CAR 2 CAR -Newsletter-
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CAR 2 CAR
COMMUNICATION CONSORTIUM

CAR 2 CAR Communication Consortium calls for deployment of C-ITS
by Søren Hess (General Manager, C2C-CC)

The CAR 2 CAR Communication Consortium's General Manager Søren Hess.

The call for deployment was the key message from the CAR 2 CAR Forum in Göteborg in November 2012. The C2C-CC organisation is now strongly focused on Day One deployment. Deployment was also a key issue during the ITS World Congress in Vienna in October 2012 and will be at the ETSI TC ITS international workshop in Vienna from 5th to 6th February 2013.

The MoU on deployment from 2015 on signed by high-level management within the OEMs has provided the incentive for the C2C-CC to finalise preparation for Day One deployment. The Day One services have been agreed and profiling of standards is in process with specifications based on ETSI ITS-G5 standards, triggering conditions, minimum performance requirements and system requirements. Important issues such as compliance assessment and testing framework, lifecycle management and security framework are under development for the Day One deployment and expected to be finalised in 2013.

Equipment suppliers are now signing the MoU and we are also inviting the infrastructure organisations to sign this document and to join us in developing the basis for Day One deployment. Day One services include both V2V and V2I communication and the detailed planning will be finalised within beginning 2013. Within the infrastructure organisations, a number of national and regional corridor projects providing infrastructure services are being planned. Also the infrastructure equipment supplier members of the C2C-CC are participating actively in the preparatory work we are doing. This work is very encouraging.

The ETSI TC ITS standards are in good progress in accordance with Mandate M/453 with the EN's for the access networks (802.11 profile) and the DENM message being already approved for public enquiry – the last step towards final approval. A number of other standards have been finalised or are expected to be approved at the January 2013 meetings of the ETSI WG's. This includes the important CAM message as an EN and the safety application standards developed within ETSI TC ITS WG1. A consistent set of standards will soon be ready for Day One deployment.

Within ETSI TC ITS a release process to define future standardisation activities has been agreed. We will discuss next steps of standardisation with all the stakeholders during the ETSI TC ITS international workshop in Vienna from 5th to 6th February 2013.

The infrastructure message-set standards for Day One deployment are now being developed within CEN with support from the C2C-CC and the infrastructure people within the Amsterdam Group. We need of course the whole picture for the Day One deployment.

The C2C-CC is also part of the EU-US-JP task force toward global harmonisation of standards and deployment preparations. In particular common hardware and security framework are important issues and are under discussion between the C2C-CC and the CAMP/VIIC of the USA. A meeting has been arranged in January 2013 in Detroit where we are also discussing the Model Deployment Framework in the USA compared to the preliminary results of the large-scale field operational tests in Europe. The EU-US showcase in connection with the ITS World Congress in Vienna was a good example of the international cooperation towards deployment.

Also the European Commission is strongly supporting our activities towards deployment of cooperative ITS. The GD MOVE activities on the ITS Directive and Action Plan and the GD CONNECT and GD ENTERPRISE activities towards finalisation of standards for Day One deployment are very encouraging.

New OEM members are now joining the C2C-CC and also new global suppliers are interested in the work of the Consortium. OEMs from the USA see an interest in joining the Consortium or establishing a close connection with the C2C-CC.

The Consortium is still one of the key global players towards development and deployment of cooperative ITS. With European deployment we will further develop global cooperative ITS in close cooperation with stakeholders in other regions.

The CAR 2 CAR Communication Consortium OEMs, suppliers and development members have a strong strategic interest in deployment of cooperative ITS – and we will do it…

New CAR 2 CAR members   by Sonja Eickmann, C2C-CC

European Center for Information and Communication Technologies - EICT GmbH
Type of member: Associate member
Type of business: public-private partnership of scientific institutions, institutes of applied research and leading industrial companies, linking research and development activities in industry and science to information and communication technologies

Vehicle Manufacturers agree on deployment of C-ITS from 2015 on   by Sonja Eickmann, C2C-CC

A set of important and impressive events lay behind the members of the CAR 2 CAR Communication Consortium. During the recent months, the ITS World Congress 2012 and the 6th CAR 2 CAR Forum embodied stakeholder meetings and expert platforms to discuss the latest development in the field of C-ITS. It has been outlined once more that stakeholders have left the phase of basic research and that the preparation of C-ITS implementation moves into the centre stage of interest. The vehicle manufacturers organised in the CAR 2 CAR Communication Consortium have accounted to this evolution by currently signing a Memorandum of Understanding (MoU) on a synchronised implementation strategy for C-ITS from 2015 on. The partners from the automotive industry herewith declare their intention to work hand in hand on a harmonised deployment in Europe beginning in 2015.

