Presentation Team

- Michael Krauthamer – Alliance for Transportation Electrification
- Lonneke Driessen – ElaadNL / OCA
- Tom Canada – Southern Company
- Zachary Lefevre - Chargelab

OCPP update

IWC March meeting
Phoenix, March 11th 2020

OCPP is the communication protocol between Back end system and Charging Station

OCPP

- Developed following the need of the growing industry and incorporating field experience
- Open, patent and royalty free with no cost or licensing barriers
- OCPP is a trademark and is protected by copyright license

Governed by the Open Charge Alliance

- A non-profit organization
- Dutch Foundation founded in January 2014
- 161 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

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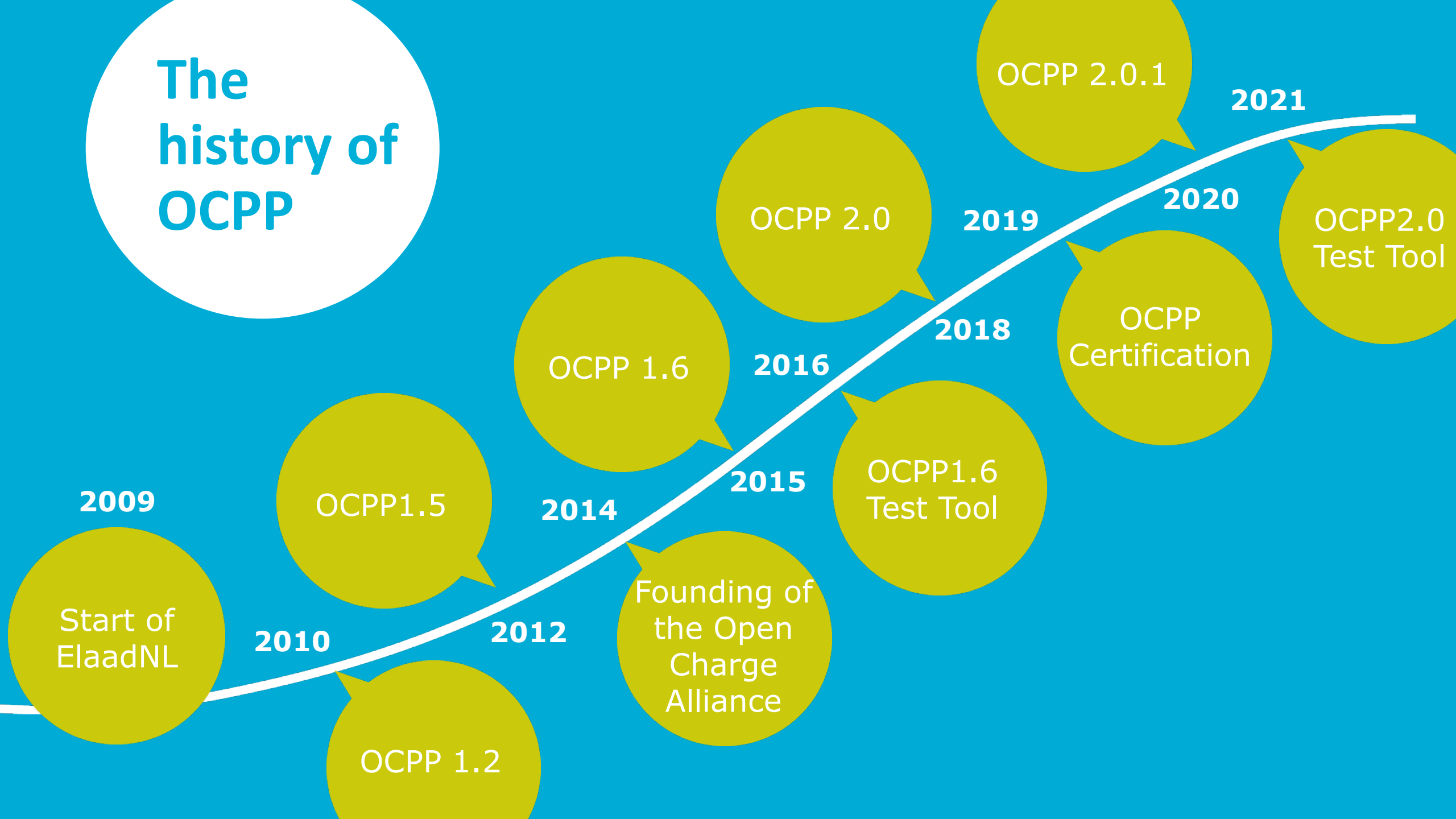
The history of OCPP



OCA Participants - All over the world

Companies:	161 OCA Members
Asia	35
Europe	91
North America	27
Oceania	4
South America	2

Countries:	34 Different Countries					
Australia	3	Ireland	2	Slovenia	1
Austria	5	Israel	1	South Korea	6
Belgium	1	Italy	3	Spain	5
Brazil	2	Lithuania	1	Sweden	5
Canada	5	Malaysia	1	Switzerland	2
China	13	Netherlands	20	Taiwan	5
Czech Republic	1	New Zealand	1	Thailand	1
Dominican Republic	1	Norway	2	Turkey	2
France	11	Poland	1	United Kingdom	7
Germany	23	Portugal	2	United States	21
Hong Kong	2	Romania	1	**Total:**	**161**
India	3	Singapore	1		

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https://www.openchargealliance.org/

