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### Editorial

by Niels Peter Skov Andersen, General Manager C2C-CC

*I am excited to join the CAR 2 CAR Communication Consortium at a point in time where vehicle-to-vehicle communication and vehicle-to-infrastructure communication no longer just is technology in a research laboratory or a science fiction movie, but something in the process of being deployed.*

*I am impressed with the possibilities the technology offers, to improve the driving experience, reduce the congestion and not at least improve the road safety.*

*Having a 25 years background in standardisation and the mobile communication industry and thus been a part of the industry when analogue mobile systems, GSM, 3G and LTE went from specification to operational systems, it is clear to me that deployment of cooperative Intelligent Transport Systems and Services is a task that requires the outmost focus of all the involved parties.*

*A focus that requires that the industry keeps its eyes on a common goal and accepts that at Day One only a subset of all the potential functions will be implemented. A phased approach in a first phase focusing on the underlying technology platform and some specific services and functions have in the past shown to be very successful when establishing other new systems, e.g. GSM. Even though this requires a willingness from all the involved parties to compromise on their wishes for the first phase, I believe it is the fastest way to get to an operational well-functioning system that can serve as a base for the implementation of yet more services.*

*As you can read in this newsletter it is not only in Europe where we are moving towards deployment of vehicle-to-vehicle and vehicle-to-infra-*



The new General Manager of the CAR 2 CAR Communication Consortium: Niels Peter Skov Andersen.



structure communication. The strong interest in this in other parts of the world combined with the global nature of the business clearly calls for a collaboration across the different regions of the world, to keep systems as common as possible to keep costs down. A lowering of the cost of the

systems will help accelerating the deployment of the infrastructure and the penetration in the car population.

## A Big Thank you and Farewell

by Soeren Hess

During the past six to seven years, the CAR 2 CAR Communication Consortium took some strong initiatives to develop C-ITS towards deployment. The C2C-CC organisation has changed from a research organisation to deployment preparation with leaders and experts from development and safety departments within the OEMs and the global suppliers.

As many of you I was lucky enough to be part of the developments within the C2C-CC, ETSI TC ITS, EU-US-JP task force and ACEA.



Says Goodbye and Thank you to all Consortium Members: Soeren Hess.



On behalf of the C2C Steering Committee, Harald Berninger (L.) thanked Soeren Hess for his strong engagement for years.

Together we have achieved a lot:

- European Commission spectrum regulation for the 5.9 GHz band
- A set of communication and security standards has been developed and published by ETSI TC ITS in accordance with the Mandate M/453. We asked for this Mandate and we have achieved a set of standards for Day One deployment.
- A standards profiling document with triggering conditions and security requirements is finalised
- Solutions achieved within all the C2C-CC working groups towards Day One deployment
- A security framework for V2V and V2I
- Close cooperation within the Amsterdam Group with the infrastructure organisations from CEDR, ASECAP and POLIS leading to the first corridor and city initiatives for C-ITS deployment in Europe
- Close cooperation with the US CAMP/VIIC and Japan in deployment preparation and harmonisation of standards such as CAM and BSM
- COMeSafety2 achievements – ITS world congresses – global networks – coordination and harmonisation activities
- ACEA and C2C-CC representation within the European Commission activities including the ITS Committee/Advisory Group towards European deployment of C-ITS
- At the last CAR 2 CAR Forum meeting in München we were more than 200 C2C-CC members discussing deployment of C-ITS and maybe most important the MoU between OEMs and suppliers within the C2C-CC with a strong focus on deployment of C-ITS from 2015.

As you know it is time for me to retire in order to take care of my family including my seven grand kids. The last seven to eight years have been fantastic for me and I would like to thank you all for excellent cooperation, for all the results we achieved together and for the good friendship we had. I am sure that with Niels Andersen as General Manager and continued support from Sonja Eickmann and Karl-Oskar Proskawetz the C2C-CC will be one of the most important world leaders in the C-ITS deployment.

Thank you and farewell to all of you.

Søren Hess

## CONVERGE International Workshop: Interim results presented

by Sonja Eickmann, C2C-CC

At the half time of the project duration, the members of CONVERGE can deliver a positive summary: Towards the goal of acquiring a hybrid communication architecture for a seamless and efficient stream of information on transport scene, important steps have been undertaken. The research project CONVERGE – the acronym stands for COmmunication Network VEHICLE Road Global Extension – is led by the Hochschule für Technik und Wissenschaft des Saarlandes. It is scheduled for three years and funded by the German Federal Government.

On 14<sup>th</sup> February, the project partners invited to an international workshop in Berlin to present and discuss interim results with 120 participants and expert speakers from policy, economy, administrations and industry.



