



D5.4: Report on cooperation with other H2020 projects (especially ART projects) and on stakeholder engagement process

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1 Introduction

Stakeholder outreach and engagement has been a core activity of CoEXist. It has been pursued by all partners throughout the project. A substantial part of the outreach activity has been undertaken in cooperation with other programmes and projects. Indeed, CoEXist has been proactive in building synergies with other initiatives for several reasons. Firstly, to join forces in reaching out to specific target groups, especially city authorities which have little capacity to engage separately with each and every project. Secondly, to take advantage of the capacity and outreach potential of large programmes, such as CIVITAS. Finally, to share methodologies and findings to ensure projects learn and build on each other.

This deliverable describes the main stakeholder groups that have been specifically targeted by CoEXist and the activities undertaken in collaboration programmes and projects.

Chapter 2 describes how partners have engaged with the different types of stakeholders, namely, city authorities, the automotive sector, national road authorities and the research community.

Chapter 3 describes the projects and programmes that CoEXist has collaborated with. These include the CIVITAS programme, several CAV projects funded by H2020 among others, the COST action WISEACT project and several US DoT projects through the EU-US twinning programme.

2 CoEXist engagement by stakeholder group

2.1 City/regional authorities

A key target group for CoEXist is city and regional transport authorities, since these are the bodies who are responsible for transport planning. They make use of a variety of tools, especially modelling tools, to aid them in this process. Outreach and engagement with public authorities has been a constant activity throughout the project. This has been carried out primarily by two CoEXist partners who have well-established public authority networks, namely, Polis and Rupprecht Consult.

Besides taking advantage of its own communication channels (online news and social media) to engage with this target group, Polis has sought a more interactive conversation with public authorities through the organisation of a dedicated workshop focusing on AV issues that are relevant for cities, such as planning and traffic management. Polis hosted a workshop coorganised by the CoEXist, Inframix and TransAid projects in Brussels in 2017, whose audience was primarily public authorities. Section 3.3.1 provides more details about this.

The main channel that Rupprecht Consult has exploited for reaching out to city authorities has been the European programme CIVITAS which is a vast community promoting sustainable transport. There have been many CoEXist events organised in the context of CIVITAS, including workshops, conference sessions, presentations and webinars. These are described in more detail in sections 3.1 and 3.2.

2.2 Automotive sector

Several CoEXist partners have reached out to the automotive sector.

Reflecting its diverse automotive membership, **ID4CAR**'s engagement strategy has been equally broad. The French OEMs that are members of ID4CAR have been on the frontline for receiving the results of all ID4CAR projects. Renault and PSA Group are part of the ID4CAR governing structure and have been regularly and directly informed about COEXIST results. As for international OEMs, the key OEMs at international level have been associated into a group for direct exchanges and dialogue.



Besides the manufacturers, several other automotive sectors have been targeted by ID4CAR:

- Tier One companies are extremely active in developing technologies and products to be used in automated vehicles. In particular those companies building connectivity for vehicles and infrastructure. Faurecia, Valeo and Magnetti Marelli (vice-president of ID4CAR) have been involved.
- The shuttles and buses sector is partnering with ID4CAR in several large-scale AV deployment projects in Europe and at international level. NAVYA and EASYMILE are informed about CoEXist outcomes and will exploit them in present and future projects.

- The robotics sector is also a target group as the autonomous modules are nearing deployment on streets, mainly for goods delivery. Their presence will interact with other vehicles and AVs and therefore companies such as Kuka and Twinswheel have been the target of outreach.

ID4CAR used several tools for reaching out to its target groups:

- Networking and events: a CoEXist session was held during the ID4CAR annual conference and in events co-organised such as the INOUT mobility conference in Rennes and Electric Road in Nantes. International sector events were also utilised including the one organised by Business France and the “Plateforme Française de l’Automobile”.
- In addition, direct contacts by phone were established to a more direct dialogue with target groups, especially to identify in which activities the COEXIST outcomes could be used.

FEHRL has also liaised with the automotive industry through the European Road Transport Advisory Council. In addition to the numerous informal discussions within ERTRAC working groups, FEHRL presented regularly the progress of CoEXist to the ERTRAC Automated Vehicles WG. FEHRL was invited to present CoEXist and other CAV projects at the EU CAD Symposium to be held at TRA 2020. This Symposium has been rescheduled as an online webinar on 15 May 2020.

VTI has held regular meetings with Volvo sharing and presentation simulation modelling approaches and results.

2.3 National road authorities

FEHRL has liaised regularly with the owners and operators of road infrastructures. FEHRL has presented the CoEXist results twice a year since the beginning of the project to its 35 members (1/3 of FEHRL members are national road authorities/NRAs). FEHRL has also had informal meetings with NRAs during the World PIARC Conference in 2019. This has enabled creating awareness among policy makers and operators about the positive effects as well as the challenges related to the deployment of CAVs. This has also enabled feedback on the CoEXist research perspectives to be gathered.

2.4 Research community

VTI has enabled collaboration between CoEXist and the Swedish National project SMART, which is being implemented by VTI, Linköpings university and KTH (Royal Institute of Technology) on the traffic modelling of automated vehicles. The SMART project includes two PhD students: one on the topic of microscopic traffic simulation of automated vehicles and one on the topic of shared automated vehicles as a part of the public transport system. The developments within the CoEXist project have also been shared within the reference group for the SMART project, which include both academia, consultants, national and urban road administrations and the automotive industry. Information sharing and discussions on potential collaboration on microscopic traffic simulation of mixed conventional and automated vehicles has also been undertaken with TU Delft.

3 Project/programme cooperation activities

3.1 Civitas Forum conferences

The European programme for cleaner and better transport CIVITAS (<https://civitas.eu/>) has offered an important channel for CoEXist to interact with city transport practitioners, professionals and researchers. Led by the project coordinator, Rupprecht Consult, CoEXist has run sessions and workshops at the last three CIVITAS Forum conferences.

3.1.1 CIVITAS Forum 2017, 27-29 September 2017, Torres Vedras, Portugal

CoEXist led a session where its activities and approach were presented. In addition, the project held a Stakeholder Workshop & Focus Group meeting, with participants from diverse backgrounds including local authorities, industry representatives, researchers and academic institutions.

The aim was to discuss how to make CIVITAS automation-ready and reflect on a common vision/definition for automation-readiness. The output from this session informed the first draft of the AV-ready framework.



Figure 1: Working group discussion at CIVITAS Forum 2017

3.1.2 CIVITAS Forum 2018, 19-21 27-29 September 2018, Umea, Sweden

CoEXist coordinated a session on “Connected and Automated Mobility in CIVITAS Cities”. The aim of this session was to continue a critical discussion within CIVITAS about the benefits and potential issues of CAVs in cities and what cities could and should do in the next five years to prepare for the introduction of CAVs.

The session included representatives from three of the four cities of the CoEXist project, the Swedish Association of Local Authorities and Regions, the UITP SPACE project and the H2020 MAVEN project. The project also held a Take-up and Transfer session on “Innovative modelling approaches for the formulation of sustainable urban mobility policies – Lessons from the FLOW and CoEXist projects”.

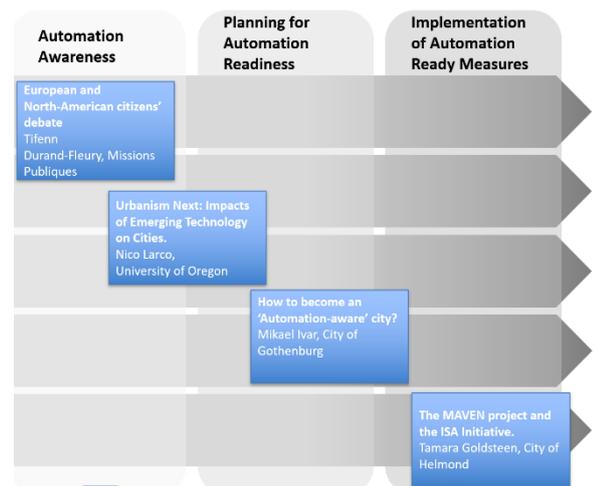


Figure 2: CoEXist session structure at the CIVITAS Forum 2018

3.1.3 CIVITAS Forum 2019, 2-4 October 2019, Graz, Austria

In Graz, CoEXist coordinated a session on “Sustainable Urban Mobility Planning for Road Vehicle Automation”, with a focus on the integration of CCAM in city planning processes and presenting a key project result: the SUMP Practitioner Briefing Road Vehicle Automation in Sustainable Urban Mobility Planning, which was officially published in this event.

The aim of this session was to provide guidance and share experiences on the consideration of Connected and Automated Driving (CAD) from a planning perspective, mapping for the main uncertainties resulting from CAVs and discussing guiding principles on how to mitigate them. During the session, interactive polls and discussions allowed the project to receive feedback on the presented results and consult the participants expectations and perspectives on key aspects of CCAM deployment.

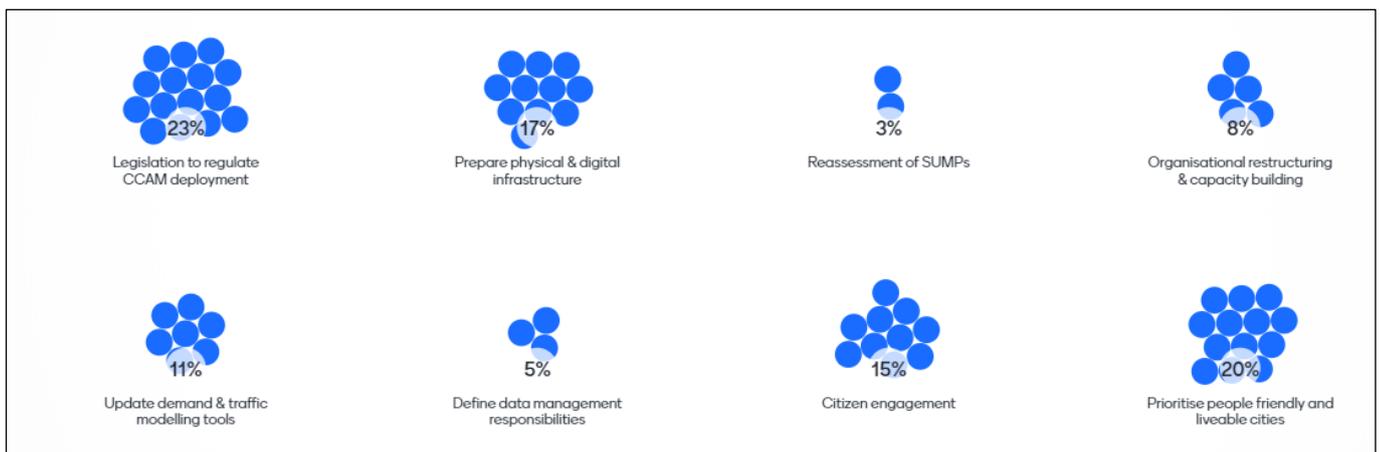


Figure 3: Poll - Most important measures to prepare for CCAMs, at the CIVITAS Forum 2019

3.2 CIVITAS webinars

Aiming to maximise dissemination and the engagement of CIVITAS members, as well as to promote cooperation, CoEXist has joined efforts with the CIVITAS SATELLITE project to reach out to stakeholders all around Europe and the world. CoEXist, in partnership with CIVITAS SATELLITE, organised three webinars targeted at transport planners from authorities and transport planning consultancies.

CoEXist’s knowledge and support partners presented their research and results through the webinars, and moderated interactive discussions. The road authorities reported on their experiences in CoEXist, thus enriching the methodology. Rupprecht also provided and managed the webinar tool (GoToWebinar).

All webinars have been made available on the CoEXist YouTube channel, at: <http://tiny.cc/CoEXist-Webinars>.

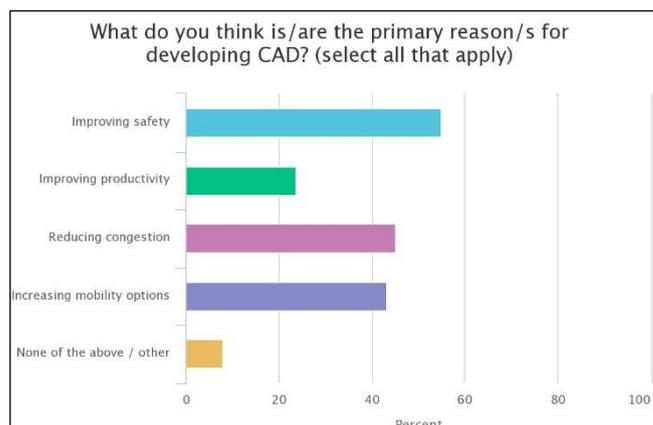
3.2.1 Webinar 1: Introduction to Connected and Automated (CAD) in cities

Date	26 February 2018, 12:00 – 13:30 CET.
Attendees (Registrants)	73 (146)
Content	<ul style="list-style-type: none"> - Introduction - Automation: how far are we? How can we start preparing? - How a mid-size city is preparing for CAD? The case of Milton Keynes, UK - What is the role of automation in public transport? - Open discussion & Wrap-up
Presentations	http://www.rupprecht-consult.eu/uploads/tx_rupprecht/Webinar_presentation_ALL_presentations_FINAL.pdf
Link	https://youtu.be/GkNO0WtFkbY

Summary

Automated? Autonomous? Self-driving? Connected? Cooperative? So many different terms, so many different questions, yet not that many answers. To clarify these and provide a better context to how the topic connected and automated driving (CAD) is shaping around the world, the CIVITAS SATELLITE project in cooperation with the H2020 CoEXist project organised a webinar on automation in cities.

The aim of this webinar was to give an introduction to automation and initiate a dialogue to increase the awareness of local authorities and other urban mobility stakeholders and practitioners. Starting this discussion helped cities and stakeholders prepare for and understand the issues that arise due to the constant technological development. The webinar particularly focused on the role of automation in public transport and gave a concrete example on how a mid-size city, Milton Keynes (UK), is preparing for automation.



3.2.2 Webinar 2: Automation-ready transport modelling tools: including CAVs in your traffic flow and transport demand simulations

Date	19 November 2019, 15:00 – 16:30 CET.
Attendees (Registrants)	86 (161)
Content	<ul style="list-style-type: none"> - Introduction - Microscopic traffic flow simulation - Macroscopic travel demand modelling - Open discussion & wrap-up
Link	https://youtu.be/Gbht_gZZHM8

Summary

Many transport planning decisions affecting urban mobility and road infrastructure are based on the results of traffic flow and transport demand modelling. Within the H2020 CoEXist project, vital progress has been made on the micro- and macroscopic simulation capabilities to model Connected and Automated Vehicles (CAVs) and their interactions with conventional vehicles and other road users, within PTV's Vissim and Visum software. How can these tools be used to enable informed decision-making about Cooperative, Connected and Automated Mobility? To answer these questions, CoEXist, in cooperation with the CIVITAS SATELLITE project, organised a webinar on automation-ready transport modelling tools and its application in urban mobility planning.

3.2.3 Webinar 3: Assessment of automation-ready road infrastructure and safety inspections

Date	24 April 2020, 13:00 – 14:30 CET.
Attendees (Registrants)	94 (156)
Content	<ul style="list-style-type: none"> - Introduction - Overview of the traffic impact tools developed and how to apply - Safety Assessment based on safety inspections - Open discussion & wrap-up
Link	https://www.youtube.com/watch?v=FGHisyM573c

Summary

The many uncertainties related to the introduction of automated vehicles imply a need for a structured way of assessing the expected impacts of potential future scenarios, with respect to the penetration rate and mixes of different types of automated vehicles, but also considering different travel demand levels and behavioural changes of road users. Based on automation-ready traffic flow and travel demand simulation results, CoEXist has developed methods and tools to effectively assess the impacts of AVs on traffic performance, space efficiency and safety.

Road safety improvement is stated to be one of the main objectives of road vehicle automation. Still, a quantitative assessment of safety improvement poses a momentous challenge, due to lack of statistically significant data samples and other limitations. To better understand the effects of automated mobility on safety, CoEXist has extended its research and followed an innovative approach based on Road Safety Audits or Inspections, through which the road characteristics are assessed against consolidated geometries, potential treats and solutions suggested.

How can these tools and methodologies be applied to evaluate the impacts of Cooperative, Connected and Automated Mobility on urban road infrastructure? What are the conclusions and lessons from its implementation in CoEXist's use cases? To answer these questions, CoEXist, in cooperation with the CIVITAS SATELLITE project, organised a webinar on the assessment of automation-ready road infrastructure and safety inspections.

3.3 CAV projects from H2020 and beyond

CoEXist has cooperated with many other projects from the H2020 programme and beyond. This cooperation commenced at the start of the CoEXist project and has continued throughout the project's duration. It has taken diverse forms and targeted different audiences to suit different purposes.

- Joint CoEXist/MAVEN/TransAID workshop 'Vehicle automation: implications for city and regional authorities', 10 October 2017, Brussels
- Joint dissemination of H2020, CEDR projects and other initiatives related to CAVs and Infrastructure", 3 March 2020, Fehrl office, Brussels
- ART Project: Cross-project roadmaps harmonisation
- International cooperation: US-EU Twinning Partnership
- WISE-ACT COST action

3.3.1 Workshop: *Vehicle automation: implications for city and regional authorities*, 10 October 2017, Polis office, Brussels

Project coorganisers: CoEXist, MAVEN, TransAID

Objectives: The primary aim of this workshop was to gather the views and requirements of local authorities and other urban transport stakeholder on various tasks underway or planned within the projects, specifically:

- the CoEXist automation-ready framework (AVs)
- the MAVEN transition roadmap
- the TransAID list of situations for which automation is inappropriate or a threat

Further information: <https://www.h2020-coexist.eu/events/joint-coexist-maven-transaid-workshop-vehicle-automation-implications-city-regional-authorities/>

Summary

The workshop was organised in two parts: a morning session comprising presentations of the projects, and city representatives; and, an afternoon session set up in workshop format in order to maximise interaction. The audience was targeted at urban transport professionals, with an emphasis on representatives of local and regional government. The general discussion in the morning session revolved around the following points:

1. City AV planning and policy will to some extent depend on the type of service that is offered by automation, ie, automated private cars or automated shuttles.
2. The presentations during the morning session are missing a vision for the future. The focus has been on car. Is this the future we want for our cities?
3. There is a need for cities and regions to reflect on how they can use automation to serve their own transport and societal goals.
4. In order to be proactive as a city or region and to engage with politicians, more information is needed about vehicle automation, notably when it will be here and what are its capabilities.

During the afternoon workshop, CoEXist conducted three exercises to elicit input from the workshop participants.

- Defining “Automation-ready”. The aim of the task was to discuss a definition of framework to enable cities to deal with the arrival of connected and automated vehicles (CAVs)
- Vision/mobility goals. The main objective of this exercise was to ask cities about their vision and mobility goals and whether these align with the impacts brought by CAVs in cities
- Identifying “automation-ready” measures. The participants were asked to define measures cities need to take over three timespans: short (0-5 years), medium (5-10 years), long term (10-15 years).

Reactions to the above are contained in the full workshop note which can be downloaded from the following page: <https://www.h2020-coexist.eu/events/joint-coexist-maven-transaid-workshop-vehicle-automation-implications-city-regional-authorities/>

3.3.2 Workshop: *Joint dissemination of H2020, CEDR projects and other initiatives related to CAVs and Infrastructure*, 3 March 2020, Fehrl office, Brussels

Projects represented: CoEXist, ARCADE, TransAID, EU ITS Platform (EU EIP), INFRAMIX, STAPLE and DIRIZON

Objectives:

- Provide an overview of the research activities and results conducted by relevant ART projects (COEXIST, ARCADE, TransAID, EU ITS Platform - EU EIP, INFRAMIX, and STAPLE)
- Investigate the relation between CAVs and Infrastructure and discuss the complementarity of the conclusions from each project.
- Discuss with road infrastructure authorities and other stakeholders the results from the project's implementation (impacts of CCAM on mobility in the studied use cases), and analyse the lessons/conclusions for cities in their mobility planning
- Steer cooperation among ART projects and key mobility stakeholders.

Further information: <http://www.fehrl.org/news/joint-dissemination-of-h2020-cedr-projects-and-other-initiatives-related-to-cavs-and-infrastructure>

Workshop summary

Following the presentation of each project in the morning session, the afternoon session was dedicated to an interactive discussion. The session commenced with a brief overview of the main results, conclusions and open questions identified in the morning's presentations. This included highlighting the available tools to simulate CCAM deployment scenarios and to evaluate their potential impact on urban mobility, and the importance of further scenarios and cases to be tested.



In addition, the participants recognised the relevance of promoting knowledge exchange (making use of tools such as the European Commission's ITS Platform) and the need for enhanced cooperation between public and private stakeholders. Through collaboration with key actors, such as OEMs, road authorities, technical and research organisations, cities can steer efforts towards a common vision for CCAM deployment, in alignment with its policy goals.

For instance, CoEXist's results have showed how traffic performance can be negatively affected by the introduction of CAVs, during the initial transition period. It is up to cities to define, for which types of services and road categories such results are desirable or to be avoided. Decisions about investments on physical and digital infrastructure, as well on the operational layer of urban mobility, can have a direct impact in the city's modal distribution. Beyond the state of technological development, the main challenge for cities is to define the CCAM services, the type of mobility system and solutions that wants to implement, and finding the right mix of infrastructure development, regulations and business models to achieve that vision.

The ISAD (Infrastructure classification Scheme for Automated Driving) developed by INFRAMIX, presents a valuable input to further evaluate deployment scenarios, coupling the infrastructure type with the CCAM services implemented. This could deliver more concrete guidance for cities, with a general estimation of the required infrastructure investment to deploy each type of CCAM service, and what impacts can be expected.

Among the preparatory steps to enable effective action steering CCAM deployment, the development of an applicable legal and regulatory framework was recognised as a priority. To do so, cooperation at different governance levels should be encouraged.

Participants also discussed the issue of data usage and management. Following the approach described by TransAID, the need for a collaborative definition of quality criteria for the data was highlighted. Still, the question remains on which entity should perform the evaluation and on the definition of optimal C-ITS business models. An interesting example from Sweden was described, with an innovation cloud, clustering telecommunication organisations, service operators, road authorities and other key actors, to enable effective cooperation.

Considering the current high-level of uncertainty in the field, and how it restrains action from local authorities, participants recognised the need to identify 'no-regret' investments towards automation-readiness. An interesting possibility, is developing C-ITS capabilities which could generate benefits supporting vehicles with low level of automation, provide assistance towards safety improvements for instance, and enable a more efficient traffic and network management. But, how to ensure compatibility and collaborative work towards an efficient and safe system? Who should develop the common data framework (e.g., map) which driving systems, information and management systems, and planning entities, all use?

After a day of interesting and constructive discussion, representatives from the different research projects and other attending stakeholders were able to evidence the value of knowledge exchange and cooperative effort. There is a great potential in the synergies that can be created among the products and lessons learnt from the various projects, to provide further guidance and knowledge to support decision-making and the optimal deployment of CCAM. In this sense, there was a common call for

continued cooperation towards the harmonisation of research results , the identification of knowledge gap and opportunities for further development.

3.3.3 ART Project: Cross-project roadmaps harmonisation

CoEXist cooperated with other ART projects, including ARCADE, INFRAMIX, TransAID, MAVEN and EU EIP, in a joint initiative to discuss each project's scopes, results and developed roadmaps, aiming to harmonise concepts and lessons learned, and identify knowledge gaps and opportunities for synergies and further cooperation.

This initiative included regular conference calls in 2019, where each project presented its research and outputs. Rupprecht Consult led an effort to map these results in a comprehensive Knowledge Map, which has served to guide coordination and discussions among the projects.

Then, in March 2020, CoEXist took the initiative to organise a workshop, lead and coordinated by FEHRL, and called "Joint dissemination of H2020, CEDR projects and other initiatives related to CAVs and Infrastructure" (see workshop in previous item). Relevant ART projects, such as CoEXist, ARCADE, TransAID, EU ITS Platform (EU EIP), INFRAMIX, STAPLE and DIRIZON, came together to share their results and lessons learnt, and participated in a fruitful discussion on the impacts and relevance of road infrastructure design and regulations, for CCAM deployment. FEHLR members and key stakeholders were also invited to attend and engage in the discussion, thus considering the perspectives of different sectors.

3.3.4 International cooperation: US-EU Twinning Partnership

The CoEXist project was selected as the EU project to establish a twinning relationship with relevant projects funded by the USDOT on the analysis, modelling and simulation (AMS) of CAVs, aiming towards the coordination of activities and research collaboration, on the basis of mutual benefit.

