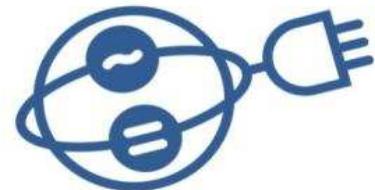




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Combined Charging the universal charging system

Combined Charging System is Reality

Cornel Pampu, Carmeq GmbH

Birger Fricke, Ford

Thorsten Künzig, BMW Group

Ralf Milke, Volkswagen AG

Matthias Kübel, Volkswagen AG

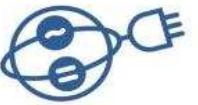




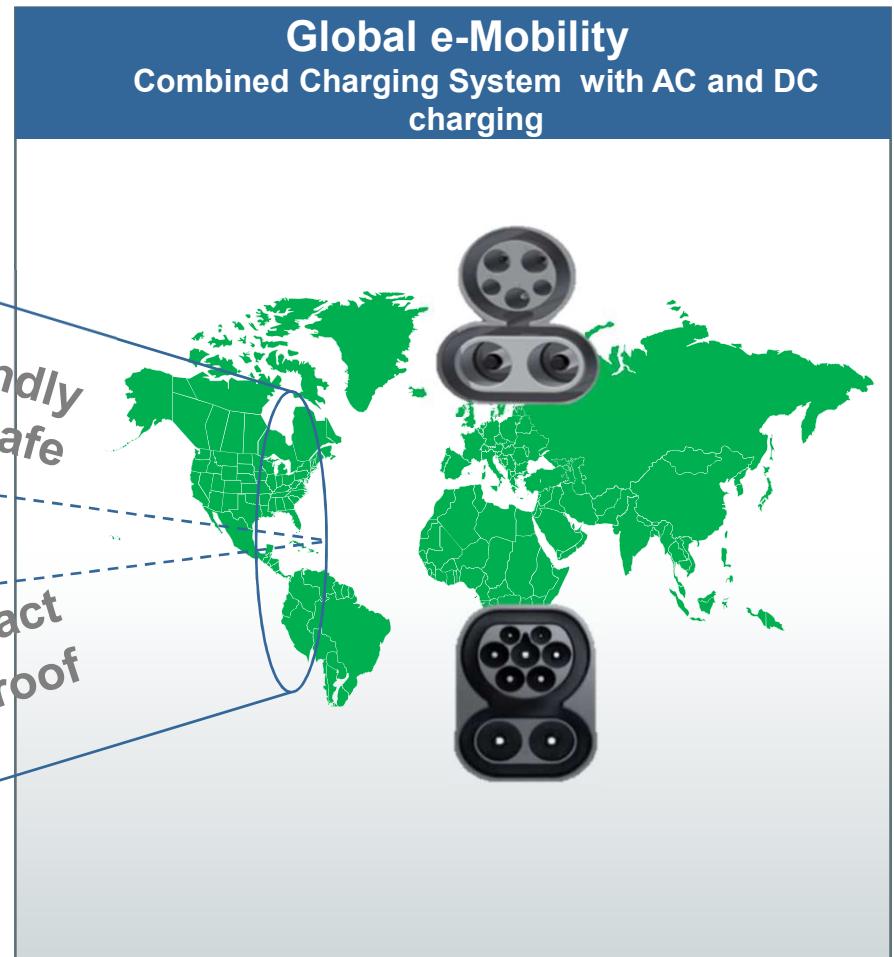
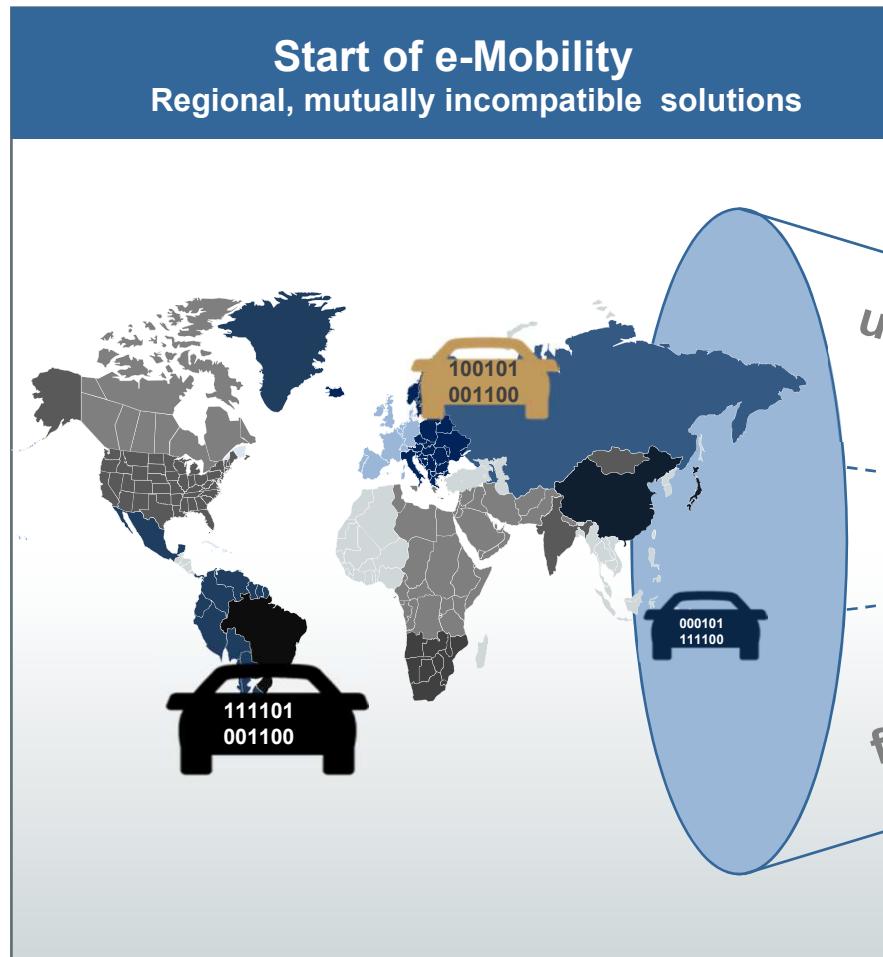
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Combined Charging System – Why?



