



C-Roads Platform

Terms of Reference

Dissemination level: public

Author: AustriaTech

Status: V 2.0

Index

1	Purpose.....	3
2	Governance Structure	4
3	C-Roads Steering Committee	6
3.1	Tasks and responsibility	6
3.2	Member structure	6
3.3	Meeting calendar	7
4	C-Roads Platform Supporting Secretariat.....	7
4.1	Tasks and responsibility	7
4.2	Member structure	8
5	Working Groups (WGs)	9
5.1	Tasks and responsibility	9
5.2	WG 1 – C-ITS Organisation	10
5.3	WG 2 – Technical Aspects	10
5.3.1	Task forces	11
5.4	WG 3 – Evaluation and Assessment.....	11
5.5	WG 4 – Urban C-ITS Harmonization	12
5.6	WG 5 - Digital Transport Infrastructure (DTI).....	13
6	Pilot activities.....	14
7	Interoperability	15
8	Communications.....	16
8.1	Internal Communication.....	16
8.2	Website	16
8.3	Documentation	16
8.3.1	Creating Documents	16
8.3.2	Status of documents within C-Roads.....	16
9	Milestones.....	17

List of Tables

Table 1: C-Roads Steering Committee Meeting Plan Fehler! Textmarke nicht definiert.

Table 2: List of Milestones..... Fehler! Textmarke nicht definiert.

List of Figures

Figure 1: C-Roads Platform - Governance Structure5

1 Purpose

The C-Roads Platform Terms of Reference (ToR) document defines the structure and procedures to be followed within the C-Roads Platform as well as the content to be discussed and agreed upon to achieve interoperable deployments of C-ITS services across Europe from a road operator's perspective.

The C-Roads Platform Agreement, which is signed by all C-Roads Partners, refers to these ToR. So both documents need to be seen together as they are a precondition for deployments of several pilot deployments which are co-funded by the European Union through the Connecting Europe Facility.

In 2016, at the Kick-Off of the C-Roads Platform, the EC stated clearly the following expectation:

A C-Roads Platform Agreement will be signed by the representatives of all pilot actions. The C-Roads Platform Agreement shall specify with an appropriate level of details:

1. How each and every pilot action will participate to the C-Roads Platform and to the different Working Groups. Each pilot action shall actively participate to the C-Roads Platform and its Working Groups.
2. How technical and functional interoperability of the piloted C-ITS services will be achieved. The agreement shall make clear that the overarching goal of the pilot actions is to ensure interoperability. To that effect, the C-Roads Platform Agreement shall explain what mechanisms will be put in place to specify, test and validate the technical solutions of the commonly specified communication profile, detect as soon as possible any interoperability issues and propose solutions. Technical solutions shall be selected by each pilot action in line with the other pilot actions, so to ensure technical compatibility and interoperability.
3. How and when cross-site tests will be carried out. Each pilot action shall test at least one on-board unit on all other pilot sites and provide a test report. To that effect, the C-Roads Platform Agreement shall detail the main principles for these tests, in particular as regards the support provided by the "visited site" to the "visitor". Achieving interoperability based on the commonly specified communication profile shall be a joint responsibility of all C-Roads Platform partners.
4. How the progress and results of the EU C-ITS Platform will be taken into account. In the interest of EU interoperability, the solutions developed within the C-Roads Platform will have to be fully aligned with the guidelines and framework established for that specific domain by the EU C-ITS Platform.

This EC expectation still forms the frame of the C-Roads Platform activities. The obligations of single pilot activities are defined by the respective Grant Agreements, which especially goes for cross-site tests undertaken by single pilots.

Even the C-Roads Platform Agreement needs to be agreed upon and signed by the single pilot beneficiaries, other partners representing European Member States are invited to become active members (core partners) of the C-Roads Platform.

2 Governance Structure

As it can be seen in Figure 1, the driving body of the whole C-Roads Platform is the C-Roads Steering Committee composed by representatives of the Member States and the infrastructure operators as implementing bodies. It composes the interface to all internal and external stakeholders, including the European services (European Commission and INEA). Additionally, it has the responsibility to ensure interaction with external stakeholders through dedicated workshops and acts as the ultimate decision body of the C-Roads Platform. The C-Roads Steering Committee is chaired by the C-Roads chair.

The proper functioning of the C-Roads Platform (monitoring of progress, invitation to meetings, etc.) is organised by the Supporting Secretariat, composed by the coordinators of the single pilots and chaired by a Secretary General.

