Integrating EV Charging stations at Petrol Stations

Stuttgart, May 18th, 2022

Lonneke Driessen-Mutters


TICKET & FREIGHT OFFICE
STEAMER
CLIFFORD SIFTON
St. Casca
Sails for
Dawson 7 P.M.
To-day June 29th

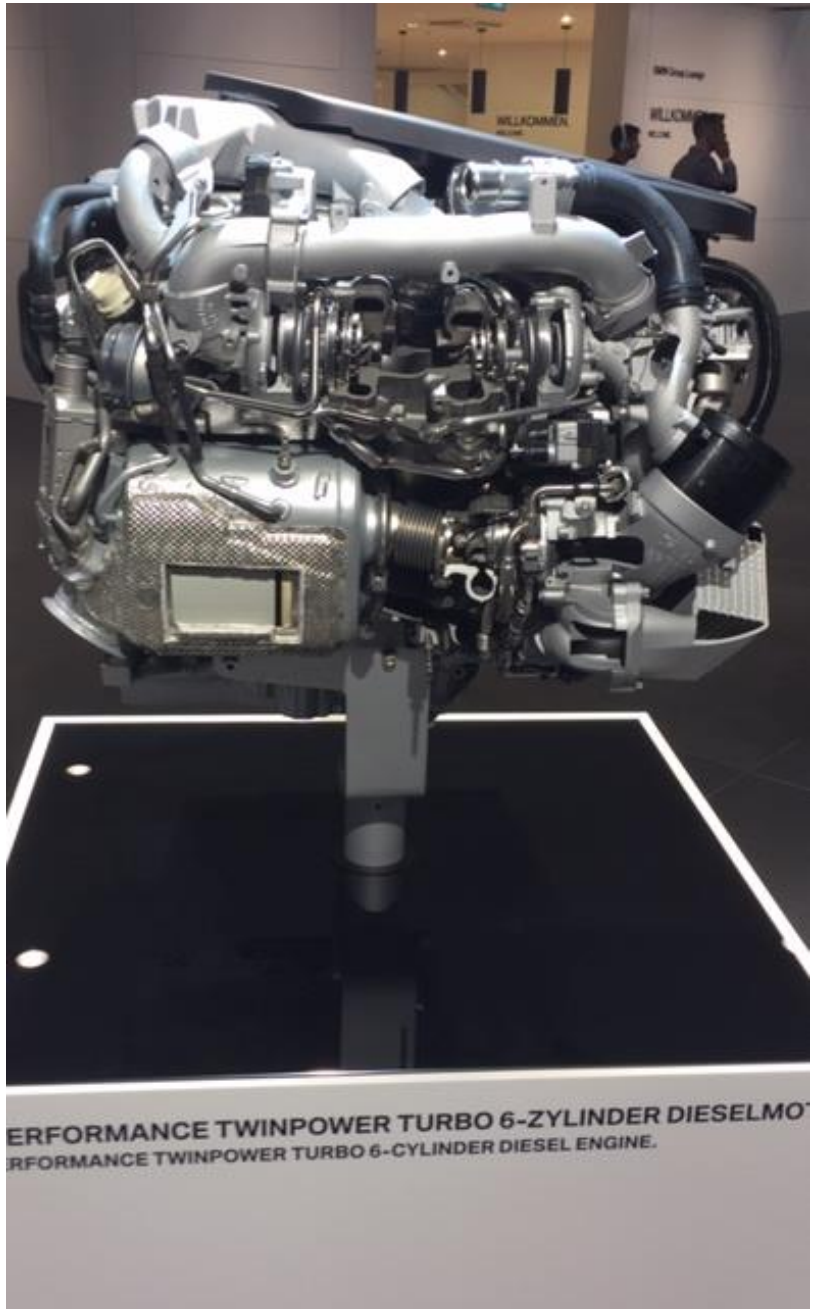
CO2 emission reduction

Gram per kilometer

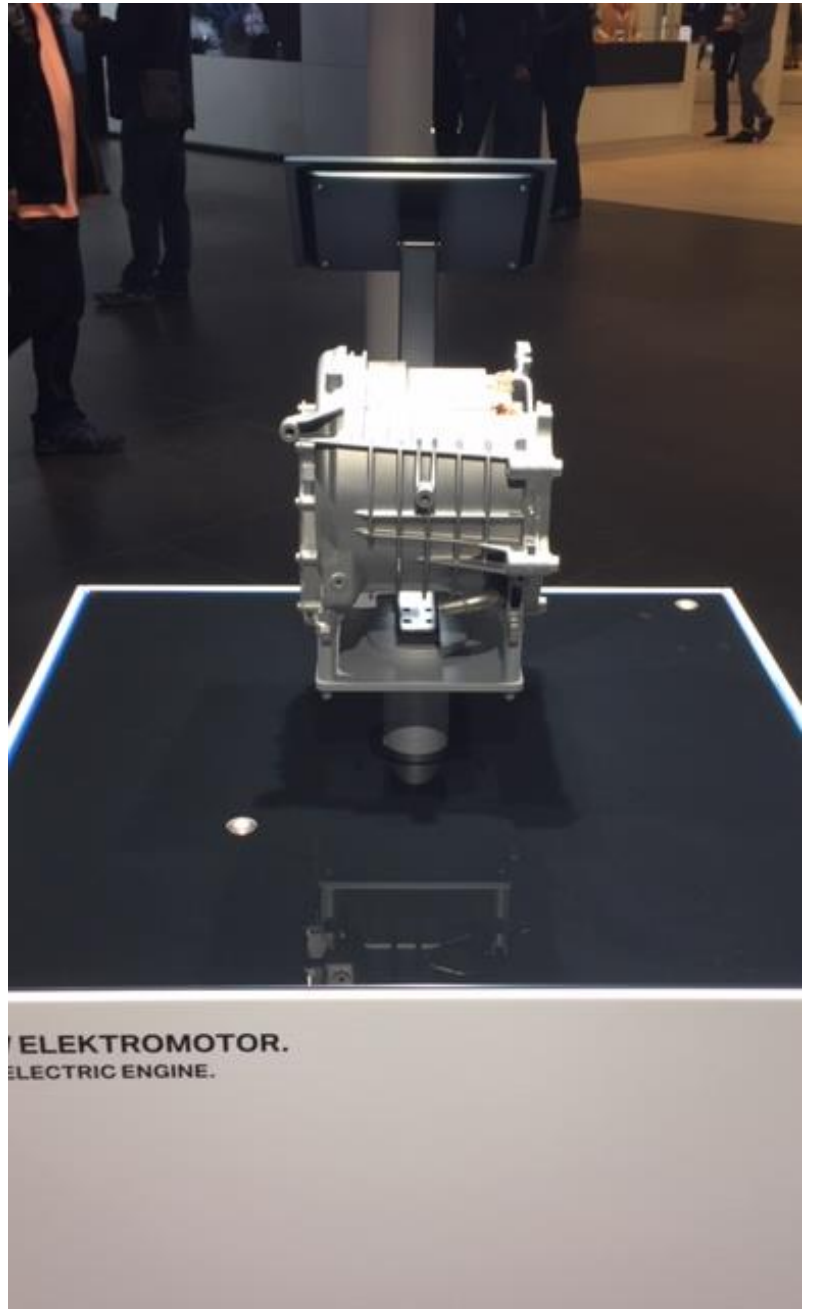
	Diesel / Gasoline	Electric
Oil production, refinery and transport	27-30	0
Emissions while driving	140-170	0
Production and transport of Electricity	0	9 – 105*
Vehicle manufacturing and recycling	46	64
Total	213-246	73 – 169*

