

ASECAP Webinar on C-ITS Manifesto

C-ITS, a key enabler of Europe's future digital objective to fulfil EU safe and carbon-free mobility vision and targets

What is needed to foster its deployment ?

25th of May 2021

Purpose of the webinar

This webinar between the EU elected official (Commission and European Parliament members) and stakeholders, and that brought together over 120 participants from 22 countries, was an opportunity to analyse and discuss what is needed to stimulate C-ITS deployment and applications to foster the deployment of green, safe and innovative transports (including multimodal, autonomous transports, as well as the deployment of alternative fuels infrastructure).

Welcoming and introductory remarks

Massimo Schintu, ASECAP President

C-ITS is an important topic for the motorway sector: the C-ITS, the cooperative intelligent transport systems. It will enable Europe's future digital objectives to fulfil EU safe and carbon-free mobility vision and targets.

ASECAP Road operators represent more than 87,000 km of motorways across 21 member countries and they are a key element for the deployment of C-ITS systems along the TEN-T road network.

He recalled that, in 2018, ASECAP and C-ROADS have signed a Memorandum of Understanding to harmonize the deployment of ITS services, since we, as road operators, have the mission to ensure a safe and comfortable journey for all the drivers.

C-ITS already plays a key role in reducing the impact of accidents and will significantly contribute in the future in preventing accidents and reducing their severity. Studies show that reducing congestion and creating a smooth traffic flow reduces fuel consumption and hence reduces CO2 emissions and air pollution. C-ITS deployment is one of the enabling element that will facilitate the transition towards a more efficient, secure and sustainable motorway ecosystem.

ASECAP members are running several C-ITS projects in Europe and Italy, together with the fundamental support of the European Commission: we are ready to play a key role in the near future with more initiatives within the Horizon Europe and CEF2 frameworks.

Motorways' operators have already performed very good achievements in the C-ITS field and the reasons why C-ITS is important in the context of the ITS Directive's revision are the following:

- The ITS Directive plays indeed a key role for C-ITS to reach its potential. C-ITS is already deployed by major automobile manufacturers and road operators. Furthermore, the regulatory framework to access the market and to broadcast ITS messages is already in place. However, there is currently no legal guarantee ensuring "interoperability", "backward compatibility" and "security". This situation creates uncertainty and the risk of system fragmentation.
- The ITS Directive provides for the adoption of a delegated act which would guarantee "interoperability", "backward compatibility" and "security". As we know, a C-ITS delegated act was drafted by the European Commission in 2019 on the legal basis of the ITS Directive and eventually was not adopted.

ASECAP believes that the revision of ITS Directive represents a great opportunity to improve the current situation, by taking appropriate EU legislative measures in this field.

He congratulated COPER 3 chair and her group for having drafted the C-ITS manifesto and for having developed the program of this webinar.

ASECAP members are very much committed to reach the Green Deal goals and are actively supporting the European Commission's actions to improve the deployment of C-ITS solutions in Europe.

Massimo Schintu

European Parliament

István Ujhelyi, Vice-Chair on the Committee on Transport and Tourism (TRAN), S&D, Member of the European Parliament

Mr Ujhelyi was in 2017 the rapporteur on the own-initiative report on C-ITS in TRAN Committee. Although the EP had worked hard with the European Commission to get a delegated act, the EU Council had not adopted the legal text. The revision of the ITS Directive will be the next important legislative step, and this webinar is timely to get viewpoints from the relevant EU institutions and other stakeholders about the implementation of C-ITS and possible future steps. Two elements have changed the game over the past years: Firstly, the speed of technological development. A strong cooperation between EU countries is needed to bridge the technological gap with the US and China. Secondly, the European Green Deal objectives are now enshrined in all EU policies to reach a carbon-free zero-emission society in the coming decades. Three key issues are crucial for the EP:

- Security and safety aspects of transport on roads: vehicles should communicate to each other, to the infrastructure, in prompt time and this service should be offered to all the citizens with no extra fee or charge.
- A standardised European system like C-ITS could be an excellent solution for environment friendly and sustainable transport and fulfil the CO2 targets for 2030.
- Learn from the experience gained with the deployment of C-ITS in 18 Member States by major automobile manufacturers and road operators, and the harmonisation efforts achieved within the C-Roads Platform and the Car2Car Communication Consortium.

