)

Customized paint and/or construction

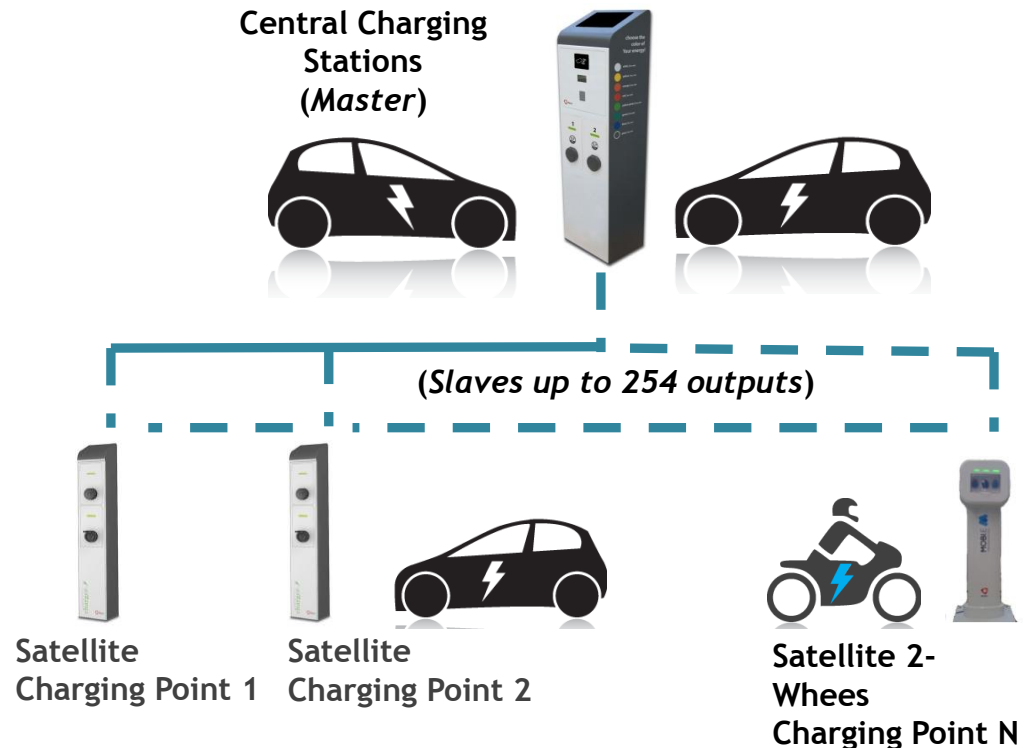
3G Network connection

Keyboard and display interface

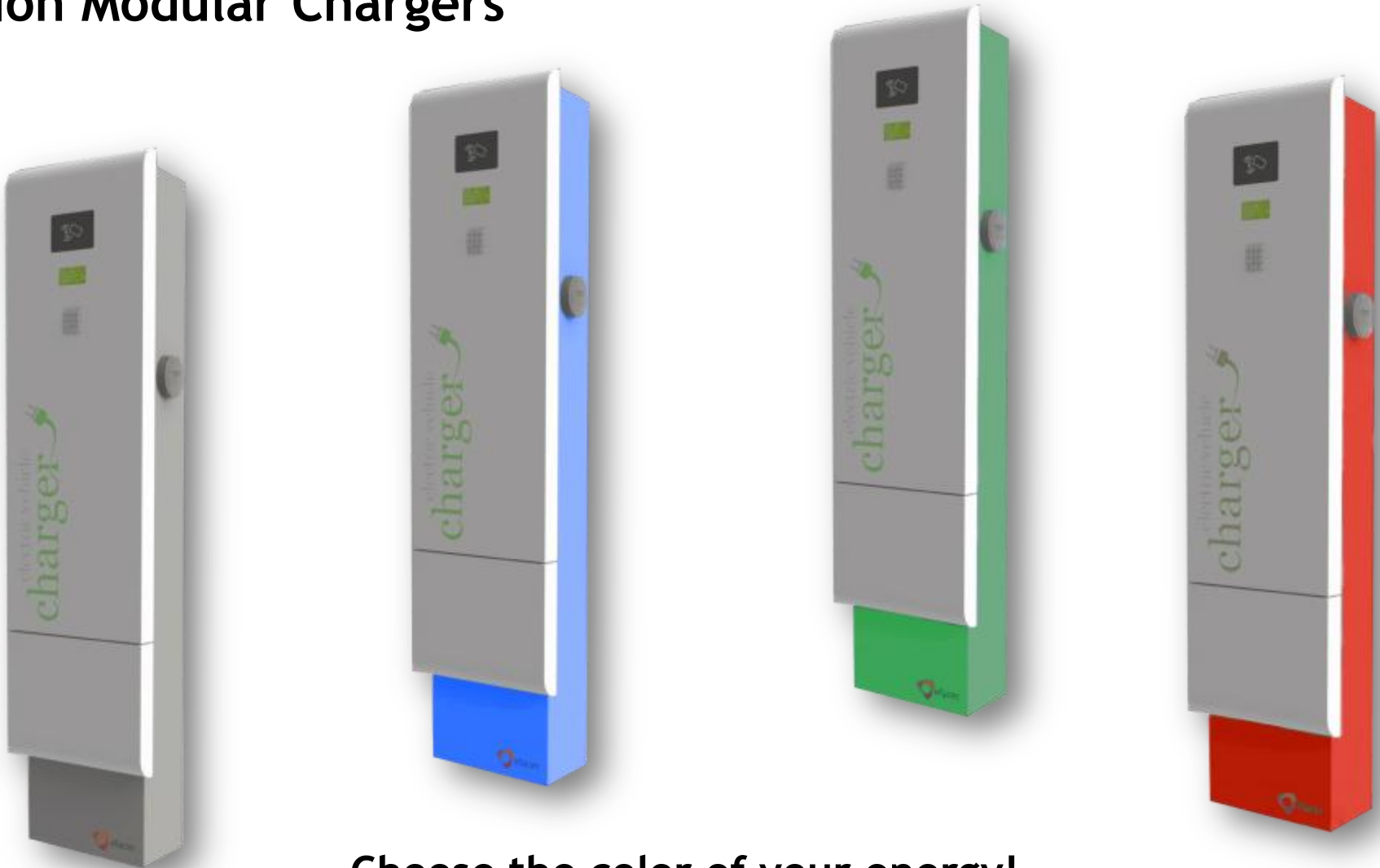
RFID card reader

Different Communication Protocols
(OCPP; Mobi.E; Mitsubishi; EFACEC; etc)

Master Slave Configuration



Non Modular Chargers



Choose the color of your energy!

