

DOCKETED	
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Empowering
the **next level**
of green mobility
and energy.

CharIN – Charging Interface Initiative e. V.

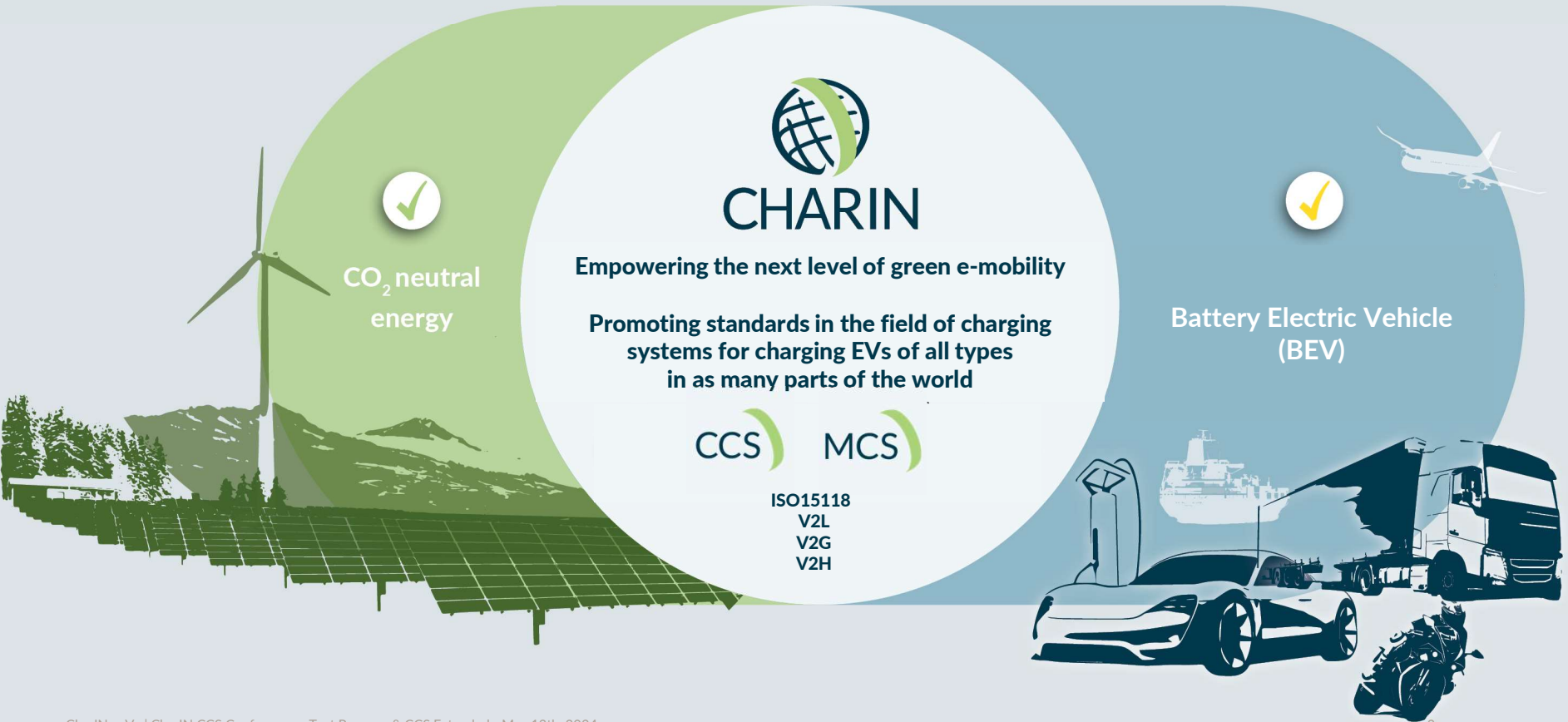
CEC Virtual Conference

CharIN Conformance Test Program & CCS Extended

Michael Keller, May 13th 2024

General Goal

CO₂ Neutral Mobility



CharIN's Mission



Contribution to the Conformance Program






Promoting standards in the field of charging systems for charging EVs of all types in as many parts of the world

- 1** Spread the word
 Promote awareness of consumer benefits of a common CCS standard and create more visibility
- 2** Broadening the tent
 Collaboration between involved parties in EV charging incl. regulators, industry, + EV related associations
- 3** See it means believe it
 Proof of concept by live Festivals, Plug & Charge demonstration, customer journeys, and others to experts and a wider public