The revision of the ITS Directive should aim to:

- ✓ Allow C-ITS to reach its potential.
- ✓ Provide a clear legal framework with focus on interoperability, backward compatibility and technological neutrality (key elements of his 2017 report).
- ✓ Handle and give proper answer for the frequency issues.

To conclude, two important questions need to be addressed: what can be done to reduce the digital gap between European regions and between urban and rural areas? What business model for road operators to guarantee safe and secure interconnected roads?

The EU has clear aims to achieve Vision Zero Fatalities & Vision Zero-Emission, the role of C-ITS is crucial in this to be capable to the future challenges in Automated Driving and Sustainable Mobility.

István Ujhelyi

Barbara Thaler, Member of the Committee on Transport and Tourism, TRAN Vice-coordinator of EPP, Member of the European Parliament

The Commission recently announced 82 pieces of legislation which should realise, steer and ensure the transformation of Europe towards a carbon neutral society. Even individual mobility patterns are on the test bench. Sadly almost overlooked: digitalisation. The key to unlock efficiency gains, to save energy, time and money through technological progress, while the implementation also offers results without the risk of making individual mobility a social issue. It mitigates the problems caused by individual mobility, instead of making individual mobility a problem per se.

And the first generation of C-ITS is not only ready for deployment, it is being deployed. Interoperable between different road operators and vehicle manufacturers thanks to extensive harmonization work. The achievements and hard work, which brought the first generation of C-ITS services from the drawing board on to the streets, can hardly be overestimated. Once the data are there and the predicted safety improvements materialize, the public attention will drastically increase. For the time being, there are simply too few end-users. However small this number is now, it will increase drastically in the next years. Cooperative intelligent transport systems will be a game changer of individual mobility that improves the situation without trade-offs. The involved technology has been tested for years, it is a mature technology and consequently the digital transformation starts.

Just to highlight the evolutionary and inclusive approach: The development of the generation one C-ITS services started back in 2013 within the context of the "Cooperative ITS Corridor" between the Netherlands, Germany and Austria. The project itself was based on a new approach: under the vision - and of course supervision - of road operators, C-ITS has been developed in tight cooperation with the industry and published for everyone to use. The project did not only involve use case specification: its services got implemented and deployed and everyone interested was invited to participate in organized "Test Cycles" or test freely on their own. Many vehicle manufacturers, OEMs and other ITS stakeholders have taken the opportunity to test their C-ITS systems. Developing jointly and publishing freely with emphasis on market needs have obviously been a success and should serve as blueprint for other modes. The further development is up to the industry, the road operators and essentially depends on the willingness and acceptance of the market. There is the chance that evolution continues as successful as it did without too much interference from politics. However, politics should set the right regulatory framework and safeguard a level playing field. Cooperative systems are basically technology-neutral and they should stay this way. It is indeed a value in itself.

The base technology for C-ITS is WLAN, which is proven and continues to improve with updated, but fully backwards-compatible versions. The advantage of using WLAN is that it requires no contract with telecom companies and it is completely free of charge. The average WLAN coverage and range in operational deployments is now around 2km – far better than initial estimates. The big advantage from a citizen's point of view is that he can participate in the exchange of safety critical information without any contracts and costs.

There have been some debates on choosing the right technology for C-ITS. Interoperability, backwards compatibility, and the full support for current security standards should be the decisive criteria for choosing C-ITS communication technology. Further developments will happen in the responsible industry and depends on the willingness and the decisions of the market. It is the role of politics to set the framework to guarantee an open market. Co-operative systems are technologically neutral and should stay this way.

