CAR 2 CAR
COMMUNICATION CONSORTIUM

Editorial
by Niels Peter Skov Andersen, General Manager C2C-CC

In this 17th Issue

One year has passed since the last CAR 2 CAR Forum in Mainz and we are now getting ready for the coming CAR 2 CAR Forum at the British Motor Museum in Gaydon, UK hosted by Jaguar Land Rover. In the preparation of this year's CAR 2 CAR Forum it is usual for me to look back and see what has happened in the previous year and what are our expectations to the year to come. Last year we noted that in general the technology now was ready for deployment, but there were still a lot of practical questions to be answered and solved. These included regulatory and policy issues. During last year's C-ITS Deployment Platform setup by the European Commission, the advantages of having this deployment platform is obvious although we had not realised the extent to which we would benefit from the C-ITS Deployment Platform.

Members of the CAR 2 CAR Communication Consortium have worked closely with the rest of the industry and thus put significant resources into the C-ITS Deployment Platform to ensure that it will be successful. A report for the first phase of the platform was delivered in January 2016 with a number of key recommendations. From the point of view of the CAR 2 CAR Communication, the suggestions have generally covered the issues we cared about. Of course they were not all 100 % in line with our preferences, but "C" in C-ITS stands for cooperative, so we have to listen to the other stakeholders in the cooperation and accept some compromises. However, all in all this first phase of the C-ITS Deployment Platform was successful and we are now a step closer to the deployment of the technology.

A second phase of the C-ITS Deployment Platform was launched in spring this year, again our key items such as security framework, compliance assessment and privacy were put on the agenda. Actually the work on the security framework had never stopped as the work on the next phase already began a few days after the publishing of the phase 1 report. One of the reasons to this quick restart of work on security was because the CAR 2 CAR Communication Consortium had indicated this as being on the

critical time part for deployment. We would have liked to see a more rapid progression of other issues such as privacy however a new European privacy regulation was underway. Thus it made little sense to accelerate this process.

As I am writing this the European Commission has announced that they would like to extend the work of the C-ITS Deployment Platform by 2 years in addition to the original 2 years. From the Consortium I think we can only welcome that the European Commission keeps the platform alive as the forum to discuss and agree the way forward for C-ITS which allows all parties to move towards a common base for their investment in deployment.

Of course our involvement in the C-ITS Deployment Platform has not come for free – it have been draining resource from other activities, so let me use this opportunity to encourage all members to ask themselves not only what can the Consortium do for you but also what can we do for the Consortium. The need for the short range communication does not stop with the Day One warning type services but is just the first step towards automated driving and the necessity for cooperation between automated cars. It is important that we do not forget these next steps in our eagerness to get what we already have developed and deployed, so once again I will encourage all members to step up their contributions to the work of the Consortium.

Speaking about those previous years, it is unavoidable to mention the strong focus in the media on 5G and its role in the future. This has caused a lot of questions regarding competition from 5G to the IEEE 802.11p based short range communication. As you can see from the Consortium's statement on ITS G5 (802.11p) in this newsletter, this is actually not a competition between short range communication and cellular as both will have a role in the future. It is more likely to be a question of how they serve for different purposes and thus complement each other. Therefore,

the intense promotion of 5G by the telecommunication industry does not change our continuous focus of getting ITS G5 (IEEE 802.11p) deployed.

One commonality between many of today's communication systems is the importance of radio spectrum - something we need to implement the Day One services successfully. As we move to the next phase, more communication will be required and thus more radio spectrum. Unfortunately, the same appears to be the case for the cellular networks, the WiFi networks and the railways' communication systems. In general radio spectrum is a limited resource and the allocation of radio frequencies is agreed internationally to ensure interoperability at borders and across borders. ITU-R has put spectrum of ITS on the agenda for the World Radio Conference in 2019. It might seem to be too early to initiate this step but already this year work on a European position to this and other agenda point has started. The CAR 2 CAR Communication Consortium needs to be a part of this work in order to ensure we do not lose the battle for radio spectrum to cellular, WiFi or others. This new work has added significant workload to our work on communication in general and especially to our work on radio spectrum as we already have significant work in relation to potential sharing of spectrum with WiFi, railway communication and other co-existence studies. Even though this drains our resources I will still underline the importance of this work, as without access to sufficient radio spectrum it will be impossible to deploy the services and application we have developed and are developing for the future.