** 100% Renewable energy vs Regular energy*

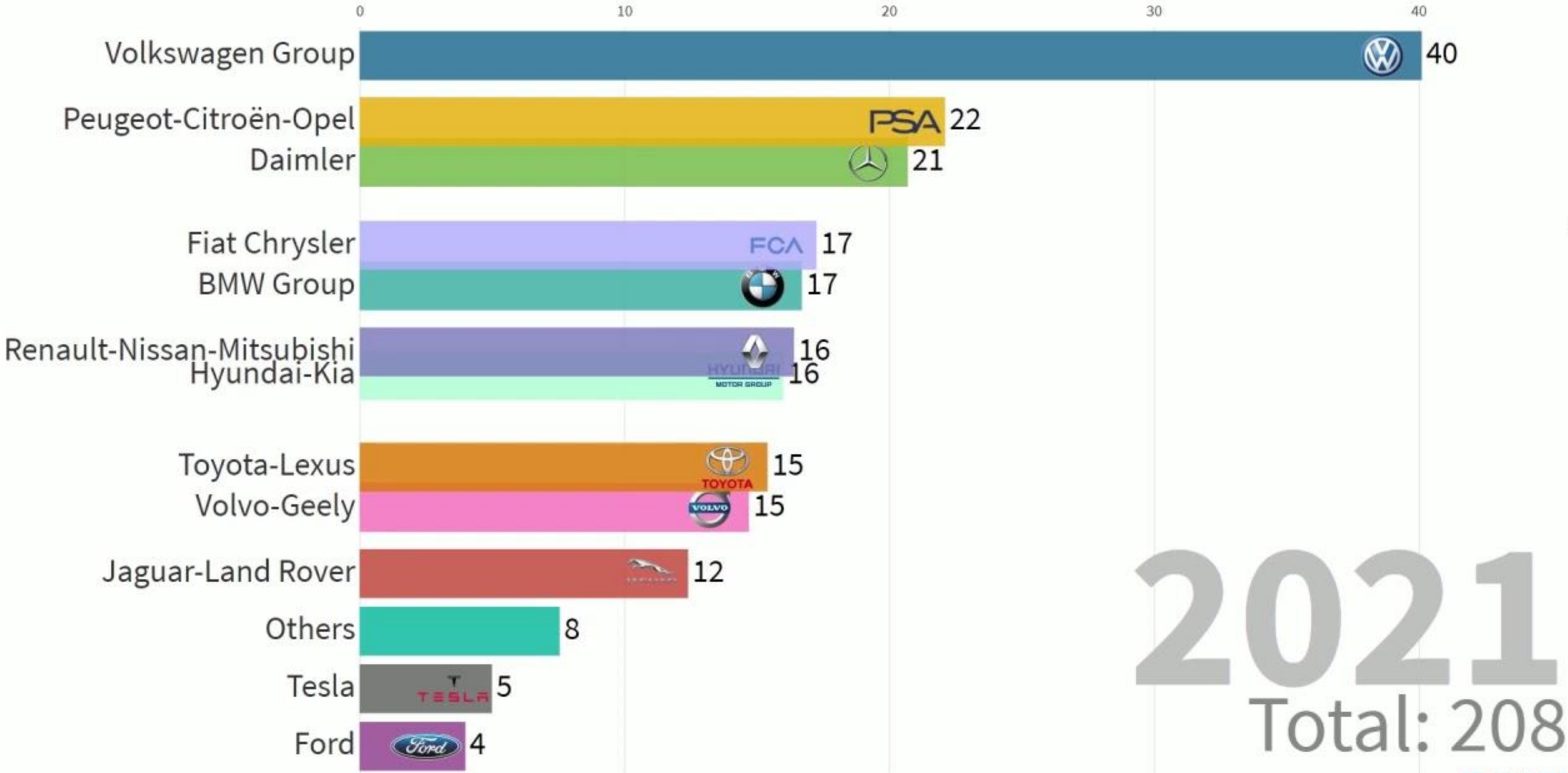
Source: TNO


ERFORMANCE TWINPOWER TURBO 6-ZYLINDER DIESELMO
RFORMANCE TWINPOWER TURBO 6-CYLINDER DIESEL ENGINE.


BMW


ELEKTROMOTOR.
LECTRIC ENGINE.

Electric car models on the European market



2021

Total: 208

TRANSPORT & ENVIRONMENT


MENNEKES
MY POWER CONNECTION

Introduction to the Open Charge Alliance

The Open Charge Alliance (OCA) is governing the Open ChargePoint Protocol (OCPP)

OCPP

- OCPP is the communication protocol between Back end system and Charging Station
- Developed following the need of the growing industry and incorporating field experience
- Open, patent and royalty free with no cost or licensing barriers

Governed by the Open Charge Alliance

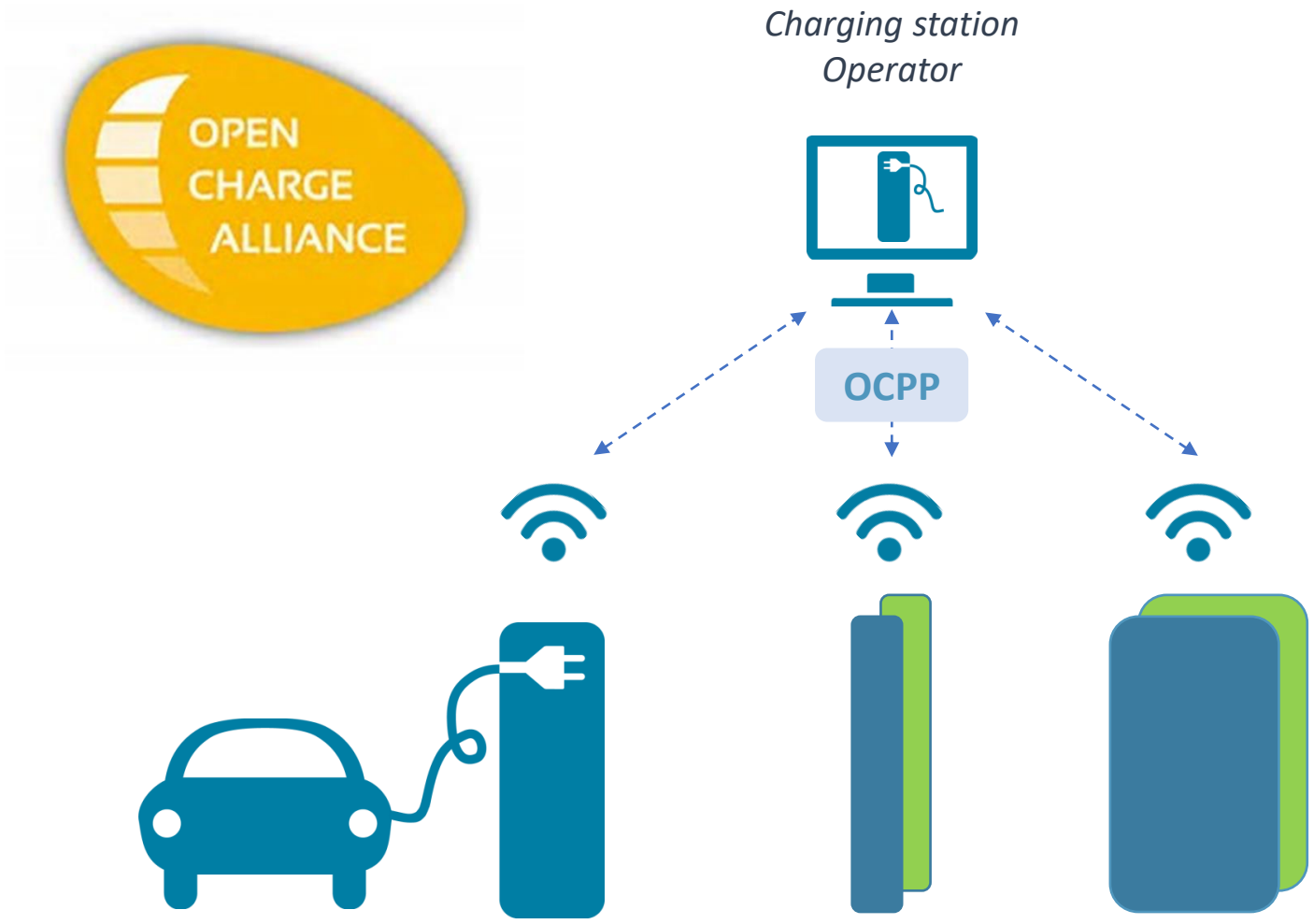
- A non-profit organization
- Dutch Foundation founded in January 2014
- 250 members currently
- Everyone is welcome to join

OCA activities

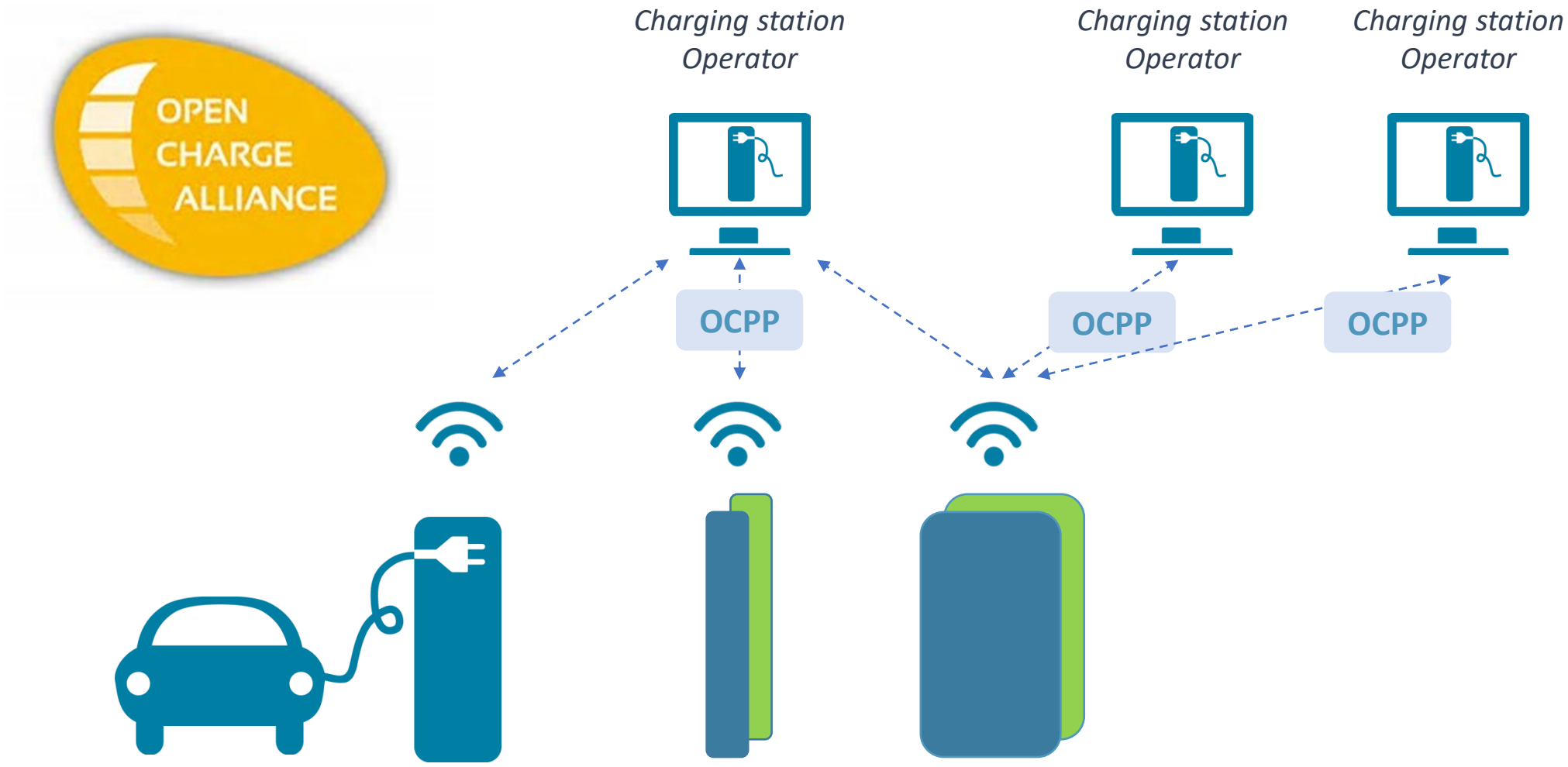
- Development of the OCPP protocol
- Development of compliancy testing and certification
- Coordination of formal standardization
- Promotion of OCPP