Interoperability, backward compatibility and the underlying safety and security standards should define the framework for C-ITS technologies

Barbara Thaler

Keynote presentations

Malika Seddi, ASECAP Secretary-General

ASECAP ITS Manifesto

ASECAP has issued a C-ITS manifesto to highlight points that it considered very important to support the EU sustainable and smart mobility strategy. This strategy lays down the foundation on how the EU transport system can achieve its green and digital transformation. The main service public mission of toll road operators is to provide safe and congestion free mobility services, adding they have always been innovative to answer mobility challenges by being involved in ITS deployment for more than 3 decades. C-ITS will allow to make the transition and toll road operators are now strongly working to prepare the digitalisation of the infrastructure as outlined in the European Green Deal. C-ITS is about an exchange of messages between vehicles, infrastructure and other road users and its main features are:

- Wireless short-range communication or vehicle-to-everything (V2X) communication.
- ITS-G5 is the sole short-range technology currently ready for C-ITS deployment.
- C-ITS serves a public goal: road safety, traffic management and sustainable transport.

ASECAP is technology neutral but believes that the “hybrid model” will probably be the basis for mass deployment. The major potential contributions C-ITS will bring the following benefits:

- ❖ *Achieve the “Vision Zero” goal in road safety* by establishing the vital direct link between vehicles themselves, road infrastructure and other road users, delivering warnings to road workers and vehicles and helping to prevent accidents and to reduce their severity. The expected impacts of C-ITS are considerable for safety of the users and for the road operators’ staff.
- ❖ *A carbon-free mobility* by assisting road operators in collaborative traffic management and congestion management to reduce CO₂ emission and external cost of roads, enabling energy-efficient driving, and fostering decarbonisation achievements in the medium term via incentive measures such as promotion of cleaner vehicles.
- ❖ *Deployment of autonomous driving* by providing an instant and low latency data exchange amongst infrastructure and vehicles. Higher levels of vehicle automation can only be achieved through connectivity.

Furthermore, there is the need for C-ITS to technically co-exist with the systems currently used on Europe’s motorways: EETS, Electronic tolling system, the digital tachograph and the remote enforcement of vehicle weight control. Concerns are expressed about the patents protecting 5G technologies. It is indeed important to create a patent litigation-free environment for C-ITS communication technologies. In this field, road operators shall not provide services via highly patent technology. The European institutions have to take appropriate measure to ensure that patent holder do not hinder competition within the internal market by refusing to license their technology or by imposing abusively high royalties. High royalties lead to a knock-on effect on the final user.

To conclude, C-ITS will play a crucial role to support the EU objectives of fostering digitalization, improving road and decarbonising road transport. The revision of the ITS Directive represents a good opportunity to set up proper framework for C-ITS deployment as well as appropriate communication framework.

Safe mobility is a public service and decarbonisation and greener transport are a key priority, hence they should be delivered in the most efficient manner.

Malika Seddi

European Commission

Kristian Hedberg, Head of Sustainable and Intelligent Transport Unit, DG MOVE, European Commission

This webinar is timely as it is important for the European Commission and stakeholders to discuss how we can improve the sustainability, efficiency and safety of transport. The EU Green Deal aims to achieve a 90% reduction in greenhouse gas emissions by 2050, improve air quality and reduce congestion.

There is no single measure / solution to achieve this objective and we will soon adopt the fit for 55 package. But even this is not enough and we are looking at digitalisation, including C-ITS to bring a further contribution.

The Commission is working on an array of policies, starting with the revision of the ITS Directive by the end of this year. In parallel, we are updating the delegated regulation on real time traffic information and are looking into the creation of a mobility data space.

It is important to raise awareness on existing data, as well as to encourage the creation of data and its re-use for ever smarter transport.

Safety is a key objective of C-ITS. But equally important, it also helps to increase traffic efficiency in EU. In fact, the cost of congestion in the EU amounts to more than 1% of GDP (and 2% in the central, densely populated areas). To address this, it is necessary to deploy C-ITS throughout Europe.

The ASECAP manifesto on C-ITS highlights all the key elements needed to realise the potential of C-ITS and confirms the EC strategy for cooperative and intelligent transport systems, with the objective to achieve EU wide deployment of harmonised C-ITS services.