Global e-Mobility: One system for all.



Coordination Office Charging Interface
c/o Carmeq GmbH



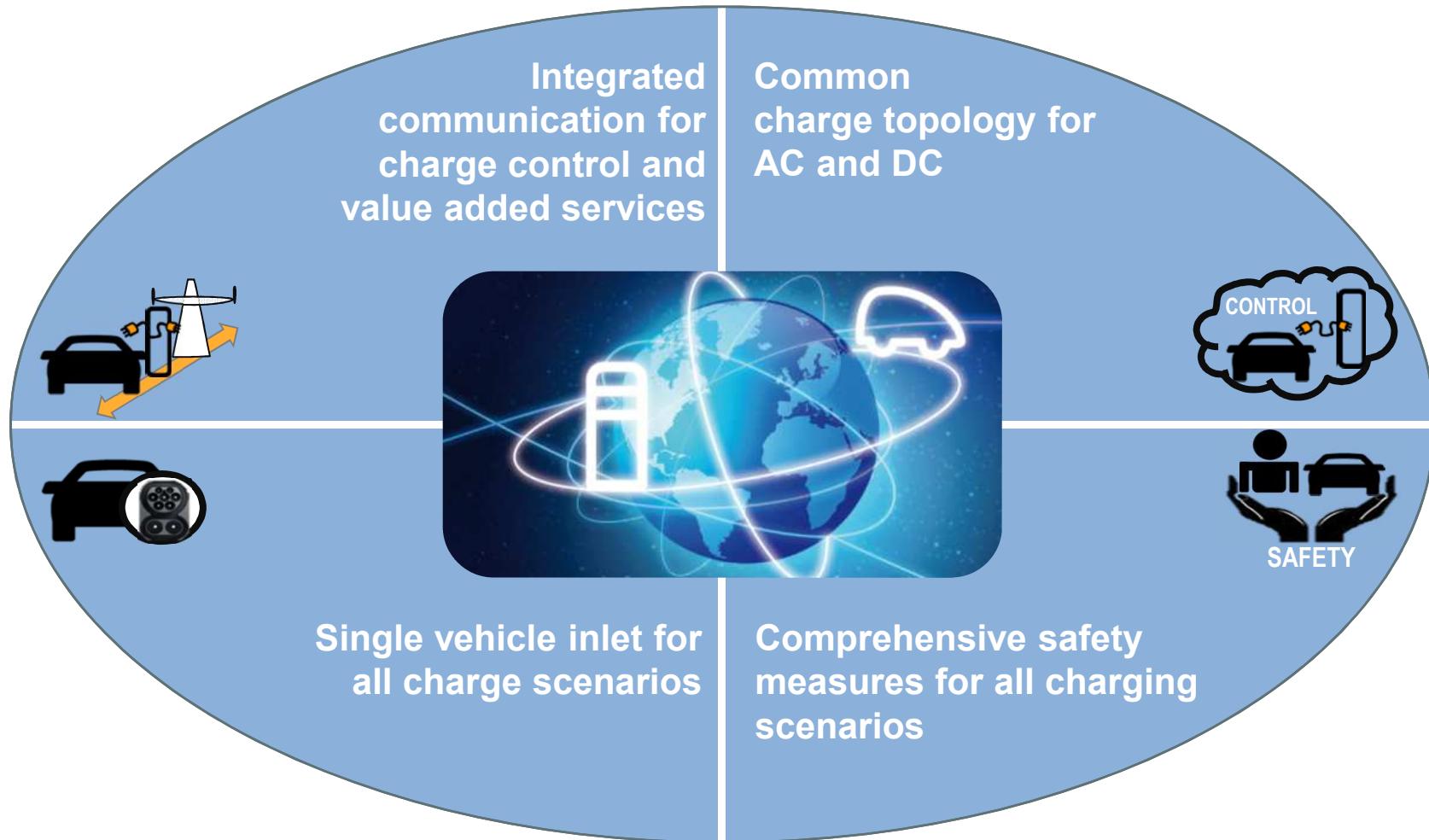
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The Combined Charging System - A New System Approach