Pole / wall mount charger



Choose the color of your **energy!**

Quick Chargers



Charging from 0 to 80% In less than 30 minutes



Flexibility for combined solutions
DC/AC or even DC CHAdeMO/COMBO

Applications

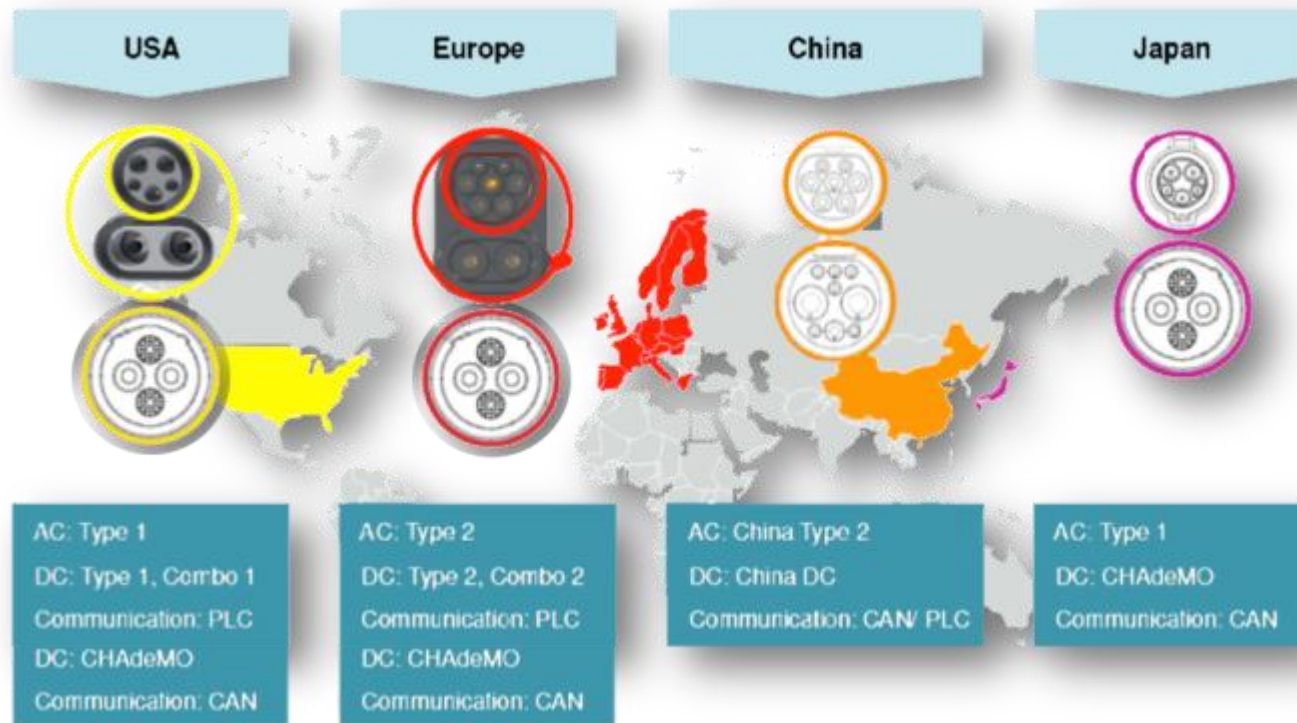
On street

Gas stations

Highway stations



Standard adopted and applicable



CHAdeMO (since 2010): 



AC Fast Charging (43kVA):

(only!)



Combined Charging (by 2012/2013):



Fast Chargers

DC Main characteristics

Full CHAdeMO compliant
(500V; 125A)

Combined charging system compliant

0,98 Power Factor
High efficiency (up to 96%)

From 0 to 80% in less then 30 min



Same Quick Charger before and after customization

AC

Rated 63A, 3 phase, 43kVA
(Mode 3)



GALP
(Portugal)



Standard
Kiosk Design



350 Green
(USA)

Quick Charger with user interface kiosk for different customers

DC Chargers variants

Standard Configuration QC45 - Stand-Alone cabinet



QC 45 (50kWpeak; 45kW continuous) (60x60x180)cm:

- CHAdemo
- CCS
- CCS + AC
- CHAdemo + CCS
- CHAdemo + AC
- CHAdemo + CCS + AC



DC Chargers variants



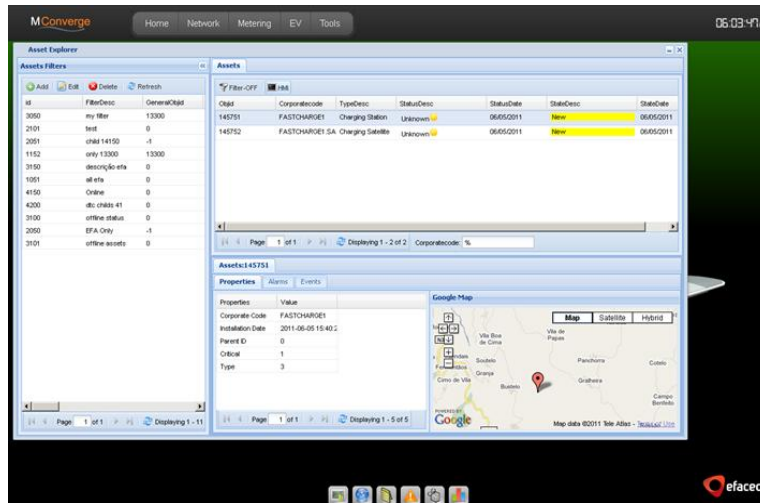
Configuration QC45 with Cabinet + Kiosk
Any combination up to outputs, or up to 4 outputs

Available configurations:

- CHAdeMO
- CCS
- CHAdeMO + CCS
- CHAdeMO + AC43
- CCS + AC 43
- CHAdeMO + CCS + AC43
- CHAdeMO + CCS + 2xAC43
- 2 CHAdeMO + 2 CCS (with 2 powers cabinets)



Network Management



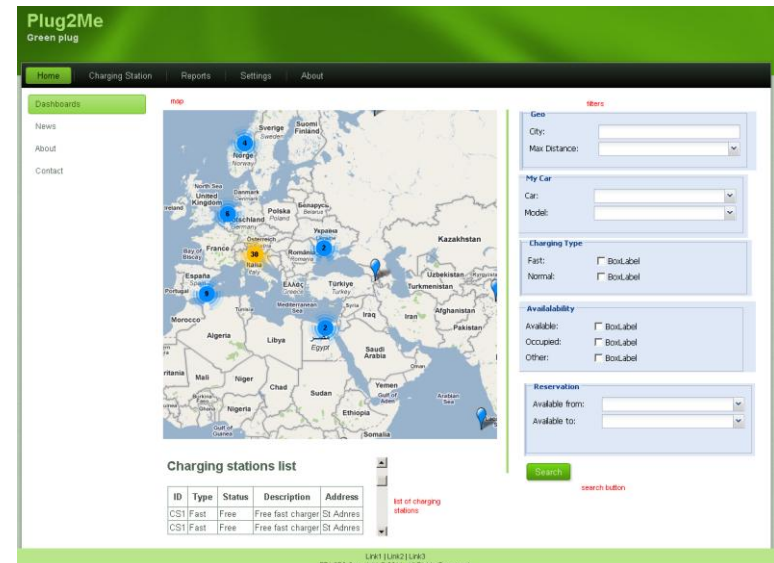
Web UI Interface

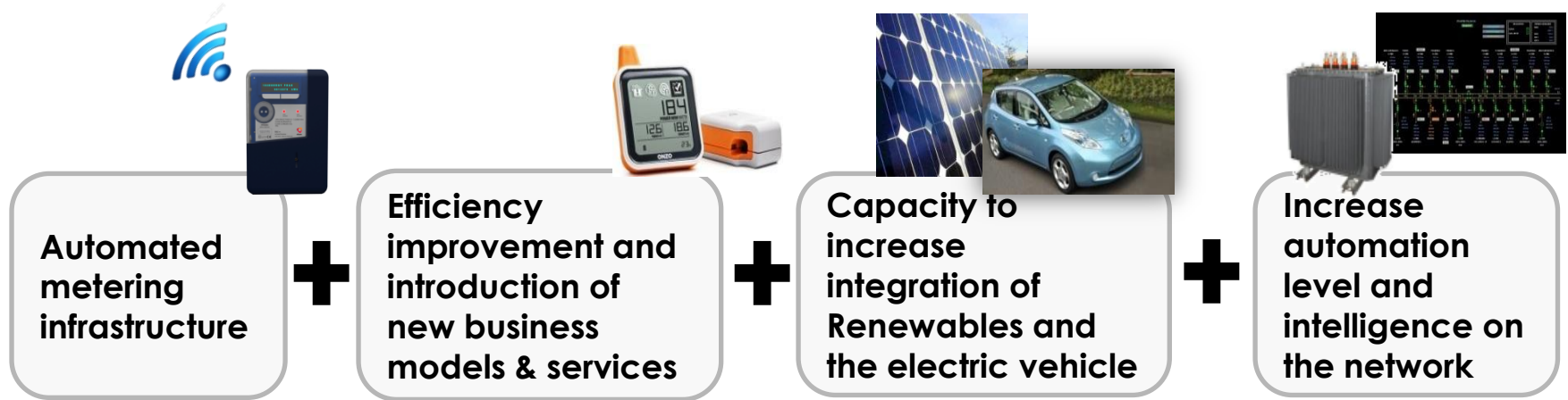
System technical management interface for EV infrastructures