OPEN CHARGE ALLIANCE

Open standards to enable vendor independence for charging network operators



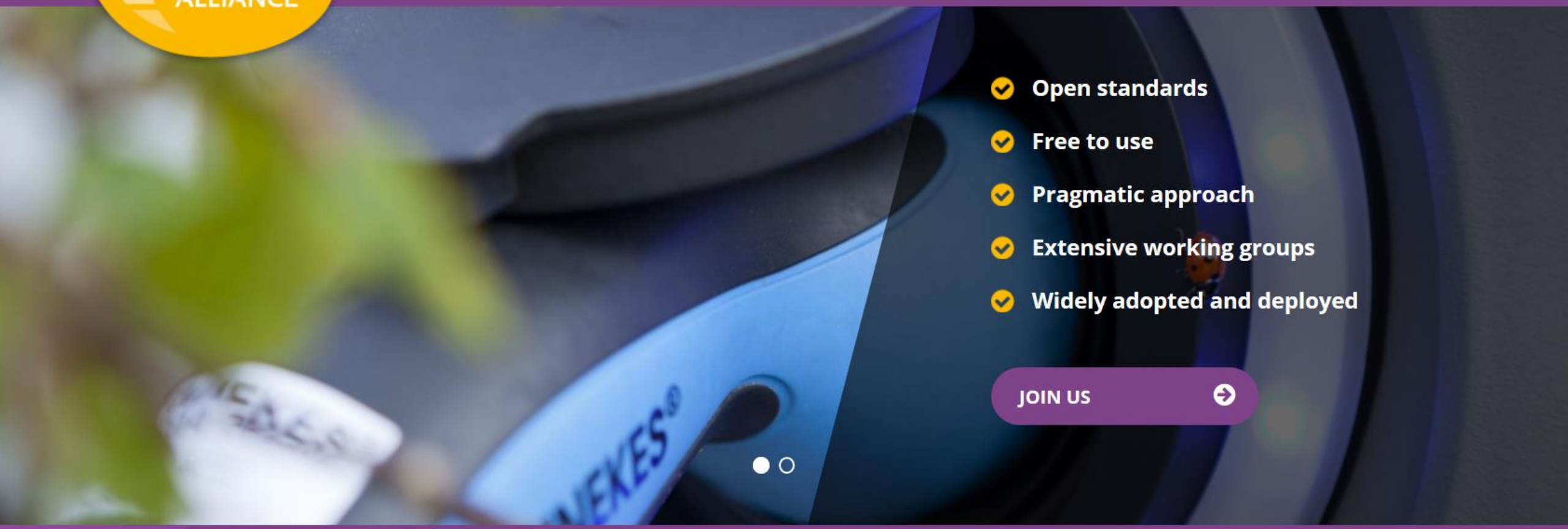
Open standards enable vendors to offer their products easily to many different Operators



https://www.openchargealliance.org/

OPEN CHARGE ALLIANCE

NEWS | ABOUT OCA | PARTICIPANTS | PROTOCOLS | TEST TOOL | CONTACT

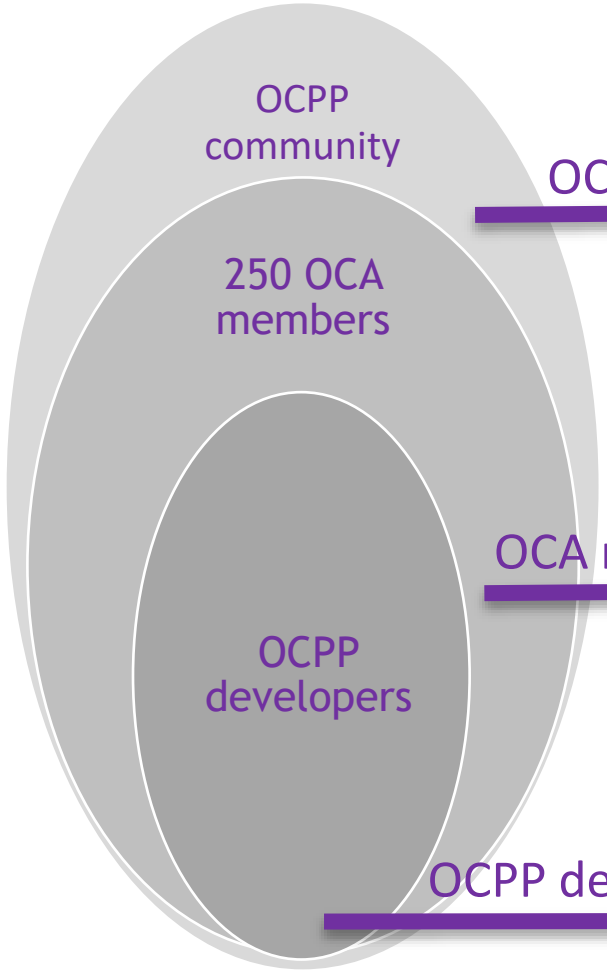


DOWNLOAD

PROTOCOLS

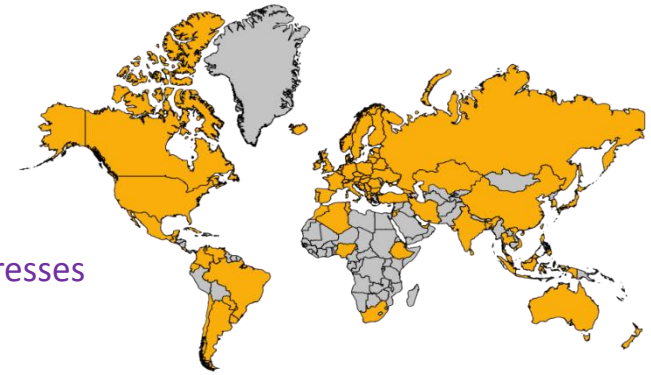
OCPP 2.0 | FILE OCPP 2.0 (all files) | DOWNLOAD