An open, standardized and future-proof charging system



International Support for the Combined Charging System.



Strong commitment of international OEMs and infrastructure providers



**

Chrysler Group LLC,
Ford Motor Company, and
General Motors

*

BMW, DAF, Daimler, Fiat, Ford of Europe, General
Motors Europe, Hyundai Motor Europe, Jaguar Land
Rover, MAN, Porsche, PSA, Renault, Scania, Toyota
Motor Europe, Volkswagen, Volvo Cars, and AB
Volvo

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c/o Carmeq GmbH

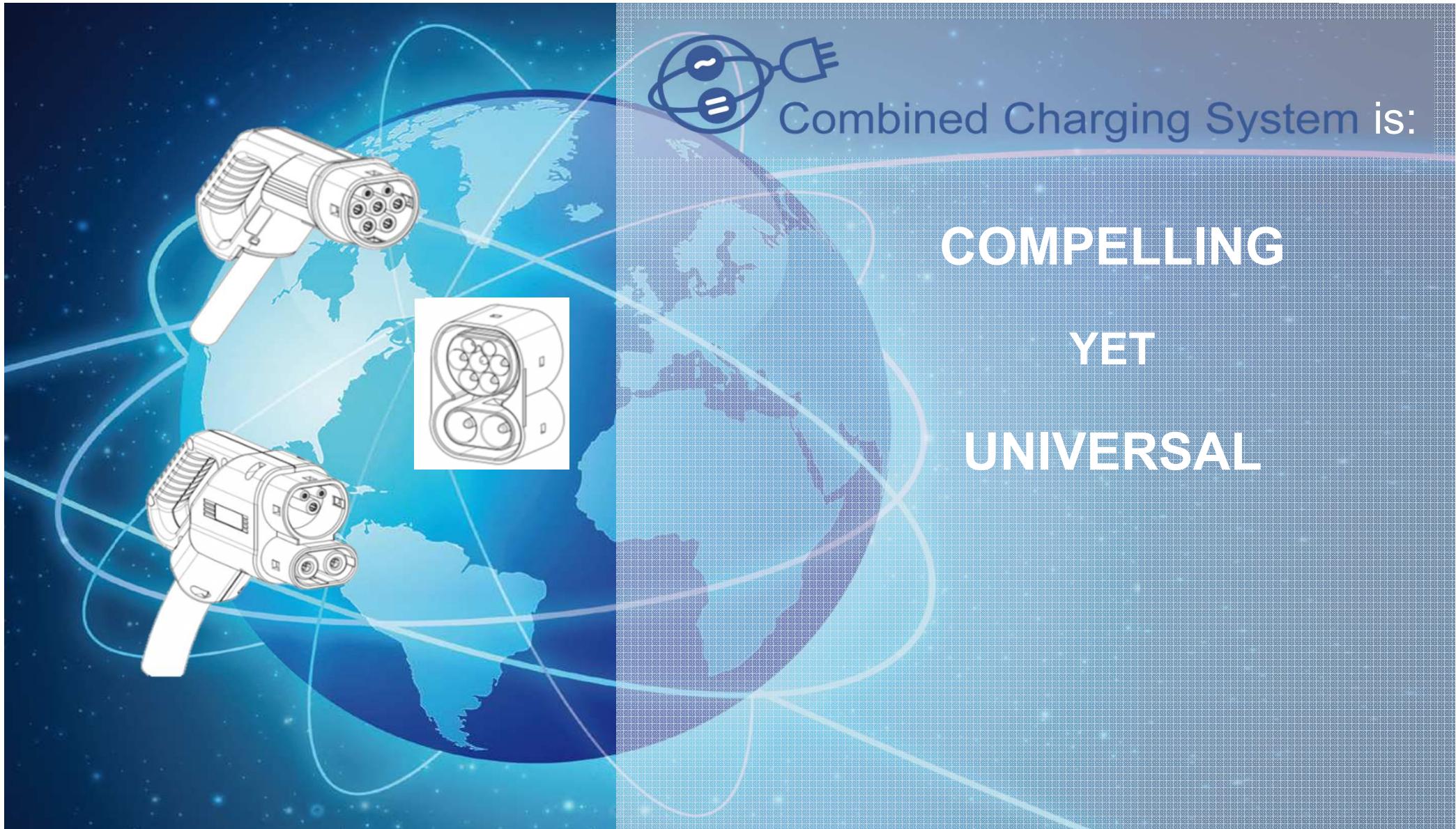


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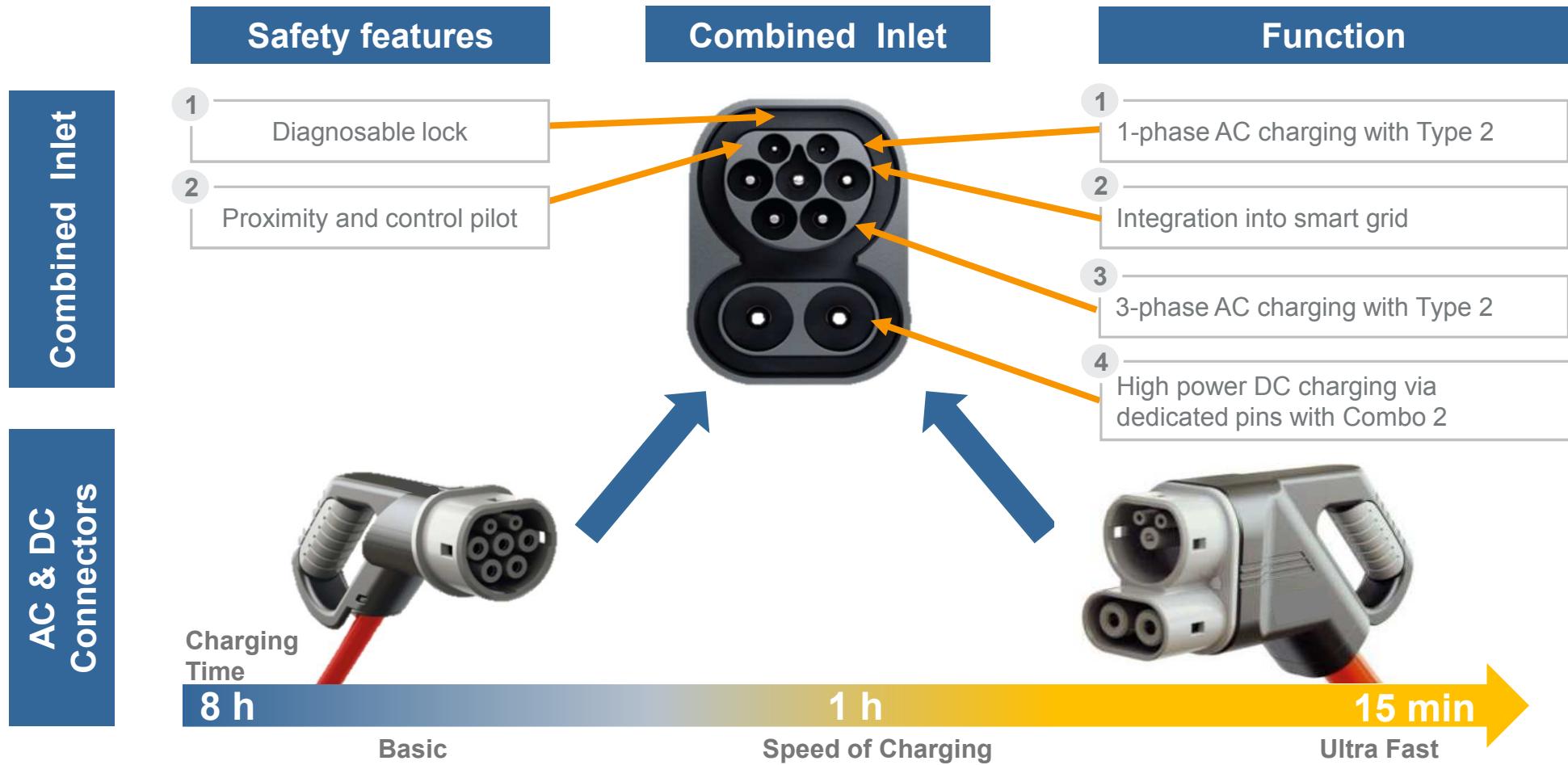
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Combined Charging System – Core Features