In this newsletter and at the upcoming CAR 2 CAR Forum you can learn a lot more about ongoing activities. But do not forget that background activities, as described above, with the aim of enabling deployment indicates a significant workload to us. Therefore, we need all members to actively contribute to all of our activities.
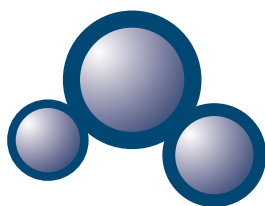
Niels Peter Skov Andersen,
General Manager of the CAR 2 CAR Communication Consortium

CONSORTIUM NEWS

10 Jubilee of the CAR 2 CAR Forum at British Motor Museum, 26 and 27 October 2016
by Sonja Eickmann, CAR 2 CAR Communication Consortium

10th
CAR 2 CAR Forum

26 and 27 October 2016
British Motor Museum, Gaydon

The annual conference of the CAR 2 CAR Communication Consortium will take place in Gaydon, England this year. On 26th and 27th October 2016, all active and basic consortium members will meet at the British Motor Museum to jointly take stock on the achievements of the CAR 2 CAR working groups and the latest development in the ITS sector, related projects and organisations. Jaguar Land Rover will be the host of the CAR 2 CAR Forum.

The registration for the CAR 2 CAR Forum is proceeding smoothly; over 140 participants have registered to attend the conference in Gaydon. The exhibition co-organised by the CAR 2 CAR member companies and institutions is fully booked. 16 companies, which are also our CAR 2 CAR members are going to take this opportunity to present their concepts, products and pro-

jects in the field of V2X communication to the expert audience in the accompanying exhibition.

The conference details are completely defined. The CAR 2 CAR is starting on 26th October. As usual, political and strategic C-ITS framework is fully

integrated into the conference. The second plenary session will then focus on the progress towards initial C-ITS deployment, jointly arranged by CAR 2 CAR members and guest speakers from initial deployment activities. The third plenary session prospects to the future of C-ITS innovation and the preparation of deployment beyond Day One. The final plenary session goes an additional step with declaring how C-ITS in a long term vision facilitate automated driving functions.

According to the tradition for the first Forum day, the active CAR 2 CAR members will hold their General Assembly in the afternoon. Meanwhile the Basic Members and invited guests can visit the British Motor Museum (formerly known as Heritage Motor Centre). Home to the largest collection of motor vehicles in the world, the forum participants can explore the collection of over 250 classic cars on display. Afterwards, all Forum participants will then have chance to join our evening event in the stunning rooftop Kestrel Suite of the British Motor Museum. The Kestrel Suite is further complemented by its own private bar.

On the second conference day, four workshops will be given by the CAR 2 CAR Working Groups. The workshops will give a summary of the most important activities and work items processed since the last CAR 2 CAR Forum. The first workshop is set aside for security main topics; the second workshop will focus mainly on the C2C deployment status. After the afternoon break, the workshop continues to deliver information on the future applications of V2V-Communication. Furthermore, the fourth workshop will highlight subjects concerning wireless performance and spectrum issues.

Registration for the CAR 2 CAR Forum is mandatory. The online registration form can be found together with the agenda, hotel and travel recommendations on the CAR 2 CAR Forum Website (only visible after log-in).

New CAR 2 CAR Members

by Sonja Eickmann, CAR 2 CAR Communication Consortium

Hochschule Niederrhein

Type of Member: Development Member of the C2C-CC

Type of Business: The Hochschule Niederrhein - University of Applied Science is represented in the C2C-CC by the Faculty of Electrical Engineering and Computer Science. With long-term experience in providing applied scientific services, the institute drives research, development and innovation among others in the field of car 2 car and car 2 infrastructure communication, e.g. by developing methods for evaluating the performance of antenna systems or radio channels.

Integrity Security Services

Type of Member: Associate Member of the C2C-CC

Type of Business: "INTEGRITY Security Services (ISS), a Green Hills Software company, delivers end-to-end solutions for developing secure embedded devices in automotive and all safety critical industries. ISS supports OEMs with cryptographic platform to protect data and reliability, reinforced by large scale enterprise security solutions for code signing, key injection, and V2X certificate generation."

Kawasaki Motors Europe

Type of Member: Partner of the C2C-CC

Type of Business: Kawasaki is one of the leading manufacturers of motorcycles, off-road bikes, all-terrain vehicles, utility vehicles and JetSkis. Through advanced engineering, Kawasaki pursues new technologies in the creation of high-performance engines and for ensuring the reliability and safety of their consumer products. The Kawasaki technology features undergo exhaustive testing in order to fulfil strict quality standards.

