# EU C-ITS Security Credential Management System

European Commission

EU Policy on C-ITS Security

Objective:

- COM (2016) 766 - A European strategy on C-ITS, a milestone towards cooperative, connected and automated mobility

- May 2018: COM(2018) 283 final - On the road to automated mobility: An EU strategy for mobility of the future

  - Commission will "**implement a pilot on common EU-wide cybersecurity infrastructures and processes needed for secure and trustful communication between vehicles and infrastructure for road safety and traffic management related messages according to the published guidance on the certificate and security policy**"
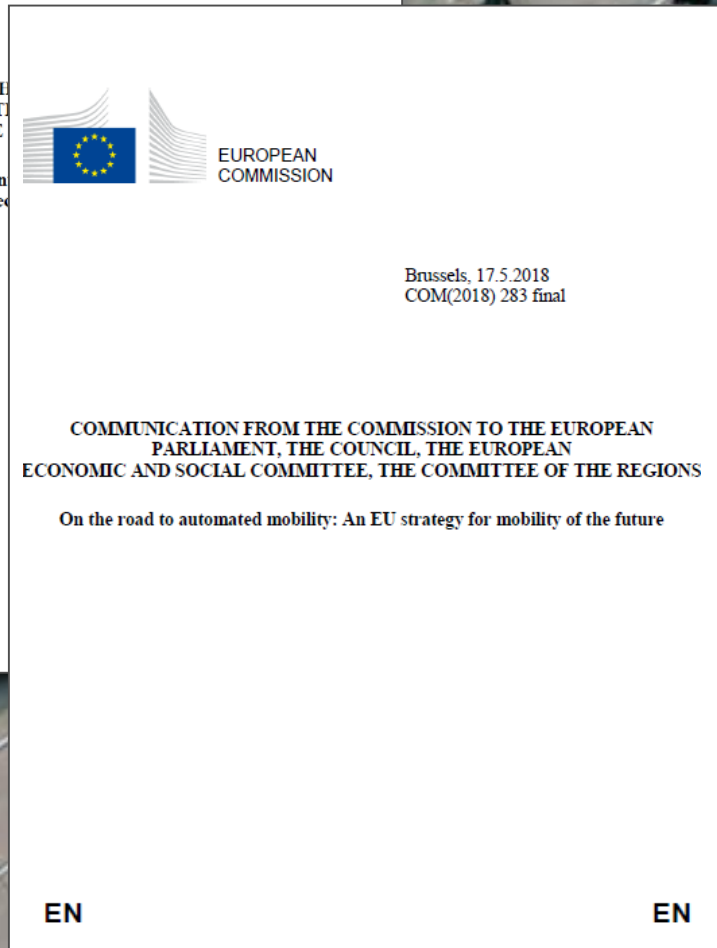
EU Policy on C-ITS Security
... from guidance & testing ...

2014 - 01/2016

C-ITS Platform

WG5: Security & Certification

Final Report

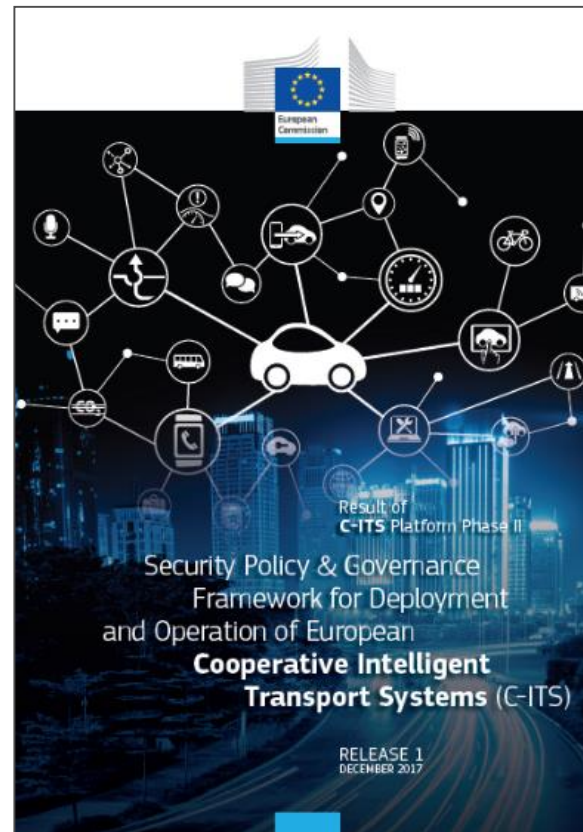ANNEX 1: Trust models for Cooperative - Intelligent Transport System (C-ITS)

