CHAdeMO- STF support

October 2022, CHAdeMO Europe

Overview information
1. Introduction PNC- Status of the discussion in STF
2. Secondary legislation
3. Anonymized sample- PNC Eco system of today

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1. Introduction PNC- Status of the discussion in STF

Summary of current status

Mission of STF:

To assist the Commission in defining the principal components of governance and
IT architecture for vehicle-to-grid communication between the different actors in the electromobility ecosystem.

Remark: Even a wider scope was proposed. Its main focus is on PNC and a related PKI and the communication between EV and EVSE

Activities:

>> Activity 1: Mapping of the discussion concerning standards and protocols for communication exchange in the electromobility ecosystem (Approved in February 2022)

>> Activity 2: Development of a governance and implementation strategy for the operation of a PKI (To be approved by the end of 2022)

Timeline:

3 years (2021-2023)/ Second Year planned ca 14 Meetings

• At present: Finalizing Activity 2 (3 blocks).

Source: STF Sub Group Chair

Date:

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Status of the discussion 10/2022

STF Sub-group on Governance & Standards
Commission proposal for organization (2022 and 2023):
Block 1:
PKI – Objective and added value to the market
All members

Block 2:
Governance & Implementation scheme for the proposed PKI option(s
PKI Project leaders
o SAE PKI Project
o CharIN 'Plug & Charge Europe' Project
o Hubject Plug & Charge
o Vedecom / Mobena Project

Block 3: Regulatory needs and other relevant technical aspects
Dedicated group members

Block 4: Market roles, industry guidelines and continuity
TBD

Source: STF Sub Group Chair

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2. Secondary Legislation

New Concept :

>> Gathering of relevant expert evidence and recommendations in view of preparing secondary legislation under AFIR.

>> Coupling of Activity 2 with the new Commission Support Study by externals

>> Target: Planning for the preparation of secondary legislation

Deliverables	Interim report	Timespan	W1-W20

Task 1
Planning for the preparation of secondary legislation

Task 1 consists in developing the **structure** and **planning for the preparation of the secondary legislation** under the new proposal on alternative fuels (AFIR) – gathering the potential conclusions reached by the STF subgroup on governance and standards

Sub-task 1.1 - Assignment set-up

Stakeholder mapping

- Power distribution companies / Energy retailer;
- Charging infrastructure / solution providers (including software and IT back-end);
- Observatories / Institutes;
- Industry Associations;
- Vehicle manufacturers;
- Digital platform and security providers;
- End consumers;
- Associations representing EV Drivers;
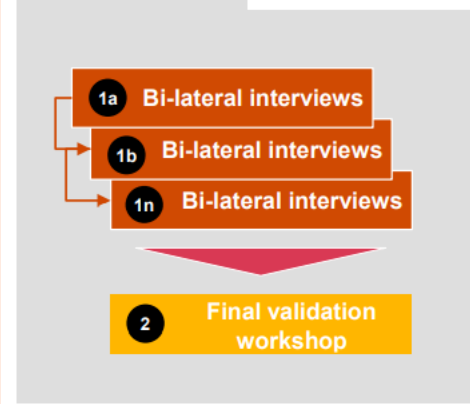- Standardisation organisations.

Key data sources and relevant literature:

- Electric Vehicle Symposium working papers
- International Conference of Electrical and Electronic Technologies for Automotive working papers
- Other working papers from international conferences on the subject
- ISO15118 Technical Standard Documents via IEC
- VDE Application Guide VDE-AR-E 2802-100-1
- RFC documents for IT Security
- Certificate Policies/ and Certificate practice statements of Companies offering PKI services inside and outside of the EV Charging industry

Sub-task 1.2 - Stakeholder consultation

Consultation strategy   **Interview questions**

- 1a Bi-lateral interviews
- 1b Bi-lateral interviews
- 1n Bi-lateral interviews

- 2 Final validation workshop

The Consortium will also take **active part** in the meetings of the **STF subgroup on governance and standards**

Desk research and interviews with (1) the **European Standardisation Organisations** (i.e. CEN, CENELEC, ETSI) and (2) a selection of **National Standardisation Bodies** (NBs) of EU countries on the **coherence of ISO 15118 standards and its different versions with other standards**

Submission of planning for the adoption of secondary legislation*:

Research and analysis
Gathering of information on the policy, technical and governance elements necessary to prepare secondary legislation

Final report
The Consortium processes the information and presents findings and recommendations Final Report.

Drafting of legislation
The Commission, drafts and proposes legislation based on the assignment's findings

Vote of legislation
Amendment of the draft proposals and vote on whether these proposal should become EU law.