All decisions done by the C-Roads Steering Committee are followed by the single pilot activities, where appropriate. This especially goes with technical decisions, which influence deployment and procurement decisions. In case that proposals or/and recommendations are not adopted by the Steering Committee, Member States can continue in their deployment activities in accordance to valid standards and/or specifications, but they need to be ready to adopt their deployments to Steering Committee Decisions on a later stage, but before cross-site testing.

To ensure proper decisions towards interoperable deployments, Working Groups are installed as decision support for the Steering Committee. Individual experts participating in the single pilots and nominated by C-Roads Steering Committee members work together in these Working Groups to prepare recommendations. The Steering Committee decides on the recommendations and use them as basis for interoperable deployments (including procurements).

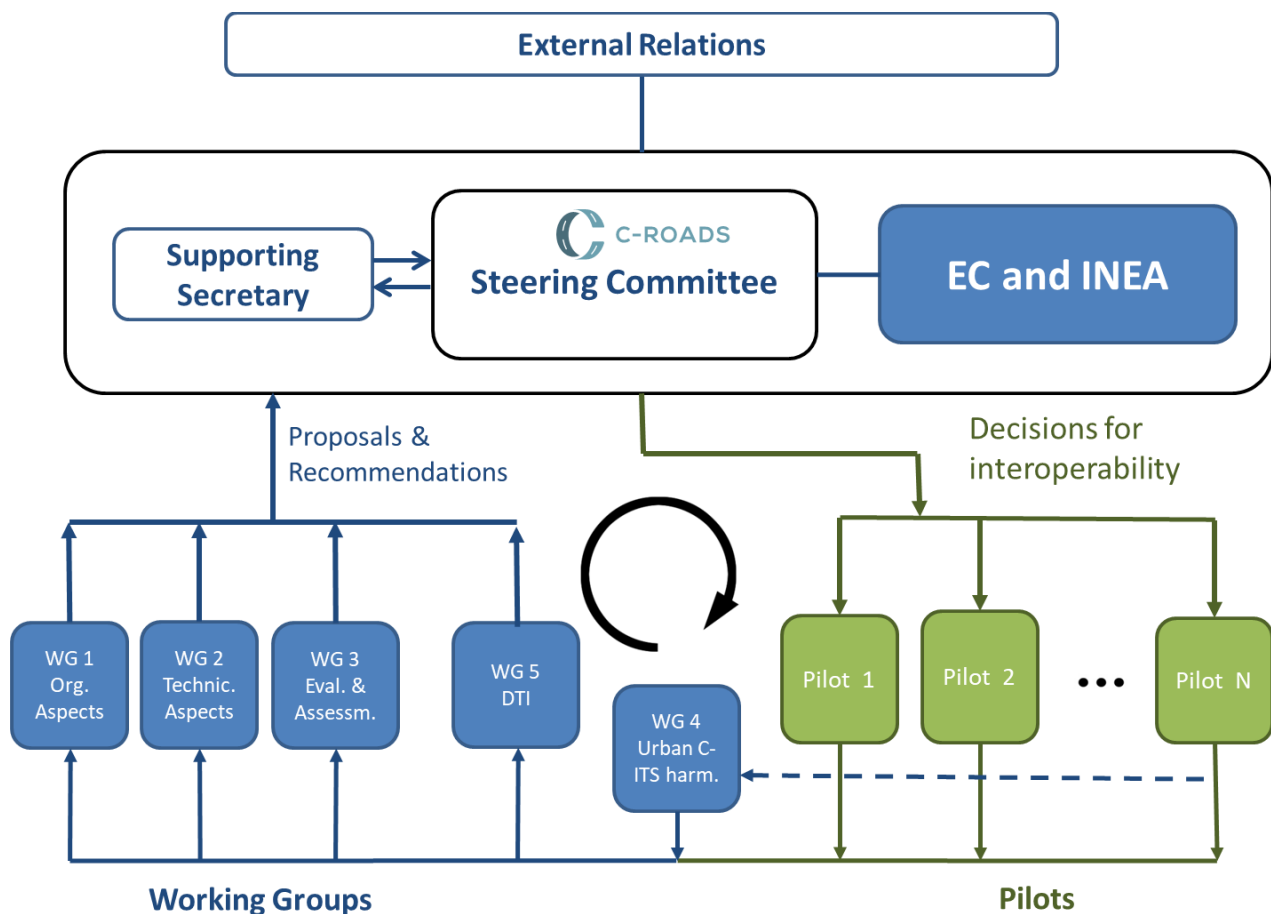


Figure 1: C-Roads Platform - Governance Structure

Only Member State authorities can become members of the C-Roads Platform, with the differentiation between Core Members and Associated Members:

- Core Members acknowledge the general principles of the C-Roads Platform
- Core Members commit themselves to actively participate in all relevant Working Groups (at least one expert per Working Group) drafting C-Roads specifications.
- Core Members are allowed to vote on C-Roads specifications to be used for C-ITS deployments
- Core Members commit themselves to follow the C-Roads specifications, when setting up pilot deployments
- Associated Members acknowledge the general principles of the C-Roads Platform
- Associated Members have access to gathered knowledge, but they have no voting right for specifications
- Associated Members commit themselves to use C-Roads specifications in their pilot implementations

The European Services, composed by representatives of the European Commission (EC) and the Innovation and Networks Executive Agency (INEA), are closely linked to the C-Roads Platform through policy guidance and the legislative framework of C-ITS. Even if the European Services have no voting right at Steering Committee level, they are invited to follow and actively participate to

discussions at all C-Roads Platform levels, ensuring also the link to other C-ITS relevant stakeholder groups. They additionally will bring in the policy support needed for such a pan-European deployment platform.

The different bodies of the C-Roads Platform, their members, their roles and responsibilities are described in detail in the following sections.

3 C-Roads Steering Committee

3.1 Tasks and responsibility

The C-Roads Steering Committee is responsible for:

- the overall steering of the platform
- the formal representation of the C-Roads Platform to the EC
- the interface of the C-Roads Platform towards external stakeholders
- establishing Working Groups and Task Forces for single work items and allocating needed resources
- assigning, revising and adoption of the work items from all Working Groups
- endorsement of deliverables from the Working Groups
- ensuring the link between specifications elaborated within the Working Groups and real pilot implementations and hereby
- ensuring that the decisions at platform level will be followed at pilot implementation level.

Decision procedures:

All decisions in the C-Roads Steering Committee are done in a unanimous way and have to be taken on full consensus. That includes, that all decisions, when effecting deployments in Member States, need to take national legislations into account. It is expected that only unanimous decisions lead to interoperable C-ITS service deployments.

3.2 Member structure

The C-Roads Steering Committee is composed by ONE representative per Member State (one Voting Member per Core Member). This representative might be supported by other partners (Supporting Member), designated by the voting Member State (e.g. Road Operators).

Steering Committee meetings are planned twice a year, and Core Members (having voting rights) need to be represented. If a Core Member cannot participate, the Steering Committee shall be informed in advance on the position of the Core Member State on all agenda items marked 'for decision'.

If the Steering Committee in its meeting decides on content-wise amendments to relevant and previously distributed texts, a 7 day voting period following the meeting shall apply. If required an

(additionally) revised text will be subject to a formal endorsement by written procedure, or the voting can be postponed to the next Steering Committee meeting by decision of the C-Roads chair.

3.3 Meeting calendar

Steering Committee Meetings will take place at least twice a year as physical meetings. In between, if necessary, conference calls can be set up.

Voting in Steering Committee Meetings can be either done directly at the meeting or in written form beforehand and after a C-Roads Steering Committee Meeting.

C-Roads Steering Committee meetings are arranged by the C-Roads Supporting Secretariat, which as well prepares the agenda and minutes. Decision points need to be clearly indicated in the agenda and supporting documents need to be delivered beforehand. For all decision points, supporting documents need to be delivered at least five working days in advance to the C-Roads Steering Committee Meeting.

At the meeting itself, C-Roads Steering Committee Members (both, core and associated), members of the C-Roads Platform Supporting Secretariat as well as Working Group leaders are invited.

Exceptionally, physical meetings might be replaced by video(web) conference meeting in cases of public concern issues (i.e. infectious diseases, etc.)

4 C-Roads Platform Supporting Secretariat

4.1 Tasks and responsibility

The C-Roads Platform Supporting Secretariat is responsible for the management of the day-to-day work in C-Roads.

It supports the C-Roads Steering Committee and in this respect it will

- Perform the overall coordination of the platform activities; this includes administrative tasks, planning, quality assurance, document procedures and reporting
- monitor the progress of the Working Groups
- coordinate the information flow between the different Platform bodies and the pilot implementations
- monitor the progress of the pilot implementations
- collect inputs for the annual reporting for all CEF-funded pilots, focusing on the Platform Activities
- be the day-to-day interface for EC, INEA and external stakeholders
- draft agendas and write minutes of the C-Roads Platform Steering Committee Meetings
- organise and moderate the C-Roads Platform Steering Committee Meetings
- operate the platform-website
- coordinate dissemination activities

- follow up external information and contacts on behalf of the C-Roads Platform Steering Committee, the work groups or pilots, if needed
- organise workshops for the interested external stakeholders
- represent the C-Roads Platform at public events, if requested by the Steering Committee

4.2 Member structure

The C-Roads Supporting Secretariat is composed by experts, nominated by the C-Roads Steering Committee Member States. Ideally members of the C-Roads Supporting Secretariat are involved in national pilot activities.

If a member of the C-Roads Supporting Secretariat cannot participate in meetings, the respective Member State representative shall appoint a replacing delegate.

5 Working Groups (WGs)

The main specification and definition work will be performed by the Working Groups under the strategic control of WG leaders responsible for completing the assigned tasks and documents according to defined objectives, schedules and costs. The common elements in all pilots of C-Roads partners, but also in the single topics are hereby of high importance for the overall success of the initiative. Therefore, Working Groups and their leaders play a formal and important role in the overall management of the C-Roads Platform. In this respect, they are part of the management of C-Roads. The responsibility of the WG leaders is to steer the WG contributions, to ensure that all contributions are taken into account and treated in an equal and fair manner, to find the common elements of all pilots and to collect, coordinate and monitor the schedules of all related tasks and check their validity in terms of resources and competencies allocated. The WG leaders have to monitor the progress of the WG, monitor the agreed milestones and timely availability of results. The WG leaders have the obligation to identify delays and risks (in work content and time) as soon as possible, and to provide reports to the C-Roads Steering Committee. The WG leaders are requested to hold WG meetings (face-to-face meetings as well as phone-conferences) with the appropriate persons within their group on a regular basis and to use (e-mail) reporting and monitoring to perform these obligations.

At the start of the C-Roads Platform, three Working Groups planned, with the option that further topics will be added if needed; two additional WG were set up in 2019. The working groups contain the main aspects of work to reach the overall C-Roads objectives. If during the performance of the activities and pilots additional work items are needed C-Roads partners will discuss this at C-Roads Platform Steering Committee level and decide about additional/adopted work groups or task forces.

5.1 Tasks and responsibility

- Working Group leaders define a work program for the respective Working Group, covering the full scope of C-Roads for the single working group topics
- Perform a State of the Art analysis based on the contributions and documents from single partners and the next activities they propose (Working Group leader with inputs from all members)
- Generate a first document structure and main contents for the working group and attribute single chapters editor responsibilities, if needed (Working Group leader)
- Revise and comment the work group report according to the single pilot contributions (all members)
- Define the next versions of the work group report, taking into account all feedback received and elaborate the common aspects of the C-Roads contents agreed by all pilot implementations. (Working Group leader with inputs from all members)
- Report regularly to single pilots and to the C-Roads Steering Committee during the document refinement phase. (Working Group leader with inputs from all members)
- Revise the final draft of the work group report and propose a formal support from the C-Roads Steering Committee members in the next meeting (Working Group leader)
- Distribute the final version of the work group report (with document status adopted) via the Supporting Secretariat to the C-Roads Steering Committee

- If Working Group members are unable to participate in meetings, then the Member State representatives need to ensure proper representation.

5.2 WG 1 – C-ITS Organisation

- Analyze and describe the cooperation needed for the roll-out of C-ITS in different organisational environments in Europe, starting from a leading role of public actors (e.g. Road operators or authorities) with interactions with private entities and service providers to other settings where public and private organisations contribute to the delivery of C-ITS Services.
- Collect and investigate solutions to overcome known and newly identified legal barriers and obstacles (including privacy issues) related to C-ITS. Most important will be their appropriate documentation so that other partners and stakeholders will have the possibility to apply these to their own operating environments and assess if they could pose dangers to the implementation of their services.
- Connection to other Working Groups on strategies for attracting and involving end users.
- Collection and exchange of business models for the deployment of C-ITS infrastructures. Focus here is the business case of public authorities and road operators, including expectations towards improved safety, improved efficiency, and reduced negative environmental impact.

Quarterly meetings (physical or web meeting) are planned to be carried out from 01/2017 onwards, based on a decision of the Working Group. At least one annual physical meeting is hereby foreseen, dedicated to deliverable discussion and revision (all WG members).

After finalization of milestone M18 web based meetings to elaborate and exchange findings of the single pilots might be sufficient.

5.3 WG 2 – Technical Aspects

The focus of this Working Group are technical standardisation and interfacing issues in order to be able to provide a common standard repository in the shape of a web service, incorporating interface description to data and services within the pilot sites.

This includes dedicated monitoring of standards, identification of relevant aspects and alignment with respective pilot requirements. Of course, inputs from existing projects (on national as well as international level) and platforms will be taken into account in the specification drafting.

In order to ensure C-ITS service consistency for users, recommendations from the road operator's point of view on the visualisation or presentation of messages on human-machine-interfaces (HMIs) will be discussed and recommendations made.

Overall goals of the working group are, among others:

- to give recommendations on driver information through C-ITS services
- the harmonisation of current and future C-ITS services (Day 1, Day 1.5 and later)
- to contribute to the definition and implementation of a harmonised communication profile for C-ITS pilot services on road infrastructures all across Europe

- to take existing standards in the drafting of specifications into account and to contribute with new and/or updated items to the standardisation processes.

Solutions to be elaborated include:

- a harmonised C-ITS road infrastructure communication profile for all C-Roads pilots covering the day one services in a first step and day 1.5 services later on
- a C-Roads approach for dealing with security issues for C-ITS service provision and secure communication within the EU C-ITS Trust model
- a C-ITS road infrastructure profile for improving traffic safety for “on railway level” crossings
- Common Test and Validation procedures for implementing C-ITS services in Europe
- how drivers can effectively be supported in understanding C-ITS messages delivered via different channels and consistent with their driving environment
- the methodology for dissemination of C-ITS messages by different communication technologies and their interactions with changing service platforms
- mechanisms to distribute communication certificates to all C-ITS-stations in a secure way and enable trustful communication in the C-ITS network

Monthly meetings (physical or videoconference) are foreseen from 12/2016 onwards with at least two physical meetings per year for document discussion and revision.

5.3.1 Task forces

Tasks, which can be seen as core assets of the C-Roads Platform will be handled by separate Task Forces linked to WG 2 – Technical Aspects. This is not only to reflect their importance, but also to structure them and get them organized in the same way as this is done with Working Groups. Task Forces report to the Working Groups to ensure that all proposed specifications fit together as well in technical terms. To achieve that, all Task Force chairs need to participate as well in Working Group meetings and need to report on progress and results.

Under the umbrella of WG 2, there are the following 5 task forces:

- TF 1: Security Aspects
- TF 2: Service Harmonization
- TF 3: Infrastructure Communication
- TF 4: Hybrid Communication
- TF5: Cross-Testing and Validation

5.4 WG 3 – Evaluation and Assessment

This WG defines how cross-site tests as well as evaluation are done and which aspects (safety, efficiency, etc.) are assessed in which pilots. This includes:

- Transmitting the achievements of the tasks completed in the other Working Groups to practical environments and also collecting findings from these environments with the overall goal of

interoperability and C-ITS service harmonisation. Indicators will deal with improved safety, improved efficiency, and reduced negative environmental impact.

- Defining a methodology and performing cross-site tests all across Europe, including a suitable number of test vehicles/devices per site or pilot implementation
- Assess the impact of the C-ITS services in terms of interoperability, but also regarding sustainability, safety, efficiency, and environmental aspects. Evaluations will include interoperability and harmonisation between countries, partners, pilot sites and technologies and will help to display the impact of C-ITS on a large scale.

Monthly meetings (physical or videoconference) are foreseen with additional physical meetings for document discussion and revision.

5.5 WG 4 – Urban C-ITS Harmonization

From 2019 on WG 4 – Urban C-ITS Harmonization is introduced by the C-Roads Platform to enable City Authorities to liaise and to quickly uptake C-Roads developments. WG 4 has the aim to inform cities on the current status of the C-Roads activities (including all kinds of deliverables and specifications) and to enable and support cities in formulating their needs for C-ITS deployments. Ideally, WG 4 harmonizes cities' needs on C-Roads specifications (to be upgraded), which especially would be relevant for WG. Existing specifications therefore will be assessed and updated whenever required taking into consideration typical use-cases and city-specific and urban-interurban requirements

In this respect WG 4 also would contribute to a harmonization of C-ITS Services in cities, and to (door to door) continuity of services in particular (it is expected, that different cities will implement similar use cases likewise).

This WG is responsible for:

- the reviewing existing use cases (TF2) for the usage in urban environments
- the identification of additional use cases to be added based on real deployments. Hereby the identified use cases might differ from the so called day 1.5 use cases – additional use cases might be formulated, other day 1.5 use cases might be refused
- working towards a common “urban” position on both existing and new services. It is expected to provide a harmonized “urban” feedback and subsequently to facilitate and contribute to related C-Roads Platform activities

Ideally the use cases brought forward are linked to scenarios already described at WG level, and subsequently will be analysed taking into consideration co-operation required and the ‘urban-interurban’ dimension – e.g. the exchange of data/services between different (road) operators The Working Group shall decide on the way the work will organized and the type and frequency of meetings. It is expected that only unanimously accepted proposals will be handed over to other C-Roads Platform Working Groups (and its Task Forces).

In addition, dissemination events for cities not actively participating in C-Roads are planned, under the heading of a City Forum.

5.6 WG 5 - Digital Transport Infrastructure (DTI)

The DTI Working Group focuses on the infrastructure needs for a digital infrastructure as a whole, including Traffic Management and e.g. HD maps. Existing guidance and standards will be reflected (TN-ITS and/or the work on METR - Management for Electronic Traffic Regulations) and recommendations to infrastructure operators will be given. A close liaison with ongoing initiatives (e.g. DATEX II) shall be realized to produce recommendations in line with existing guidelines and ongoing actions. The work to be undertaken includes:

- Reflection of existing standards (TN-ITS and/or the work on METR - Management for Electronic Traffic Regulations)
- Elaboration of recommendations to infrastructure operators for the data provision for HD maps. This data provision includes static and dynamic data as well as information crossing both dimensions (semi-static and semi-dynamic data).

Quarterly meetings (physical or web meeting) shall be carried out from Q3/2019 onwards. At least one annual physical meeting is hereby foreseen, dedicated to deliverable discussion and revision (all WG members).

6 Pilot activities

Setup and operation of pilots is in the responsibility of the single C-Roads Platform Member States.

Aside pilot specific tests and pilots, cross-site tests are undertaken by single pilots following the obligations of single pilot activities that are defined by the respective Grant Agreements.

Consequently, WG 3 – Evaluation and Assessment together with TF 5 - Cross-Testing and Validation shall detail the main principles for these tests, in particular as regards the support provided by the "visited site" to the "visitor". Achieving interoperability based on the commonly specified communication profile is a joint responsibility of all C-Roads Platform partners.

The pilot operation as detailed in the respective Grant Agreements will take place in all C-Roads Platform Member States.

7 Interoperability

The C-ITS Platform reports have generated a C-ITS “day one service list”, which forms the basis for the introduction of common services on European roads. This list is supported by various deployment initiatives in Member States and is therefore the starting point for discussing interoperability between roadside installations of C-ITS services and in vehicle implementations of C-ITS services and applications all over Europe.

However, in this discussion there are several levels of the understanding of interoperability and C-Roads as a Member State driven initiative needs to discuss and agree on the common understanding of the way forward to achieve this high level objective completely and in a consistent way.

The levels of interoperability can be defined as the following ones:

- The basic definitions are the C-ITS standards – and the set of standards and specifications used and referenced as the complete set for the mobile and roadside service implementations
- Where applicable the used specifications are taken to be harmonized with the goal to create profiles of similar use cases.
- To test these common C-Roads specifications joint tests are executed based on predefined test cases. Here the “communication level” message transmission between C-ITS stations from different vendors is tested (e.g. at an ETSI Plug Test).
- Service extensions and introductions in single C-ITS stations, environments and networks. (hybrid cases of service transmission, and extensions to different platforms and channels.)

The C-Roads Platform activities need to analyse these aspects carefully and propose a way forward for achieving interoperability across Europe. Hereby the discussion and agreement of the mobile and roadside specifications are the next key step in the direction of interoperability at a European Level. The elaborated C-Roads specifications are expected to lead towards interoperable operations. In this respect, C-Roads specifications will as well be an important source for the further development of ETSI standards, especially when it comes to new scenarios (including on railway-level crossings) and interoperability definitions.

8 Communications

8.1 Internal Communication

To enable fast and direct communication in the various Groups of the C-Roads Platform a number of email distribution lists are created within the single groups involved.

A general rule is, that the topic of all C-Roads related emails shall start with “C-Roads:...”. This enables a quick recognition of C-Roads related emails for all partners.

8.2 Website

The C-Roads platform-related information (external and internal) will be distributed via the webpage of C-Roads (<https://www.c-roads.eu>). The member area is at the same time the document repository for all project documentation.

Pilot partners are invited to update their respective information pages.

8.3 Documentation

8.3.1 Creating Documents

Project related templates (Word template for reports as well as a PowerPoint template for presentations) that are needed for the official documents are available on the C-Roads Portal. For project related communication to persons outside the project, these templates have to be used for each deliverable unless agreed by the C-Roads Steering Committee.

8.3.2 Status of documents within C-Roads

For the effective exchange of documents within the project the following steps during the creation of project documents are defined and used within C-Roads:

- Draft versions (v0.1 to v0.9) (initial status of the document)
- final or version v1.0 (sent to Steering Committee)
- C-Roads approved (approved by Steering Committee)

9 Milestones

In order to achieve the result of the C-Roads initiative the following list of milestones has been agreed by the involved partners. As soon as a milestone has been achieved, the C-Roads Steering Committee needs to be informed. Also a delay needs to be reported as soon as it is identified.

To increase the readability, all milestones are listed concerning the level responsible for drafting a proposal for a C-Roads Platform Steering Committee decision.

9.1 Milestones of the Steering Committee

Milestone Name	Date	Means of Verification
Signature of C-Roads Platform Agreement	Q4/2016	Agreement signed by all beneficiaries
Steering Committee meeting	Q4/2016	Approved set of Documents
Steering Committee meeting	Q2/2017	Approved set of Documents
Steering Committee meeting	Q4/2017	Approved set of Documents
Steering Committee meeting	Q2/2018	Approved set of Documents
Steering Committee meeting	Q4/2018	Approved set of Documents
Steering Committee meeting	Q2/2019	Approved set of Documents
Steering Committee meeting	Q4/2019	Approved set of Documents
Steering Committee meeting	Q2/2020	Approved set of Documents
Steering Committee meeting	Q4/2020	Approved set of Documents
Steering Committee meeting	Q2/2021	Approved set of documents
Steering Committee meeting	Q4/2021	Approved set of documents
Steering Committee meeting	Q2/2022	Approved set of documents
Steering Committee meeting	Q4/2022	Approved set of documents
Steering Committee meeting	Q2/2023	Approved set of documents

Table 1: List of Steering Committee' Milestones

9.2 Milestones to be prepared by the Supporting Secretariat for Steering Committee approval

Milestone Name	Date	Means of Verification
Launch of a web service giving access to the “common standard repository” as well as the interface description to data and services within the pilot sites.	Q4/2016	Web service available to the general public
Dissemination Plan	Q4/2016	Report available and approved by the Steering Committee
Annual pilot overview report 2016	Q1/2017	Report available and approved by beneficiaries
Detailed pilot description and demonstration plan available (platform)	Q2/2017	Report available and approved by the Steering Committee
Detailed pilot partner and structures description available (platform)	Q2/2017	Report available and approved by the Steering Committee
Annual pilot overview report 2017	Q1/2018	Report available and approved by beneficiaries
Annual pilot overview report 2018	Q1/2019	Report available and approved by beneficiaries
Annual pilot overview report 2019	Q1/2020	Report available and approved by beneficiaries
C-ITS Road show	Q2/2020	Roadshow available for the general public
Revision of C-Roads Dissemination Plan (e.g. social media)	Q4/2019	Report available and approved by the Steering Committee
C-Roads platform brochure	Q3/2020	Brochure available to the general public
Annual pilot overview report 2020	Q2/2021	Report available and approved by beneficiaries
Urban C-ITS contest	Q3/2021	Roadshow covering urban C-ITS use cases available for the general public
C-Roads press release	Q4/2021	Press release available to the general public
Annual pilot overview report 2021	Q2/2022	Report available and approved by the beneficiaries
Annual pilot overview report 2022	Q2/2023	Report available and approved

		by beneficiaries
--	--	------------------

Table 2: List of Milestones to be prepared by the Supporting Secretariat

9.3 Milestones to be prepared by WG 1 – C-ITS Organisation for Steering Committee approval

Milestone Name	Date	Means of Verification
Report on legal structures for C- ITS operation	Q2/2018	Report available and approved by the Steering Committee

Table 3: List of Milestones to be prepared by WG 1

9.4 Milestones to be prepared by WG 2 – Technical Aspects for Steering Committee approval

9.4.1 Milestones to be prepared by TF 1 – Security Aspects for Steering Committee approval

Milestone Name	Date	Means of Verification
Draft report on European security mechanism	Q4/2017	Report available and approved by the Steering Committee
Final report on European security mechanism	Q2/2018	Report available and approved by the Steering Committee
PKI extension to urban C-ITS services (together with WG 4)	Q4/2020	Report available and approved by the Steering Committee