EV User Portal

Consumer portal that provides public information about the charging stations

Available for desktops and mobile devices



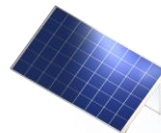


Smart Grids

EV Integration is one of the challenges addressed in Efacec's smart grid approach



- Storage
 - Voltage and frequency regulation
 - Backup power source
- Demand-Side Management / Demand Response
 - Improved consumer behavior
 - Smart appliances
- Systems and Assets Integration
 - Active integration of all technological stakeholders



Selection of customers

Portugal : Mobi.e, GALP, EDP, Nissan, Renault

Spain : IBIL, Bluemobility, Nissan

Italy : Siemens

Belgium : The Plugin Company

Holland : Alliander

Luxembourg : Estonteco

Germany : Siemens, RWE, Vattenfall, BMW, VW, Carmeq

UK : Nissan, Siemens

Ireland : ESB

Norway : Ishavsveien, Gronn Kontackt, Fortum, Falu Energy, BMW

Sweeden : Q8, Fortum, BMW, IKEA

Finland : Fortum

Denmark : Clever, BMW

Turkey : ESARJ, Renault

Georgia : Government

Abu Dhabi : Masdar City

Brazil : EDP, AES Eletropaulo, Nissan

USA : 350 Green, SMUD, Tennessee Valey authority, GM, VW, BMW

South Africa : Nissan, ESKOM

EFACEC EV Charger References



MOBI.E
Portugal



GALP
Portugal

EFACEC EV Charger References



IBIL/Repsol
Spain



The Plugin Company
Belgium

EFACEC EV Charger References



RWE
Germany



Carmeq/VW
Germany

EFACEC EV Charger References



Ishavsveien
Norway



IKEA
Sweden

EFACEC EV Charger References



Masdar
Abu Dhabi



AES
Brazil

EFACEC EV Charger References



Chicago
USA



ESKOM
South Africa

More than 2000 chargers in
more than 20 countries

Main Partners / Distributors

Network of 15+ partners covering all the main markets in europe

SIEMENS

GARO
Garo Group

AEG



VORWEG GEHEN

NOW!
INNOVATIONS



100% Electric Bus



Caetano / EFACEC Partnership

100% Electric Bus / COBUS 2500 EL

CHAdeMO compliant



Caetano / EFACEC Partnership

100% Electric Bus / COBUS 2500 EL

Main Characteristics

Urban circuits Bus

Batteries on side walls with good accessibility

Low-Floor Chassis

Extra large passenger door, for fast access

Width 2,55 meters

Modular construction allowing different sizes

Air Conditioned

Midi-urban 9-10 meters and urban 11-12 meters

150km autonomy

Permanent magnet electric motor

4 hours charge

Li-ion batteries 150KWh

Caetano / EFACEC Partnership

100% Electric Bus / COBUS 2500 EL

EFACEC Scope

Electric motorization

Charging interface

Batteries

Caetano Scope

Construction

Chassis

Interiors



choose the color of your energy