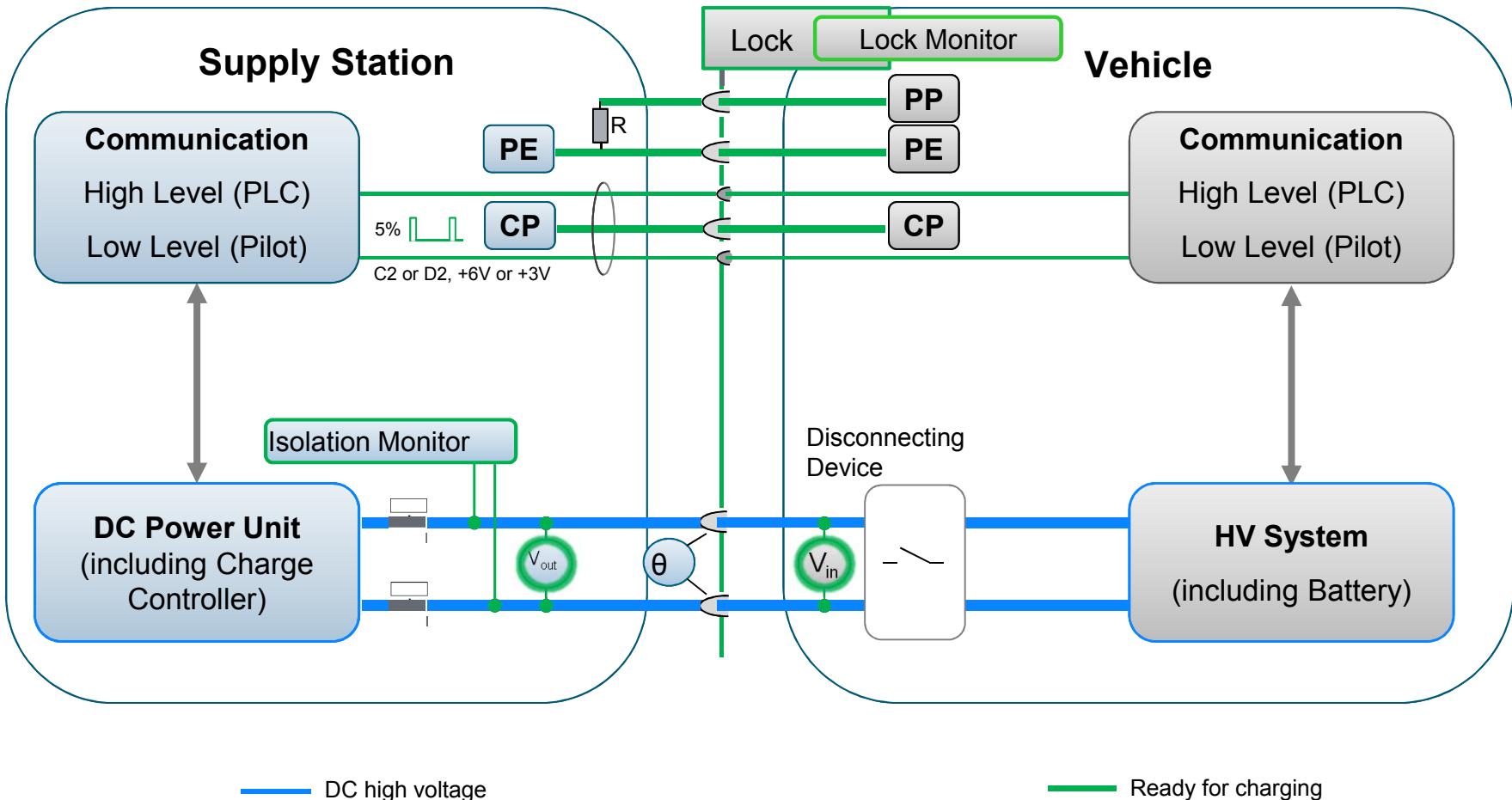
Enhancing existing, market proof technology