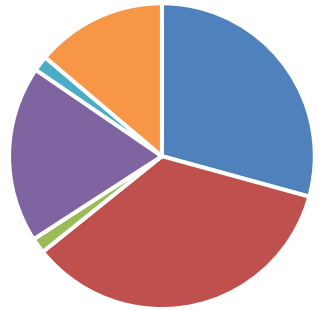
The OCPP community



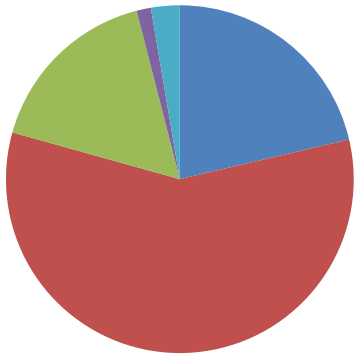
OCPP users

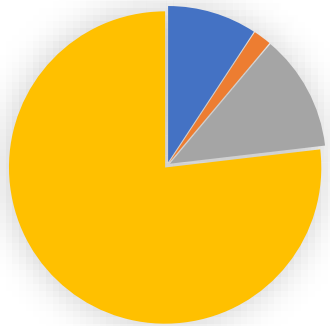
OCPP downloads
- 129 countries
- >50.000 IP addresses





OCA members

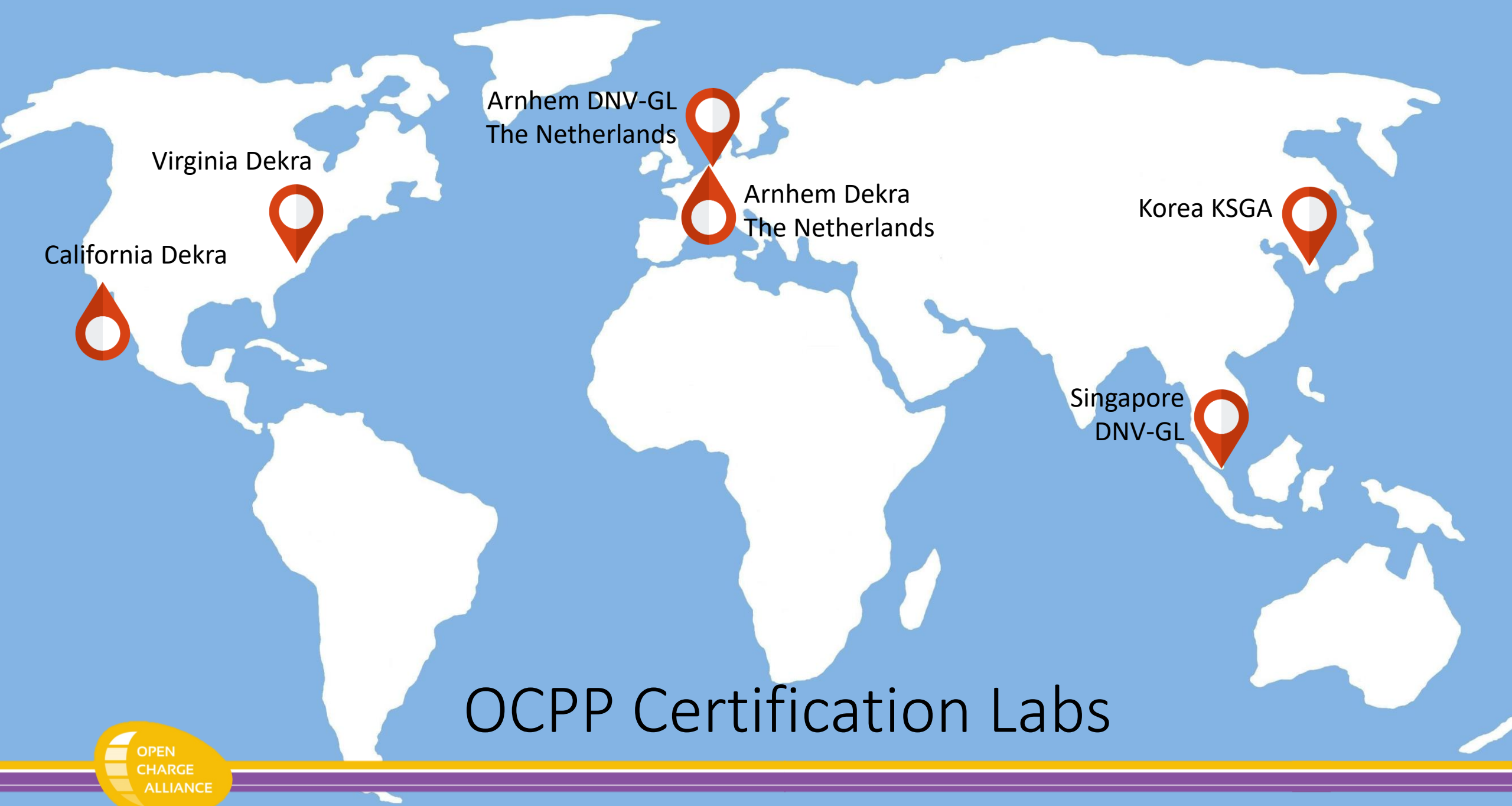




OCPP developers

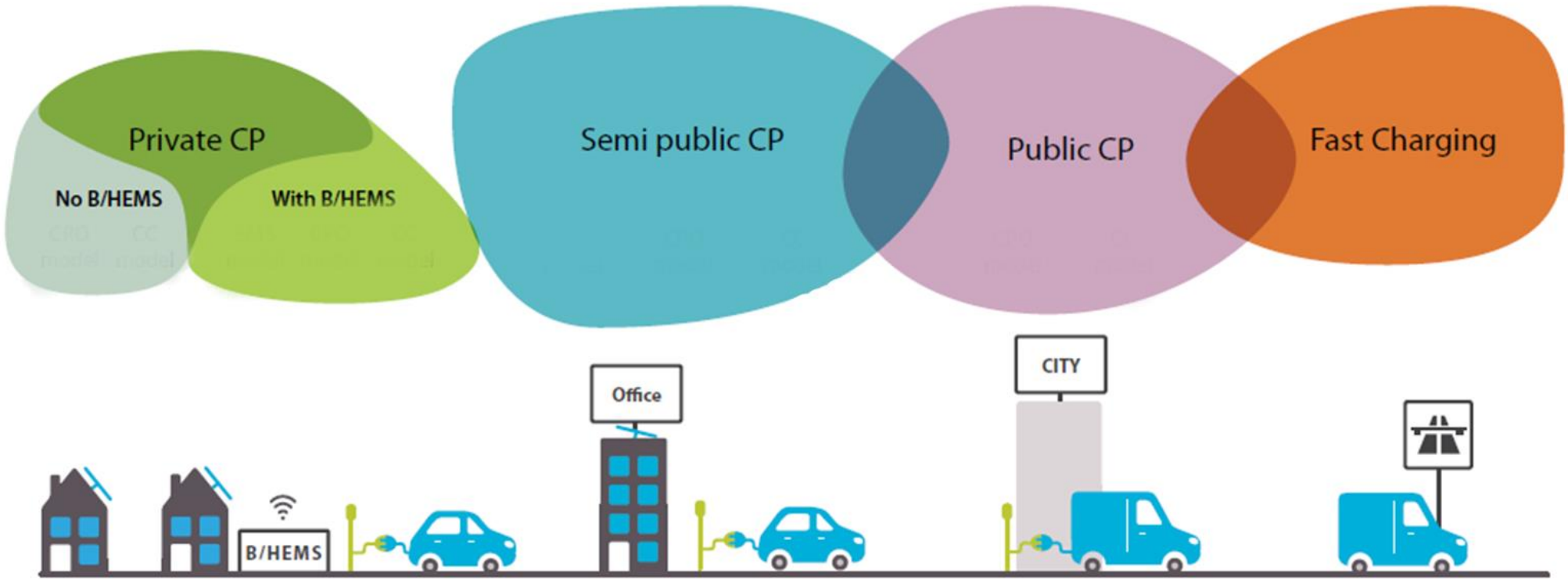
~30 companies actively involved in writing the spec

OCPP plugfests



OCPP Certification Labs

OPEN CHARGE ALLIANCE


Private CP
No B/HEMS
With B/HEMS
Semi public CP
Public CP