With the MoU, the CAR 2 CAR Communication Consortium lays a corner stone for harmonising individual roll-out plans for the implementation of C-ITS. The vehicle manufacturers agree on the overall scope and the timeline the deployment starts, and that they will use common message sets, that the systems will fulfill identified performance and conformance requirements and regard certain security and privacy rules. This voluntary agreement by the automotive industry is an important step towards a pan-European implementation of C-ITS in the oncoming years. Deploying C-ITS, the network of systems enabling communication between vehicles (V2V communication), between vehicles and road infrastructure (V2I), service providers and mobile devices based on ITS G5 real-time and ad hoc communication, is expected to contribute to traffic safety, efficiency and driving comfort. The need for an initiative and coincidently joint investment into these systems has been basically described in the EU ITS Direc-

tive from July 2010. With their commitment to the joint deployment, the CAR 2 CAR Communication Consortium's members would like to encourage other important stakeholder parties to follow suit, for example road operators and authorities, suppliers of the automotive and infrastructure industry, service providers and the telecommunication industry. A comparable agreement has already been achieved in the so called Amsterdam Group (see related article on page 8 in this newsletter).

The decision on the joint deployment strategy and attracting the awareness of additional players along the whole value chain of C-ITS is of practical importance as none of the parties can take a decision on deployment of cooperative systems on its own: Connected vehicles on the road rely on cooperative infrastructure to really show their benefits to the end users and vice versa. The user acceptance is a key factor for reaching a critical penetration rate of cooperative systems on European roads – being again necessary to enhance the user benefits and allow further applications supported by C-ITS. With a long-term view, the vehicle manufacturers therefore agree on a phased approach for deployment, being aware that with growing operational experiences and the benefits experienced by the end-users, improvements of the systems have to follow. Therefore the initial deployment envisages a non-complex stable system serving a set of traffic safety and efficiency applications, the so called Day One use cases. The time for the start of the joint deployment is intentionally chosen: The standardisation process for C-ITS, ensuring that cooperative Intelligent Transport Systems and Services are interoperable across borders and brands, as well as its testing and evaluation in large scale field operational tests like simTD, DRIVE C2X or SCORE@F are expected to provide a stable, non-complex system for the initial deployment of C-ITS in 2015.

CAR 2 CAR Forum: Network stakeholders and discuss deployment preparation *by Karl-Oskar Proskawetz, Administrator*

6th

CAR 2 CAR Forum

13 and 14 November 2012
Volvo Hall, Gothenburg
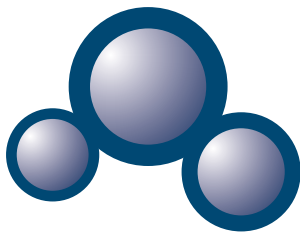
The Memorandum of Understanding signed by the vehicle manufacturers organised in the CAR 2 CAR Communication Consortium, the standardisation in the framework of Mandate M/453 to be finalised by CEN and ETSI, the creation of working groups on a road map to deployment and profiling standards, the joint driving demonstration and last but not least the OEM activities to support the international harmonisation of C-ITS – With all these events and measures, the CAR 2 CAR Communication Consortium has recently initiated and accompanied a range of important activities to achieve the goal of developing and deploying cooperative ITS. To retrospect on these activities, to report them to all active and basic members of the Consortium, and to follow up the discussion of how to further prepare an effective deployment in the oncoming years, the Consortium invited to the 6th CAR 2 CAR Forum which took place on 13th and 14th November in Gothenburg. The Forum was hosted by Volvo. Besides the discussion of the aforementioned performances, the Forum also served the networking of different stakeholders.

