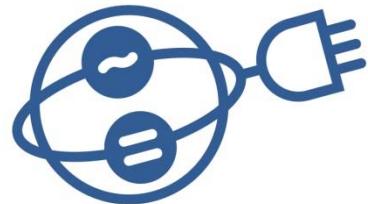




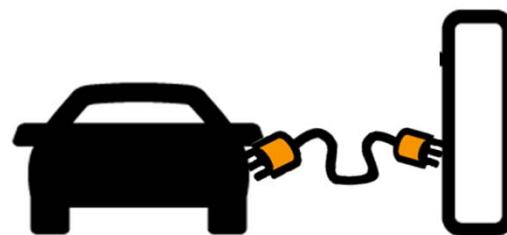
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Combined Charging  
the universal charging system

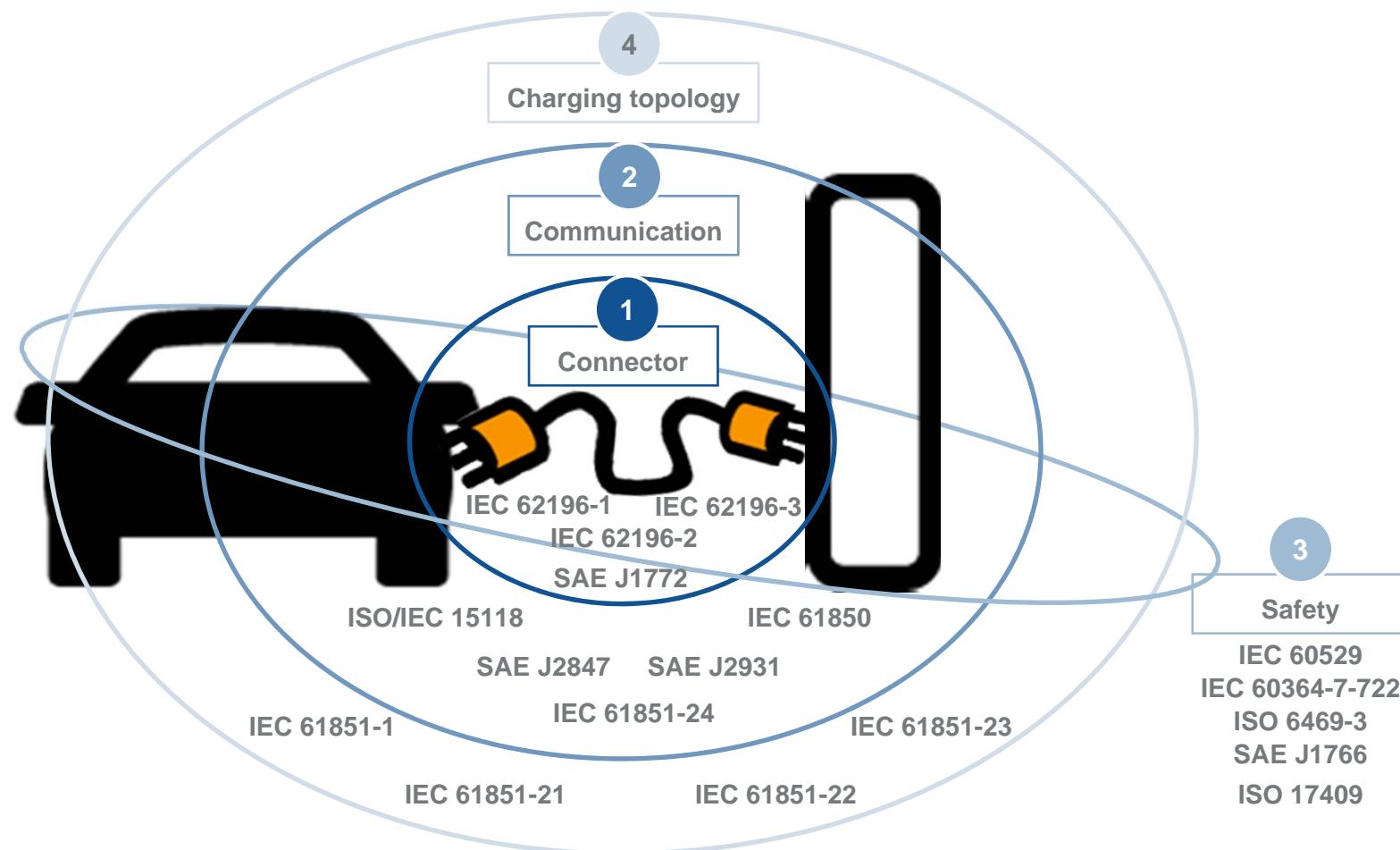
## Global Standardization Efforts

Joachim Goethel, BMW Group



# Relevant International Standards for the Charging Interface

The charging system is comprised by a set of related standards.



# Standardization Europe

Standards for DC charging are ready.



## Scope

- DC systems according to Combined Charging Systems will be created according to existing standards:
  - Connector: IEC 62196-3 CDV
  - Topology: IEC 61851-23 CDV
  - Communication: DIN Spec 70121
- DIN SPEC 70121 refers to ISO / IEC 15118-1 DIS, -2 DIS and 15118-3

## Benefits

- Series production of DC-Charging ongoing, Transparent requirements for all products on the market
- Common agreement by all stakeholders
- Standards aligned with SAE

## Schedule

- Balloting on draft
- Publication June 2012
- Series products available End of 2012
- Vehicles on the market in 2013

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# International Standardization

Global alignment of international experts established during voting procedures.



Full specification

- The Combined Charging System standards cover AC and DC charging
- International Standards are as follows
  - IEC 62196-1/-2/-3
  - IEC 61851-1/-21/-22/-23
  - ISO / IEC 15118-1/-2/-3
  - ISO 17409

Completion

- Voting on committee drafts ongoing
- IEC is aligned with German and SAE standards
- Publication of international standards expected to be completed in time

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