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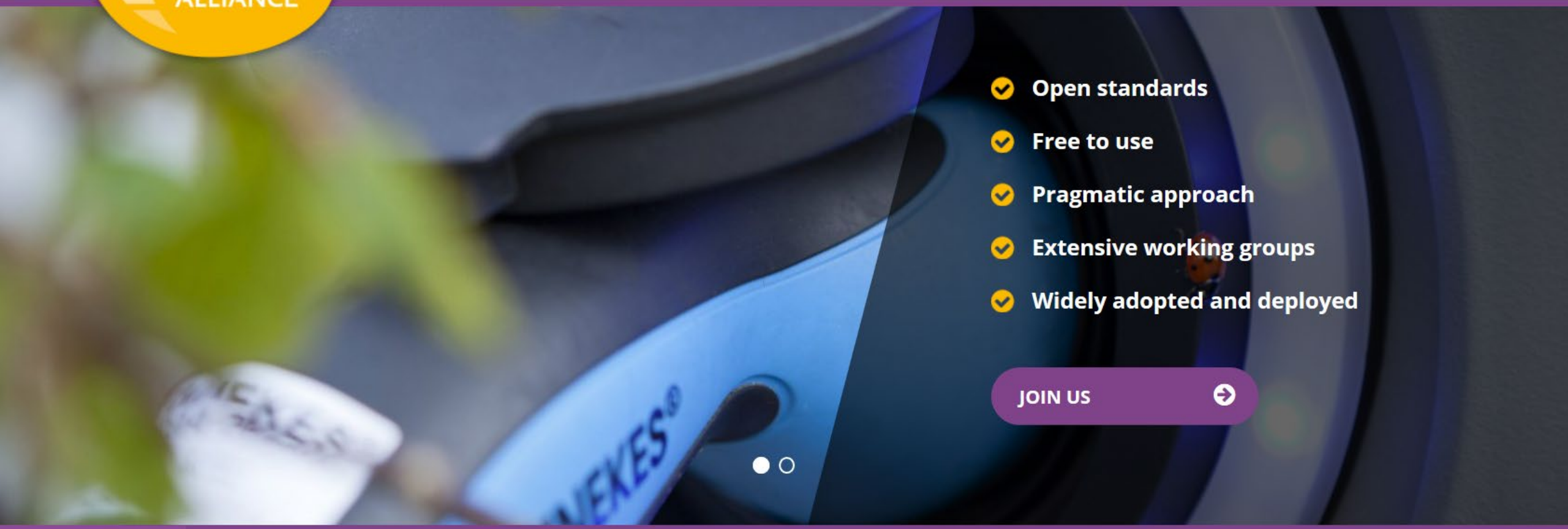
NEWS ABOUT OCA PARTICIPANTS PROTOCOLS TEST TOOL CONTACT