Conferences, Exhibitions & Round Tables

Social Media

Focus Groups



Projects




Partners



















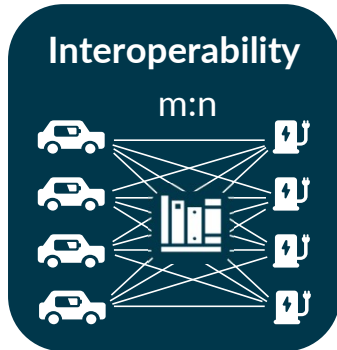
Dashboard ([here](#))

Interoperability Festival

Features to Test and added Value of CharIN



Festivals



- ✓ Communication protocols
- ✓ Plug & Charge (end-to-end)
- ✓ Smart charging
- ✓ Bi-directional power transfer
- ✓ Security testing (Pentesting)
- ✓ CCS, MCS, NACS, ...

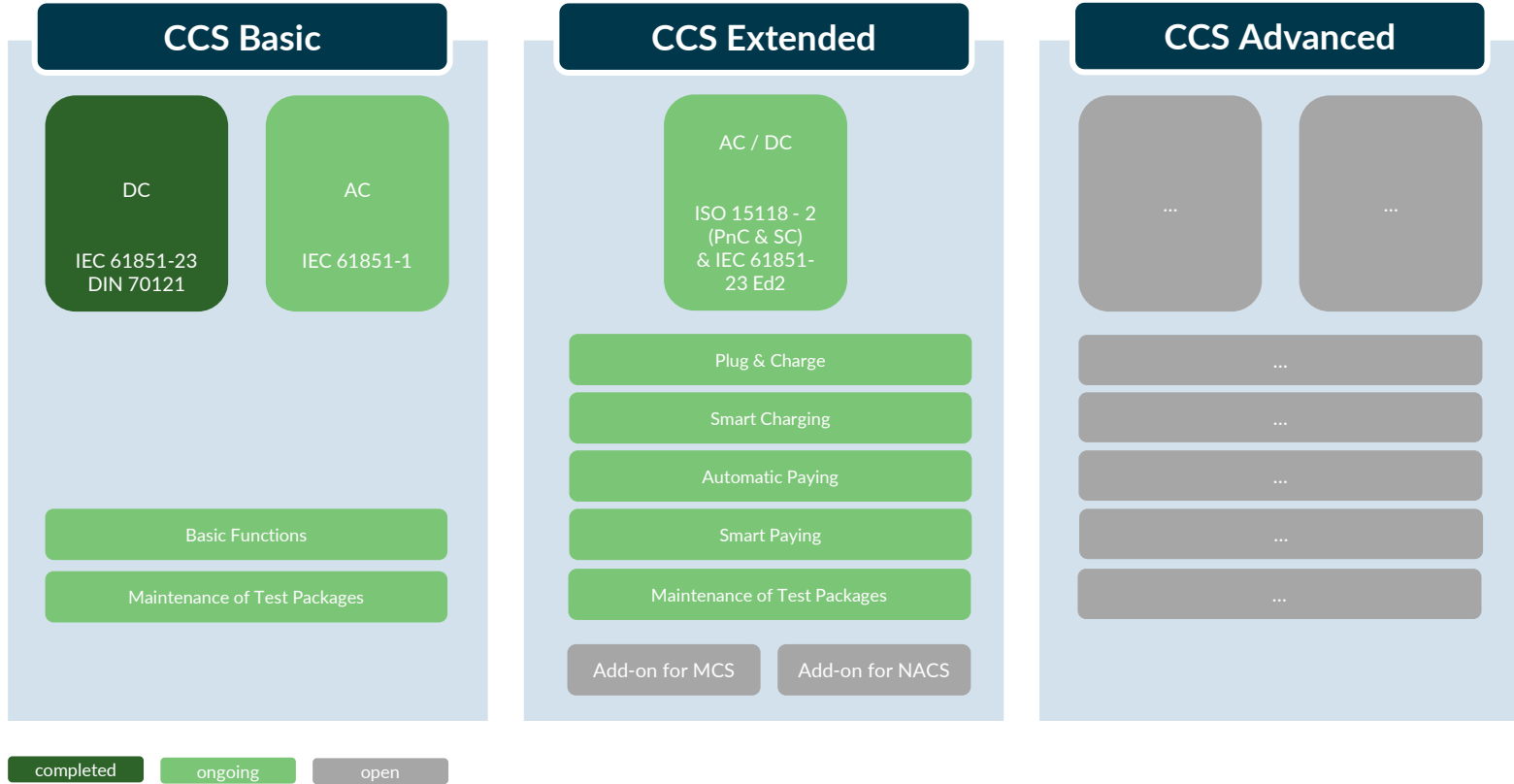
CharIN Implementation Guides, Feedback to standardization, filling the white spots of specification; Supporting Trust into standards

User orientation, Functionality, Ease of Charging (e.g. PnC), Quality, Safety, Security

CCS Step Model

CCS Basic	Basic Functions
	AC Charging DC Charging (incl. HPC = High Power Charging → CharIN Powerclass)
CCS Extended	Smart Charging
	Local Load Balancing Local Load Balancing w Data connection Online Load Balancing
	Automatic Paying
CCS Extended	Plug and Charge (ISO 15118)
	Smart Paying
	Payment app (MSP = Mobility Service Provider) Payment app (ad hoc) Credit Card (EIM = External Identification Means) RFID (EIM = External Identification Means)
	Vehicle-to-Vehicle Charging
tbd	Grid Integration Level V2X
	Bidirectional Charging Aggregated Bidirectional Charging
CCS Advanced	Automated Connection Device (ACD)
	ACD-S (Automated Conductive Device - Side coupler) ACD-U (Automated Conductive Device - Underbody coupler) Pantograph WPT (Wireless Power Transfer)

CCS Step Model and Scope of Packages

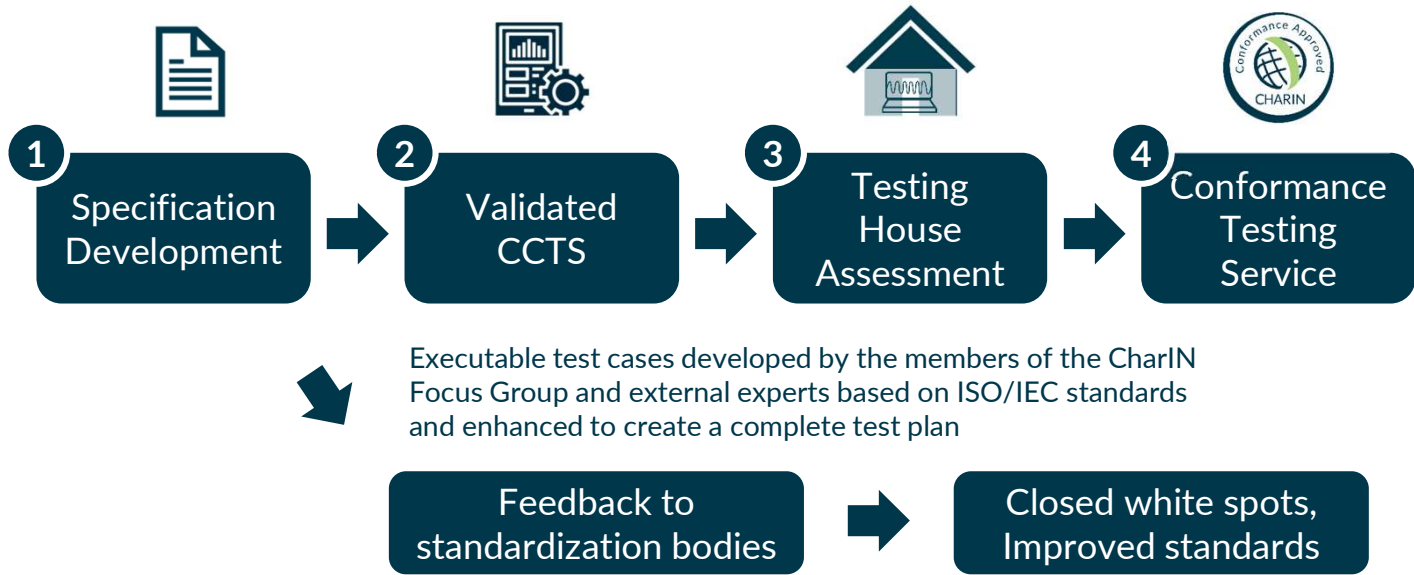


Conformance Test Process Overview

How CCS Extended would be made available and used



CharIN Quality Assurance Plan for Conformance Certification



Dissemination of CCS Certification

Requirements and Additional Efforts - How to make CharIN Conformance Certification successful



Requirements

Conformance certification can indicate interoperability, but currently not required.

The main goal for CharIN is to create the awareness of the importance and the benefits of conformance certification.

CharIN Conformance Certification needs to become a requirement of CPO tenders and for public funding.

Benefits of becoming certified:

- Quality Label as USP and competitive advantage for the EVSE product OEM
- Reduced service costs for the operator
- Increased customer satisfaction
- Safer and more profitable investments for investors
- Contributes to the overall adoption of eMobility

Distribution

Independent, validated test labs will perform the Conformance Certification to enable consistency in results across all test houses.

Test labs go through a peer-review process to become validated to ensure they have the capability to produce accurate results repeatedly.

Additional Efforts:

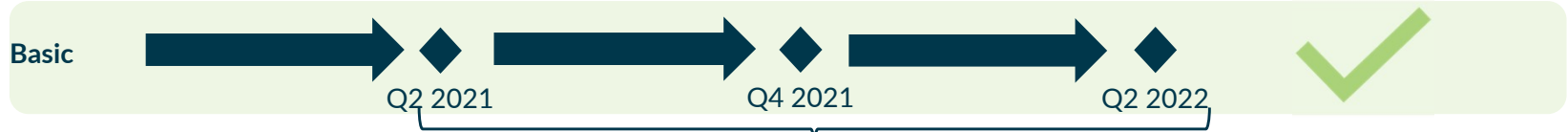
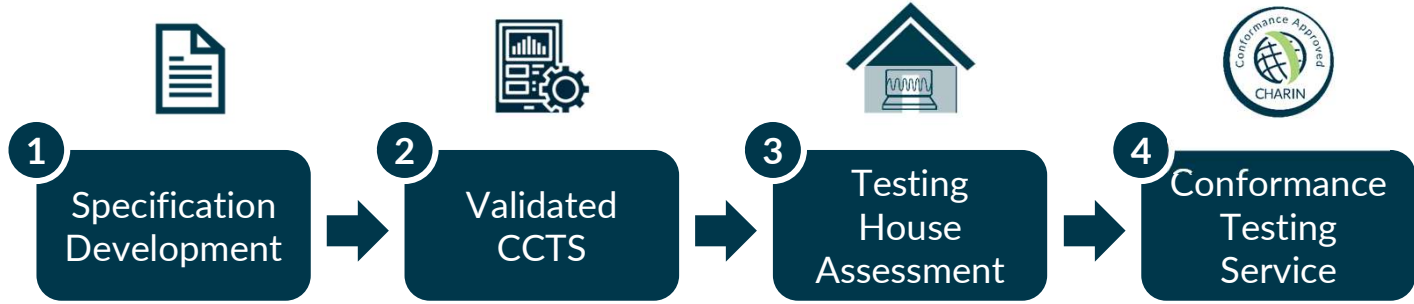
- Marketing campaigns for CharIN Conformance Certification
- Regular communication of the benefits in the markets
- Creating a demand for conformance certification (e.g. NACS)
- Regulatory recommendation at the national and international levels
- EV OEMs are requested to have the Test certificate

Conformance Test Process Overview

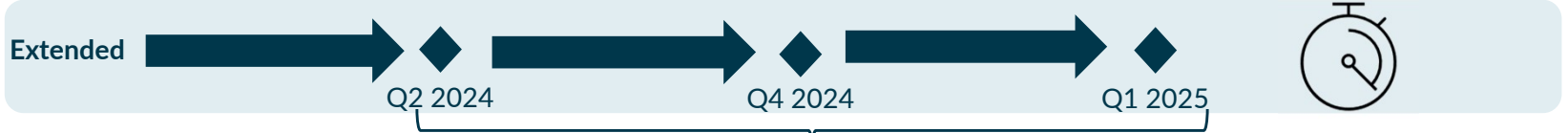
Expected availability of CCS Extended at labs



CharIN Quality Assurance Plan for Conformance Certification



12 month



appr. 9 month

Thank you for your kind attention!

Any questions?

Contact

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