An analysis of the possible options for the design of the C-ITS trust model based on Public Key Infrastructure in Europe
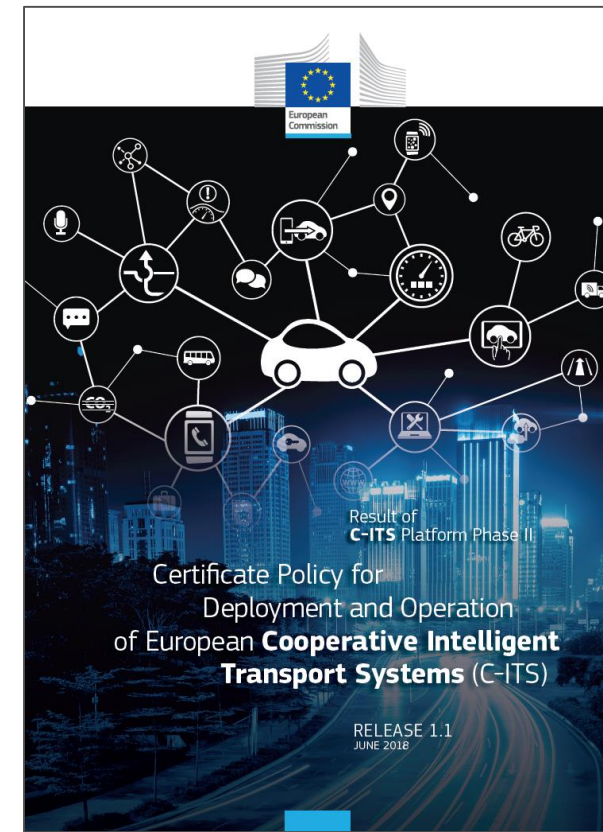
v1.1

06/2017

C-ITS Platform Phase II

Certificate Policy for Deployment and Operation of European **Cooperative Intelligent Transport Systems** (C-ITS)

RELEASE 1
JUNE 2017

12/2017

Result of
C-ITS Platform Phase II

Security Policy & Governance Framework for Deployment and Operation of European **Cooperative Intelligent Transport Systems** (C-ITS)

RELEASE 1
DECEMBER 2017

06/2018

Result of
C-ITS Platform Phase II

Certificate Policy for Deployment and Operation of European **Cooperative Intelligent Transport Systems** (C-ITS)

RELEASE 1.1
JUNE 2018

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EU Policy on C-ITS Security
… to implementation …

- All C-ITS security activities of the Commission are based on the CP and SP of the preparatory phase of the C-ITS Delegated Regulation[1]:

Certificate Policy (CP): Annex 3

EUROPEAN COMMISSION

Brussels, 13.3.2019
C(2019) 1789 final

ANNEX 3

ANNEX

to the

Commission Delegated Regulation

supplementing Directive 2010/40/EU of the European Parliament and of the Council with regard to the deployment and operational use of cooperative intelligent transport systems

{SEC(2019) 100 final} - {SWD(2019) 95 final} - {SWD(2019) 96 final}

Security Policy (SP): Annex 4

EUROPEAN COMMISSION

Brussels, 13.3.2019
C(2019) 1789 final

ANNEX 4

ANNEX

to the

Commission Delegated Regulation

supplementing Directive 2010/40/EU of the European Parliament and of the Council with regard to the deployment and operational use of cooperative intelligent transport systems

{SEC(2019) 100 final} - {SWD(2019) 95 final} - {SWD(2019) 96 final}

1: Regulation adopted by the Commission that did not enter into force – the contents of Annex 3 (CP) and 4 (SP) are however still the basis for the EU CCMS activities of the Commission for C-ITS deployment support: https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1552572526215&uri=PI_COM:C(2019)1789

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C-ITS sub group

- 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.

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C-ITS Point of Contact (CPOC)

CPOC Website launched since end of November 2019!

- **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

  Revision 2020:
  - New Annex I with necessary technical updates of ETSI Standards following findings of 2019 plugtests
  - Significant amount of clarifications and implementation relevant requirements & recommendations.

ECTL Levels: What is known and clear today?

- **We sense a difference between maturity levels of PKI system implementations and C-ITS station implementations**

  - PKI:

    - All standards and specification documentation are validated and published

    - C-ITS PKIs available on the market, able to comply to CP/SP and standards

  - C-ITS stations:

    - Challenges identified to fully comply with CP/SP

    - e.g. Protection Profiles (PP) not fully defined yet, thus, compliance to SP likely not auditable

- **Hence, different ECTL levels have been proposed by the European Commission:**

  - 3 different levels: L0, L1 and L2

  - Goal: Every stakeholder should move to L2 as soon as possible

* 103 097 v1.3.1 is listed in CP and is/has been under revision in ETSI WG5. 103 097 is/has been under revision following CR process and 2019 Plug-Test findings (compare with elements defined in CPOC Protocol Revision).
** 102 941 v1.2.1 is listed in CP, whereas a v1.3.1 has been published by ETSI in 02/2019, which is not listed in CP yet. 102 941 is/has been again under revision towards a new version following 2019 Plug-Test findings (compare with elements defined in CPOC Protocol Revision).

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Conclusions

- **C-ITS needs trust**, between **all road users and infrastructure owners**

- The EU C-ITS Security Credential Management System provides that trust

- **The system is available** and offers three levels to support ALL stations

- The Commission pilot covers the whole system but other root certificate authorities can join the European Certificate Trust List

- The system is **technology neutral** and is at the core of the difference between C-ITS and other systems

European Commission

Thank you

European Commission JRC

EU CCMS relevant Contacts:
CPOC/TLM Website https://cpoc.jrc.ec.europa.eu/
CPOC/TLM Contact: EC: JRC-CPOC@ec.europa.eu
EU Root CA: EC: JRC-C-ITS-EU-RCA@ec.europa.eu & Atos: axel.sandot@atos.net
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