The Forum was introduced by Mikael Gustavsson, Debuty Vice President Electrical & Electronics System Engineering of Volvo Cars, who presented the vehicle manufacturer's approach in active safety measures and driver support technologies already available and to be expanded by connectivity of vehicles. On behalf of the CAR 2 CAR Communication Consortium, the General Manager and Moderator of the Forum Søren Hess welcomed all participants with a short review of the Consortium's activities in 2012 and an outlook on the agenda. In preview to the General Assembly for all active members, he stated that the CAR 2 CAR Communication Consortium could again increase its number of members with currently 30 development members, 18 associate members and 12 vehicle manufacturers working together in the Consortium as strategic partners.

In the first plenary session on 'Cooperative ITS – from research towards deployment', Juhani Jaaskelainen from European Commission, Directorate General for Communications Networks, Content and Technology, presented the global trends in cooperative mobility. He briefly gave an overview on the research projects supported by the European Commission within FP 6 and FP 7. Additionally he pointed out the international cooperation for C-ITS and globally harmonised standards with the goal of enhancing consumer benefits, coming to interoperable systems and services, enhancing trust in cooperative systems as well as reducing the development costs and reaching global markets. The EU-US-JP cooperation sets a good example for this and its outcome could just be presented at the ITS World Congress (see related article about EU-US harmonisation show case on page 7 in this Newsletter). After basic research, the next step – the preparation of deployment – is instigated by extensive field operational tests – like DRIVE C2X which has powered the Cooperative Mobility Demonstration in Vienna (see related article on page 5 in this Newsletter), the Memorandum of Understanding (see related article on page 2 in this Newsletter) signalising the industry commitment to start the deployment in the years ahead, the safety pilot initiated in the US for testing the operation of C-ITS in real traffic and the start of ITS Spot Service in Japan. As future challenges, also from a societal perspective, Juhani Jaaskelainen pointed to come to a European transport system that is resource efficient, environmentally friendly, safe and seamless. This will be supported by the 8th Framework Programme for Research and Innovation in 2014 to 2020. The intention of the vehicle manufacturers to sign the Memorandum of Understanding was deepend by Jan Hellaker (Vice President Transport Solutions & Services, Volvo Group Trucks Technology). He gave an overview about V2V- and V2I- research projects Volvo is involved in, for example the Cosmo project with special focus on public transport in Gothenburg, and Volvo's contribution to the joint driving demonstration in Vienna.

To widen the perspective of how effective deployment strategies for C-ITS are currently prepared by different stakeholder parties, especially by the infrastructure operators, the CAR 2 CAR Communication Consortium appreciated the participation of Frans op de Beek (Rijkswaterstaat) and Manfred Harrer (Asfinag) as expert speakers. They illustrated traffic management opportunities based on C-ITS identified in the Netherlands and Austria. Both regions will potentially constitute front runners for deployment.

The collaboration between these different parties was again seized in the first afternoon session. Markus Bauer (BMW) therein broke the first ground with a 'technical view on deployment'. He outlined the interdependencies of equipped vehicles and infrastructure to spread the customer value and find expression in attractiveness and the penetration rate of cooperative systems. While the Hot Spot approach with geographical front runner areas is still under discussion as the vehicle manufactures are supplying their cars internationally, completing functional front runner approaches become attractive. Day One use cases have been commonly defined. Certainly the needed standardisation for V2I is not yet finalised.

The aforementioned status of standardisation was focused in the following presentation on standardisation activities in ETSI, CEN and ISO given by Achim Brakemeier (Daimler), Andreas Festag (NEC) and Paul Spaanderman (TNO). ETSI being mainly occupied with standards ensuring V2V applications could overall report good progress on core standards. Specific aspects still under discussion are the decentralised congestion control,

Marko Jandrisits (Asfinag), Tim Leinmüller (Denso), Hans Alminger (Volvo Cars), Gino Franco (Swarco) and Søren Hess (f. l.) presented their view on deployment of cooperative ITS in Europe during a panel dicussion.

About 100 active and basic members as well as invited guests joint the 6th CAR 2 CAR Forum which took place at the Volvo Hall in Gothenburg.

security, the multi-channel operation and cross-layer interfaces. CEN being occupied with standards enabling V2I communication has to further invest in finalising especially SPaT (Signal Phase and Timing) and TOPO (topography of intersections) message standardisation required for Day One deployment.

The standardisation lays also in the focus of the working group on standards profiling recently established in the CAR 2 CAR Communication Consortium. It was introduced by Teodor Buburuzan (Volkswagen). The working group is concerned with the revision of already available documents of the Standardisation Organisations and identifying the minimum subset of standards absolutely necessary for interoperability between C2C vehicles. Its members are therefore not only summarising C-ITS related documents developed by several stakeholders, but also identifying and filling existing gaps and features necessary for a C2C-CC Basic System.