Fast Charging
Office
CITY
B/HEMS

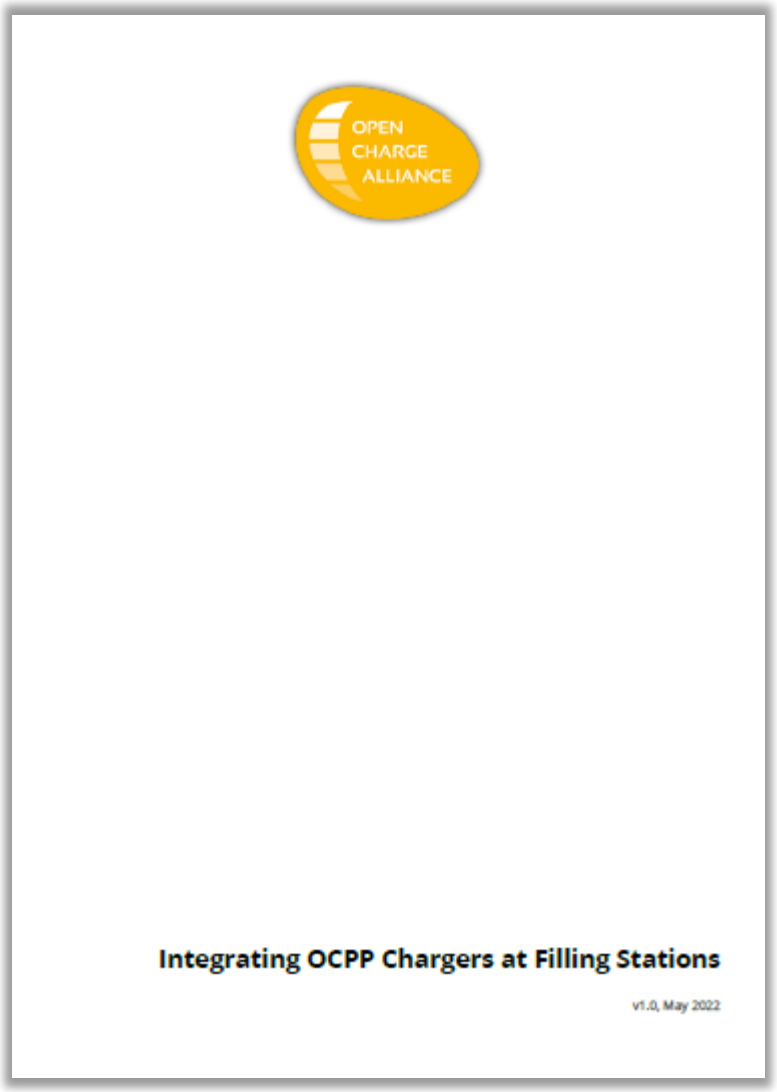

FASTNED
snelladen


TESLA
2B
TESLA
2A


Shell
Recharge
deli by Shell
V-Power
Recharge
Shell
Recharge
Shell
SELECT

Integrating OCPP Chargers at Filling Stations White paper

& Webinars 19th of May



e-Mobility concept	IFSF concept
CSO	Merchant, such as Shell
EMSP	Issuer, such as DKV
Roaming	Agreement to accept third party fuel cards
Roaming Hub	Acquirer/Switching Host, that manages the routing of transactions from Merchants to Issuers.