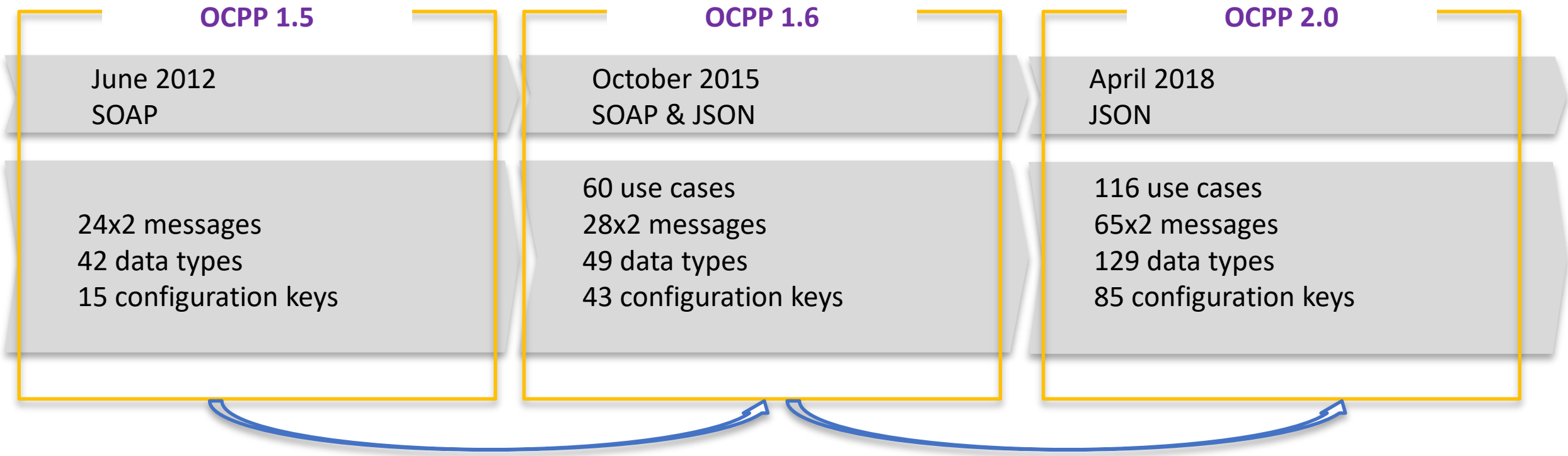
DOWNLOAD

PROTOCOLS

OCPP 2.0 FILE OCPP 2.0 (all files) DOWNLOAD

openchargealliance.org/

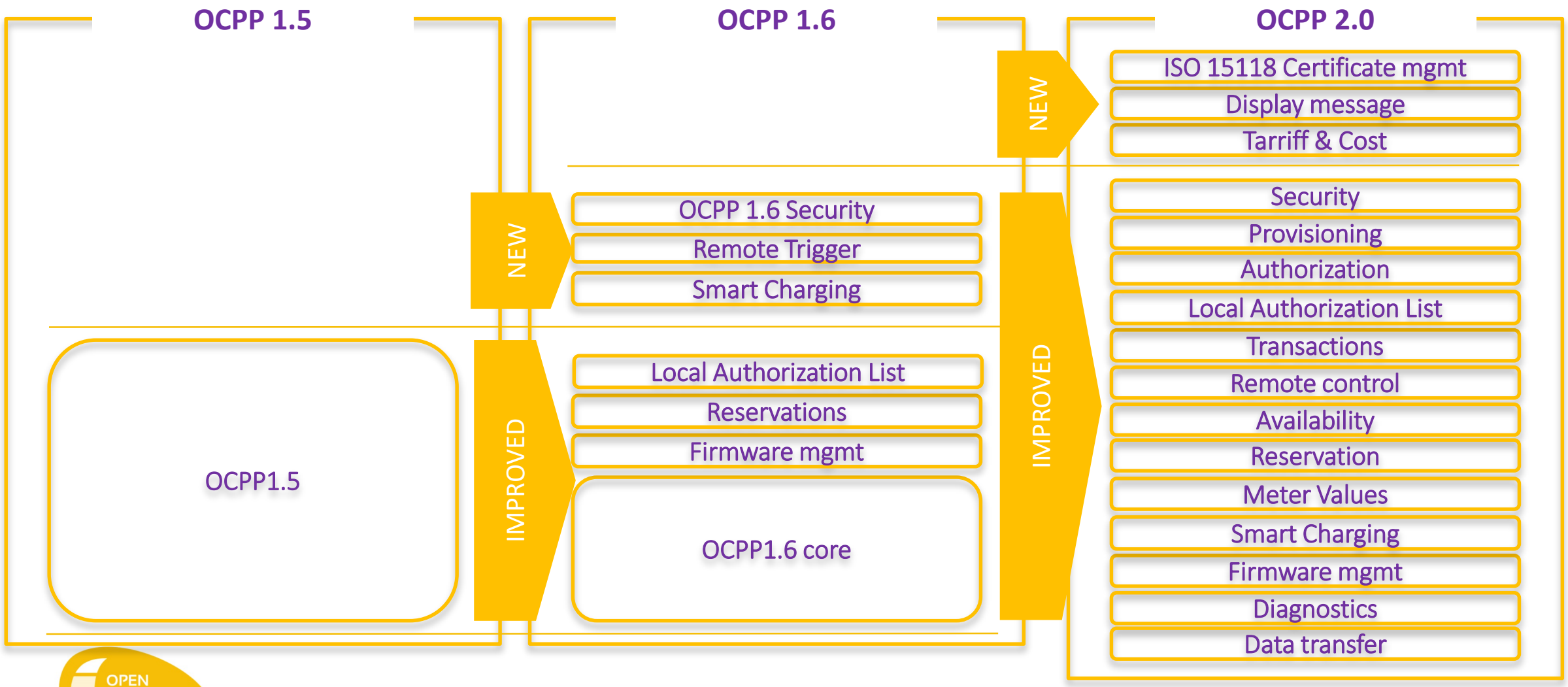
Overview: OCPP versions



+ Improvements
+ Smart Charging
+ JSON support

+ Improvements
+ Better documentation
+ More functionalities

Overview OCPP version functionalities



Regular OCPP plugfests to help developers

July ’19 – OCPP1.6 | Oct ’19 – OCPP2.0 | Feb ’20 – OCPP1.6 | **April ’20 – OCPP2.0** | Jul ’20 – OCPP1.6 | Sep ’20 – OCPP1.6 & 2.0

- Interop testing
- For Charging Stations and Management Systems
- For both OCPP1.6 and 2.0
- In person or remote
- Members and non-members
- Next plugfest: OCPP2.0.1 - April 20-21

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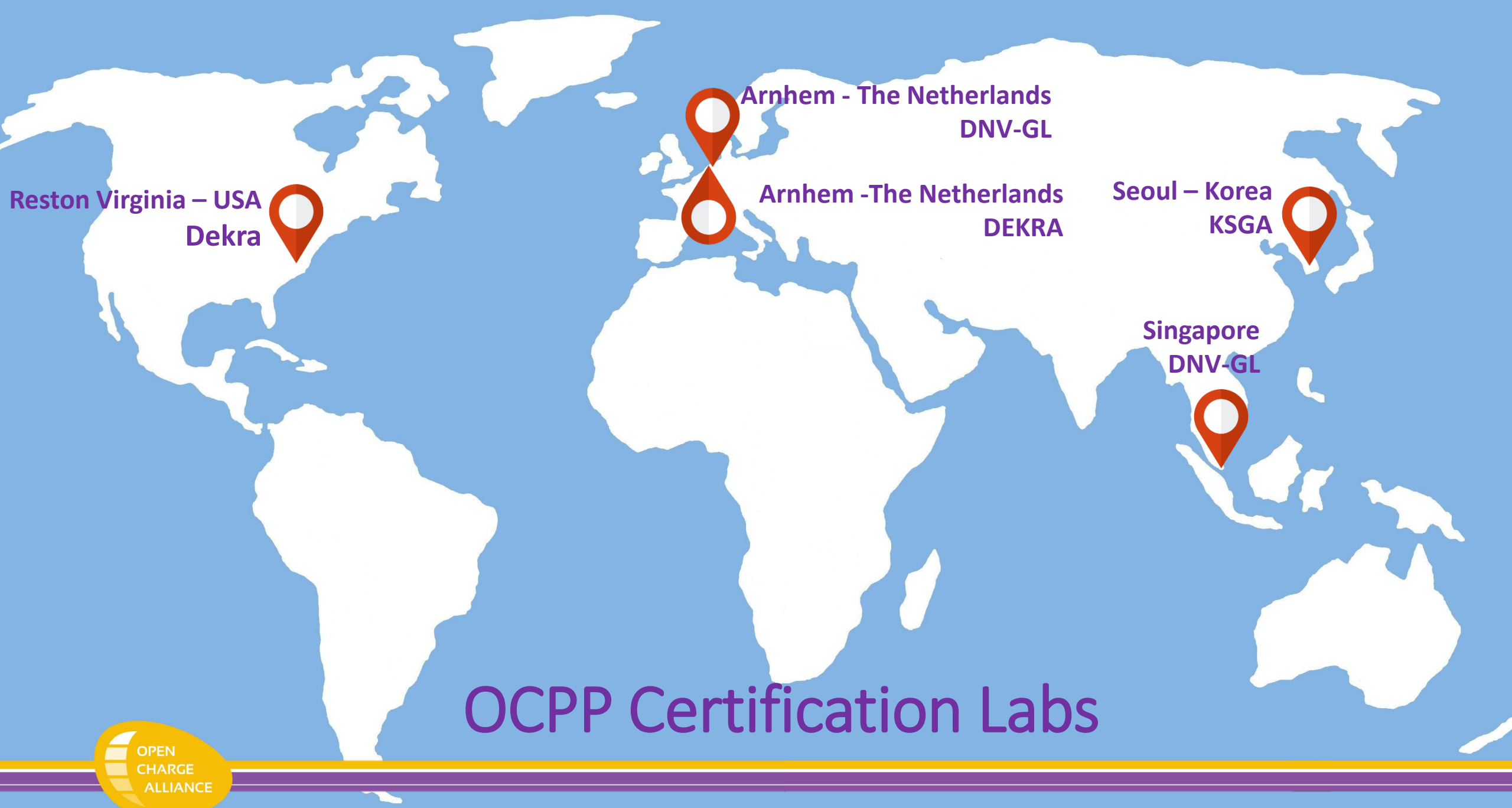
OCPP Certification

Why OCPP Certification ?