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New CAR 2 CAR Members

by Sonja Eickmann, CAR 2 CAR Communication Consortium

Qualcomm

Type of Member: Associate Member of the C2C-CC

Type of Business: Qualcomm is an US-American multinational semiconductor and telecommunications equipment company that designs and markets wireless telecommunications products and services. Qualcomm supports the automotive industry with research and innovation on telematics and infotainment for the connected and smart vehicle.

IRT SystemX

Type of Member: Development Member of the C2C-CC

Type of Business: SystemX is one of eight technological research institutes established by the government to support innovation in France. As interdisciplinary institute, SystemX has a diverse expertise in innovations through digital technologies, among others in systems engineering and autonomous transport. SystemX is involved in various research projects at international level.

Toyota ITC

Type of Member: Partner of the C2C-CC

Type of Business: Toyota Motor Corporation is committed to realizing the ultimate goal of making a vehicle that is safe for everybody. This can be achieved by bringing together modern sensing and communication technologies. Toyota launched ITS Connect with other stakeholders in Japan, the first cooperative ITS service in the world. Toyota InfoTechnology Center performs research in various ICT fields, including vehicular communication. on behalf of Toyota. Toyota ITC-US, based in Mountain View, California, actively represents Toyota in a number of international ITS efforts, including the Car2Car Communications Consortium, ETSI TC ITS, and US-based organizations (SAE, IEEE, CAMP).

Valeo

Type of Member: Associate Member of the C2C-CC

Type of Business: Valeo is an automotive supplier which supports vehicle manufacturers worldwide with innovative components, integrated systems and modules that contribute to the reduction of CO_2-emissions and to the development of intuitive driving. Valeo operates in 30 countries with productions sites, distribution platforms as well as research and development centres.

Deployment of V2X services based on ITS-G5
Statement by the CAR 2 CAR Communication Consortium

In the light of recent developments in the project landscape for automated driving, the CAR 2 CAR Communication Consortium seeks to deploy wireless Vehicle-to-Vehicle (V2V) and Vehicle-to-Infrastructure (V2I) communication based on the ITS-G5 standard (IEEE 802.11p). The vehicle manufacturers unabatedly see ITS-G5 as essential cornerstone towards safe connected automated driving, and strongly support the recommendation developed by the European Commission's C-ITS Deployment Platform to use this system for short range communication in the 5.9 GHz band. The CAR 2 CAR Communication Consortiums continues to support the European Commission in bringing C-ITS into the market.

Recently, promotion activities for new pre-deployment project on automated driving have caused inquires if ITS-G5 is still be a preferred technology for realising cooperative Intelligent Transport Systems and Services (C-ITS). With the present statement, the CAR 2 CAR Communication Consortium members reassert that they build their C-ITS deployment plans on the European and US market standards ETSI ITS-G5 and IEEE 802.11p, respectively. No changes are made to the agreement of jointly bringing C-ITS into the European market.

This alignment is founded on important ITS-G5 features in comparison with other communication technologies, such as locally self-organising ad-hoc networks, free data transmission and robustness. With these features, the cooperative ITS-G5 system is well designed for safety-related applications. At the same time, the dedication to C-ITS services makes it independent of other third party commercial decisions of whether or not to implement communication networks. The CAR 2 CAR Communication Consortium strongly supports the recommendations established in the C-ITS Deployment Platform. In the final report published in January 2016, the Platform's Working Group 6 Technical Issues – Hybrid Communications and Spectrum Allocation states that "for short range communications in the 5.9 GHz band, initially the communication system to be used is IEEE802.11p/ETSI ITS-G5" (C-ITS Deployment Platform Final Report p. 103).

IEEE 802.11p provides a technology basis for V2X (summarising V2V as well as V2I) communication services not only in the European, but also in US market, which allows the manufacturers to benefit from the economies of scale. At the same time, the Consortium acknowledges that for wide area communication, other types of communication networks provide other advantages, and that ITS-G5 can be supplemented with communication from cellular systems and broadcast systems (TMC/DAB+).

Since its foundation in 2002, the CAR 2 CAR Communication Consortium focused its work on establishing European standards for short range communication between vehicles and traffic infrastructure. The allocation of the 5.9 GHz band for these purposes has mainly been driven by the Consortium. Its members have initiated and supported numerous research projects as well as large scale field operational tests on national and European level. As a result of this, ITS-G5 has proven to be ready for enabling short-range communication. Now that the systems enter into the deployment phase, the Consortium is working closely together with infrastructure deployment initiatives such as the Cooperative ITS Corridor to ensure a seamless market introduction of V2I communication. As infrastructure deployment initiatives will be growing in number, the Consortium commits to keep this collaboration in place.

In line with this, the CAR 2 CAR Communication Consortium will continue to support the initiative of the European Commission's policy efforts to support market developments and deployment of V2X. In discussion with international stakeholders, the Consortium addresses open issues for the earliest possible production and deployment of Vehicle-to-X communication systems based on ITS-G5.

Enhancing road safety and traffic efficiency by means of Cooperative Intelligent Transport Systems and Services (C-ITS) – is the dedicated goal of the CAR 2 CAR Communication Consortium. The industrial driven, non-commercial association was founded in 2002 by vehicle manufacturers affiliated with the idea of cooperative road traffic with Vehicle-to-Vehicle Communications (V2V) supported by Vehicle-to-Infrastructure Communications (V2I). Today, the Consortium comprises 80 members, with 17 vehicle manufacturers, 39 equipment suppliers and 30 research organisations.

Over the years, the CAR 2 CAR Communication Consortium has evolved to be one of the key players in preparing the initial deployment of C-ITS in Europe and the subsequent innovation phases. CAR 2 CAR members focus on wireless V2V communication applications based on ITS-G5 and concentrate all efforts on creating standards to ensure the interoperability of cooperative systems, spanning all vehicle classes across borders and brands. As a key contributor, the CAR 2 CAR Communication Consortium works in close cooperation with the European and international standardisation organisations such as ETSI and CEN.

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WORKING GROUP NEWS

Workflow and Reporting of the Working Groups

by Dr. Karl-Oskar Proskawetz, CAR 2 CAR Communication Consortium

Harmonising the workflow management of the Working Groups within the CAR 2 CAR Communication Consortium and changing the reporting to the Technical Committee enables improved overview and monitoring of the current work activities. Beside Technical Committee and Steering Committee also all active members profit from the improved transparent workflow and reporting process.

Keeping track of the developments within the C2C-CC Working Groups became increasingly challenging while changing to the two track organisation for handling Day One deployment issues and for defining and preparing the phases beyond Day One and while splitting Working Groups into more specialised sub-groups for enabling enhanced concurrent working.

During the second quarter of this year the reporting of the Working Groups to the Technical Committee was revised. The Working Groups were requested to define Work Items outlining the scope of work to be done with related timelines, milestones and aimed outcome and/or documents. The list of all defined Work Items together with the Work Item descriptions give a good overview about the work ongoing and planned in the consortium. This information is shared with all active C2C-CC members in the Work Items sub-folder of the technical Working Groups in the Collaboration Area. Furthermore the reporting of the Working Groups to the Technical Committee has been changed referring to the Work Items of the Working Groups and their sub-groups which already proved its worth during the last meetings of the Technical Committee.

The development or enhancement of input or position papers as well as specification and profile documents might be part of the outlined Work Items of the Working Groups. All official C2C-CC documents and documents considered to be shared with Basic Members and third parties are subject of the already established change and release management processes. For complying with the cooperate identity of the CAR 2 CAR Communication Consortium, all documents which are considered for release have to be established in a coherent template. The rapporteur has to choose the file name in agreement with the Car-2-Car Release Manager, who is responsible for defining the unique file names and for their administration. On request of the rapporteur the Car-2-Car Release Manager might apply the transparent change management process for finalising the document and improving its quality. In any case the Car-2-Car Release Manager has to apply the release management process to the document for ensuring its technical and publication readiness. All recommended document releases have to be confirmed by the Technical Committee for becoming effective. Sharing of C2C-CC documents with third parties generally requires the prior release of the Technical Committee and the acceptance of the Steering Committee. The revised processes of the document management have been established in between allowing reasonable processing time in future.

Update for the Pilot PKI

by Sebastian Mauthofer (Fraunhofer SIT), Daniel Estor (escrypt)

The Pilot PKI now supports the latest certificate formats according to ETSI TS 103 097

In April 2016, after running reliably for three years, ESCRYPT and Fraunhofer SIT have updated the Pilot PKI. With this update, the PKI underwent its first major change by adapting the certificate formats to the latest version of ETSI TS 103 097. With the update to version 1.2.1, the Pilot PKI remains an important tool for gaining deeper understanding of the security infrastructure for V2X communication and supporting its evolvement. Interested C2C-CC members can register for the PKI usage by filling out the registration form available on the C2C-CC website (https://www.car-2-car.org/index.php?id=237) after logging in. Beside the necessary APIs and documentation for own client implementations, a client tool with graphical user interface is provided to allow a simple entry into the world of V2X security.

Beyond the implementation of algorithms for parsing and generating certificates in the new format, the main challenges of the update were related to organisational topics. As the Pilot PKI is operated by ESCRYPT and Fraunhofer SIT, it was necessary to perform and coordinate the update simultaneously at different operation environments. Furthermore, new certificates had to be issued and installed on all involved Certificate Authorities (CA). This also provided the chance for the users to investigate the process of updating CA certificates, in particular an update of the Root CA certificate, the trust anchor of the V2X security system. The common trust anchor allows testing of devices and vehicles across multiple companies, for example in the context of research projects and operational field tests.

With the successful update, the Pilot PKI contributes another step to shift the focus from conceptual technical research towards planning the integration and realisation of a future productive PKI along with rather practical questions. New updates that could further broaden the range of applications (and therefore possible users) are currently under discussion. Thus, the Pilot PKI keeps on moving the development of the security infrastructure forward both in the technical and in the organisational context.

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Sub WG Powered Two Wheeler (PTW)

by Hennes Fischer, Yamaha Motor Europe N.V.

The Sub WG Powered Two Wheeler (PTW) was initiated last year by the three motorcycle manufacturers BMW Motorrad, Honda and Yamaha to address the specific issues related to motorcycles. The Group has started with a first meeting in February 2016. In the meantime two more motorcycle manufacturers have joined C2C-CC and are actively involved in the group: KTW Sportmotorcycle AG from Mattighofen in Austria and Kawasaki Motor Europe N.V. based in Netherlands.

Due to different vehicle dynamics, powered two wheelers are somewhat of a challenge for certain ITS applications. Leaning in curves and different trajectories compared to cars may result in different setting of applications. The group will pinpoint these differences and indicate if consequences are seen for car applications.

The group will concentrate on the following issues first:

- CAM/DENM check up
- Triggering Condition Day 1 check up
- PTW antenna performance definition of testing procedures

CAM/DENM

This message format was mainly designed with cars in mind. However certain elements in these messages cannot be delivered by motorcycles. The group is securitising the data and has already pinpointed elements, such as curvature information or steering angle, just to name a few, which cannot be filled by Powered Two Wheeler currently.

As a first step the group is discussing countermeasures, such as 'corrected' information or simply empty data fields which with reference to 'PTW - not able to fill'.

As a second step an in C2C-CC procedure needs to be established to inform the other members of such findings and ultimately head towards a future adoption in a second generation of messages which include motorcycle specificities initiated through C2C-CC towards ETSI.

Triggering conditions

Like CAM & DENM messages, triggering conditions for Day 1 applications also focus on cars and certain data fields cannot be filled by motorcycles. The PTW group is working on a list of these triggering conditions which are critical to motorcycles and will report these. The group will further make proposals how to handle these issues.

PTW antenna performance

Motorcycles have no roof like cars and an antenna therefore needs to be placed somewhere around the motorcycles minimal bodywork. The rider has a significant influence on the antenna performance due to shielding effects. The group is currently investigating test methods and requirements for PTW tailored antenna testing. Some synergies with dual antenna solutions for cars might help to accelerate the process.
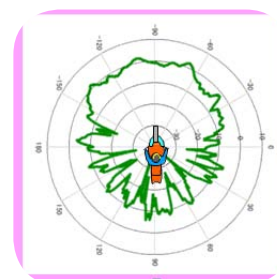
The picture illustrates the shielding effect of the rider when the antenna is placed in front of the motorcycle and shows how different antenna patterns are compared to cars. And the group will investigate the practical antenna performance for PTW in parallel.

Next topics to address

The PTW group will also address the GNSS localisation accuracy, which is not sufficient for PTWs and will examine current and future solutions to increase accuracy and evaluate them for feasibility on PTW.