The work done on a hybrid communication architecture with mobile and wireless communications being at the same time open for future technologies has as well been displayed as future applications like wrong way driver warning. All presentations held at the workshop together with manifold information material are published on the CONVERGE website [www.converge-online.de](http://www.converge-online.de).

**Hyundai Motor Company**

*Type of Member: Partner of the CAR 2 CAR-CC*

*Type of Business: One of the internationally leading vehicle manufacturers based in South Korea, producing passenger cars and commercial vehicles. The Hyundai Motor Company comprises together with Kia Motors the Hyundai Motor Group being the 5<sup>th</sup> largest automaker in 2012.*

**IAV GmbH Ingenieurgesellschaft Auto und Verkehr**

*Type of Member: Associate Member*

*Type of Business: One of the international leading partners for automotive engineering, supplying production-ready solutions in powertrain, electronics and vehicle development.*

**ROHDE & SCHWARZ GmbH & Co.KG**

*Type of Member: Associate Member*

*Type of Business: Rohde & Schwarz is a leading test equipment vendor with proven global testing expertise in the fields of cellular communications, wireless connectivity, EMC, navigation and multimedia test, radar and automotive bus test.*

**Visteon Corporation**

*Type of Member: Associate Member*

*Type of Business: Visteon Corporation is a leading supplier of automotive cockpit electronics that delivers innovative in-vehicle user experiences through solutions in user interfaces, connectivity and open architectures.*

**dSPACE GmbH**

*Type of Member: Associate Member*

*Type of Business: Provides a complete and integrated environment for developing and testing embedded control software. Active in standardization bodies, e.g. AUTOSAR, ADASIS, ASAM, and Open Alliance.*



## 200 experts at the CAR 2 CAR Forum 2013 in Munich

by Sonja Eickmann, C2C-CC

The 7<sup>th</sup> CAR 2 CAR Forum held in Munich on 19 and 20 November 2013 was the best attended event in the series of the yearly meetings of the Consortium's active and basic members: The host MAN Trucks & Bus AG could welcome almost 200 attendees in the MAN Truck Forum. As every year, the CAR 2 CAR Forum was arranged as plenary sessions and workshops. It additionally comprised as usual an accompanying exhibition, the general assembly, and a framework programme with a factory tour for non-active members as well as an evening event. The possibility to exhibit projects and products to a professional audience attracted over-average awareness by member companies: 20 exhibitors filled the lounge in the MAN Truck Forum with their booths.

From the host MAN Truck & Bus AG, Eberhard Hipp, Vice President Central Division Research, welcomed the participants and introduced his company's approach to bring cooperative ITS into the heavy vehicle classes of trucks and busses. Hipp outlined safety, efficiency, consistent traffic flows and cooperative behaviour as aspects of C-ITS and MAN's implementation strategies based on examples. As efficiency is one of the most dominant factors for customers, causing 29.2 per cent of ownership, truck-to-truck communication, coupling trucks in platooning and a phased traffic light assistance like focused in the project URBAN are approaches to reduce fuel consumption and CO<sub>2</sub>-emissions, increasing traffic safety and traffic flow. Regarding especially the needs of truck drivers, active headroom warning via I2V communication can avoid traffic disturbance and infrastructure or truck damages. Cooperative driving could make other traffic participants aware of for example planned driving manoeuvres of heavy trucks they cannot perceive immediately.

On behalf of the CAR 2 CAR Communication Consortium, Soeren Hess in his tried and tested way moderated the sessions and welcomed the participants with a short summary of the main C2C-CC activities in 2013. Following the MoU signed by the vehicle manufacturers in 2012, the deployment departments of the OEMs become more and more active in the Consortium and as new OEM members Ford and Hyundai have joined. The ETSI stand-

ards for Day One deployment in the framework of Mandate M/453 have been finalised and the C2C-CC task forces concentrate on open issues like standards profiling, compliance assessment, security and privacy. The collaboration in the Amsterdam Group together with POLIS, ASECAP and CEDR was even intensified and results in deployment activities like the corridor of the Netherlands, Germany and Austria as well as the city pilots in COMPASS4D. The C2C-CC furthermore takes part in the EU-US-Japan cooperation. Overall the Consortium is seen as one of the leading stakeholders in deployment of C-ITS.

The first plenary session was set aside for enlightening the political framework of cooperative ITS. It was embellished by Maria Alfayate from European Commission DG Move and Juhani Jaaskelainen from EC, the latter reporting about the tri-lateral cooperation for deployment and harmonisation between the EU, US and Japan (find more information on page 9 in this newsletter). Mike Shulman introduced the deployment cooperation between CAMP/VIIC and the C2C-CC and Richard Bishop gave a presentation on behalf of Carl Andersen, FHWA Connected Vehicle Program Manager of the U.S. DOT Research and Innovative Technology Administration, on the reference architecture and the political framework for improving safety, mobility and efficiency of surface transportation by V2I communication. With the deployment of cooperative systems coming closer to reality, the entities of global cooperation strengthen their work. They aim at ensuring interoperability of systems and applications by harmonising standards for V2V and V2I communications if necessary, comparing research tools, methods and results, exchanging ideas for institutionalising certification and test procedures. Even if the strategies for implementation are different – e. g. a voluntary, industrial driven approach for the deployment of C-ITS in the EU compared to a possible mandated top-down approach in the US (more information to be found on page 7 in this newsletter) – all involved regions share the vision of supporting mobility, enhancing traffic safety and reducing the environmental impact of traffic and transport with assistance of cooperative systems.



With about 200 active and basic members, the CAR 2 CAR Forum 2013 in Munich has been the best attended since the initialisation of yearly Consortium meetings in 2007.



In the second plenary session, concrete examples of 'real deployment' in Europe have been presented. These are the transnational C-ITS corridor from the Netherlands, Germany and Austria (presented by Christine Lotz from BAST), the activities of the Amsterdam Group in infrastructure deployment (presented by Marko Jandrisits, ASFINAG), and the French Pilot Scoop@F (presented by Alain Servel, PSA).

The purposes of conceivably opening the 5.9 GHz spectrum, so far reserved for safety relevant V2V and V2I communications, for secondary users in 802.11p has been one of the dominant discussions in the C-ITS community during 2013. Therefore the third plenary session of the first meeting day was set aside to comment on the related future decision processes of FCC and the EU. Mike Shulman (CAMP/VIIC), Paul Spanderman (TNO), Friedbert Berens (FBC) and Andrew Turley (NXP) debated the possible spectrum sharing and the related risks of unlicensed devices operating in that band, possibly interfering safety relevant communication processes in terms of delay or omissions. So far the decisions are not yet taken, but opening the band would have to be linked to the condition that no harmful interference should occur. To ensure this, testing and identification of worst-case conditions are urgently needed. The C2C-CC was encouraged to become active to protect the reserved ITS spectrum as counterpart to the large WiFi lobby.

The C2C-CC-working groups used the second Forum's day to inform the C2C-CC members about their current activities and to discuss the results in establishing the basic system profile with respect to communication, applications and security. For introduction, the results of the large-scaled field

operational test sim<sup>TD</sup> were presented by Achim Brakemeier (Daimler) and Thomas Biehle informed about the identified open issues and next steps towards deployment of cooperative ITS. Hossein Zakizadeh (Volvo) and Teresina Herb (BAST) laid a special focus on compliance assessment to ensure well-working, interoperable systems for market introduction.

Afterwards the task group members had a close look at the various aspects of the basic system profile starting with the communication parameters wireless performance, test procedures, channel models, geo-networking, decentralised congestion control and multi-channel operation. The different message formats and the related enabled applications were topic of the second workshop considering SPaT/MAP, Probe Traffic Data, In-Vehicle Information, Positioning and Timing as well as Triggering Conditions and Test Procedures/Compliance Assessment.

As last topic, security aspects relevant for the basic system profile were inspected. The C2C-CC Pilot PKI is in operation and available for C2C-CC members since July 2013 and currently twelve companies have registered for usage (see more details on page 6 in this newsletter). So far it became obvious that the integration into established IT and production systems is challenging and that deployment depends on contractual relations and business models.

All presentations shown at the CAR 2 CAR Forum 2013 together with a picture gallery of the sessions, the exhibition and the evening event can be found on the CAR 2 CAR Website after log-in.



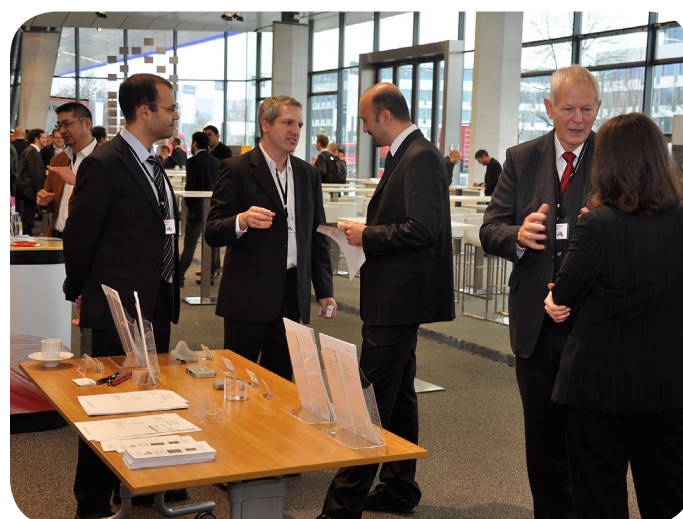
General Manager Soeren Hess (r.) and Eberhard Hipp from MAN Trucks & Bus AG.