- To validate that a system has implemented OCPP correctly
  - For buyers to check before they purchase a system
  - For Vendors to promote their systems to Buyers
  - To make integrating systems between Vendors faster and more efficient



OCPP Certification Labs

Certification step by step

1. A **Vendor** contacts one of the **Test Laboratories** and agrees on testing services
2. The **Test Laboratory** performs the tests
3. After successfully passing all the tests, the **Test Laboratory** provides a Test Report and the detailed Test Results to the **Vendor**
4. The **Vendor** signs the Test Report and sends it back to the **Test Laboratory**. The **Test Laboratory** signs the Test Report and forwards it to **OCA** for preparation of the OCPP certificate
5. The **Vendor** receives the OCPP Certificate from **OCA**

For the detailed Certification Procedure: www.openchargealliance.org/certification/ocpp-16-certification/

The Certification Labs use the OCTT to test conformance

The OCTT is available for members and non-members

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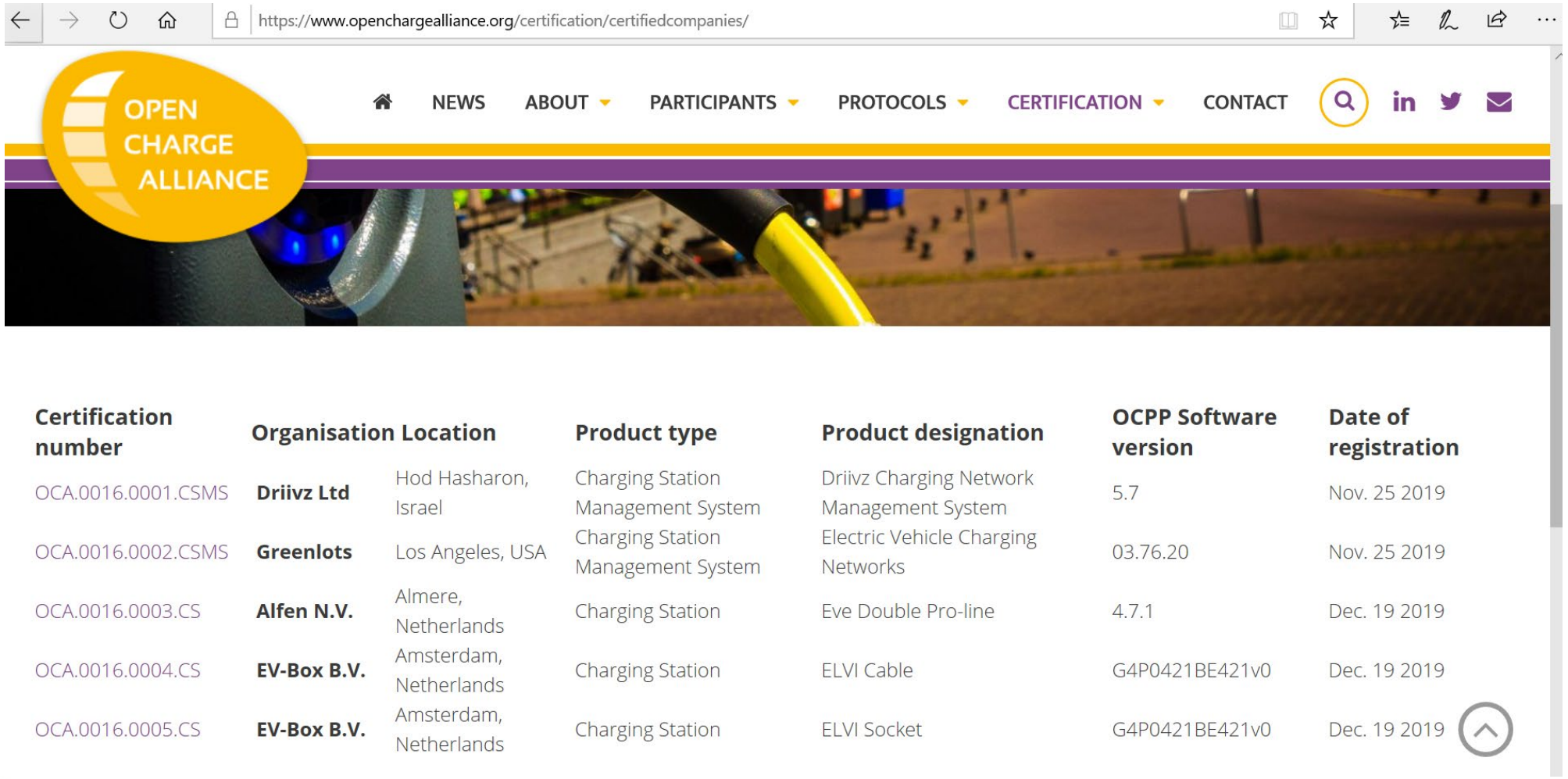
List of Certified Products on the OCA website



Certification number	Organisation	Location	Product type	Product designation	OCPP Software version	Date of registration
OCA.0016.0001.CSMS	**Driivz Ltd**	Hod Hasharon, Israel	Charging Station Management System	Driivz Charging Network Management System	5.7	Nov. 25 2019
OCA.0016.0002.CSMS	**Greenlots**	Los Angeles, USA	Charging Station Management System	Electric Vehicle Charging Networks	03.76.20	Nov. 25 2019
OCA.0016.0003.CS	**Alfen N.V.**	Almere, Netherlands	Charging Station	Eve Double Pro-line	4.7.1	Dec. 19 2019
OCA.0016.0004.CS	**EV-Box B.V.**	Amsterdam, Netherlands	Charging Station	ELVI Cable	G4P0421BE421v0	Dec. 19 2019
OCA.0016.0005.CS	**EV-Box B.V.**	Amsterdam, Netherlands	Charging Station	ELVI Socket	G4P0421BE421v0	Dec. 19 2019

Summary of the test report on the OCA website

OCPP 1.6 Full Certificate

Certificate holder: EV-Box B.V.

