



European ITS Committee

28th meeting

European Commission

Brussels, 6 May 2020

C-ITS sub group (1/2)

- New sub-group established under the ITS expert group E01941
- The 2018 EU Strategy for mobility of the future set out a specific action to implement a pilot on common EU-wide cybersecurity infrastructures and processes needed for secure and trustful communication between vehicles and infrastructure.
- To successfully implement this pilot on common EU-wide cybersecurity infrastructures and processes, there is the need to set-up a sub-group on Cooperative Intelligent Transport Systems (C-ITS) under the Commission Expert Group on Intelligent Transport Systems.
- The sub-group's task shall be to assist the Commission in working on the implementation of the aforementioned pilot and to foster exchange of experience and good practice in the field of C-ITS.





C-ITS sub group (2/2)

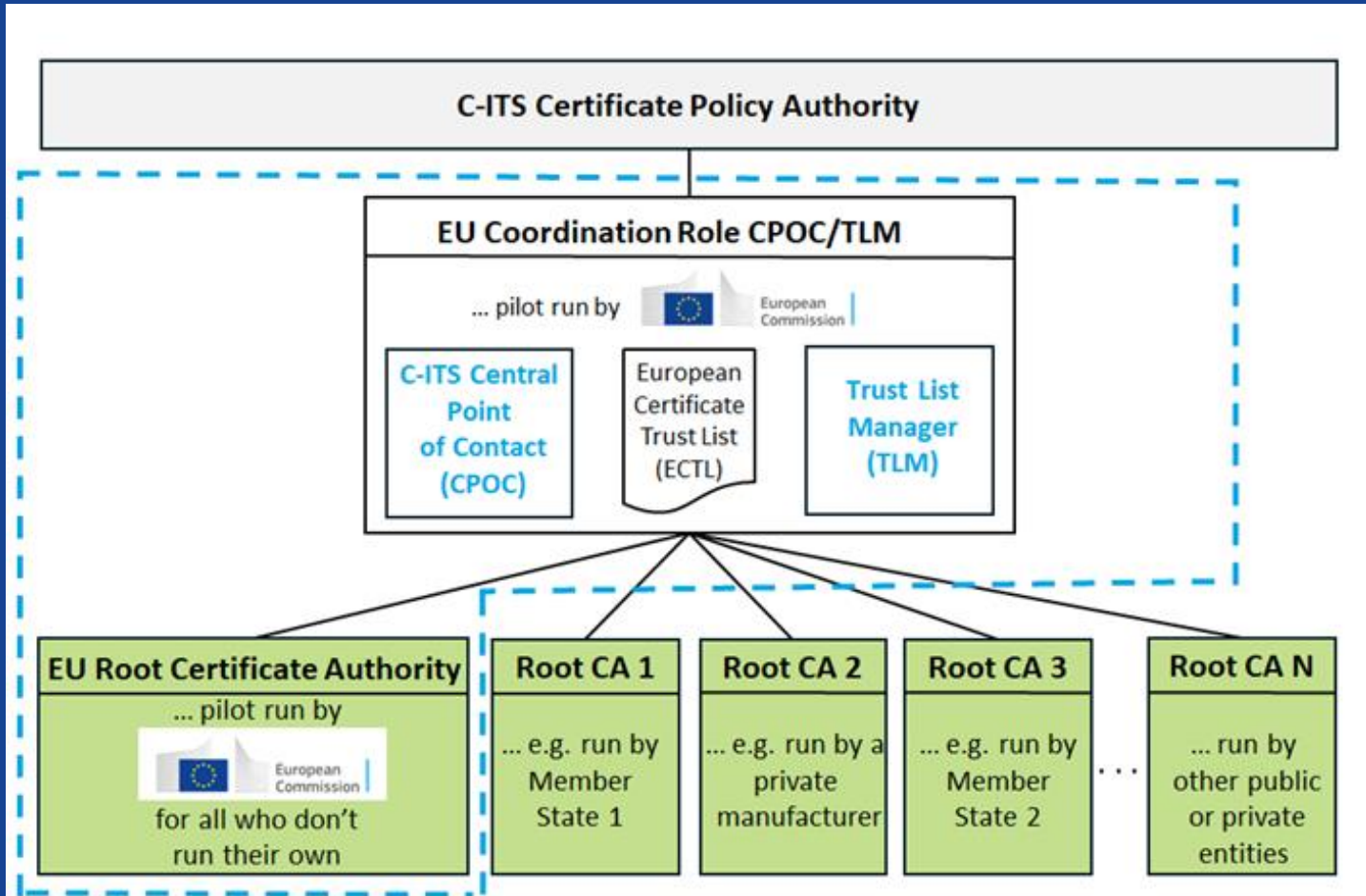
- The sub-group members will be Member States' authorities (at national, regional or local level e.g. cities) and organizations with a demonstrable professional interest and experience in the deployment of cooperative intelligent transport systems using the EU CCMS.
- An open call for applications (including details on scope and functioning of the group) has been launched for organisations, with a first cut-off date of 30 May 2020:
https://ec.europa.eu/transport/themes/its/news/2020-04-27-cits_en
- NOTE: Member States are already a member through the expert group, and shall nominate their representatives and shall be responsible for ensuring that their representatives provide a high level of expertise.
- The first meeting is still to be planned, not earlier than July. MS will receive invitation & request for nomination well in advance. If you already have questions, please address them to: MOVE-E01941-CITS@ec.europa.eu