Motorcycle Approaching Indication (MAI) as next topic

The Motorcycle Approach Indication (MAI) as day 1.5 application is on the agenda as next issue as well. This 'beacon' solution needs to be discussed with the car OEMs as relevant for VRU protection (PTW are classified as Vulnerable Road User (VRU)). The PTW group will make proposals how this feature could work bearing in mind, that i.e. different surroundings like urban or countryside lanes will have different requirements, since different penetration of PTWs.

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PROJECT ENVIRONMENT

C-Roads – Harmonisation of C-ITS deployments across Europe
by Steve Schneider, ITS Automotive Nord

Harmonisation of C-ITS deployments across Europe

On the 4th October 2016 the C-ROADS platform was kicked-off, bringing together authorities and road operators covering eleven Member States (Austria, Belgium, Czech Republic, Finland, France, Germany, Hungary, Italy, Netherlands, Slovenia, UK) to harmonise the deployment activities of cooperative intelligent transport systems (C-ITS) across Europe.

The C-ROADS platform is co-funded through the 2015 call of the Connecting Europe Facility (CEF) but is an open platform. Therefore representatives from all ongoing C-ITS deployment activities have been welcomed at the kick-off meeting. Current initiatives already liberate 150 m€ in deployment-investments in C-ITS, still to be complemented by the 2016 CEF call, which has the potential to bring another 130 m€.

The aim of C-ROADS is to develop harmonised specifications taking the EU-C-ITS platform recommendations into account, linking all C-ITS deployments and planning intensive cross-testing. The C-ROADS platform is making cross-border C-ITS services a reality today and building the foundations for connected and automated vehicles. This work is key for making European roads safer for citizens, traffic more efficient and reducing harmful emissions from transport. This will also benefit European economy as a whole as it needs a safe, reliable and efficient transport system.

Further information about the C-ROADS project can be found soon on the website www.c-roads.eu.

C-Roads Germany

Being a part of Intelligent Transport Systems, cooperative ITS (C-ITS or co-operative systems) encompass a group of technologies and applications that allow effective data exchange through wireless communication technologies between components and actors of the transport system, very often between vehicles (vehicle-to-vehicle or V2V) or between vehicles and infrastructure (vehicle-to-infrastructure or V2I). The deployment of C-ITS is an evolutionary process and faces many important issues still unresolved, such as legal, organisational, administrative, governing aspects, technical and standardisation issues as well as implementation and procurement issues.

C-Roads Germany as part of the C-Roads platform will develop and experiment innovative road C-ITS solutions located at two pilot sites. The Hessian pilot will introduce the following four new C-ITS services and will extend two already existing services accompanied by the necessary infrastructure deployment on the Hessian motorway network.

- Slow or stationary vehicle ahead warning
- Traffic jam ahead warning
- Shockwave Damping
- Green Light Optimal Speed Advisory (GLOSA)

The Lower Saxony C-ITS pilot activities will focus on the preparation of C-ITS deployment on the North Sea-Baltic and Orient/East-Med corridor (motorway A2) and introduces the following three C-ITS services onsite.

- Slow or stationary vehicle ahead warning
- In-vehicle information / In-vehicle signage
- Probe vehicle data

C-Roads Germany will setup a suitable project organisation structure that will ensure the proper execution of the C-Roads Germany Action itself including not only the piloting of the different C-ITS services in Hessian and in Lower Saxony but also harmonization, evaluation and dissemination activities on national level and within the framework of the envisaged C-Roads platform activities.

Based on these activities a German wide deployment of C-ITS will be prepared, by identifying best practices for procurement processes and stakeholder structures for C-ITS operating in order to recommend on policy making and legal issues. A national technical harmonization plan will be drafted which will document, continue and enhance previous harmonization activities on a national level. Furthermore, the C-Roads-Platform results will be included.

It is expected to have a substantial impact on the network safety and efficiency resulting in increased awareness of the government and industry decision makers of the benefits of C-ITS. This will likely lead to increased deployment of C-ITS throughout the German national networks, resulting better minimum service coverage of the total European transport network, including urban and rural roads. Hence, the impact of the corridor actions is expected to have a major snowball effect on the network scale.

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MAVEN - Enhancing intelligent urban road transport network and cooperative systems for highly automated vehicles

by Michel Rondinone

Introduction to the MAVEN project

MAVEN (Managing Automated Vehicles Enhances Network) was launched on 01-09-2016. This 3-year project, under the Horizon 2020 Research and Innovation Framework Programme of the European Commission (Grant Agreement No. 690727), has nine partners with a total budget of EUR 3,149,661.25.