Certificate number: OCA.0016.0004.CS

Product type: Charging Station

Product designation: ELVI Cable, OCPP Software version: G4P0421BE421v0 P0417BE417v11 (Test version)

Certification date: December 19, 2019

This certificate attests that the above mentioned product successfully completed certification testi with the reference specification OCPP 1.6 – Edition 2 with OCPP 1.6 Errata sheet (v4.0 Release, 201 optional features of the protocol are also covered by this certification.

Test cases have been performed as described in the test report referred to below. The results and in the complete test report.

Applied tests	Performed by / on	Document evic
Conformance testing according to the test specification referenced by the test report	*DEKRA Certification Inc.*, December 19, 2019	*DEKRA_201912 Box_V104*

The Protocol Implementation Conformance Statement in the Annex is an integral part of this certifi is valid from the Certification Date specified above. This certificate is only applicable to the product described above and permits the use of the OCPP logo as laid down in the OCA certification logo lic this product only.

This certificate shall neither be tendered nor accepted by any party as a guarantee covering quality includes OCPP. The Open Charge Alliance, and/or its agents, including, inter-alia, test laboratories, any damages or losses incurred by the certified company or by any other party resulting from relia OCPP certification testing.

For the Open Charge Alliance:

Abstract of test report

Test Result Summary

Test Report OCPP 1.6 Certification	
Test laboratory:	Dekra Certification Inc.
Location:	Virginia, USA
Test Report Reference:	DEKRA_20191219_Test Report_
Vendor name:	EV-Box B.V.
Device Under Test:	Charging Station
Communication:	JSON
OCPP Software version:	P0417BE417v11

Test Result Summary for the certified functio

Functionalities	OCPP 1.6 Certification Test Results	Description
Core	Pass	Basic Chargin for booting, a cache if avail transactions,
Optional functionalities		
Firmware Management	Pass	Support for (r update mana diagnostic log
Smart Charging	Pass	Support for Sm profile types, control chargi
Reservation	Pass	Support for re connector of a
Local Authorization List Management	Pass	Features to m the charging s authorization users.
Remote Trigger	Pass	Support for re messages tha Charging Stati for resending getting the la

OCPP Charging Station Configuration

Configuration key	Value
AllowOfflineTxForUnknownId	true,false
AuthorizationCacheEnabled	true,false
AuthorizeRemoteTxRequests	true,false
BlinkRepeat	not supported
ClockAlignedDataInterval	
ConnectionTimeOut	
ConnectorPhaseRotation	
ConnectorPhaseRotationMaxLength	not supported 21(default value)
GetConfigurationMaxKeys	1
HeartbeatInterval	60 sec (minimum)
LightIntensity	0-100
LocalAuthorizeOffline	true,false
LocalPreAuthorize	true,false
MaxEnergyOnInvalidId	not supported
MessageTimeout	<optional>
MeterValuesAlignedData	
MeterValuesAlignedDataMaxLength	11
MeterValuesAlignedDataMaxLength	<optional>
MeterValuesSampledData	
MeterValuesSampledDataMaxLength	11
MeterValueSampleInterval	60 sec (minimum)
MinimumStatusDuration	<optional>
NumberOfConnectors	1
ResetRetries	
StopTransactionMaxMeterValues	<optional>
StopTransactionOnEVSideDisconnect	true,false
StopTransactionOnInvalidId	true,false
StopTxnAlignedData	
StopTxnAlignedDataMaxLength	<optional>
StopTxnSampledData	
StopTxnSampledDataMaxLength	<optional>
SupportedFeatureProfiles	
SupportedFeatureProfilesMaxLength	6
TransactionMessageAttempts	
TransactionMessageRetryInterval	
UnlockConnectorOnEVSideDisconnect	true,false

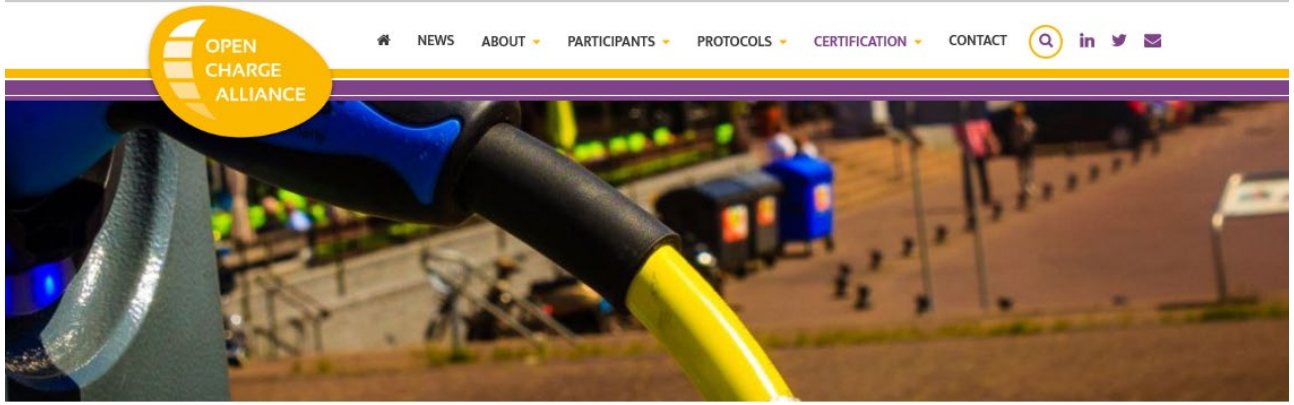
Fee for OCPP Certification

Certification fees

Category	Charging Station	Charging Station Management System	Remark
Total max fee for OCA member	7.000 €	4.800 €	*OCA members get a discount for the use of the Test Tools, plans and scenario's since they have already contributed in part through their OCA membership fees.*
Total max fee for Non Member	10.500 €	8.300 €	

All information is on the OCA website

'/www.openchargealliance.org/certification/ocpp-16-certification/



WELCOME TO THE OCA OFFICIAL OCPP 1.6 CERTIFICATION PROGRAM

Every company involved with OCPP 1.6 implementations can now get the official independent OCPP 1.6 Certificate. This will register their product as a certified compliant implementation. The OCPP Certification Program gives companies the opportunity to validate their implementation on conformance with the OCPP 1.6 specification.