EU CCMS

Central elements - Update

EU CCMS – Scope of activities



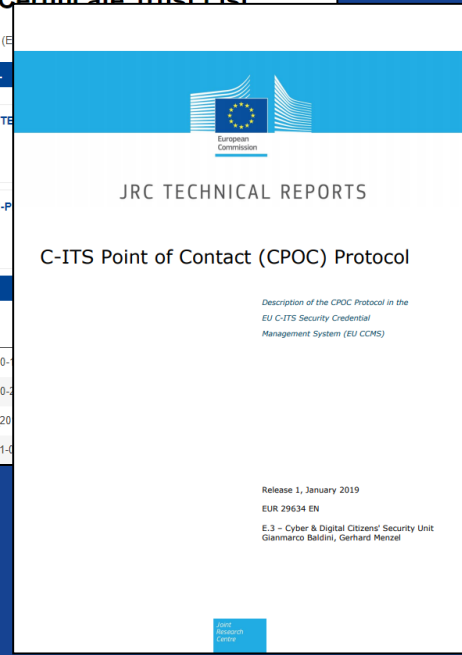
Scope of EU CCMS
pilot phase 2018 - 2021



CPOC Website launched since end of November 2019!

C-ITS Point of Contact (CPOC)

- **CPOC is fully hosted by the European Commission**
 - CPOC Entry
 - CPOC Website <https://cpoc.jrc.ec.europa.eu/>
 - E-mail: JRC-CPOC@ec.europa.eu
 - **C-ITS Point of Contact (CPOC) Protocol**
 - Definition of a secure protocol for exchange of root CA certificates between Root CAs and the CPOC, first release January 2019
- Currently under revision**
- New Annex I with necessary technical updates of ETSI Standards following findings of 2019 plugtests
 - Significant amount of clarifications and implementation relevant requirements & recommendations
- A lot of work done together with expert volunteers
- will now also become topic of the new sub-group!



Trust List Manager (TLM)

- TLM is fully hosted by the European Commission and is implemented on Commission premises in ISPRA, Italy
- TLM functionalities have already been supplied at the ETSI plug-tests in 2019

Most frequently asked question these days:

- “When is the ECTL available and how do I get on it?”

→ The European Commission aims to offer support for European C-ITS deployment with **3 different Levels of TLM Services**

```
value TlmCertificateTrustListMessage ::= {
  protocolVersion 3,
  content signedData : {
    hashId sha384,
    tbsData {
      payload {
        data {
          protocolVersion 3,
          content unsecuredData : CONTAINING {
            version v1,
            content certificateTrustListTlm : {
              version v1,
              nextUpdate 530013603,
              isFullCtl TRUE,
              ctlSequence 2,
              ctlCommands {
                add : rca : {
                  selfsignedRootCa {
                    version 3,
                    type explicit,
                    issuer self : sha256,
                    toBeSigned {
                      id name : "TEST2_RCA",
                      crcaId '000000'H,
                      ctrlSeries 0,
                      validityPeriod {
                        start 478220405,
                        duration years : 8
                      },
                      appPermissions {
                        {
                          psid 624,
                          ssp bitmapSsp : '0138'H
                        },
                        {
                          psid 622,
```