The project aims to provide solutions for managing automated vehicles in an urban envi-ronment (with signalised intersections and mixed traf-fic). It will develop algorithms for or-ganising the flow of infrastructure-assisted automated vehicles, and structuring the negotiation processes between vehicles and the infrastructure. Platooning is an evident exam-

ple of a technology in this domain. The MAVEN approach will substantial-ly contribute to increasing traffic efficiency, improving utilisation of in-frastructure capacity, and reducing emission. The MAVEN project will build a prototype system that will be used both for field tests and for extensive modelling for impact assessment. Furthermore, the project will contribute to the development of enabling technologies, such as telecommunication standards and high-precision maps.

The project will include a user assessment effort. A roadmap for the intro-duction of road transport automation will be developed, to support road authorities in understanding potential future changes in their role and in the tasks of traffic management. A white paper on "management of au-tomated vehicles in a smart city environment" will position the MAVEN re-sults in the broader perspective of transport in smart cities, and embed these with the principles and technologies for smart cities, as well as ser-vice delivery. The project held its kick-off meeting on 20-21 September 2016 at POLIS in Brussels and hosts a stakeholder consultation work-shop at the 15th of November in Barcelona. More information about the workshop and the registration form can be found here.
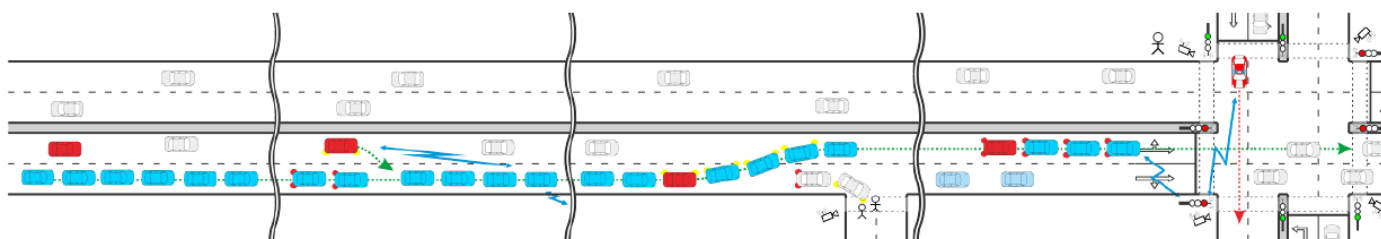
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ANNOUNCEMENTS

Save the date

Workshop for city authorities on C-ITS and automated vehicles, Barcelona, 14-15 November 2016

The draft agenda of the workshops is now available. The focus of the first day workshop will be on C-ITS and cities (CIMEC-CODECS Joint City Pool Workshop). The importance of C-ITS in supporting city policies will be discussed. On the following day, the workshop highlights the development of automated vehicles and urban traffic management. Both workshops are designed to address the needs of city authorities.

12th ITS European Congress, Strasbourg, France, 19-22 June 2017

In 2017, the ITS European Congress will take place in Strasbourg at the newly renovated Strasbourg Convention and Exhibition Centre. With the theme "ITS Beyond Borders" the 12th ITS European Congress will focus on 5 main topics including mobility services, ITS for freight and logistics, ITS and the environment, network operation and certainly highly automated driving.

23rd ITS World Congress, Copenhagen, Denmark, 17-21 September 2018

In 2018 the ITS World Congress returns in Europe, in Copenhagen, Denmark from 17 to 21 September. The Congress will take place at the Bella Centre under the theme "ITS – Quality of Life" and it will enhance the following themes: Cross-border ITS solutions, co-modality Space technology, freight and logistics, automation and intelligent Green Mobility. More than 10.000 attendees are expected to join the world's largest event in intelligent transport systems and services.

For your information

2016 CEF Transport calls have been officially launched

The 2016 CEF Transport calls have been officially launched on INEA's website and are now available on the following link:

https://ec.europa.eu/inea/connecting-europe-facility/cef-transport/apply-funding/2016-cef-transport-calls-proposals.

The call-specific helpdesk (INEA-CEF-Transport-calls@ec.europa.eu) is also operational for any questions that you may have as regards the calls.

Please also note that the **Info Day** for the calls is planned for **25 October**. More info and registrations are available on the following link: http://ec.europa.eu/inea/en/news-events/events/2016-cef-transport-info-day.

(~Julia Kremer, Project Officer – C3 CEF Transport)