Adoption and Implementation of legislation
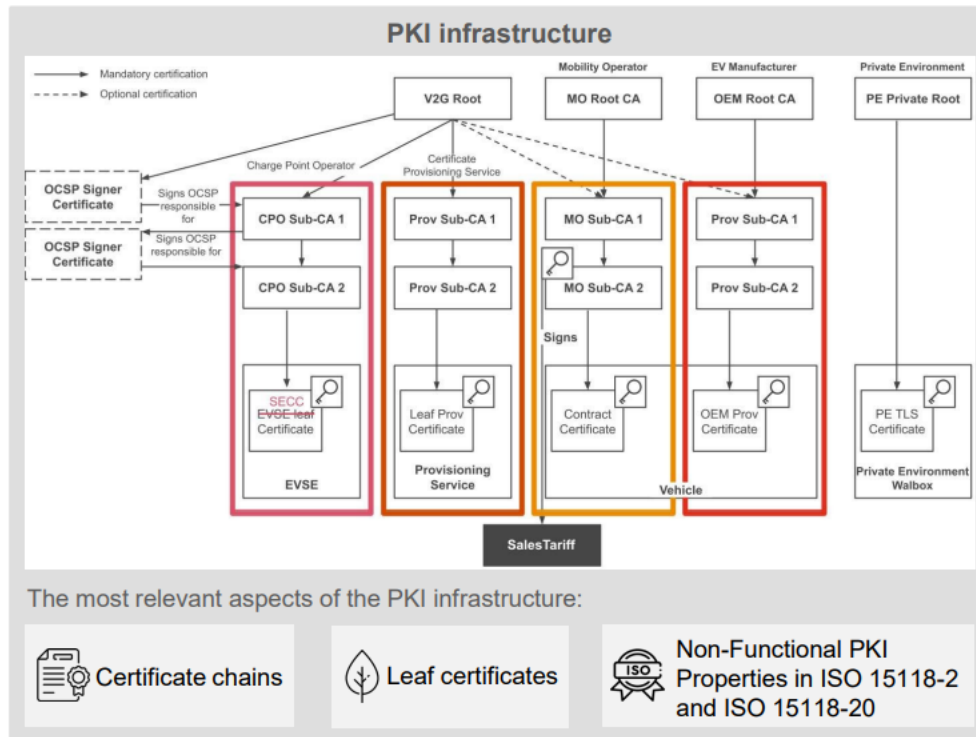Regulation is passed and then implemented.

*Secondary legislation is a collective term used to describe all the various types of law the European institutions can make: *Regulations, directives, decisions* (binding), as listed in Article 288 of the Treaty on the Functioning of the EU); "soft laws" (non-binding) such as *communications, opinions, recommendations, white and green papers* ; *Delegated Acts* and *Implementing Acts.*

Support study on the development of a governance framework for the Public Key Infrastructure (PKI) under the standard ISO 15118
PwC

September 2022

Date: Source:PWC

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Task 2

Description of the preferred governance and architecture option

Task 2 consists of elaborating and outlining the **required policy, technical and governance elements** to include in secondary legislation in support of the preferred governance and architecture option.

Deliverables: Evaluation of governance and architecture options and requirements

Timespan: W5-W30

PKI infrastructure

The most relevant aspects of the PKI infrastructure:
- Certificate chains
- Leaf certificates
- Non-Functional PKI Properties in ISO 15118-2 and ISO 15118-20

PKI Governance

This includes several aspects, including:
- Role separation;
- Physical security;
- Private key protection; and
- Policies

PKI architecture options

- Unique free V2G root certification authority (Free CA)
- Unique regulated V2G root certification authority (Regulated CA)
- Multiple free V2G root certification authorities (Free CAs)
- Multiple regulated V2G root certification authorities (Regulated CAs)

Governance options

- Option A - Market approach, having different operators and Multiple roots
- Option B - Market approach (single PKI)
- Option C - Single non-profit Operator (such like an association or Stichting or AISBL or similar)
- Option D - Public institution
- Option E - PPP Model

Link between governance options and following architecture options

Architecture option 1° Single V2G root CA (One V2G root CA per market / Cross- certification)

Architecture option 2° Multiple V2G root CAs (Cross-recognition / Certificate trust list)

Support study on the development of a governance framework for the Public Key Infrastructure (PKI) under the standard ISO 15118

September 2022

Date: Source:PWC

3. Anonymized Sample

Step	Making a contract for PNC (anoninyzed sample- customer centric)
Step 1	Customer buy the EV with connectivity (SIM included). Vehicle has functionality ISO15118 included
Step 2	Customer download OEM –mobile APP solution linked to vehicle
Step 3	Customer include payment/ bank data in the OEM mobile APP solution
Step 4	Customer book charge service PNC at nominated CPO
Step 5	Customer see PNC type EVSE from nominated CPO at vehicle display and or in the OEM mobile APP solution
Step 6	Customer can find the PNC type EVSE (eg by OEM NAVI) and charge with PNC functionality

Source:: Research

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Date: