

# Public consultation on specifications for Cooperative Intelligent Transport Systems

Fields marked with \* are mandatory.

## Introduction

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\*\* NOTE: You can change the language of this form in the menu on the right \*\*

The 2016 EU Strategy on Cooperative Intelligent Transport Systems foresees in particular the need to amend and supplement the ITS Directive 2010/40/EU for aspects where legal certainty is needed, through the preparation of a delegated regulation on C-ITS. It will be focused on the following list of services which are technologically mature, highly beneficial and ready for large scale deployment.

Hazardous location notifications:

- Slow or stationary vehicle(s) & traffic ahead warning;
- Road works warning;
- Weather conditions;
- Emergency brake light;
- Emergency vehicle approaching;
- Other hazards.

Signage applications:

- In-vehicle signage;
- In-vehicle speed limits;
- Signal violation / intersection safety;
- Traffic signal priority request by designated vehicles;
- Green light optimal speed advisory;
- Probe vehicle data;
- Shockwave damping.

## Transparency and confidentiality

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\* Please let us know in which language you are replying.

English

Please note that contributions received from this survey, together with the identity of the contributor, will be published on the European Commission's website, unless the contributor objects to publication of the personal information. In this case, the contribution will be published in anonymous form.

Explanations about the protection of personal data are available on: [http://ec.europa.eu/geninfo/legal\\_notices\\_en.htm#personaldata](http://ec.europa.eu/geninfo/legal_notices_en.htm#personaldata)

The policy on "protection of individuals with regard to the processing of personal data by the Community institutions" is based on [Regulation \(EC\) N° 45/2001](#) of the European Parliament and of the Council of 18 December 2000.

\* Note that, whatever option chosen, your answers may be subject to a request for public access to documents under [Regulation \(EC\) N° 1049/2001](#)

- can be published with your personal information** (I consent the publication of all information in my contribution in whole or in part including my name or my organisation's name, and I declare that nothing within my response is unlawful or would infringe the rights of any third party in a manner that would prevent publication)
- can be published provided that you remain anonymous** (I consent to the publication of any information in my contribution in whole or in part (which may include quotes or opinions I express) provided that it is done anonymously. I declare that nothing within my response is unlawful or would infringe the rights of any third party in a manner that would prevent the publication)

\* May the Commission contact you, in case further details on the submitted information in this questionnaire are required?

- Yes
- No

\* Please provide your email address

gsmaeurope@gsma.com

## Information about the respondent

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\* 1. Are you replying as / on behalf of:

- A citizen in your own personal capacity
- A public authority (ministry, agency, other form of public administration, at national, regional or local level)
- A private company
- A start-up
- An association
- A non-governmental organisation
- Other (please specify)

2. Please provide, if applicable, the name of the entity on whose behalf you are replying

*500 character(s) maximum*

GSMA

3. Is the entity on whose behalf you are replying registered in the EU Transparency Register?

- Yes
- No

3.a. If so, please indicate the registration number in the Transparency Register

30988577529-37

\*4. Please provide your first name

Afke

\*5. Please provide your last name

Schaart

6. Please specify your country of residence

Belgium

7. Please specify which interests you (the organisation on behalf of which you respond) represent:

- National public authorities (transport ministries, agencies)
- Regional or local public authorities
- Road authorities
- Road operators
- (Public) transport operators
- Vehicle and equipment manufacturers/ suppliers
- ITS service providers
- Telecommunications providers
- Research/Academia/Consultancies
- Logistics companies and integrators
- Societal interests and/or consumer rights
- Other (please specify)

8. What is the size of the organisation on behalf of which you respond?

- Large ( $\geq 250$  employees)
- Medium (50-249 employees)
- Small (10-49 employees)
- Micro (1-9 employees)
- Micro (self-employed)

9. In addition to this general consultation, targeted follow-up will be organised with key professional stakeholders on certain topics. If you are a professional stakeholder, would you be interested in participating in this targeted consultation?

- Yes
- No

## Questionnaire

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1. How familiar are you with cooperative intelligent transport systems?

- Very familiar
- Somewhat familiar
- Not at all familiar

2. How familiar are you with the ITS Directive and the EU actions to support the deployment of intelligent transport systems?

- Very familiar
- Somewhat familiar
- Not at all familiar

3. How familiar are you with the following initiatives in the area of cooperative, connected and automated mobility?

	Very familiar	Somewhat familiar	Not at all familiar
C-ITS Platform	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
C-ROADS Platform	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
GEAR2030	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Horizon 2020 research activities	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Letter of Intent on the testing and large scale demonstration of Connected and Automated Driving	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
EATA Roundtable	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Problem definition

Today some C-ITS are already technically mature: the technological capabilities among market parties are increasing, and vehicle manufacturers intend to launch series of vehicles with selected C-ITS technology on board by 2019. However, the Commission considers that deployment is being delayed due to several barriers and uncertainties, and Europe risks seriously falling behind other regions in the world if it fails to act soon. Without a clear legal framework, C-ITS deployment is expected to remain slow and fragmented, resulting in interoperability issues and hindering continuity of services. This in turn will hinder the deployment and uptake of C-ITS and the realisation of their full benefits, in particular with regards to road safety and traffic efficiency.

4. Do you agree with the assessment above?

- Strongly Agree
- Agree
- Neither Agree nor disagree
- Disagree
- Strongly Disagree
- No opinion / I don't know

5. Please elaborate on your answer to the previous question.

2000 character(s) maximum

While the GSMA recognizes the importance of a strategy and a forward-looking legal framework to drive C-ITS adoption across Europe, we also believe it is important to embrace a truly technology-neutral approach. Improved safety on European roads is best achieved when these technologies are widely adopted. This can only happen when market players, not policy makers, decide which technology should prevail on the basis of their effective capabilities and expansion path. Choosing for the market at this very early adoption stage, by opting for the 802.11p technology, effectively will result in stifling innovation, raising costs and limiting investment to the detriment of European consumers.

The Commission has identified a number of drivers underlying the problem of slow and fragmented C-ITS deployment.

6. From your point of view, how important is the contribution of these drivers to the overall problem?

	Very important	Moderately important	Of little importance	Not at all important	No opinion / I don't know
The costs of C-ITS remain too high due to the <b>fragmented deployment of separate C-ITS services</b> and ecosystems	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Failure to establish confidence in the <b>cyber-security of C-ITS communications</b>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Public acceptance remains limited due to unclear principles related to <b>privacy and protection of personal data</b>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Incompatible communication technologies</b> and frequency spectrum allocation	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Uncertain minimum requirements for <b>interoperability of C-ITS services</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Uncertain minimum requirements for <b>compliance assessment for C-ITS services</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

7. Do you consider that any drivers underlying the problem are missing? Please elaborate.

2000 character(s) maximum

N/A

8. The Commission has established the following objectives for this initiative. From your point of view, how important is it to achieve these objectives?

	Absolutely essential	Very important	Moderately important	Of little importance	Not at all important	No opinion / I don't know
Ensure <b>continuous availability</b> of C-ITS services for users across the EU, by clearly defining a set of priority C-ITS services	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ensure <b>security</b> of C-ITS communications by establishing common rules	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ensure the practical application of <b>Data Protection</b> in the area of C-ITS	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

<p>Ensure a forward looking <b>hybrid communication</b> approach (combining complementary communication technologies, e.g. WiFi and cellular)</p>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<p>Ensure <b>interoperability of C-ITS services</b> by establishing common rules</p>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<p>Ensure <b>seamless deployment of C-ITS</b> service by establishing a compliance assessment framework (which allows services to be checked against EU-wide requirements)</p>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



9. Please elaborate on your answers to the previous question. Do you consider that any objectives are missing?

*2000 character(s) maximum*

N/A

10. From your point of view, how important is it to achieve these objectives through action at the EU level (as opposed to action only at the national level or international standardisation)?

	Absolutely essential	Very important	Moderately important	Of little importance	Not at all important	No opinion / I don't know
Ensure <b>continuous availability</b> of C-ITS services for users across the EU, by clearly defining a set of priority C-ITS services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ensure <b>security</b> of C-ITS communications by establishing common rules	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ensure the practical application of <b>Data Protection</b> in the area of C-ITS	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

<p>Ensure a forward looking <b>hybrid communication</b> approach</p>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
<p>Ensure <b>interoperability of C-ITS services</b> by establishing common rules</p>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
<p>Ensure <b>seamless deployment of C-ITS</b> service by establishing a compliance assessment framework</p>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

11. Please elaborate on your answers to the previous question.

2000 character(s) maximum

The GSMA believes that given the global nature of the automotive industry and its supply chain, national or regionally defined standards for C-ITS services may increase deployment cost and disrupt their economic viability, ultimately to the detriment of European citizens. For this reason, we believe that the above mentioned objectives of achieving continuous availability, a forward-looking hybrid communication, interoperable C-ITS services and a seamless deployment are best achieved through globally co-ordinated industry-led initiatives. These will ultimately speed up deployment and improve the safety of Europe's roads. An overview of global policy initiatives on C-ITS is available in the GSMA report appendix, "Safe and Smarter Driving: the rollout of Cellular V2X Services in Europe." The link to the report is available at answer 25 of this survey.

In addition, it is worth noting that recent developments indicate rapid progress of the testing phase of Cellular V2X. Chipset manufacturers (see for example Qualcomm 9150 chipset released for commercial sampling in early September 2017) combine V2V/I (PC5 interface) and V2N (traditional cellular network eNodeB interface) .

The GSMA believes that Cellular V2X is a future proof technology, as it is based on a strong evolution path, which keeps technology relevant to new use cases and prevent it from becoming obsolete. 3GPPP's constant work in updating the specifications guarantees continuous enhancements of the radio and lower layers and full support to the ever evolving V2X use cases.

12. To achieve the above objectives, different types of action could be foreseen.

12.a. For the objective "**Ensure continuous availability of C-ITS services for users across the EU, by clearly defining a set of priority C-ITS services**", please rank the types of action from most appropriate (1) to least appropriate (3) to achieve the objective.

	1	2	3
Industry-led approach (e.g. through Memoranda of Understanding)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Soft legislation (e.g. EU guidelines and recommendations, enhanced standardisation)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Legally binding EU specifications on C-ITS	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

12.b. For the objective "**Ensure security of C-ITS communications by establishing common rules**", please rank the types of action from most appropriate (1) to least appropriate (3) to achieve the objective.

	1	2	3
Industry-led approach (e.g. through Memoranda of Understanding)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Soft legislation (e.g. EU guidelines and recommendations, enhanced standardisation)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Legally binding EU specifications on C-ITS	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

12.c. For the objective "**Ensure the practical application of Data Protection in the area of C-ITS**", please rank the types of action from most appropriate (1) to least appropriate (3) to achieve the objective.

	1	2	3
Industry-led approach (e.g. through Memoranda of Understanding)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Soft legislation (e.g. EU guidelines and recommendations, enhanced standardisation)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Legally binding EU specifications on C-ITS	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

12.d. For the objective "**Ensure a forward looking hybrid communication approach**", please rank the types of action from most appropriate (1) to least appropriate (3) to achieve the objective.

	1	2	3
Industry-led approach (e.g. through Memoranda of Understanding)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Soft legislation (e.g. EU guidelines and recommendations, enhanced standardisation)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Legally binding EU specifications on C-ITS	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

12.e. For the objective "**Ensure interoperability of C-ITS services by establishing common rules**", please rank the types of action from most appropriate (1) to least appropriate (3) to achieve the objective.

	1	2	3
Industry-led approach (e.g. through Memoranda of Understanding)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Soft legislation (e.g. EU guidelines and recommendations, enhanced standardisation)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Legally binding EU specifications on C-ITS	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

12.f. For the objective "**Ensure seamless deployment of C-ITS service by establishing a compliance assessment framework (which allows services to be checked against EU-wide requirements)**", please rank the types of action from most appropriate (1) to least appropriate (3) to achieve the objective.

	1	2	3
Industry-led approach (e.g. through Memoranda of Understanding)	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Soft legislation (e.g. EU guidelines and recommendations, enhanced standardisation)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Legally binding EU specifications on C-ITS	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

13. Please elaborate on your answers to the previous question. In particular, if you favour EU action, please indicate what this needs to cover and what form it should take. Please also indicate if you think other (types of) action(s) should be considered to achieve the objectives.

*3000 character(s) maximum*

#### Ensure Security of C-ITS communication:

The mobile telecommunications industry has a long history of providing secure products and services to their customers. Security has been vital to building and maintaining consumer confidence in mobile services to date and it will also be critical to the success C-ITS services that have the potential to support and deliver increasingly sophisticated and security sensitive services.

In this respect, it is worth noting that the GSMA and its members follow closely the developments of the newly released draft "Cyber security act" regulation, in particular on the aspects related to the creation of a new certification regime for ICT goods and services. It is also worth noting that the GSMA has worked on a set of security guidelines and tools specifically for the IoT services, including connected cars.

The GSMA "IoT Security Guidelines" and GSMA "IoT Security Assessment" document links are available at answer 25 of this survey.

#### Privacy, Trust and GDPR:

The GSMA believes that privacy is critical to consumer trust, and that trust will be vital to the adoption and growth of intelligent transport systems. In general, we believe that the General Data protection regulation (GDPR) should be the legal framework under which C-ITS privacy issues should be considered. We seek legal certainty and clarity on this issue.

The main objective of this initiative is to establish appropriate and clear framework conditions to improve the interoperability and continuity of C-ITS across Europe. However, the deployment of C-ITS exhibits strong positive network effects and economies of scale & scope (as many different services can use the same hardware). Further accelerating C-ITS deployment can thus make or break the business case for early investments into C-ITS.

14. Please indicate if you agree with the following statements on accelerating deployment of C-ITS (when services are fully functional and EU-wide specifications are in place)

	Strongly Agree	Agree	Neither Agree nor disagree	Disagree	Strongly Disagree	No opinion / I don't know
Enabling conditions such as exchange of best practice and funding instruments are sufficient, thus there should be <b>no mandatory deployment</b> of C-ITS.	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
C-ITS equipment should be <b>mandated in new vehicles</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Retrofitting C-ITS equipment</b> in existing vehicles should receive financial support	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
C-ITS roadside equipment should be mandated on <b>core interurban transport routes</b> (i.e. those in the core trans-European network (TEN-T))	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
C-ITS roadside equipment should be mandated on <b>all main interurban transport</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

<p><b>routes</b> (i.e. those in the comprehensive trans-European network (TEN-T))</p>						
<p>C-ITS roadside equipment should be mandated on <b>all main interurban transport routes AND urban nodes</b> (i.e. those in the comprehensive trans-European network (TEN-T))</p>	○	○	○	●	○	○



15. Please elaborate on your answers to the previous question.

2000 character(s) maximum

The GSMA invites the Commission to consider whether any element of a mandatory policy imposing C-ITS safety-related services on European vehicles and roads, or a subset of them, will:

- Effectively and truly be technology neutral and will not create a de facto standard technology that may be obsolete in just a few years.
- Promote an effective competition for the provision of these services without displacing private investment in accordance with the applicable EU competition policy principles

16. From your point of view, are there actions missing that should be considered at the EU level?

2000 character(s) maximum

N/A

## Impacts

The Commission has made a preliminary assessment of the most relevant impacts of substantial deployment of C-ITS (assuming that C-ITS equipment will be progressively deployed up to 2030 to eventually cover all new vehicles types/segments, all highways of the TEN-T core network and select other roads and urban nodes).

17. Please indicate your level of agreement with the following statements

	Agree	Disagree	No opinion / I do not know
Investment costs for <b>in-vehicle C-ITS equipment</b> will be <b>very substantial</b> (i.e. the major part of overall costs)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Investment costs for <b>roadside C-ITS equipment</b> will be <b>substantial</b> (but a minor part of overall costs)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Investment costs for <b>central C-ITS equipment</b> (e.g. integration to national traffic management centres, software development) will form a <b>small part of overall costs</b> .	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
The deployment of C-ITS will <b>make a strong contribution to improving road safety</b>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
The deployment of C-ITS will <b>make a strong contribution to reducing congestion</b>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
The deployment of C-ITS will <b>make a significant contribution to more efficient</b> use of road infrastructure	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

The deployment of C-ITS will <b>deliver a small reduction in the expenditure needed for road infrastructure</b> (both expansion and maintenance)	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
The deployment of C-ITS will <b>make a small contribution to reducing pollutant and CO2 emissions</b>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
The deployment of C-ITS will have a <b>positive impact on international competitiveness of EU companies</b>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
The deployment of C-ITS will have a <b>positive impact on research and innovation</b>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
The deployment of C-ITS will <b>support</b> bringing new services and products to the market and thus creating <b>new jobs</b>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

18. Please elaborate on your answers to the previous question.

*3000 character(s) maximum*

The GSMA has not conducted any quantification or modelling exercise to be able to provide an informed response to the above question. However the Commission should take into account the following aspects:

- 1) Significant Lead time to adoption: C-ITS safety related services' ability to make road safer crucially depends on their wide adoption across European circulating vehicles. The relatively slow rate of vehicle stock renewal (approximately 5% renewed every year in Europe) means it will take decades before the current car fleet will be replaced even in a fast adoption scenario. Any assessment of the relative impact of C-ITS should take into account this significant lead time
- 2) Users' acceptance: Crucially, this technology success depends on user's acceptance: Will drivers respond to road hazard warnings and other signals they get on board, or trust on their intuition and make their own choice, when for instance giving or taking priority? What happens if a connected car makes an automated emergency brake, but the car behind it is not connected and is not 'informed'? User's acceptance will be key to the success of these technologies; an industry-led approach will be key to ensuring that market players are able to adjust the functionality of these services as they gradually go live.

19. From your point of view, are there any missing impacts that should be considered?

*2000 character(s) maximum*

N/A

The Commission considers that common specifications for C-ITS will help ensure that progress is made by all actors across the value chain in a consistent and harmonised manner. This in turn is expected to reduce administrative burden and to broaden the C-ITS market and make it more accessible, in particular for Small and Medium enterprises.

20. Please indicate your level of agreement with this statement.

- Strongly Agree
- Agree
- Neither Agree nor disagree
- Disagree

- Strongly Disagree
- No opinion / I don't know

21. Please elaborate on your answer to the previous question.

*2000 character(s) maximum*

N/A

The Commission expects that the deployment of C-ITS will have significant benefits in increasing road safety and reducing congestion. At the same time it is seen as an important stepping stone towards connected, cooperative and automated mobility, and it will significantly contribute to improved traffic and travel information. As a result, the deployment of C-ITS could considerably influence people's travel choices in the future.

22. What do you expect to be the main **benefits to you / your organisation** of substantial deployment of C-ITS? If possible, please include **quantifiable examples**.

*3000 character(s) maximum*

Europe's complex C-ITS ecosystem deserves to be built on an optimal technology foundation, in order to remain sustainable over time and maximise the benefits of future investment, including investment in 5G.

Most C-ITS services are supported by currently deployed LTE networks. Today, 23 million cars in Europe are already equipped with LTE modules, for infotainment and emergency call purposes. This number will rise to 258 million LTE connected cars by 2025 (Machina/Gartner estimates 2017). As car manufacturers already have substantial experience with the uptake of LTE modules, this will ease the roll-out of C-ITS services using C-V2X chipsets.

Substantial synergies opportunities will exist between safety-related V2V services (C-V2X direct mode or PC5 interface - the focus of this consultation) and wide-area communication (C-V2X network mode or Uu interface). A wide range of business models leveraging the two modes will be possible including infotainment, traffic information, real time mapping and data analytics. Network based data analytics opportunities will also exist including data gathered across both interfaces. In addition V2P services deployed as part of C-V2X can provide additional benefits, including enabling vehicles without embedded C-V2X to use C-V2X smartphones, enabling a substantial 'after-market devices' which will benefits several categories of road users.

In addition to the above, C-V2X chipsets will also be the gateway to the 5G era, in which connected cars are one of the most profound use cases which will revolutionise transport with fully autonomous cars introduced on streets across the globe. In contrast, an isolated, stand-alone 802.11p technology will struggle to evolve with 5G networks and could lead to Europe losing the race for 5G leadership.

23. What do you expect to be the main **costs and burdens to you / your organisation** of substantial deployment of C-ITS? If possible, please include **quantifiable examples**.

*3000 character(s) maximum*

N/A

## Additional comments

24. Do you have any additional comments regarding this consultation questionnaire?

*3000 character(s) maximum*

We would like to draw your attention to the GSMA's position paper 'Smarter and safer roads – the deployment of C-V2X service in Europe' already mentioned above. In this paper, published in September 2017, the GSMA makes an extensive comparison between cellular and 802.11p communication technologies and also details the consequences of a 'de facto' mandate of 802.11p in case the Commission brings up demands for interoperability and/or backwards compatibility. Crucially:

Technology neutrality is a core principle at the heart of the European communication framework. It is important that it gets effectively and concretely implemented without DG MOVE de facto mandating 802.11p as the selected technology for V2V safety related services. The automotive industry and the other players in the connected automotive services ecosystem are best placed to identify the optimal technology for these services based on their scalability, economic sustainability and ability to adapt to future use cases.

Coexistence of V2V technologies in the 5.9 GHz band. A 5GAA paper "Coexistence of C-V2X and 802.11p at 5.9 GHz LTE-V2X and 802.11p" of June 2017 identifies practical steps that can be implemented so that the two leading technologies LTE-V2X and 802.11p can coexist in the same band. This pragmatic approach should be followed to facilitate deployment in the short-term, however it should be recognized that any coexistence measure would be a temporary solution. In the longer term GSMA believes that market players will have identified their preferred choice and the full 5.9 GHz should be used to that scope

The GSMA believes that cellular based technology has many strengths when it comes to their potential use in V2V safety related applications. (i) It is future proof; based on a strong evolution path which keeps it relevant to new use cases and avoids one-off life-cycle obsolescence. (ii) It is continuously enhanced and will support the ever evolving use of V2X use cases. (iii) It can rely on ubiquitous cellular coverage and can benefit from operators extensive experience in deploying, managing and maintaining communication networks. (iv) It is flexible, as it is designed to be used in mobility and work in a cross-border/ cross operator environment. (v) It is cost effective as it leverages the existing mobile ecosystem and engineering know-how into C-V2X functionalities and services beyond safety and can be incorporated in vehicle models to enable optimal platforms and create synergies which translate into economic advantage to the end-users.

25. Please indicate any reports or other sources of information that provide evidence to support your responses. Please provide the title, author and, if available, a hyperlink to the study/report. You may also upload relevant files below.

*3000 character(s) maximum*

Safe and Smarter Driving: The rollout of cellular V2X Services in Europe:

[https://www.gsma.com/iot/wp-content/uploads/2017/09/GSMA-position-on-C-V2X-in-Europe\\_Final.pdf](https://www.gsma.com/iot/wp-content/uploads/2017/09/GSMA-position-on-C-V2X-in-Europe_Final.pdf)

Connected cars: ready for a smooth and safe ride:

<https://www.gsma.com/gsmaeurope/gsma-europe-blog/connected-cars-ready-smooth-safe-ride>

Automotive and Smart Transport:

<https://www.gsma.com/iot/automotive/>

IoT Security Guidelines and Assessment:

<https://www.gsma.com/iot/future-iot-networks/>

Analysys Mason and SBD:Socio-Economic benefits of Cellular V2X

[http://5gaa.org/wp-content/uploads/2017/12/Final-report-for-5GAA-on-cellular-V2X-socio-economic-benefits-051217\\_FINAL.pdf](http://5gaa.org/wp-content/uploads/2017/12/Final-report-for-5GAA-on-cellular-V2X-socio-economic-benefits-051217_FINAL.pdf)

Huawei:Communications Networks for Connected Cars

<http://www.huawei.com/en/xlabs/insights-whitepapers/communications-networks-for-connected-cars>

Qualcomm:Connecting Vehicles to everything

<https://www.qualcomm.com/invention/technologies/lte/advanced-pro/cellular-v2x>

IEEE 5G:Cellular V2X as the Essential Enabler of Superior Global Connected Transportation Services

<https://5g.ieee.org/tech-focus/june-2017/cellular-v2x>

26. Please upload any relevant file

The maximum file size is 1 MB

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**/The\_case\_for\_Cellular\_V2X\_for\_Safety\_and\_Cooperative\_Driving.pdf**

## Contact

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