European
Certificate
Trust
List (ECTL),
signed
with TLM
Certificate

TLM – Level 0

EU CCMS: TLM Services

- **TLM LEVEL 0 Service (L0)**
 - **LEVEL 0 TLM CERTIFICATE**
 - **LEVEL 0 ECTL**
- **TLM LEVEL 1 Service (L1)**
 - **LEVEL 1 TLM CERTIFICATE**
 - **LEVEL 1 ECTL**
- **TLM LEVEL 2 Service (L2)**
 - **LEVEL 2 TLM CERTIFICATE**
 - **LEVEL 2 ECTL**

- TLM L0 is offered on the basis of requests for interoperability testing sessions by single stakeholders or groups of stakeholders participating in a specific test session (e.g. C-Roads interoperability test sessions, etc.).
- for short testing intervals (e.g. shorter than 2 months).
- No CP audit is needed.
- Time Plan: L0 is implemented, available and has already been provided for two ETSI plug-tests in 2019 (results of the last plug-test are currently published on <https://cpoc.jrc.ec.europa.eu/>).

TLM – Level 1

EU CCMS: TLM Services

- **TLM LEVEL 0 Service (L0)**
 - **LEVEL 0 TLM CERTIFICATE**
 - **LEVEL 0 ECTL**
- **TLM LEVEL 1 Service (L1)**
 - **LEVEL 1 TLM CERTIFICATE**
 - **LEVEL 1 ECTL**
- **TLM LEVEL 2 Service (L2)**
 - **LEVEL 2 TLM CERTIFICATE**
 - **LEVEL 2 ECTL**

- L1 is enabled by the CPA by definition of the requirements and scope of operation.
- Offered for longer operation intervals, longer validities of certificates, at least 3-6 Months or more. **But limited in time, as deployments shall move to L2.**
- No CP audit is needed. However, requirements and processes will be very close to full compliance and audit against the CP, with limited and clearly defined exceptions defined by the CPA.
- Offered for RCAs and C-ITS stations who start to operate C-ITS Day 1 services in regular and well defined operation periods who meet the defined CPA Requirements.
- Time Plan: depends on requirements defined by the stakeholders (CPA) that want to make use of the TLM LEVEL 1 service --> key role for new sub group. TLM is ready to support signing of L1 ECTL as of June 2020 with TLM software version of last plugtest.

TLM – Level 2

EU CCMS: TLM Services

- **TLM LEVEL 0 Service (L0)**
 - **LEVEL 0 TLM CERTIFICATE**
 - **LEVEL 0 ECTL**
- **TLM LEVEL 1 Service (L1)**
 - **LEVEL 1 TLM CERTIFICATE**
 - **LEVEL 1 ECTL**
- **TLM LEVEL 2 Service (L2)**
 - **LEVEL 2 TLM CERTIFICATE**
 - **LEVEL 2 ECTL**

- L2 is enabled by the CPA and operates according to the CP with no exceptions.
- Hence, full audits are required.
- Time Plan: Since the EU Root CA will be fully audited by the end of 2020, the TLM intends to provide such LEVEL 2 ECTL by the end of 2020, including (at least) the EU root CA on this LEVEL 2 ECTL. Details are subject to discussion in the CPA.



Summary of TLM Levels

- There will be 3 different ECTL Levels: Level 0, Level 1 and Level 2.
- As of today the Commission can supply an ECTL Level 0 for specific interested stakeholders in Europe for testing purposes of C-ITS services, like it has already happened two times in 2019.
- As of June 2020 it is possible for the Commission to supply an ECTL Level 1, however the CPA needs to define the requirements for specific and limited exceptions (of e.g. the CP) for the ramp-up phase of C-ITS in the EU **for a limited period of time.**
- The intent is that as of the end of the year 2020 there will be an ECTL Level 2, with at least the EU Root CA on it that will be fully compliant to the CP.

The new Commission Expert (sub-)Group will play a key role in this process to instruct the TLM (as defined in the CP) for all different levels.