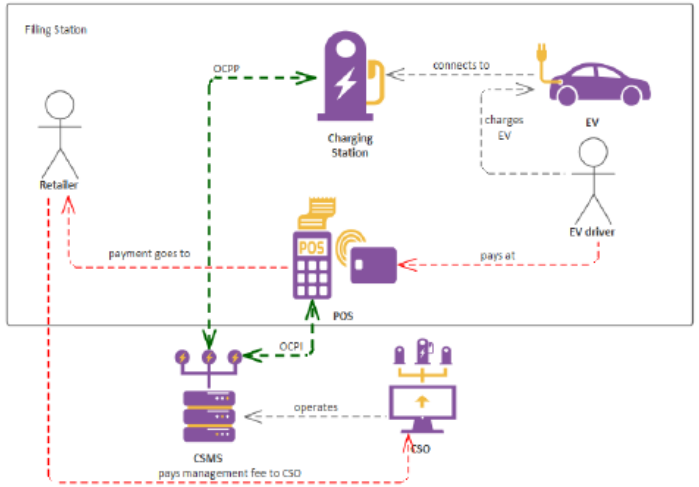


Figure 2. Parties and transaction flow when managed by a CSO and paying in the shop.

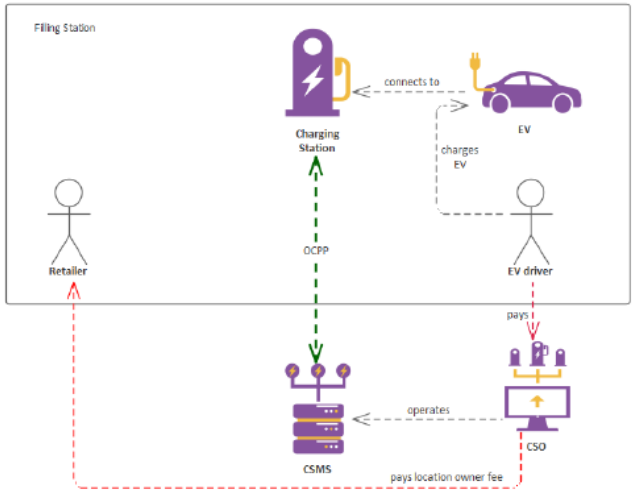


Figure 4. Parties and transaction flow when outsourced to a CSO and paying with credit card

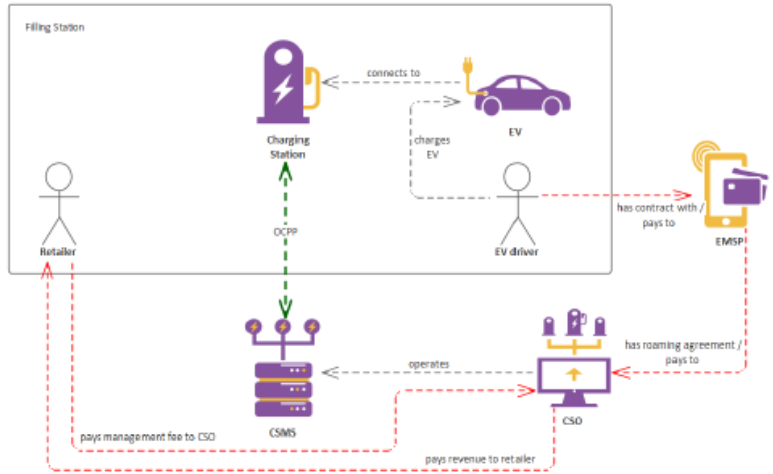


Figure 3. Parties and transaction flow when managed by a CSO and paying with a charge card.

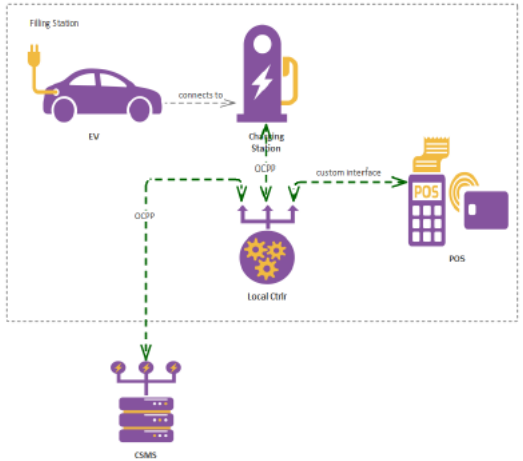


Figure 6. A local controller at the filling station to communicate with CSMS of CSO

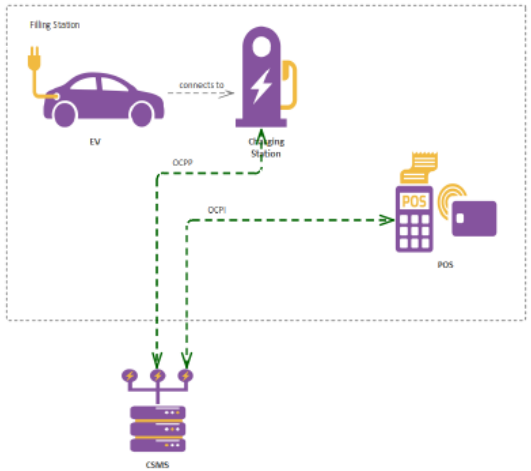
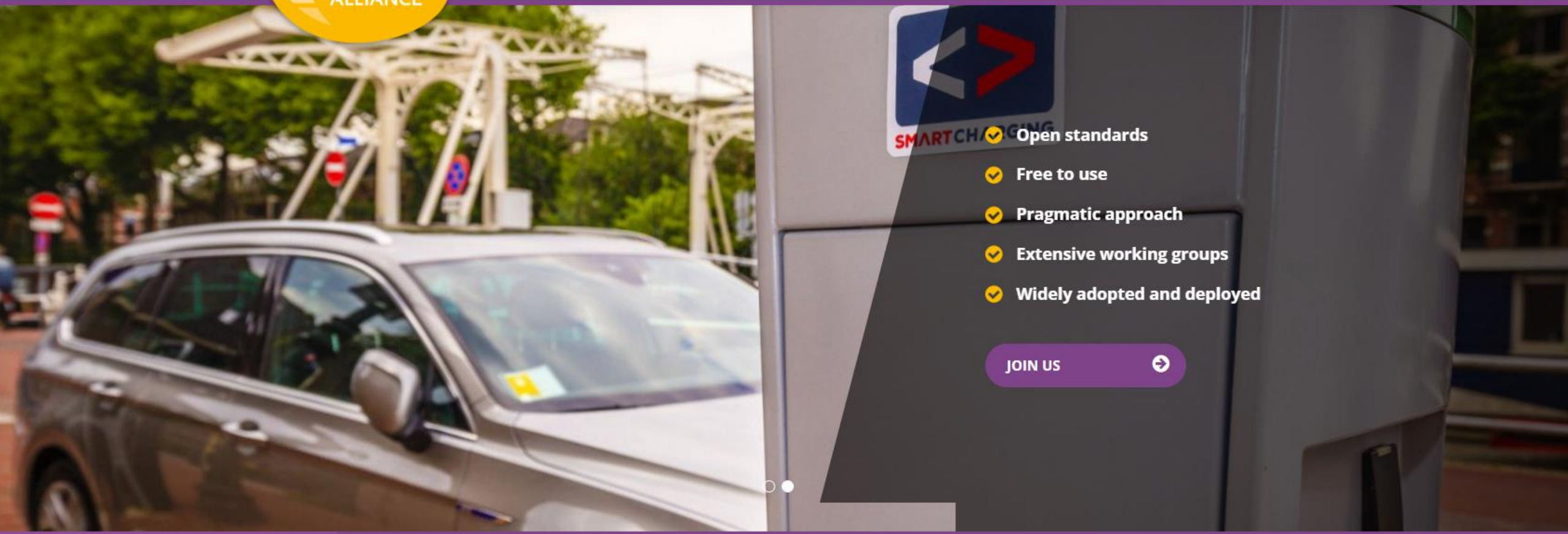