Up to now, there have been 29 deployment projects with the budget of €350 million, totalling thousands of roadside units, talking to hundreds of thousands of C-ITS equipped vehicles.

The potential of C-ITS for road safety and traffic efficiency is not in doubt, but its effectiveness crucially depends on the good cooperation between all vehicles and with the infrastructure. All stakeholders need to be on board, the objective is to further reduce the number of fatalities and serious injuries, as the figures have been stabilising over the past years, still at too high levels.

Accelerated deployment of C-ITS would be a much needed boost to put us back on track to vision Zero.

Deployment of C-ITS is also a first and major milestone towards higher levels of automation, moving from passive and active safety to cooperative safety. To reap all benefits from automation, we are setting up a new EU partnership under Horizon Europe on CCAM.

To conclude, it is important to maintain strong links between this new partnership on CCAM and C-ITS deployment activities to accelerate the transition to a smart and sustainable mobility system. This will increase economic competitiveness of the Union, make transport safer, and bring inclusive door-to-door mobility to all.

More than 1% of EU GDP is lost in congestion every year. As a reminder, the EU annual budget (non Covid times) is equivalent to around 1% of EU GDP.

Kristian Hedberg

Peter Stuckmann, Head of Future Connectivity Systems Unit, DG CONNECT, European Commission
CAM – Connected and Automated Mobility - provides opportunities for safety, decarbonisation, traffic efficiency, and industrial competitiveness. We need to find the capacity to shape this system.

The evolution will be a step-by-step approach, and there will be the need to set the path to automation. Another key element is the coordination of technology including sensors, connectivity, short and long-range communications.

We will have to adopt a multi-dimensional approach that means it is for drivers and non-drivers. This is definitely more attractive to consumers and the general public.

5G is an approach for multiple sectors and this results in cooperative business models for road safety and non-safety applications (e.g.cooperation between road operators and telecom companies).

With regard to investment in infrastructure, more investment will be needed after the pandemic. Therefore, this is essential to call not only for public funding but also for private resources. The European Commission has already launched a number of flagships for investments. But investments from the private sector are equally important.

Our new target is to gain full 5G by 2030, and our vision in 5G is to ensure that infrastructure will be deployed throughout EU and make sure that the first connected automated services are available on a pan-European scale. € 2 billion have already been earmarked for 5G corridors.

We need to adopt a holistic service approach: broad range of 5G, for safety and non-safety purposes. It is up to market to find the best model for investment.

A strategic public private Partnership will need to be built for 5G & 6G.

To conclude, the CEF programme will be launched after the summer, and a call for proposals is due to be published by the end of this year. In 2022 a bigger wave of corridor projects will be launched. The European Commission will launch a support programme to work on the cooperation model and to set up a project in view of facilitating networking between stakeholders. The Commission hopes that road operators will be involved in these actions and looks forward to work with all the stakeholders.

Investments and cooperation are the key elements for the C-ITS deployment.

Peter Stuckmann

Interactive Panel Discussion: C-ITS Manifesto: what is needed to foster its deployment?

Emanuela Stocchi, ASECAP Chair of Permanent Committee II on Road Safety & Environment Committee, moderator, introduced the panelists and launched the discussion around the question: what is needed to foster the deployment of the ASECAP C-ITS Manifesto ?

Jacqueline Erhart, ASECAP Chair of Permanent Committee III on ITS and Automated Driving

C-ITS will make a major contribution to Europe's "Vision Zero":

- reducing Europe's road fatalities to near zero by 2050
- great potential in C-ITS to further improve the health and safety for road users and workers on road works sites.

With increasing penetration rates of cooperative connected and in future also automated vehicles, C-ITS will contribute enabling collaborative traffic management to reducing congestion and to creating a smooth traffic flow: it has a positive impact on fuel consumption that is reduced and, hence, CO2 emissions and air pollution are reduced.

ASECAP is already testing the next generation of services to realize the extended potential of C-ITS.