WHAT IS THE OCPP 1.6 CERTIFICATION PROGRAM?

The certification program is a joint effort of the Open Charge Alliance and several independent test laboratories around the world to test OCPP 1.6 on conformance to the OCPP specification.

HOW DOES IT BENEFIT VENDORS OR BUYERS?

Vendors of compliant systems can now ensure to their clients that the implementation has been validated on conformance to the OCPP specifications by an approved independent test laboratory. Buyers of OCPP 1.6 compliant products can check which products are certified and are successfully tested for conformance to OCPP.

WHAT DIFFERENT CERTIFICATES ARE AVAILABLE?

For a Charging Station and Charging Station Management System	For a Charging Station	For a Charging Station and Charging Station Management System
Full Certificate OCPP 1.6	Subset Certificate OCPP 1.6	Security Certificate OCPP 1.6

Types of OCPP Certificates

Types of OCPP Certificates

For a Charging Station and Charging Station Management System

Full Certificate OCPP 1.6

Functionality	
Core	Mandatory
Firmware Management	Mandatory
Smart Charging	Mandatory
Reservation	Mandatory
Local Authorization List Management	Mandatory
Remote Trigger	Mandatory

For a Charging Station

Subset Certificate OCPP 1.6

Functionality	
Core	Mandatory
Firmware Management	Optional
Smart Charging	Optional
Reservation	Optional
Local Authorization List Management	Optional
Remote Trigger	Optional

For a Charging Station and Charging Station Management System

Security Certificate OCPP 1.6

Functionality	
Security General	Mandatory
Security Profile 1	Optional
Security Profile 2	Either 2 or 3 is Mandatory
Security Profile 3	