Update on EU Root CA

- Open Tender procedure was performed in 2019 – all information regarding tenders of the European Commission is published in the Official Journal of the European Union (OJEU), Reference Number JRC/IPR/2019/OP/0365 <https://ted.europa.eu/>
 - Date of publication: 19/04/2019, Date of contract signature: 09/12/2019
 - Successful tenderer: Keynectis S.A. (commercial name IDnomic)
- Scope of the 3 years contract (2019-2022):
 - deployment and operation of C-ITS EU RCA, EA and AA
 - Service delivered on 2 different platforms, 1 of them fully-compliant with the EU CP
 - Support of up to 150.000 C-ITS stations on internal EA and AA
 - Support of up to 11 external EA and AA
 - Service free of charge
- Last ITS Committee 16th December: **“Implementation will now start, hence all services are expected to be available in 2020!”**
- Today, 6th of May: **“The EU Root is ready and services start!”**

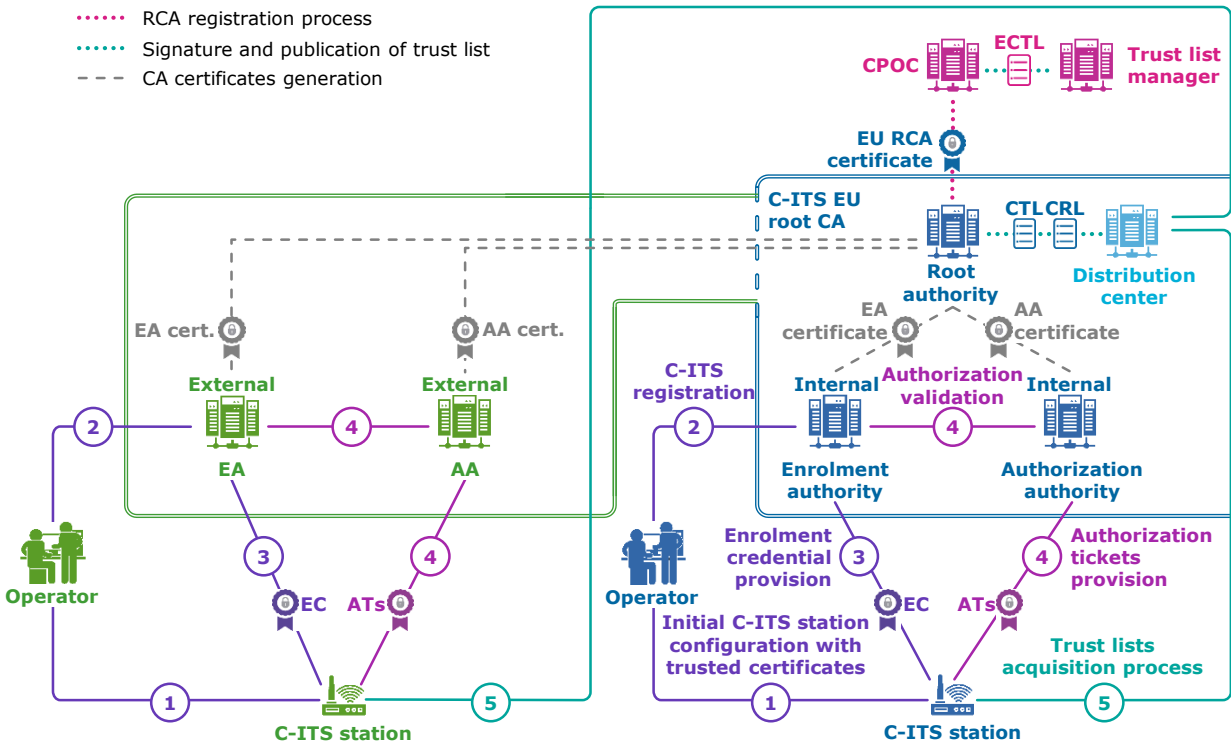
EU Root CA

Global overview

Architecture and services



- Enrolment of C-ITS stations
- Authorization tickets acquisition process
- Trust lists acquisition process
- ⋯ RCA registration process
- ⋯ Signature and publication of trust list
- - - CA certificates generation



Service access

- ▶ Stations: direct communications with internal EA and AA
- ▶ External EA and AA: certificates signed by the EU RCA