A Twinning Agreement was signed on 26th February 2018 between CoEXist and two FHWA funded research projects:

- Development of an AMS Framework for CAV systems, which aims to determine the main knowledge, data and tool gaps associated with modelling CAV applications and to create a conceptual AMS framework that addresses these gaps
- Developing AMS Tools for CAV Applications, with the goal of developing a uniform suite of AMS tools and implementation guidance –producing an accessible, promotable, ready-to-use toolbox for state DOTs and MPOs.

The twinning partners agreed to actively cooperate and exchange on the following topics of their research projects:

- Development of an AMS Framework' for connected and automated vehicles;
- Exchange of information about use cases and case studies that will apply the AMS Framework; and
- Cooperation on AMS tool development for connected and automated vehicles.

The twinning activities encompassed conference calls and workshops at conferences with the goal of exchanging project results and deliverables, sharing insights gained from case studies or conducted

research, and discussing the development of conceptual as well as methodological approaches to developing automation-ready AMS tools and frameworks. This cooperation has taken place during face-to-face workshops in the context of the 2018, 2019 and 2020 TRB Annual Meetings, at CoEXist's Consortium Meeting in Helmond, and at the CoEXist Final Conference, which was held as a virtual conference on March 25 and 26, 2020.

During the 2020 TRB Annual Meeting, there were several occasions within and outside of the official TRB agenda for US-EU twinning activities to be presented and discussed.

The first and principal of these, was the Lectern Session titled "Preparing for Connected & Automated Vehicles: Results from EU-US Research Collaboration". This session was the result of the successful cooperation between the twinning partners, who took advantage of this privileged occasion to share their project findings and emphasise the comparison between the FHWA-projects and CoEXist approaches to simulate and analyse the impacts of CAVs on road infrastructure and mobility, with the goal of reaching a common understanding of current challenges and research needs. To effectively present the results of the twinning cooperation, partners agreed to employ the AMS Framework (developed by US-partners) as common basis. This framework was applied to CoEXist, categorising the project's efforts and results to enable easy comparison with FHWA-projects. The session was well-received by the large number of attendees and therefore successfully disseminated the findings of the participating projects and established the plea for further EU-US cooperation on this matter.

CoEXist was also presented at the FEHRL-FHWA Meeting. In this session, Siegfried Rupprecht shared the results from CoEXist and the US-EU twinning cooperation - as a best practice example whose lessons-learned can be practical for other cooperative initiatives. Additionally, partners participated in a EU-US Twinning Workshop, which served as platform for reflecting on results of the modelling exercises of CAV impacts and empirical assessments of pilot projects, specifically pinpointing limitations and discuss further cooperation.

Through its partnership, CoEXist has direct access to the leading conferences in the AV field, including Transport Research Arena, the Automated Vehicle Symposium (AVS) and the Annual Meetings of the Transport Research Board (TRB).

3.3.5 WISE-ACT project

The WISE-ACT COST Action is a European-wide network that explores the wider impacts of Autonomous and Connected Transport. It is made up of 150 experts from 41 countries and is organised along six different thematic Working Groups. It is anticipated that improved accessibility and road safety will constitute the primary benefits of the widespread use of AVs, whilst co-benefits may also include reduced energy consumption, improved air quality or better use of urban space. Therefore, the focus of this COST Action is on observed and anticipated future mobility trends and implications on travel behaviour, namely car sharing, travel time use or residential location choice to name a few.

Other important issues to be explored under different deployment scenarios are social, ethical, institutional and business impacts. To achieve this, it is essential to culminate co-operation between a wide range of stakeholders at a local, national and international level, including academics and practitioners. Consequently, this COST Action will facilitate collaboration within Europe and beyond about this emerging topic of global interest.

Rupprecht Consult is a member of the WISE-ACT action, and has participated in various WG meetings, presenting CoEXist's results and receiving feedback from a broad network of researchers. Besides, through this cooperation, WISE-ACT has provided input for key CoEXist products, such as the Road Vehicle Automation in Sustainable Urban Mobility Planning.

In January 2020, in the frame of a WISE-ACT Working Group Meeting in Thessaloniki (Greece), Rupprecht Consult organised a workshop to discuss and validate the SUMP2.0 – Road Vehicle Automation in sustainable urban mobility planning practitioner briefing, which constitutes a key product of the project and input for its planning framework. Through this stakeholder engagement and consultation activity, CoEXist received valuable feedback from researchers at each thematic Working Group, which has been useful for the validation and improvement of the project's results and products.