The requirements and role of road operators in the road & vehicle ecosystem has to be considered in any deployment plans:

- Their services do not require wide bandwidth, but
- they need a C-ITS environment that works seamlessly and securely across national borders, across different vehicle brands, across different chip-set manufacturers, across different road operators and across different generations of communication protocols and chip-sets. This is the only way for C-ITS to comply with the principles of “interoperability” and “backward compatibility”.

ASECAP members have started their deployment activities: C-ITS systems thriving ITS-G5 and long-range cellular communication together. ASECAP members follow the hybrid approach: combining the short-range communication environment and cellular long-range communication. Currently, there is only one short range technology ready on market. In future, it will become part of the wider digital communication environment that includes 5G and future WLAN or cellular communication systems. However, they need to avoid co-channel and adjacent channel interference to and from other ITS technologies.

ASECAP believes that the interoperable C-ITS system using the European security framework is a unique opportunity for European industry and the European Digital Single Market.

Jacqueline Erhart

Bill Halkias, President of International Road Federation, IRF

The International Road Federation (IRF) promotes the development of roads and road networks that enable access and sustainable mobility for all.

The transport sector is facing many challenges that will revolutionize the way society interacts with the mobility ecosystem. Roads, as always, are a fundamental piece of that ecosystem, allowing interaction with vehicles and road users. Anticipation and preparation are critical to guarantee that all road-related stakeholders have the most sustainable, efficient, safer and cleaner mobility services.

In analyzing what road operators can achieve today, the present ‘safe systems’ approach, creating a road safety environment that ‘forgives’ human mistakes is important. C-ITS services already play a key role in reducing the impact of accidents and will significantly contribute in the future in preventing accidents and reducing their severity.

Any short-range technology suitable for C-ITS should consider certain requirements:

- backwards compatible and interoperable with existing C-ITS technologies
- use the same security
- and be able to co-exist with European road charging systems, without causing harmful interference. ASECAP offers the protected zone data base to implement a mitigation technique to ensure the co-existence of C-ITS and other radio applications.

Looking into the future, Connected Vehicles (CV) and Autonomous Vehicles (AV) are largely progressing, but on separate paths. AVs will be safer and more effective when connected with the infrastructure. For this to occur, the focus needs to be on the convergence of CVs and AVs.

The seamless collaboration of smart vehicles and smart infrastructure, towards an ecosystem for "Smart Vehicle, Smart Road, and Intelligent System" will affect all transport modes and so have an impact on the European way towards vision zero.

It is important that co-existence, interoperability and backward compatibility of C-ITS technologies is a must-have to guarantee and safeguard road infrastructure investments and road safety applications. So in its core, it is crucial to develop joint norms, standards, and specifications.

Bill Halkias

Joost Vantomme, Smart Mobility Director, European Automobile Manufacturers' Association, ACEA

This discussion comes timely and needs a rethinking of what happened in the past. Our vehicle manufacturers favour a stable legal framework that is there to enable a true European playing field with continuity of services, interoperability and technical compatibility. The framework should protect investments. The technology discussions seems still not resolved (coexistence, interoperability) but some manufacturers offer now good substitutes of C-ITS services.

In terms of C-ITS deployment, we see a good deployment by some road authorities around road operators from ASECAP C-Roads members and that is very valuable. The service profiles are already there, together with the security and certificate policy. As stated in the Passau Declaration of the EU Transport Ministers from Q4 2020, we plead to have a fitness check. Where area things blocking and why, who and what can bring solutions and through what means. . ACEA is truly engaged in doing that with all the actors and the Commission, having maybe a new wrap through the whole discussion on what is mature technology and what is not, what is standardized and not standardized, and how creating a coexistence of various technologies and investments.

Finally, as far as sustainability is concerned, we are confident that cooperative services have a positive contribution to the Green Deal. There are a number of areas where C-ITS can affect positively the sustainability charter. It is about traffic and energy consumption; energy optimization like breaking acceleration, spacing. It is also about mobility: the occupancy through shared journeys and multimodality can of course contribute to a better mobility and a more efficient use of the space.