The C2C-CC Working Groups used the second meeting day to report the latest activities in respect to the basic system profile and other deployment preparing tasks.



The accompanying events with a factory tour and an evening reception where used for intensive networking.



20 exhibitors, among them active as well as basic members, used the opportunity to present products and projects in the MAN Truck Forum.



## Introducing the Special Vehicle Task Force

by Florian Weinert, Volkswagen AG

In May 2013, main German car-manufactures met to found the Special Vehicle Task Force. The members AUDI, BMW, DAIMLER, FORD, OPEL and VW came together to discuss tasks and possibilities for deploying Car2Car equipped emergency vehicles for Day One in Germany. By founding this Task Force the industry has the opportunity to solve common problems in regulation and standardisation in a joint way. This is important for contacting authorities and collecting requirements of these authorities. Knowing these requirements is the first step to design products and also the standard in accordance with the requirements. The common standardisation process is also necessary to achieve the goal of the coordinated deployment of emergency vehicle for Day One.

The Task Force therefore works on coordinated changes and also promotion of the CiA447 (CAN in Automation) specification to make it ready for Car2Car. At the moment, only the German market is interesting, so the activities are concentrated on the German market, too. Here it is important to fetch all traffic stakeholders. The next activities in spring 2014 are a presentation of the topic at the German "Verkehrsexpertentag 2014" and a presentation and demonstration of the Car2Car applications "emergency vehicle warning" and "road works warning" in cooperation with German BAST (Federal Road Research Institute) for the purchaser of emergency vehicles of the German federal states.

## Half a year of Pilot PKI – A Summary and Outlook

by Daniel Estor, ESCRYPT, on behalf of the WG Security

During the past months, the Pilot PKI has been an important factor in gaining deeper understanding of the security infrastructure for V2X communication and supporting its users in their development processes for Day One deployment. Already before the successful start in July 2013, there was big interest in the Pilot PKI, which was reflected by the number of initial registrations and is confirmed by the still growing number of users. It is pleasing that there is a wide range of active users including OEMs and suppliers as well as research projects and institutes. Currently, 12 user accounts are active and about 1000 ITS stations have been registered. Based on these registrations, about 900 long-term certificates and more than 3000 pseudonym certificates were issued.

A first and really important result of the ongoing operation of the Pilot PKI is the successful proof that the PKI concepts developed in WG Security and the message formats for communication with the PKI also work in an actual implementation. On the occasion of identifying previously uncovered issues, the existing specifications are enhanced and improved. This did not only consider technical aspects but also organisational and policy questions such as regional restrictions and special permissions in certificates, which have been addressed in the Certificate Policy distributed along with the Pilot PKI package. For example, the Pilot PKI was successfully used to generate certificates for the ETSI security plug test 2013. Within this activity, several updates of the security standards have been identified to be necessary. A continuous update of the Pilot PKI implementation ensures full compatibility with relevant standards.

For its users, the Pilot PKI offers the possibility to directly work with the PKI implementation and thus helps to improve their understanding of the V2X PKI. Especially members that have not extensively dealt with PKI topics so far get a quick start to the PKI by the ready-to-use interfaces and the provided documentation including relevant policies. The experience that was made so far is very helpful for the further evolution of the PKI and all users are warmly welcomed to continue providing feedback about their experience with the Pilot PKI. With this respect, the Pilot PKI makes it possible to shift the focus from conceptual technical research towards planning the integration and realisation of a future productive PKI along with rather practical questions. One of these questions is how to integrate the C2X PKI into existing IT infrastructures and production systems, which is by far not a trivial task. In the same way, the development of policies and guidelines for the operation of the future productive PKI is challenging.

In the next months, the Pilot PKI will gradually be opened to selected external users. Since this allows for ITS stations of different projects and of different stakeholders using certificates that are issued by entities of the same PKI, this will also support efforts regarding interoperability of V2X communication-related activities in Europe, at least from a security perspective.

In conclusion, the Pilot PKI is successfully running and ready to take further users to drive the development towards Day One.

## Profiling Document Version One concluded

by Teodor Buburuzan, Volkswagen AG, on behalf of the WG Profiling

On the eve of the CAR 2 CAR Forum 2012, the Ad-Hoc Working Group Profile was formed, and almost one year later the first version of the Day One Profile Document was made available to all consortium's members. The main scope of the Profile Document, and a necessary step towards deployment, is to provide a basic system specification for the Day One deployment as seen by the C2C-CC.

The initial focus of the working group was to identify the absolutely necessary documents required for ensuring system interoperability between the various OEMs, a task extensively supported throughout 2013 by the other C2C-CC working groups. Out of around 200 potentially relevant standards, a number of 14 ETSI and ISO documents were selected as essential for the Day One deployment of C2C-CC applications. In addition to these standards, three existing C2C-CC White Papers are also referenced inside the Day One system specification. For filling in the missing gaps inside the system specification, two additional C2C-CC White Papers were initiated

by the Profile working group for addressing issues like "De-Centralised Congestion Control" and "Positioning and Timing". Their input was then enhanced with a set of requirements for covering the behavior of the Day One basic system, and later extended to include advanced security and privacy requirements.

After four face-to-face meetings, ten web-meetings and more than 200 comments, change and feature requests, the version 1.0 of the document was concluded on the 13<sup>th</sup> of December 2013. The document as a whole was along the way refined, extended and improved by other working groups of the consortium, the end result summing up the work performed in the last years inside the C2C-CC.

Building on top of this Basic System Profile document, a number of additional features is currently under development, especially for supporting the infrastructure-based ITS-services discussed inside the Amsterdam Group, like "In-Vehicle Information" and "Road Works Warning".





**V2X Moving Towards Deployment in the United States**  
**Based Upon a NHTSA Decision to Mandate V2V on New Vehicles**

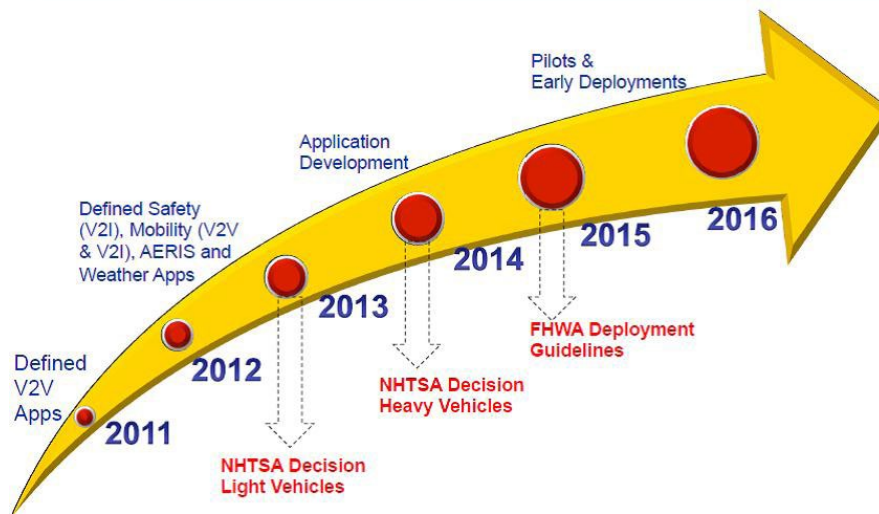
by Dr. Michael Shulman, Ford Motor Company

As in Europe, the United States support the ITS Safety, Mobility & Environment vision for a network of smart cars, smart roads, smart public transportation systems, smart parking, etc. to address current and future mobility concerns. We recognize the need for an integrated system that uses real-time data to optimise personal mobility. We believe in a global network of interconnected transportation and mobility solutions. As Bill Ford, my company's executive chairman recently stated, our goal is a system of connected vehicles and connected travelers.

In 2011, 5.3 million vehicle crashes in the United States resulted in more than 2.2 million injuries and over 32,000 fatalities. The U.S. Department of Transportation estimates that over 90 per cent of vehicle crashes are due to driver error and that Vehicle-to-Vehicle technology (V2V), if widely deployed, could provide warnings to drivers in as many as 76 per cent of potential multi-vehicle collisions, with the level of benefit depending on the extent of deployment and the effectiveness of V2V warnings in eliciting appropriate driver responses. NHTSA announced on February 3, 2014 that they are proceeding down a path to mandate V2V on new vehicles, with a decision for heavy vehicles due later this year. Aftermarket devices may also be included in the US deployment strategy to fit onto existing vehicles.

The US V2V concept is that each equipped vehicle would broadcast a "Basic Safety Message", or BSM, to every other equipped vehicle ten times per second over a secure channel using Dedicated Short-Range Communication (DSRC, or 802.11p or ETSI G5). DSRC has a range of more than 250 metres and provides 360° coverage. The BSM is similar to the CAM/DENM messages used in Europe. The BSM contains information regarding the ve-

**Moving Towards Deployment**



U.S. Department of Transportation  
 Research and Innovative Technology Administration

hicle state (position, speed, acceleration, etc.), path history and path prediction. Then, if two equipped vehicles are on a trajectory that could lead to a crash, each vehicle would be aware of the other and provide a warning to their driver. We believe that V2V would enhance existing obstacle detection-based driver assistance systems and would allow new features not possible with existing obstacle detection-based driver assistance systems, including control features with redundant on-board sensing.

The OEMs and the US Department of Transportation have been working together on V2V since 2002. CAMP is a consortium of OEMs that is working on V2V technical issues and includes Ford, GM, Honda, Hyundai-Kia, Mercedes, Nissan, Toyota and VW/Audi. VIIC is a consortium that includes the CAMP members and also BMW and Chrysler that works on related pol-

**V2V Model Deployment Safety Applications**

OEM/Applications	Ford	GM	Honda	Mercedes	Toyota	Hyundai-Kia	Nissan	VW-Audi
EEBL	X	X	X	X	X			X
FCW	X	X	X	X		X	X	X
BSW / LCW	X	X	X	X	X	X	X (BSW)	
DNPW	X	X	X					
IMA	X	X	X	X	X			X
LTA							X	

EEBL: Emergency Electronic Brake Lights  
 FCW: Forward Collision Warning  
 BSW/LCW: Blind Spot Warning/Lane Change Warning

DNPW: Do Not Pass Warning  
 IMA: Intersection Movement Assist  
 LTA: Left Turn Assist





icy issues. CAMP projects include interoperability issues such as congestion management, V2V Driver Clinics and Model Deployment, and V2V security. The Model Deployment was a one-year real-world test of V2V with almost 3000 vehicles, including passenger vehicles, commercial trucks, buses and motorcycles. The warning-only applications in the Model Deployment based on the BSM are shown in the second figure.

The NHTSA rule for V2V on light vehicles may include several elements: requirements on transmitting the BSM (including congestion management), requirements for certain V2V applications and also requirements related to security. A security system must be available that would allow devices receiving messages to confirm that the message came from a certified device and is unchanged from transmission to reception. This is achieved by attaching security certificates to each message, issued by a trusted certificate authority, and by cryptographically signing each message. Further, since this would be a mandated system, the security system must find a balance between security and privacy, to minimise tracking of vehicles from outsiders and from the organisation providing the security credentials. The policy issues associated with the required security organization, such as governance and funding, are still being explored. Similar

technical and policy issues for connected vehicle security are being explored in Europe.

As seen in the first figure, the US strategy is to expand V2V to include Vehicle-to-Infrastructure (V2I) safety, mobility, sustainability and automation applications, and include pedestrians, motorcycles, etc. A NHTSA mandate breaks the "hen and egg" problem between vehicles and infrastructure for a cooperative system. As well as completing the required technical work to support the V2V mandate, work is underway at CAMP on V2I safety, mobility, and environmental applications. This work will support the FHWA Infrastructure Guidance due in 2015, to ensure that there is a nationally consistent connected vehicle infrastructure and will provide our customers of V2V equipped vehicles with Day One benefits. As seen in the figure, field trials and early deployments are scheduled to begin in the US in 2015.

There is active cooperation between CAMP/VIIC and the CAR 2 CAR Communication Consortium to support common hardware and to facilitate the deployment of applications developed in one region to another region. The US-based OEMs are working with our counterparts at C2C to develop together the system of connected vehicles and connected travelers.

### ITS interoperability event helps make roads safer –

by ETSI, ERTICO and CETECOM

### Intelligent Transport System standards tested for innovative safety critical car-to-car communication



From 25 to 29 November 2013, ETSI and ERTICO – ITS Europe, in collaboration with CETECOM as the event host, organised the 3<sup>rd</sup> Plugtests™ event on Cooperative Mobility Services. All participating companies from the automotive sector strived for the same common goal: ensure a successful rollout of the technology starting in 2015, as announced by the CAR 2 CAR Communication Consortium. Therefore, they tested the interoperability of the individual solutions based on several test benches set up by the hosts. For example, they ran tests to assess their compliance with the latest standards developed by the ETSI ITS technical committee.

A basic set of ETSI ITS Release One standards has been developed and was tested during the event. These standards enable the development of V-to-X communication applications to reduce accidents and provide, for example, intersection collision or wrong-way driving warning messages and other road safety related warnings.

Other interoperability tests during this event covered ITS security and privacy standards. Security experts ensured that implementations met reliability and data protection requirements. To evaluate the radio capabilities of prototype ITS devices, radio regulatory and performance measurements were run and these confirmed the feasibility of ITS in the 5 GHz frequency band.

The event also included a workshop on Future Perspectives of Car-to-X Communication, gathering experts from both public and private organisations specialising in ITS technologies and implementations.

The first keynote presentation was given by the former chairman of the CAR 2 CAR Communication Consortium, Sören Hess. Other high-level speakers such as Adrian Scrase (ETSI CTO), Hermann Meyer (ERTICO CEO), Carsten Ahrens (G&D) and Helmut an de Meulen (Materna) complemented the very successful workshop.

CETECOM with its long term experiences in testing and certification combines both telecommunications and automotive expertise. Therefore CETECOM provides expertise for connected car and Car-to-X environment and already offers today testing and consulting services e.g. for ETSI ITS technologies in their ISO/IEC 17025 accredited laboratories.

Being a member of numerous specialist bodies, CETECOM is also actively involved in the development and standardisation of global specifications for future technologies. CETECOM supports relevant bodies such as ETSI and the CAR 2 CAR Communication Consortium in the development of certification programs to establish a future proof technology which will be used in the next generation of cars.



The Plugtest™ event allows vehicle manufacturers and their suppliers to let their solutions for cooperative Intelligent Transport Systems and Services be tested in respect to interoperability and existing standards.





## 9<sup>th</sup> Workshop on Vehicle Communications for Safety and Sustainability

by Sonja Eickmann, C2C-CC

One of the last activities of the supportive action COMeSafety2 (see article on page 10 in this newsletter) has been the organisation of the 9<sup>th</sup> Workshop on Vehicle Communications for Safety and Sustainability in Tokyo, Japan. Subsequent to the ITS World Congress, almost 80 workshop participants from 13 different countries (Japan, United States, Germany, Australia, Belgium, Spain, Norway, France, Denmark, Korea, China, Netherlands and Sweden) could be welcomed by COMeSafety2 members, the international EU-US-Japan programme committee and the host Mitsubishi Research Institute. In the five workshop sessions on the status of the US-EU-JP Cooperation, roadmaps to deployment, coordination of technical deployment activities, security and privacy as well as certification and testing, the representatives from road authorities, operators, the automotive industry, suppliers, standardisation organisations and service vendors from all over the world jointly reviewed and discussed the findings and progress of the COMeSafety2 work packages and the harmonisation task groups.

Most important attributes of the discussion have been:

- **Japan has already started operating V2I communication and gains experience with 1.600 road side units and 150.000 running systems in the field.** This is seen as an important progress towards automated driving systems. Japan meanwhile engages as co-equal third partner in the international harmonisation activities what is very much appreciated by the EU and US. The roadmap for deployment in Japan is shaped by three steps: 1. deployment of I2V started in 2013 with applications like signal recognition enhancement, rear-end collision prevention, stop sign recognition enhancement etc., 2. in parallel for V2V applications a transition from a FOT to a pilot takes place and the deployment is planned for 2016 and 3. for completion P2V applications are considered with FOT and pilot starting in 2014 and ending in 2017 with deployment.
- **The harmonisation task groups widen their focus from communication systems and underlying technologies to services and a standardised platform these services can be developed on.** Harmonisation ensuring interoperability does not mean making systems equal, but coordinating and harmonising where necessary (commonisation). There

has to be a suitable progress of developing well thought-through standards and at the same time meet the stakeholder's schedules for early deployment.

- **The Amsterdam Group, the Corridor Project of the Netherlands, Germany and Austria, the French pilot project Scoop@F and the city pilot COMPASS4D are part of the European roadmap to deployment and other regions are interested in a closer cooperation.**
- **The US awaits the decision of the National Highway Traffic Safety Administration (NHTSA) about mandating the implementation of cooperative systems in a top-down approach.** Compared to the bottom-up, voluntary approach in the EU driven by the automotive industry, it requires different solutions for security and privacy. Learning from each other's experiences is one of the main benefits of the international cooperation. The different approaches also require conceptual distinction between compliance assessment pertaining for the voluntary approach in the EU and certification describing an authorised process regulated by law. Apart from these questions of definitions, test procedures conducted in different regions have to be valid for the respective other ones.
- **Concerning spectrum availability, the framework conditions differ considerably between Japan and the EU and US.** In Japan the 760 MHz band is available for V2V, V2I and I2V applications while in the EU and the US, the 5.9 GHz band has been allocated several years ago. In Europe 760 MHz is sold to the mobile industry and therefore not utilisable for vehicle and infrastructure communications, even less as 5.9 GHz is like in the US not used too much and justifying the need for further spectrum would be difficult.