Charging sequence with a simplified architecture



Proven technical design based on Type2.





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Combined Charging System is:

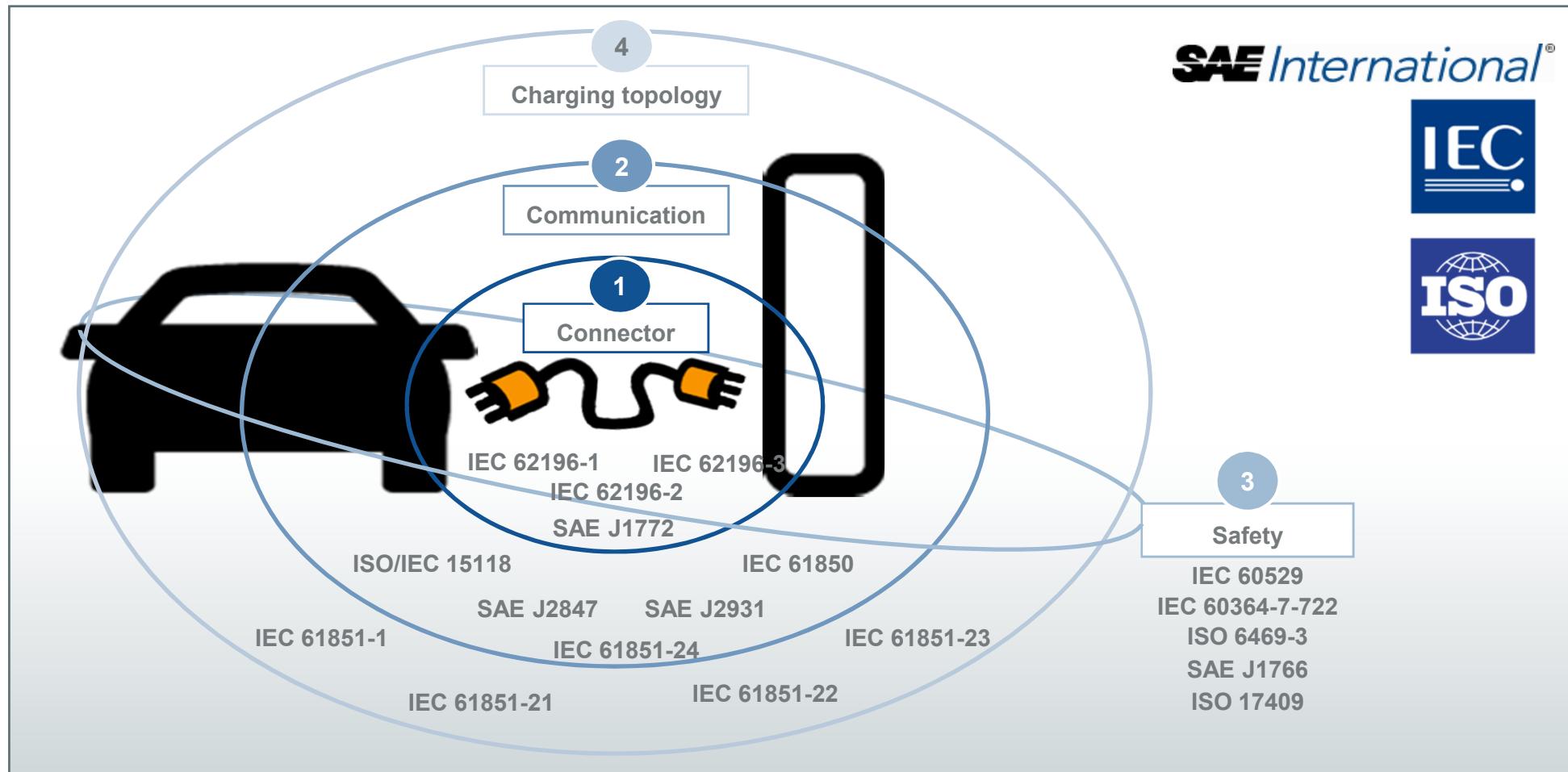
SAFE & ROBUST

**WITH
MATURE STANDARDS
UNDERLYING**

International Standards for the Charging Interface



Standards are validated – national and international.





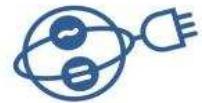
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Combined Charging System is:

**VALIDATED
AND
ON THE MARKET**

Ideas Turned into Reality



VW ERL - Belmont, CA
VW operating an Eaton DC 50 kW unit



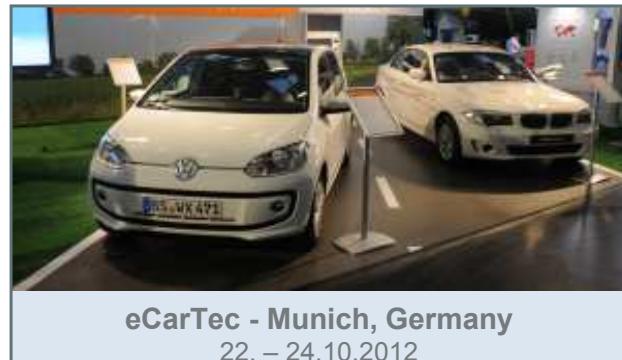
BMW of NA - Woodcliff Lake, NJ
BMW i3 operating an ABB DC 50 kW unit



GM ATC - Torrance, CA
GM operating an AkerWade DC 50kW unit



EVS26 - Los Angeles, USA
07.05. – 09.05.2012



eCarTec - Munich, Germany
22. – 24.10.2012



Angela Merkel charging an VW e-up!
International Conference E-mobility Berlin

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c/o Carmeq GmbH

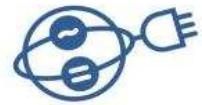


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E-Mobility for Europe

Electric Vehicles and Infrastructure



Announced EVs



Chevy Spark EV



i3



e-up!

Infrastructure



Launch of EU „clean fuel strategy“ earlier this year:

- "Type 2" and „Combo 2“ as common standard for the whole of Europe
- Strategic course of Parliament and Council



EVSEs Supporting the Combined Charging System



The CCS standard is implemented by major EVSE manufacturers

ABB



50 kW DC charger

efacec



50 kW DC charger

e energy.
moving the future now

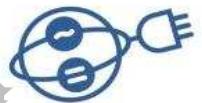


Compact and
transportable Combo
charger

ies



Infrastructure Rollout Started



Launch of EU „clean fuel strategy“ earlier this year:

- "Type 2" and „Combo 2“ as common standard for the whole of Europe
- Strategic course of Parliament and Council