While the CAR 2 CAR Communication Consortium held its internal General Assembly, the basic members and guests were invited to visit the Volvo Museum in Gothenborg. In the evening, all participants enjoyed a dinner in Älvsborg Fästning related to a boat trip to the island.

The second meeting day was set aside for workshops on specific topics moderated by Markus Bauer (BMW). As first panellists, Toru Saito (Honda) and Marko Jandrisits (Asfinag) reported the lessons learned during the Cooperative Mobility Driving Demonstration jointly organised by the CAR 2 CAR Communication Consortium and the Testfeld Telematik Consortium in Vienna. Although there has temporarily been an impact on the communication between the cooperative mobility vehicles provided by the C2C-CC and the TT due to inadequate parameters sent out by another vehicle at the Congress venue, the visitors announced that participating in the demo tours has been impressive and that they are now persuaded that C-ITS contributes to better information about current traffic conditions and potential dangers. As another successful showcase presented at the ITS World Congress, Lutz-Peter Breyer (Denso) gave an insight into the EU-US harmonisation show case (see related article on page 7 in this Newsletter).

After the preparation of deployment had already been addressed in the plenary sessions on the first meeting day, the second workshop on the ‚C2C Roadmap and process to 2015 start of deployment' should help identifying major milestones for a successful implementation of C-ITS again from the perspective of vehicle manufacturers (represented by Thomas Biehle , Volkswagen) and of road operators and the related infrastructure industry (represented by Torsten Geißler, BASt). The deployment approach agreed by the CAR 2 CAR Communication Consortium is the phased implementation with a basic system serving Day One applications. Therefore a minimum system and sender application specification to ensure intercompatibility, a common security PKI infrastructure and an agreed test and certification progress is needed. The profile is mandatory for individual system integration by the OEMs. In parallel Torsten Geißler presented the planned V2I applications and some of their requirements for Day One. Further specification of security requirements and solutions provided by the
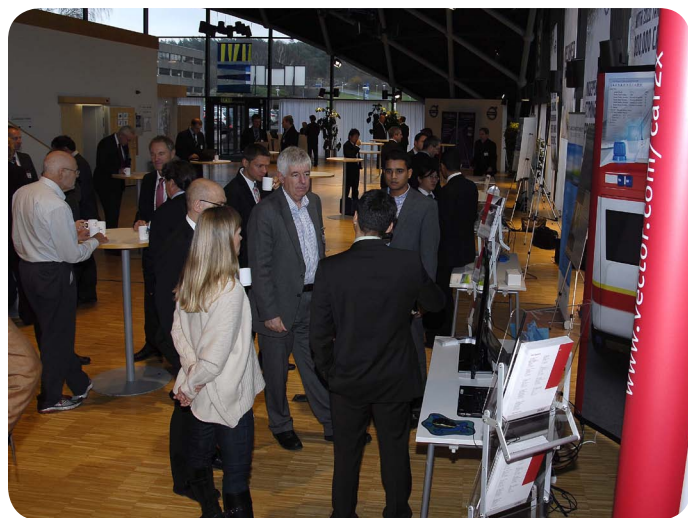
The CAR 2 CAR Forum 2012 was accompanied by an exhibition in which members of the CAR 2 CAR Communication Consortium could present the latest technological developments of their companies or results from project initiated for research in the field of C-ITS. Six members of the Consortium used this opportunity.

CAR 2 CAR Communication Consortium were presented by Elmar Schoch (Audi) with the Pilot PKI (Public Key Infrastructure). Another insight into the status of Day One use cases was presented in the second workshop by Achim Brakemeier (Daimler) who gave a recitation on triggering conditions and data quality, by Tim Leinmüller (Denso) who presented the task-force upwards and downwards compatibility with wider directionality on later deployment phases, and Manfred Harrer (Asfinag) explaining Day One use cases from a road operator's point of view.