Figure 7. A POS using OCPI to communicate with CSMS of CSO

OPEN CHARGE ALLIANCE



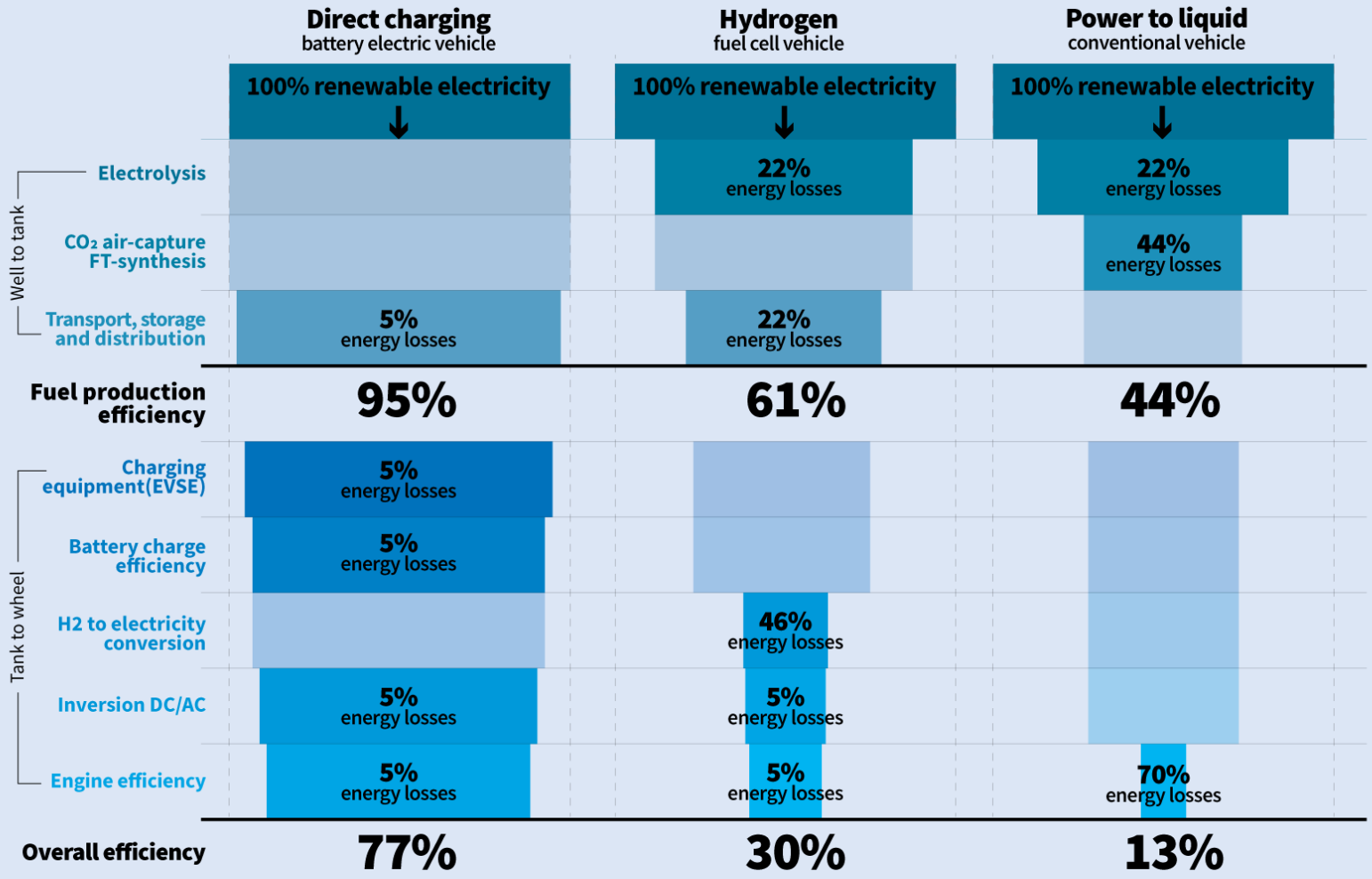
DOWNLOAD
PROTOCOLS

OCPP 2.0.1 | FILE OCPP 2.0.1 (all files) | DOWNLOAD

WHICH VERSION DO I NEED ? WANT TO SEE ALL AVAILABLE DOWNLOADS?

www.Openchargealliance.org
Lonneke.Driessen@openchargealliance.org

Cars: Battery electric most efficient by far



TRANSPORT & ENVIRONMENT @transenv @transenv transportenvironment.org

Source: WTT (LBST, IEA, World bank), TTW, (IEA, DOE, Transport & Environment calculations)
Note: values displayed here are on the higher side (optimistic) of the ranges found in the bibliography

OPEN CHARGE ALLIANCE