## 9<sup>th</sup> International Workshop on Vehicle Communications

19 October 2013, Tokyo, Japan

## Announcements

by Sonja Eickmann, C2C-CC

Under the title 'ITS in your pocket', the 10<sup>th</sup> ITS European Congress taking place from 16 to 19 June 2014 in Helsinki, Finland closely looks at proven solutions driving user services in the field of Intelligent Transport Systems. The European Commission and ERTICO ITS Europe invite the international ITS community to one of the largest topic-related events with participation of high-level decision makers, thought leaders, researchers and technologists. They expect about 1.000 delegates in Congress sessions, 100 exhibiting companies from more than 40 countries on an exhibition space of about 5.000 square meters, and about 1.800 expert visitors.

As Intelligent Transport Systems have left the status of research and their deployment comes even closer to reality, evolving personalised and easily usable user services will be considered in more than 100 plenary, executive, technical, scientific and special interest sessions. While the Call for Papers and session proposals has already been closed after a very good commitment, a traffic application development contest linked to the ITS European Congress has been opened. It provides an occasion for individuals, teams and companies to present new ideas or even ready products or services, to expose and let them be evaluated by ITS experts, and to achieve visibility in the community.

Applications submitted as idea and concept or as finalised product and services shall provide solutions to improve transport safety, efficiency and sustainability, make transport systems more comfortable and serve the needs of end-users.

For more information about the congress, visit: <http://www.itsineurope.com/its10/>. Details about the App development contest can be found on: <http://www.itsinyourpocket.com/>.





## Announcements

by Sonja Eickmann, C2C-CC

From 7<sup>th</sup> to 11<sup>th</sup> September 2014, ITS experts, policy makers, technological and business professionals from all around the world will meet at the 21<sup>st</sup> ITS World Congress in Detroit, Michigan. Its superordinated topic is reinventing transportation in our connected world, herewith it focuses at policy strategy, deployment, integrated transportation systems, vehicle and driver systems, management, public transportation, new technologies, and transformative trends in transportation.

More than 10.000 visitors from 65 different countries are expected to participate in more than 250 sessions and visit the exhibition of 350.000 square meters.

Follow up the well-known ITS Showcases of the ITS Congresses hosted in America, also the 2014 event will allow the attendees to touch and feel the latest individual technologies and processing integration of Intelligent Transport Systems. The Showcase will encompass a number of static and dynamic demonstrations which invite participants to see how the industry is reinventing transportation in the connected world.

The congress additionally features the annual meeting of ITS America.

More information can be found under <http://itsworldcongress.org/>.



## Supportive Action COMeSafety2 ends – Satisfying Progress in Standardisation and Harmonisation

by Sonja Eickmann, C2C-CC

During the last seven years, COMeSafety has acquired renown as one of the European Commission's supportive actions approaching the preparation of cooperative system's deployment in Europe. In two stages – COMeSafety with a duration from 2006 to 2009 and COMeSafety2 from 2011 to 2013, the project aimed at supporting the frequency allocation for vehicle-to-vehicle and vehicle-to-infrastructure communication processes, at summarising and comparing approaches, methodologies and results of research projects and field operational tests conducted in different regions of the world, at supporting the standardisation in the framework of Mandate M/453 and the harmonisation of standards in cooperation of the EU, US and Japan. With these objectives and tasks, COMeSafety worked close-linked to the CAR 2 CAR Communication Consortium, especially in terms of taking part in international harmonisation activities.

With end of the year 2013, the second stage of COMeSafety2 has almost finalised its work and comes to the results of a satisfying progress in standardisation and harmonisation for deployment of C-ITS for road safety and traffic efficiency in Europe. Related documents enlightening international FOT synergies and non-technical deployment issues, identifying main research findings and open gaps, documenting the work of the EU-US co-operation, and contributing to standardisation and deployment prepara-



tion can be found on the COMeSafety2 website. Highlights have been the yearly-organised Vehicle Communications Workshops for Safety and Sustainability, fair appearances and show cases at the Intertraffic in Amsterdam, Netherlands, the ITS World Congress in Vienna, Austria and the International Automotive Show in Frankfurt, Germany, and the contributions of project members to international conferences like the ITS European and World Congresses.

Members of the previous projects are now looking for an opportunity to establish a follow-up project in the calls for Horizon2020.



One of the last main activities of COMeSafety2 has been the presentation of cooperative systems at the International Automotive Show in Frankfurt. Together with representatives of the partner project DRIVE C2X, COMeSafety2-members used a show case to demonstrate benefits of C-ITS to the public.

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