For cities, there can be a reduction of congestion, of the space used by vehicles, especially with autonomous vehicles in the future. Finally, for the environment, it is all about reducing carbon emissions obviously, fuel economy and cooperative driving.

C-ITS can deliver positive contributions to the Green Deal and decarbonization. , Promising Impacts can be noticed on on traffic and energy consumption, mobility, use of space and noise. Cooperative services definitely help the sustainability charter.

Joost Vantomme

Martin Böhm, General Secretary of C-Roads

C-Roads is THE platform of 18 European countries for linking all C-ITS deployments all across Europe. The platform develops, shares and publishes common technical specifications (including the common communication profiles) which are public available at www.c-roads.eu. The platform members are demonstrating interoperability of C-ITS services through planning and executing intensive cross-testing. After 4 years of intensive work they are now ready to start large scale deployments – more than the currently 6.000 kms of road covered with short range C-ITS services and approx. 100,000 km via long-range

C-ITS services need to enhance road safety all across Europe – we can demonstrate our achievements in 2 weeks' time at the #saferoadstoday conference.

What they learned is, that C-ITS is much more than connecting single vehicles with the infrastructure – C-ITS is kicking-off a new era for mobility – C-ITS has the potential to connect all different transport modes. Aside the infrastructure supporting a single vehicles we see first cities deploying C-ITS services e.g. for emergency vehicles as well as public transport vehicles.

And C-ITS has a huge potential for supporting policy measures including the Green Deal for Europe in the transport sector – e.g. bringing UVAR information on environmental zones and their restrictions directly into the vehicle. Another example is with geofencing services for conventional.

Looking into the future of C-ITS: The deployment of the C-ITS-System has shown, that the C in C-ITS is the most important point: cooperation. And for maintenance and operation of the C-ITS system the cooperation will even become more important than today.

The infrastructure is ready and we are ready to deploy C-ITS services.

Martin Böhm

Webinar's concluding remarks

Jacqueline Erhart outlined the webinar's key conclusions:

- ❖ ASECAP believes that C-ITS is a key enabler of Europe's future digital objective to fulfil EU safe and carbon-free mobility vision and targets. Our President Mr. Massimo Schintu has opened our webinar with addressing that C-ITS deployment is one of the enabling elements that will facilitate the transition towards a more efficient, secure and sustainable motorway ecosystem.
- ❖ The technical and societal importance of C-ITS was presented by the Vice-Chair on the Committee on Transport and Tourism István UJHELYI and the TRAN vice-coordinator of EPP Barbara Thaler. They highlighted the importance for the Parliament of security and safety aspects of road transport and on technological neutrality with interoperability and backward compatibility. The message about the on-going C-ITS deployments and the respective expected impact on the European Green Deal, decarbonization, smart mobility systems and accessibility was very well understood.
- ❖ ASECAP has the same vision on C-ITS and has published the ASECAP C-ITS Manifesto. This manifesto provides insights how C-ITS deployments serve a public goal for road safety, traffic management and sustainable transport – now, in the transition to mixed traffic and in an autonomous mobility system.
- ❖ The European Commission is now preparing some core elements accompanying the deployment plans: The revision of the ITS Directive – funding via the CEF program and research&innovation program Horizon Europe. Kristian Hedberg, Head of Sustainable and Intelligent Transport Unit, DG MOVE and Peter Stuckmann, Head of Future Connectivity Systems Unit, DG CONNECT, European Commission have explained the possibilities for the road sector within the next years.
- ❖ Concerning the re-called importance of a joint effort in a C-ITS ecosystem our panelists from ACEA, C-ROADS, IRF and ASECAP confirmed: Yes, we need all sectors to work together to foster the success of C-ITS. Roads are a fundamental piece of that ecosystem, allowing vehicles, roads and customers to interact with each other and being connected. The C in C-ITS stands for the most important point: cooperation.

Before closing the session, ASECAP Secretary General, Malika Seddi, invited all the participants to mark on their calendar the upcoming ASECAP event:, the **13th digital ASECAP Road Safety Conference** that will be held on 22 June 2021.