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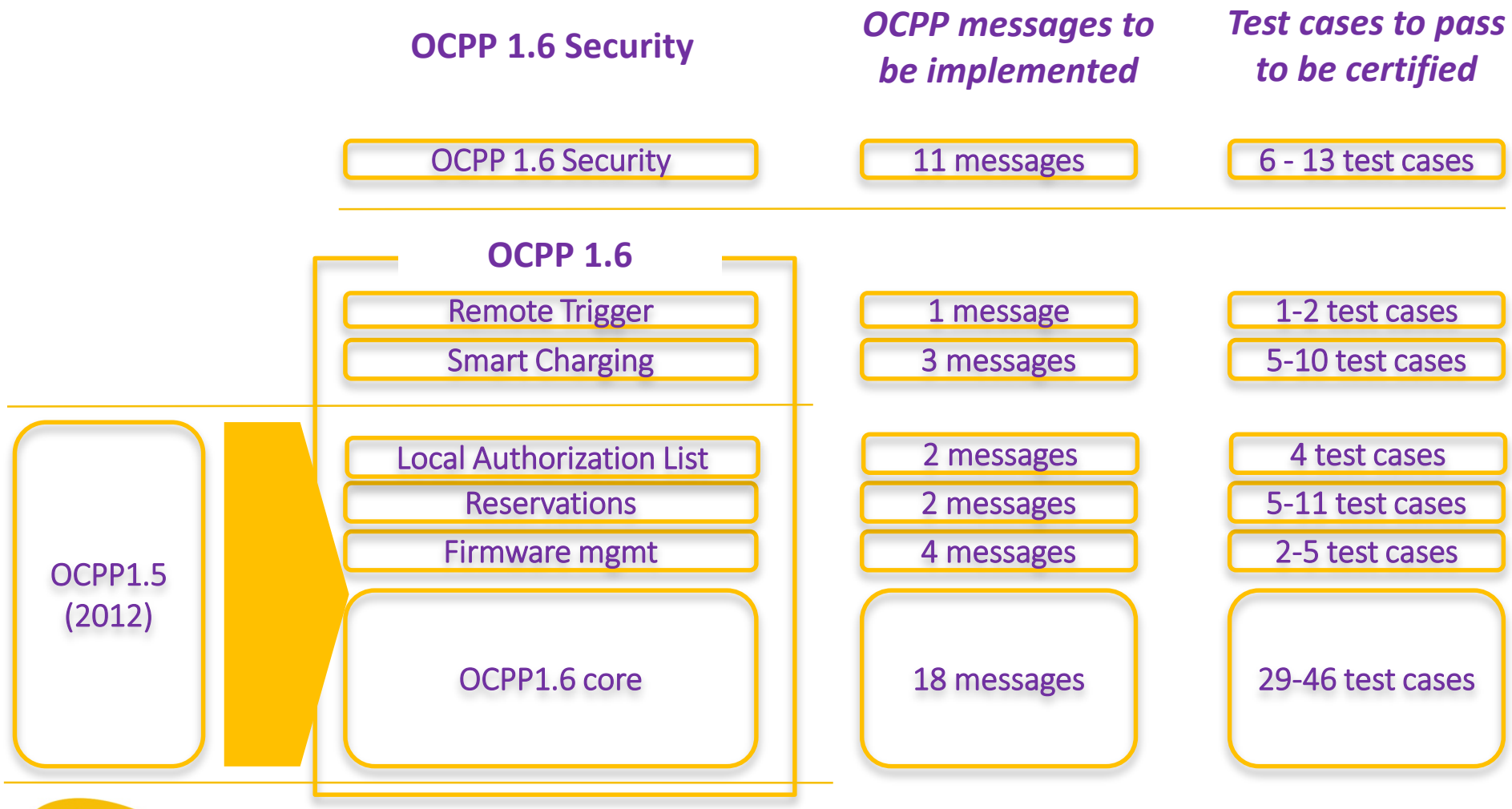
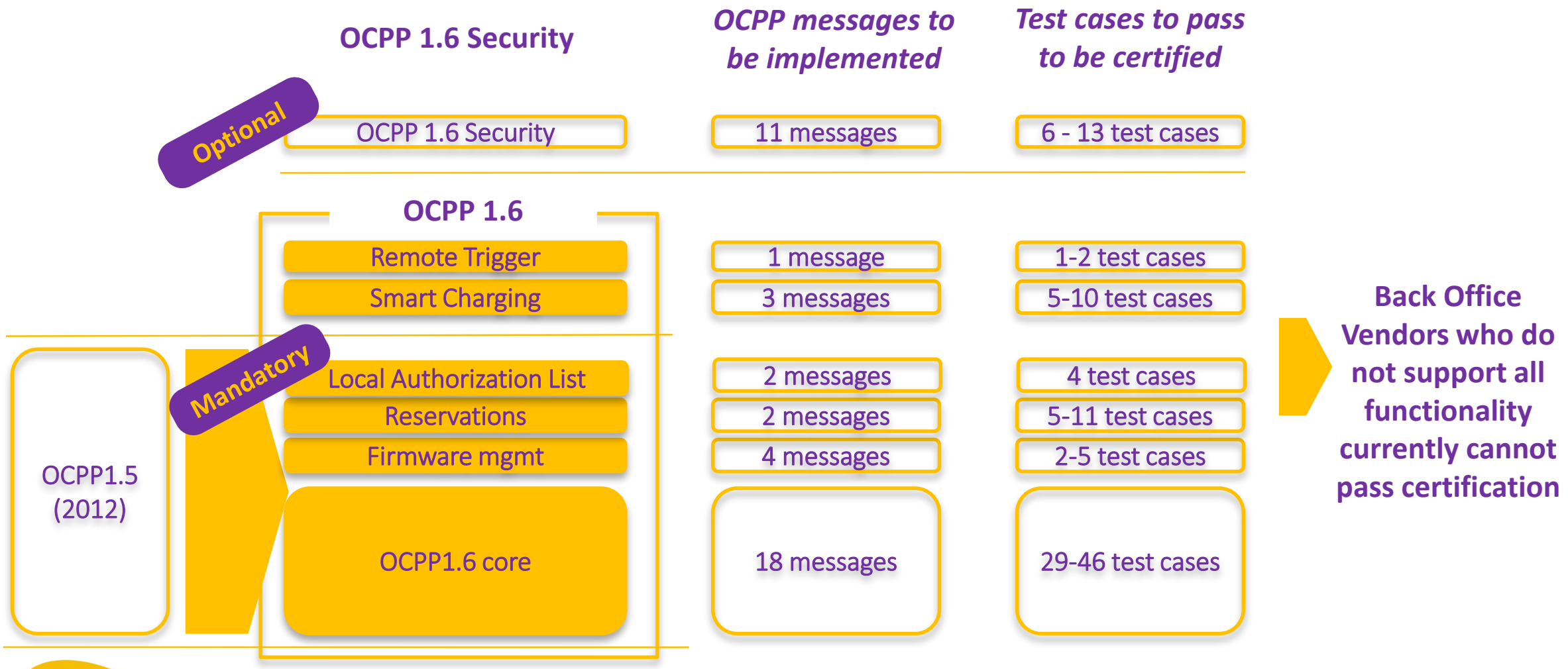
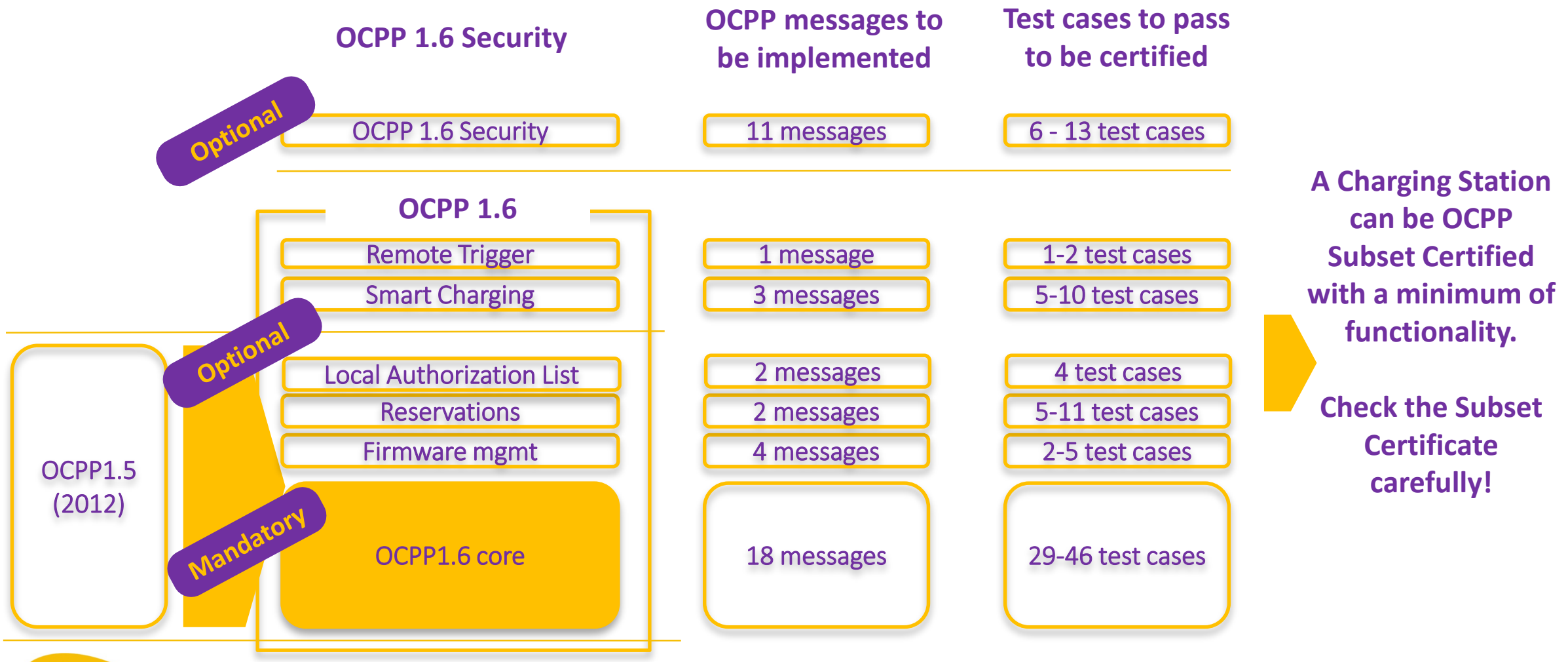
Overview