With respect to the fact that the experience of the end users and their acceptance of cooperative systems in real life traffic is a crucial factor for the dispersion of equipped vehicles and infrastructure at Day One and later deployment phases, certification, security, privacy as well and liability issues are key factors to enhance consumer's trust in C-ITS and its benefits. Therefore compliance assessment and its operation stood in the focus of the last workshop with Hossein Zakizadeh (Volvo) introducing the dedicated working group on C2X compliance assessment. It is currently occupied with the collection of minimal performance requirements – for example for the wireless performance, for message format and protocols as well as data quality and infrastructure components – relevant for compliance assessment ensuring interoperability of cooperative systems. The workshop was complemented by a presentation of operational security given by Stefan Goetz (Continental) and liability of ITS Systems given by Markus Bauer (BMW).

All presentations shown during the CAR 2 CAR Forum are available on the homepage of the CAR 2 CAR Communication Consortium under http://www.car-to-car.org/index.php?id=118 after log-in.

Markus Bauer (BMW), Lutz-Peter Breyer (Denso), Toru Saito (Honda) and Marko Jandrisits (Asfinag, f. l.) reflected the joint driving demonstration and the EU-US showcase at the ITS World Congress in Vienna.

Achim Brakemeier (Daimler), Paul Spaanderman (TNO) and Andreas Festag (NEC, f. l.) reflected the process of standardisation in ETSI, CEN and ISO needed for enabling Day One use cases of C-ITS (f. l.).

Cooperative Mobility Demonstration: Visitors impressed by experiencing C-ITS first hand   by Sonja Eickmann, C2C-CC

Cooperative Mobility Demonstration

Sim Kallas, Vice President of the European Commission, and the Austrian Transport Minister Doris Bures during the ribbon cutting to open the ITS World Congress 2012.

During her opening speech and the related press conference, the Austrian Transport Minister Doris Bures pointed out that cooperative Intelligent Transport Solutions have left the research phase and are ready to find their way into real traffic.

After two years of intensive preparation, the CAR 2 CAR Communication Consortium members waited eagerly for the 19th ITS World Congress to open its doors to the C-ITS community from 22nd to 26th October in Vienna, Austria. The Congress built the framework for a demonstration of Cooperative Mobility jointly organised by the CAR 2 CAR Communication Consortium and the Austrian Testfeld Telematik Consortium. After a great performance in previous driving events like in Dudenhofen, the driving demonstration in Vienna was a premiere in two different respects: For the first time, a wider public audience could experience the benefits which cooperative Intelligent Transport Systems and Services contribute to traffic safety and efficiency on public road network. Furthermore the CAR 2 CAR Communication Consortium initially organised a driving event together with partners from the infrastructure industry and traffic management and therefore visualised not only V2V, but also V2I communication. About 1100 congress visitors used this opportunity and have been impressed by experiencing C-ITS first hand under real traffic conditions. The same applies not only for the congress visitors, but also for the Austrian Min-

ister for Transport, Innovation and Technology Doris Bures who officially opened the Demonstration Programme on 22nd October. In the related press conference, she stated that cooperative Intelligent Transport Solutions have left the research phase and that they are ready to find their way into real traffic on European roads. The CAR 2 CAR Communication Consortium and the Testfeld Telematik Consortium succeeded in visualising that the close cooperation between vehicle manufacturers and suppliers, the infrastructure industry and authorities is an obligatory enabler for interoperable cooperative systems maxing out the potential of C-ITS with safety and traffic efficiency applications as well as further information services contributing to driving comfort.

A wide range of these applications could be experienced by the congress visitors in the joint Cooperative Mobility demonstration under real traffic conditions. The demonstration route of 13 Kilometres led through the Testfeld Telematik established in Vienna for exploring requirements and use cases of telematic services based on data receivable from road infrastructure, public transport and individual vehicles. More than 20 demon-

The demonstration route led through the testfeld telematik, the public road network around vienna. The picture shows the in-vehicle signage application informing the driver about current speed limits.

The safety related use cases emergency electronic brake light warning and motorcycle approaching indication were presented to the passengers of the vehicles provided by the CAR 2 CAR Communication Consortium in a parking lot.

stration vehicles were on their way with congress visitors as passengers, pursuing how cooperative systems inform and warn drivers if they risk to be involved in a dangerous situation. They could for example witness Signal Phase and Timing messages provided by cooperative traffic lights, enabling a green light optimised speed advisory, and other message sets enabling road works or broken down vehicle warning, in vehicle signage hinting at current speed limits, and announcements of Park and Ride facilities. The vehicles provided by the CAR 2 CAR Communication Consortium additionally entered a parking lot where safety related use cases, the motorcycle approaching indication and the emergency electronic brake light warning, were presented. The technology and reference system appointed in the demonstration had been established in the European project DRIVE C2X which aims at initiating a framework for deployment of Cooperative Systems and its Europe-wide evaluation in large-scale field operational tests.

