



## Interfaces / Protocols

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# Topics

- Intro EV Box
- Interfaces / Protocols
  - Overview
  - EV Box implementations
- What can you do (together)?



## History & Milestones

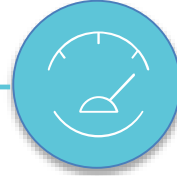
Tesla Roadster is introduced & the need for intelligent charging solutions is recognized  
2008



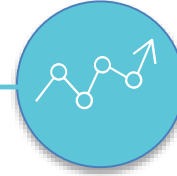
EV-Box is founded and the first charging station is sold  
2010



EV-Box continues to grow and expands product range  
2012



Gilde Equity Management as majority shareholder to drive international expansion.  
2014



EV-Box starts expanding to other European countries & USA  
2015



Charging Stations Installed

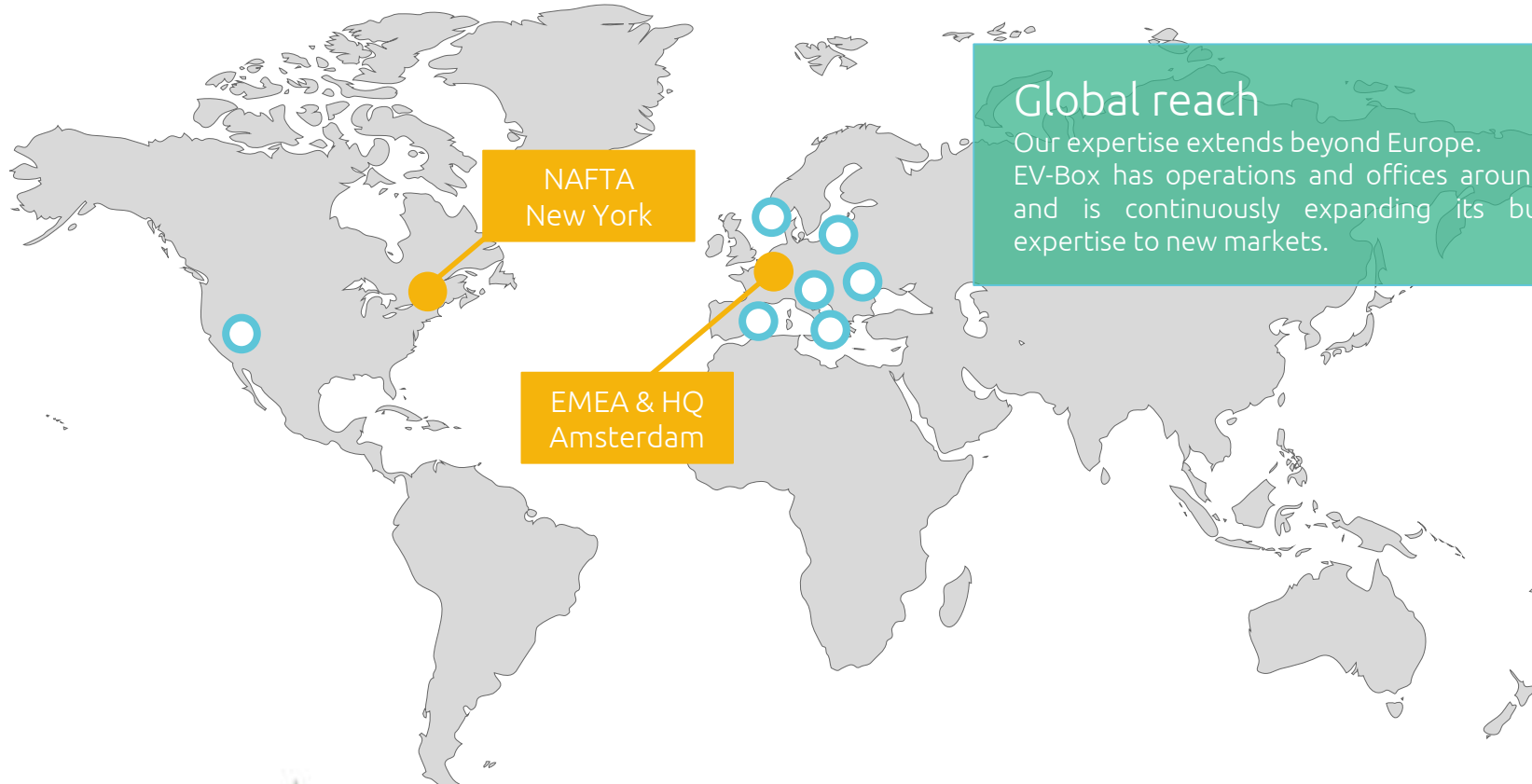
200

6000

25000

> 33000  
and counting

## Our Global Presence



### Global reach

Our expertise extends beyond Europe. EV-Box has operations and offices around the world and is continuously expanding its business and expertise to new markets.