Level 1 Service

- ▶ Close to EU CP requirements
- ▶ Deployed now and available in June 2020

Level 2 Service

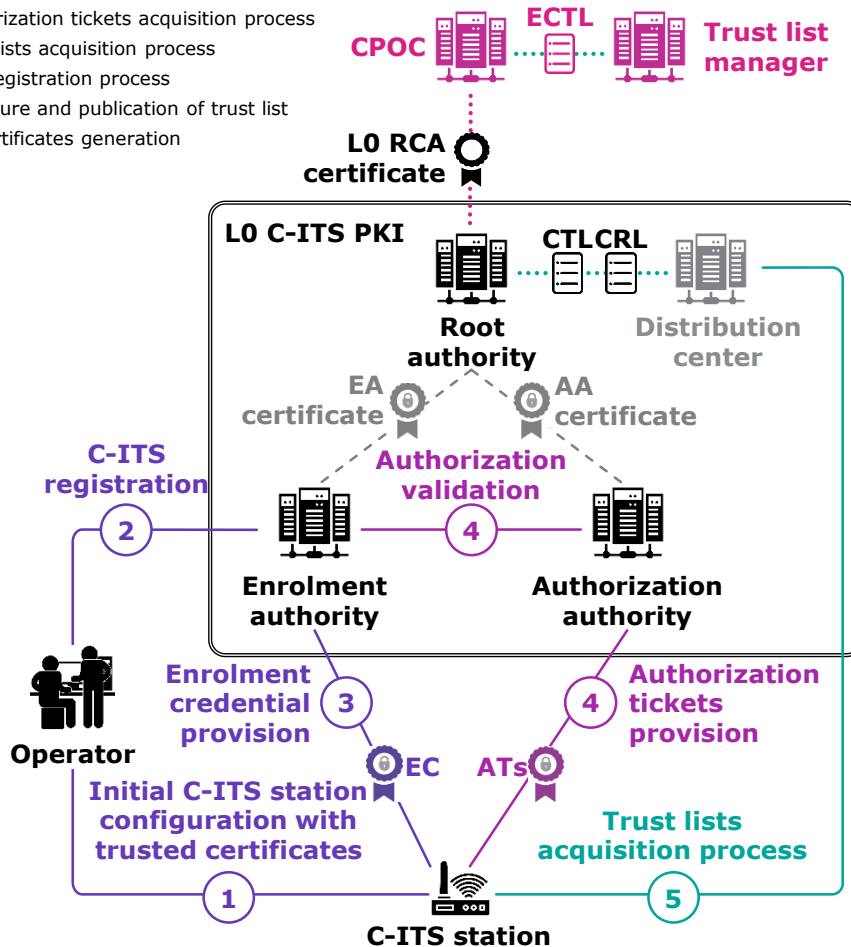
- ▶ Certified: EU CP fully compliant
- ▶ Available end of 2020

Complementary service

L0 architecture



- Enrolment of C-ITS stations
- Authorization tickets acquisition process
- Trust lists acquisition process
- ⋯ RCA registration process
- ⋯ Signature and publication of trust list
- - - CA certificates generation



AVAILABLE NOW
FOR THE WHOLE C-ITS EU
ECOSYSTEM

- ▶ L0 Service
- ▶ Dedicated platform for testing, integration works, etc.
- ▶ Registered in corresponding L0 ECTL
- ▶ Registration contact information:

dl-cits-eurca-registration@atos.net

Relation TLM – EU ROOT CA

EU CCMS: TLM Services

TLM LEVEL 0 Service (L0)

- LEVEL 0 TLM CERTIFICATE
- LEVEL 0 ECTL

TLM LEVEL 1 Service (L1)

- LEVEL 1 TLM CERTIFICATE
- LEVEL 1 ECTL

TLM LEVEL 2 Service (L2)

- LEVEL 2 TLM CERTIFICATE
- LEVEL 2 ECTL

EU CCMS: EU Root CA Services

EU RCA LEVEL 0 Service (L0)

- LEVEL 0 RCA CERTIFICATE
- LEVEL 0 EA/AA CERTIFICATES

EU RCA LEVEL 1 Service (L1)

- LEVEL 1 RCA CERTIFICATE
- LEVEL 1 EA/AA CERTIFICATES

EU RCA LEVEL 2 Service (L2)

- LEVEL 2 RCA CERTIFICATE
- LEVEL 2 EA/AA CERTIFICATES



More Information

Cooperative, connected and automated mobility:

https://ec.europa.eu/transport/themes/its/c-its_en

CPOC Website:

<https://cpoc.jrc.ec.europa.eu>



Thank you for your attention!
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European Commission - DG JRC
E.3: Cyber & Digital Citizens`
Security