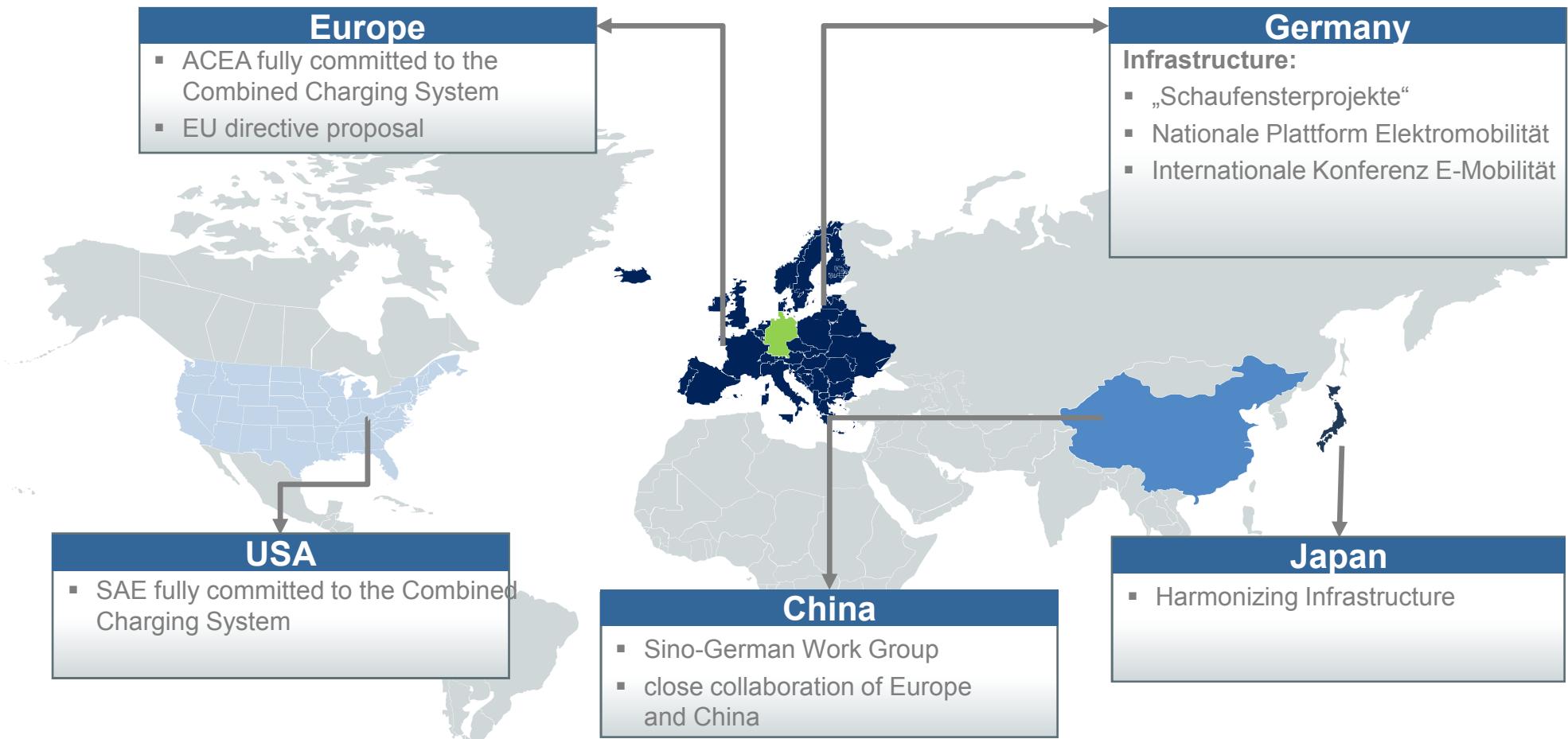
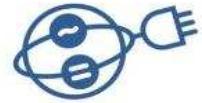
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c/o Carmeq GmbH



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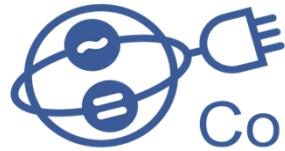


Evolution towards a global universal system





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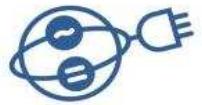


Combined Charging System is:

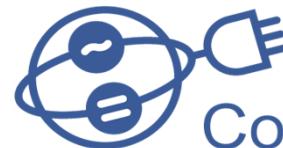
OPEN STANDARD
FOR
GLOBAL E-MOBILITY



The Combined Charging System - The SUNRISE of e-Mobility



It is on the market - worldwide



Combined Charging System

SAFE, **U**NIVERSAL, **O**PEN, **R**OBUST, **I**NNOVATIVE **S**YSTEM for **E**LECTRIC VEHICLES



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c/o Carmeq GmbH



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Ideas Turned into Reality



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Q & A