Car Manufacturers



Leasing Companies



Retail & Franchise



Municipalities & Governments



Large Enterprises & SMEs

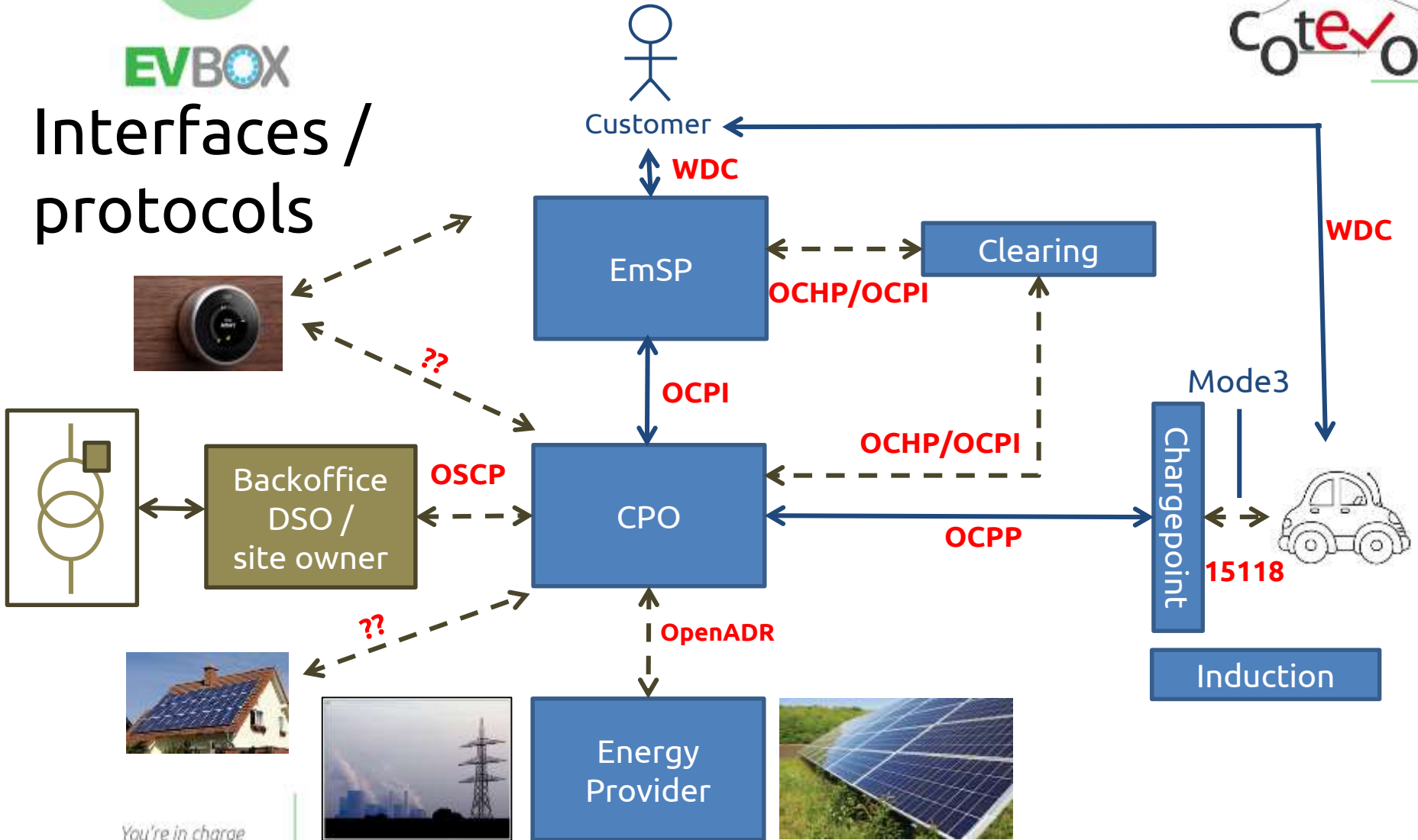




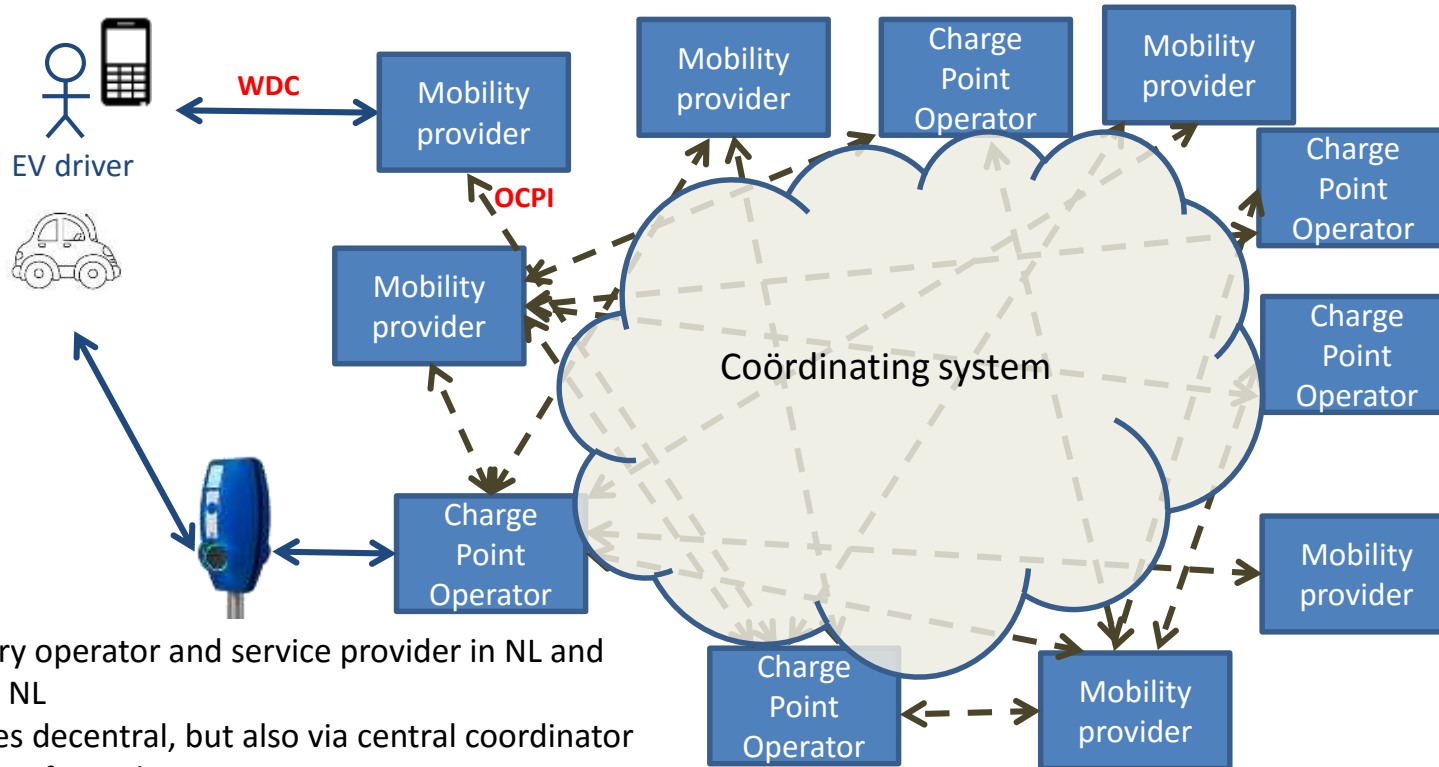


*You're in charge*

# Interfaces / protocols



# Open Charge Point Interface



- For every operator and service provider in NL and outside NL
- Operates decentral, but also via central coordinator
- (live) data from charge points
- Transaction exchange
- Real time price en status info for EV driver
- Supports Ad Hoc charging (without subscription)



# EV Box implementations

- OCPP 1.5
  - App. 15 custom message sets
  - App. 40% will be part of OCPP 1.6
- No IEC 15118 implementations yet
  - Dependency OEMS
  - Benefits vs effort
- Strong focus on OCPI
- Strong focus on induction
- Strong focus on power of mobile device
- Strong focus on Keep it simple

## UC 15118

A	Start of charging process
B	Communication setup
C	Certificate Handling
D	Identification, Authentication and Authorisation
E	Target setting and charge scheduling
F	Charge controlling and Re-scheduling
G	Value-added services
H	End of charging process

# What can you do?

- Support OCPI
- Open protocols for:
  - home automation
  - Local generation and storage
  - Induction
- Authentication from mobile via car to charger
- Keep it simple
  - Technology should support usage, not the other way around.
  - High complexity = high price





[www.ev-box.com](http://www.ev-box.com)

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