Back Office OCPP Certification Scope

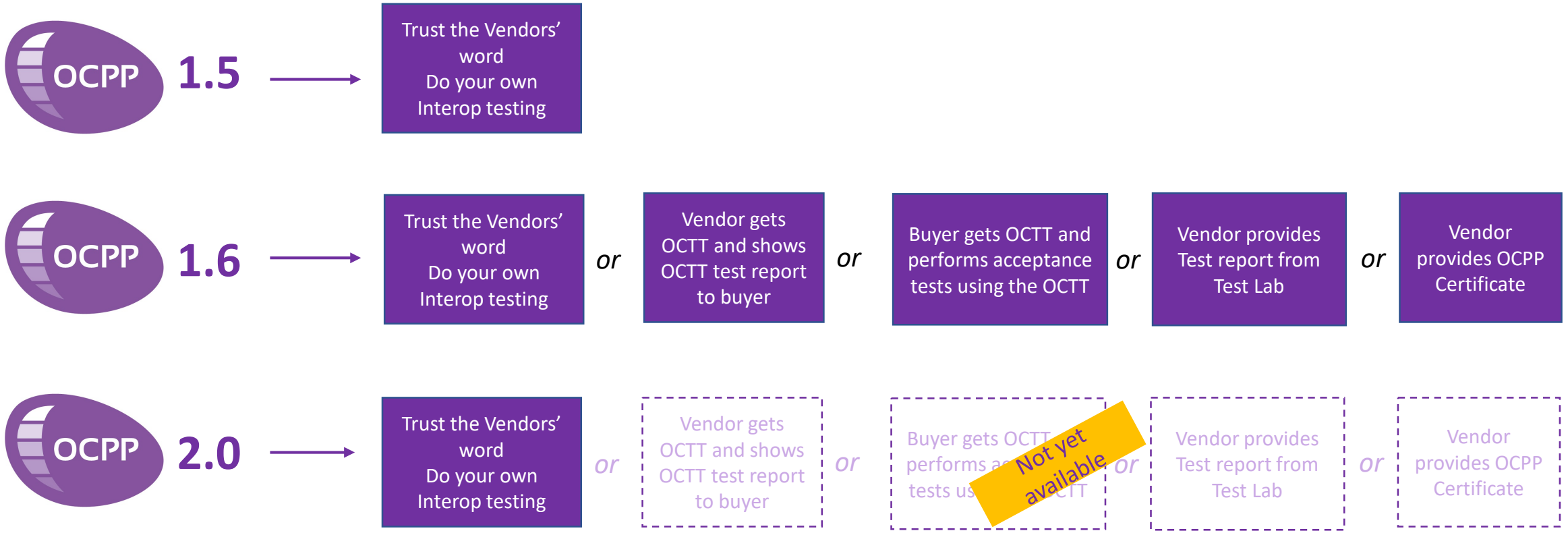


Charging Station Certification Scope




Are you talking to me ?
Talk OCPP!
Are you talking to me ?
Talk OCPP!

How can OCPP compliance be verified?



Join!

More information:
www.openchargealliance.org
www.linkedin.com/company/open-charge-alliance/B2w5sdujnP6
Twitter: @OCA_info

Lonneke.Driessen@openchargealliance.org

Utility Perspective – Why OCPP

PREVENT VENDOR LOCK-IN

MINIMIZES RISK OF INVESTMENTS

INTERCHANGEABLE

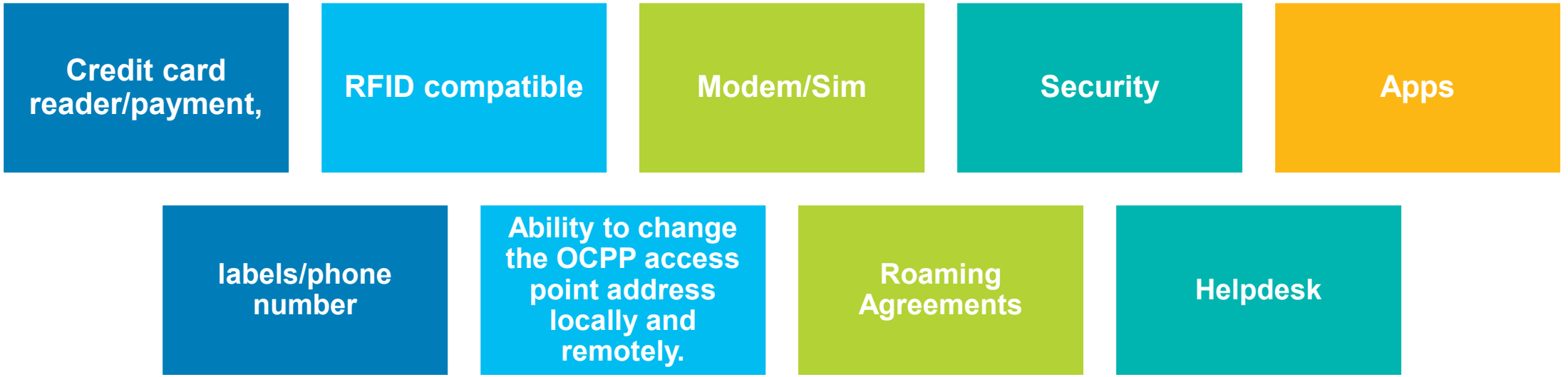
EFFICIENT SCALING

Key Takeaways from Plugfest

- Plugfest demonstrated: It works!

- OCPP is not an “easy button” solution, but it is a **critical element**
  - OCPP covers messages sent between hardware and central server
  - Ensures all devices speak the same “language”

- Contract language is important to cover ancillary considerations for vendor lock-in



Key Takeaways from Plugfest

- OCPP1.6 includes support for firmware management, local authorization list management, reservations, smart charging, and remote triggering

- There are three levels of certification that a vendor can elect to receive:
  - Full Certification: core and optional capabilities
  - Subset Certification: core functionality is mandatory, as well as optional testing of other capabilities
  - Security Certification: general security functionality is verified.

Commercial Perspective

Zachary Lefevre