Table 4: List of Milestones to be prepared by TF 1

9.4.2 Milestones to be prepared by TF 2 – Service Harmonisation for Steering Committee approval

Milestone Name	Date	Means of Verification
Test infrastructure operational	Q3/2017	Implementation verified by the responsible working group of the platform and possibly. by the project management team

First test vehicles equipped and operational	Q4/2017	Implementation verified by the responsible working group
Recommendation on driver information through C-ITS services	Q2/2018	Report available and approved by the Steering Committee
Recommendation on harmonisation of future C-ITS services (Day 1.5 and later)	Q2/2019	Report available and approved by the Steering Committee
Publication of C-ITS message set with adapted map extensions (together with WG 5)	Q2/2021	Report available and approved by the Steering Committee

Table 5: List of Milestones to be prepared by TF 2

9.4.3 Milestones to be prepared by TF 3 – Infrastructure Communication for Steering Committee approval

Milestone Name	Date	Means of Verification
Harmonised communication profile for C-ITS pilot services across Europe - ITS-G5	Q2/2017	Report available and approved by the Steering Committee
Upgrade of the harmonised communication profile for C-ITS pilot services across Europe - ITS-G5	Q4/2020	Report available and approved by the Steering Committee
Upgrade of the harmonised urban communication profile for C-ITS pilot services across Europe (together with TF 4 and WG 4)	Q4/2021	Report available and approved by the Steering Committee

Table 6: List of Milestones to be prepared by TF 3

9.4.4 Milestones to be prepared by TF 4 – Hybrid Communication for Steering Committee approval

Milestone Name	Date	Means of Verification
Harmonised communication profile for C-ITS pilot services across Europe - Hybrid	Q2/2018	Report available and approved by the Steering Committee
Upgrade of the harmonised urban communication profile for C-ITS pilot services across Europe (together with TF 3 and WG 4)	Q4/2021	Report available and approved by the Steering Committee

Table 7: List of Milestones to be prepared by TF 4

9.4.5 Milestones to be prepared by TF5 – Cross-Testing and Validation for Steering Committee approval

Milestone Name	Date	Means of Verification
EU-C-ITS Interoperability Report	Q2/2019	Report available and approved by the Steering Committee
Integrated report about cross-test results of single partners in different pilot sites	Q4/2019	Report available and approved by the Steering Committee
All pilots installations finalized and start of regular cross border pilot drives	Q4/2019	Report available and approved by the Steering Committee
Start of regular cross-border pilot drives (incl. urban area)	Q4/2021	Pilot installation in at least 10 C-Roads States finalised (incl. urban areas)
Integrated report about cross-test results of the different pilot sites (incl. urban C-Roads areas)	Q2/2023	Report available and approved by the Steering Committee

Table 8: List of Milestones to be prepared by TF 5

9.5 Milestones to be prepared by WG 3 – Evaluation and Assessment for Steering Committee approval

Milestone Name	Date	Means of Verification
Evaluation and Assessment Plan (platform)	Q1/2018	Report available and approved by the Steering Committee
Detailed evaluation report (platform)	Q4/2020	Report available and approved by the Steering Committee
Revision of C-Roads Evaluation and Assessment Plan (incl. urban)	Q4/2020	Report available and approved by the Steering Committee

Table 9: List of Milestones to be prepared by WG 3

9.6 Milestones to be prepared by WG 4 - Urban C-ITS Harmonisation for Steering Committee approval

Milestone Name	Date	Means of Verification
Signature of Cooperation Agreement with urban platform(s)	Q4/2019	Agreement signed by all relevant stakeholders

Recommendation on harmonisation of urban C-ITS services	Q4/2020	Report available and approved by the Steering Committee
Assessment of harmonised C-ITS services in urban areas	Q4/2020	Report available and approved by the Steering Committee
PKI extension to urban C-ITS services (together with TF 1)	Q4/2020	Report available and approved by the Steering Committee
Upgrade of the harmonised urban communication profile for C-ITS pilot services across Europe (together with TF 3 and TF 4)	Q4/2021	Report available and approved by the Steering Committee

Table 10: List of Milestones to be prepared by WG 4

9.7 Milestones to be prepared by WG 5 – Digital Transport Infrastructure (DTI) for Steering Committee approval

Milestone Name	Date	Means of Verification
Publication of C-ITS message set with adapted map extensions (together with TF 2)	Q2/2021	Report available and approved by the Steering Committee

Table 11: List of Milestones to be prepared by WG 5