Before the passengers entered the vehicles, they had already learned about the idea behind and functionalities of C-ITS provided by a briefing video exclusively produced for the Cooperative Mobility Demonstration in Vienna (available on the CAR 2 CAR Communication Consortium's Website under http://www.car-to-car.org/index.php?id=217). It was presented in a cinema next to the related Demo booth operated by C-ITS experts from the CAR 2 CAR Communication Consortium and the Testfeld Telem-

atik Consortium. On the cooperative Mobility Island, they debriefed the demo participants and informed interested congress visitors about technical and operational details behind C-ITS, for example the standards for Day One, privacy and security, mobile devices, the traffic management centre, C2X compliance assessment, the road map for deployment, roadside infrastructure and impact assessment.

Even some unforeseen challenges occurred, the organising partners from the CAR 2 CAR Communication Consortium and the Testfeld Telematik Consortium succeeded in persuading the end users as important stakeholder group of the mobility of the future.

The cinema next to the joint deo booth served as briefing area in which the demo participants watched an exclusively produced briefing video.

The members of the CAR 2 CAR Communication Consortium as well as drivers and explainers of the member companies who have heavilily invested in the preparation of the demonstration can retrospect on a successful life presentation of C-ITS under real traffic conditions.

The experts on the demo booth of both Consortia responded to specific question of the demo participants and interested congress visitors.

Around 20 demo vehicles, among them a truck and two motorcycles, were on their way around Vienna during the week of the ITS World Congress.

Report about the EU/US Harmonisation Show Case   *by Lutz-Peter Breyer and Tim Leinmüller, Denso*

The purpose of the European Union and United States Cooperative Vehicle Showcase was to demonstrate how harmonised standards (wireless frequency band, protocol and message sets) between the EU and US can benefit connected vehicle applications and use cases for the automotive industry. To illustrate the achievements of the harmonisation activities, the showcase featured a single application, EEBL (emergency electronic brake light), that could run on EU protocols and US protocols.

DENSO implemented the corresponding specification compliant message sets, communication protocols, and the EEBL (emergency electronic brake light) application on the DENSO wireless safety unit (WSU). The harmonisation of key message elements enables the EEBL application to operate with both message sets and communication protocols. In addition, DENSO developed a visualisation tool (called "Sniffer") to show the "over-the-air" (OTA) messages that are exchanged.

The WSUs were integrated in two vehicles, one EU vehicle (BMW 3series station wagon) and one US vehicle (Ford F150). **The figure alongside illustrates the showcase setup in Vienna.**

The BMW was placed in front of the Ford. In-between both vehicles, there was a small desk that hosted the "sniffer". The WSUs in both vehicles were transmitting regular CAMs/ BSMs (Cooperative Awareness Messages/ Basic Safety Messages). The WSU in the BMW was connected to the vehicle CAN (controller area network) to be able to trigger the EEBL application by pushing the brake pedal like in a real world emergency braking situation (i.e. a certain minimum amount of force had to be applied, just "touching" the brake pedal did not trigger the application). The WSU in the Ford was connected to the screen above the vehicle to make the DVI (driver vehicle interface) easily visible to the audience. Once the unit in the ford received the EEBL notification from the BMW, the corresponding icon was shown on the Ford DVI. The "sniffer" in-between the vehicles visualised OTA messages originating from both vehicles. Messages containing EEBL notifications were highlighted in red. **The following screenshots from the "sniffer" show the US mode OTA visualisation with and without EEBL.**

The detailed demonstration sequence diagram is shown in the following figure.
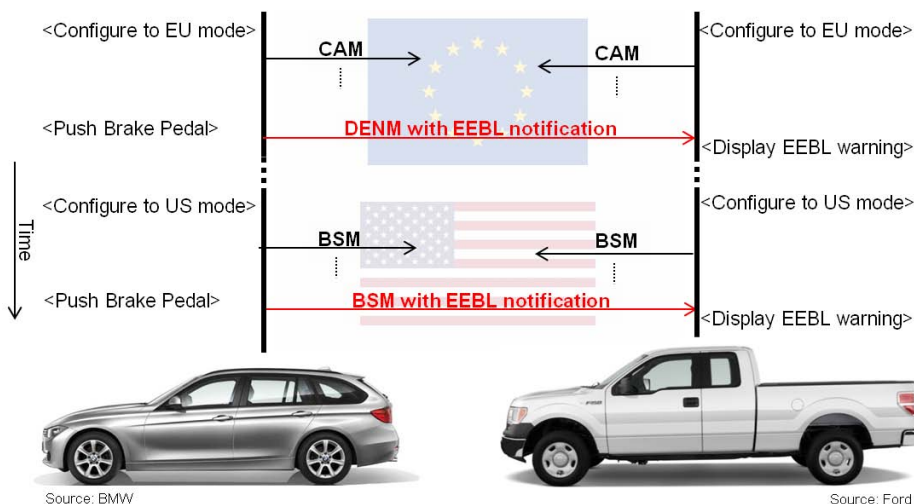
- **CAM:** Cooperative Awareness Message (EU)
- **DENM:** Decentralised Environmental Notification Message (EU)
- **BSM:** Basic Safety Message (US)
- **CAMP:** Crash Avoidance Metrics Partnership (US)

The feedback from the audience was very positive. After detailed explanation of the showcase, most attendees understood it. Several questions were asked to clarify the purpose of harmonisation, i.e. to understand that the goal is not to develop a single universal standard, but to align different standards to enable similar applications. Another question that was asked several times was "What's next?". Based on the experience gathered during the implementation for and preparation of the showcase, the answer is straight forward: Focussing on aligning solutions for remaining issues without touching what has already been solved. Remaining issues includes security, congestion management / avoidance, definition of infrastructure use cases and deployment.

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Amsterdam Group: Umbrella Organisations signed Letter of Intent
by Sonja Eickmann, C2C-CC

Within the year 2012, the so called Amsterdam Group has acquired renown in the international C-ITS community. High-level decision makers refer to this informal group in which the CAR 2 CAR Communication Consortium, ASECAP (Association of operators of toll road infrastructures), CEDR (Conference of European Directors of Roads) and POLIS (European Cities and Regions Networking for Innovative Transport Solutions) are working together. This is due to the important contribution which the four umbrella organisations perform to the preparation of the implementation of cooperative Intelligent Transport Systems and Services on European roads: The Amsterdam Group leads as example for the urgently needed collaboration

Paul van der Kroon (CEDR), Suzanne Hoadley (POLIS), Søren Hess (CAR 2 CAR Communication Consortium) and Marko Jandrisits (ASECAP, f. l.) signed the Letter of Intent on behalf of the four umbrella organisations.

between different stakeholders of C-ITS. The four partners representing the automotive industry, road operators, cities and transport authorities have now signed a so called Letter of Intent to signalise their intention to work in close collaboration for a harmonised early roll-out of cooperative systems in Europe.

With the Letter of Intent, the four parties agree on jointly developing an implementation and deployment plan for cooperative systems. They set an example for finding a solution for the chicken-and-egg problem: All stakeholders along the value chain of C-ITS – the automotive and infrastructure industry and their suppliers, road operators and transport authorities – have to invest coincidently in the implementation of cooperative systems and services, the equipment of vehicles and road infrastructure and the organisational processes with operation and potential regulation. The experience of the benefits of C-ITS in enhanced traffic safety and sustainability as well as driving comfort by the end user is the key factor to achieve the highest possible penetration rate of equipped vehicles on European roads – again increasing the advantages of C-ITS, the roll-out of additional C-ITS services and therefore the overall customer value. The concerned parties therefore have to work hand in hand for acquiring a harmonised deployment of C-ITS: Vehicles set up by cooperative systems and equipped infrastructure rely on each other to support safety and traffic efficiency applications and further services.

Within the Amsterdam Group, twelve task forces have been identified to develop proposals for a joint deployment plan and find solutions for the main outstanding tasks for a harmonised C-ITS implementation: These are 1. Roles and Responsibilities, 2. Roll-out Plan, 3. Hot Spot Areas/ Regions, 4. Applied Standards, 5. Day One Applications, 6. Investment Planning, 7.

Business Models, 8. Stakeholder Cooperation, 9. Deployment Roadmap, 10. Data and Services, 11. Information Management and 12. Legal Issues. As an overall guideline, the Amsterdam Group members have identified a set of Day One use cases to be served in the first deployment phase – similar to the Memorandum of Understanding signed by the partners within the CAR 2 CAR Communication Consortium, also the Amsterdam Group envisages a phased deployment approach accounting for the obligatory need of improvements with growing operational experience. Examples of these safety and traffic efficiency use cases are hazardous location warning, traffic jam ahead warning, road works warning, green light optimised speed advisory. Further information about the Amsterdam Group are now also available online under www.amsterdamgroup.eu.

8th VCSS Workshop: Facing similar questions and jointly finding answers by Sonja Eickmann, C2C-CC

Similar to the past years, the CAR 2 CAR Communication Consortium supported the International Workshop on Vehicle Communications for Safety and Sustainability (VCSS). This yearly event is organised by the European supportive action COMeSafety2 and traditionally linked to the ITS World Congress. The 8th Workshop therefore took place in Vienna on 27th October. With over 110 participants from 17 different countries, COMeSafety2 succeeded again in establishing an international expert platform to discuss coordination and harmonisation activities preparing the area-covering deployment of cooperative Intelligent Transport Systems and Services in different regions of the world.

The international EU-US-JP programme committee had also invited CAR 2 CAR Communication Consortium's members to contribute to the discussion on harmonisation and standardisation demands as panelists. In five thematic sessions, experts from the automotive and infrastructure industry, road operators and authorities reported their impression of the progress in international harmonisation of C-ITS reached so far. Many of them referred to the success story of harmonising the American BSM1 and the European CAM message sets (see related article about EU/US harmonisation showcase in this Newsletter on page 7). Additionally they reflected the experiences with research and pilot deployment of C-ITS in different international regions and the outstanding tasks and challenges region-wide deployment brings along. All panelists as well as the very involved audience agreed that even if each region pursues an individual roll-out plan for C-ITS deployment, all stakeholders are faced with similar questions and uncertainties. International cooperation can help to commonly find answers to these questions and to let all parties learn from each other's experiences.

Differences in the roll-out plans concern for example the deployment approaches in the EU and the US: While deployment in Europe is driven by the automotive industry and relies on a voluntary basis, the US envisages a mandatory system and therefore a top-down approach. Also the use cases served at Day One will be different: The US focuses on crash avoidance applications hardly tangible by the end user. The safety and efficiency applications in Europe are much wider defined and cover also information services the end user experiences in everyday traffic.

As the goal of the workshop, COMeSafety2 targeted at identifying and adhering a list of action items mentioned by the panelists as outstanding harmonisation and standardisation tasks to prepare the deployment of C-ITS in near future. As such, the panelists named for example to come to a stable, non-complex system for Day One deployment and to leave further improvements for later deployment phases. This phased approach has been subject of the Memorandum of Understanding the vehicle manufacturers organised in the CAR 2 CAR Communication Consortium are currently signing (see related article on page 2 in this newsletter). Harmonisation is in the meantime an ongoing task to be taken serious by all stakeholders. Unconditionally, answers to the questions if regulation is needed and which organisation or institution should take care for it have to be found. Solving security and privacy issues and communicating them to the end users appropriately is an important task to enhance consumer's trust in cooperative systems. This can also be supported by a certification process. Overall regulation, security and privacy as well as certification have not only a technical, but also an organisational character which has to be taken into account and will be altered with growing operational experience. In this process, also the roles and responsibilities along the whole value chain of C-ITS will be subject to changes and should be permanently observed and redefined if necessary. An executive summary of the workshop is available on the COMeSafety2 homepage (http://www.comesafety2.org/index.php?id=204).

COMeSafety2 welcomed more than 110 participants at the 8th International Workshop for Vehicle Communications in Vienna.

Refi-Tugrul Güner (Kapsch), Taka Sugiura (Mitsubishi Research Institute), Markus Bauer (BMW), Sue Bai (Honda) and Mike Shulman (Ford) (f. l.) identified main building blocks and outstanding issues for deployment.

Søren Hess moderated the workhop.

Takashi Nishio (MLIT), Bernd Datler (Asfinag), Frans op de Beek (Rijkswaterstaat), Teodor Buburuzan (Volkswagen) and Ray Resendes (US DOT) (f. l.) discussing deployment scenarios for cooperative ITS.