25TH ITS WORLD CONGRESS
COPENHAGEN
17 – 21 SEPTEMBER 2018
Quality of life

Programme

25th ITS World Congress

Copenhagen, Denmark
17 – 21 September 2018

www.itsworldcongress.com

Organised by: ERTICO ITS EUROPE

Co-organised by: ITS AMERICA, ITS ASIA-PACIFIC

Hosted by: CITY OF COPENHAGEN

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Welcome to the 25th ITS World Congress 2018

European Commission

The European Commission is very pleased to invite you to the 25th ITS World Congress, to be hosted in the European city of Copenhagen from 17th to 21st September 2018.

The main theme of the Congress, "ITS – Quality of Life", brings to the forefront an important mission of Intelligent Transport Systems: enhance people's daily life through smart mobility solutions, putting the user and their specific needs at the centre of the mobility system.

The Congress will be an ideal opportunity to extend and share your knowledge about the latest technologies and policy developments in different areas of the world and help forge new partnerships and opportunities to change mobility together. Topics like security, privacy and interoperability can greatly benefit from international cooperation. The Congress will therefore look into these and other areas where progress is critical to speed up the deployment of Intelligent Transport Systems.

The 25th ITS World Congress is going to take place while the European Commission will be promoting 'multimodality' with a range of initiatives throughout 2018, to make our mobility system more efficient and sustainable and serve better the needs of its users. We are particularity happy to host this Congress in this special year, in view of the important role of Intelligent Transport Systems in achieving these goals.

We very much hope you can participate and enrich the Congress with your experience, with your knowledge and perspective on how to improve the quality of life through Intelligent Transport Systems. Looking forward to seeing you in Copenhagen,

Yours sincerely,

Violeta Bulc
European Commissioner for Transport
Mariya Gabriel
European Commissioner for Digital Economy and Society
Carlos Moedas
European Commissioner for Research, Science and Innovation

HRH the Crown Prince becomes Patron for the ITS World Congress 2018 in Copenhagen

HRH the Crown Prince to be Patron for the 25th ITS World Congress 2018 in Copenhagen. HRH the Crown Prince will attend the Official Opening Ceremony of the Congress on Monday 17 September at 16:00 in the Bella Center. *Photo: Franne Voigt (copyright).*

HRH the Crown Prince of Denmark

City of Copenhagen

Frank Jensen
Lord Mayor of
Copenhagen

It is with great pleasure that I welcome you to Copenhagen and invite you to join us at the 25th ITS World Congress. It is with pride, too, as it will be the first time that Denmark, and the capital of Denmark, will be hosting the largest Congress in the world within the ITS industry.

When coming to Copenhagen, you will find yourself in the heart of history with beautiful historic buildings blended with the revolutionary ITS solutions of tomorrow. By using Intelligent Transport Solutions (ITS) we aim to create quality of life for the Copenhageners.

The city fuses quality of life at local level with a global outlook. It is internationally renowned for its innovative approach to climate and the environment. It has a reputation as the world's best city for cyclists. It is a living showcase for Danish architecture. But most of all, Copenhagen is a good place to be. None of this came about by chance. It is the result of years of planning and development based on the needs of Copenhageners.

As the capital of a small country with 5.6 million inhabitants, with almost 600,000 living in Copenhagen, you would think that we could rest on our laurels. Nevertheless, Copenhagen is among the top five fastest growing big-city destinations in Europe, and an extra 100,000 inhabitants by 2025 means more of us in the same space. We will have to work harder to keep the city together. Getting around will have to be easier. ITS is one of the means to creating a city that manages to face challenges and still be a liveable, edgy and responsible city.

The goal of the City of Copenhagen's 'Business and Growth Policy' is to become Northern Europe's leading business metropolis – where growth and quality of life go hand in hand. By 2020, the annual GDP growth will have increased to 5 %, with an estimated 20,000 new private jobs created, and productivity will have increased by 4 %. These ambitious goals will be achieved through strengthening and maintaining Copenhagen as an open city that attracts international companies, investments, highly skilled international professionals, tourists and big events.

In Copenhagen we see ITS as a driver for growth, commercial development and knowledge sharing on a global scale. We have invested nearly half a billion on intelligent traffic lights and street lighting within the last couple of years. The ITS World Congress 2018 is a lever to bring together international public and private partners in a close collaboration that will contribute to the advancement of worldwide future ITS solutions. On a regional level, the goal is that the Congress should strengthen the potential of cross-border partnerships in Greater Copenhagen, and reinforce the wide-ranging alliance within the Nordic Region.

I look forward to welcoming you in Copenhagen.

Ninna Hedeager Olsen
Mayor of Technical and Environmental Affairs in Copenhagen

I am pleased to invite you to the 25th ITS World Congress 2018 in Copenhagen. The City of Copenhagen is proud to be hosting the Congress, which will be an essential meeting point for the ITS community. We have chosen the overall theme "ITS – Quality of Life" for the Congress.

The city streets and squares of Copenhagen will be available for the display of innovative ITS demonstration projects. We hope to see many contributions that will give participants the opportunity to discover the latest technical innovations, exchange good practices with foreign colleagues, and grow their personal network within the industry.

Copenhagen wants to be the European leader within green technology and innovation. To that end, the City of Copenhagen is active in a number of innovation projects, including making public transport more attractive and less polluting as well as raising the average speed of cyclists by using ITS solutions to prolong green lights.

ITS can help us to improve traffic flow and road safety, and to promote cycling and public transport. That's why the development of ITS is so important to us, and I hope that the Congress will be a lever to carry on this agenda in the ITS community.

The green agenda goes hand in hand with the citizens' needs, and a green city is a precondition for a liveable and healthy city. We say that the city is for the people and by the people. To ensure that Copenhagen is one of the top global cities in 2025, we must all work together to create 'A Liveable City', 'A City with an Edge' and 'A Responsible City'.

We look forward to welcoming you to Copenhagen and will do our utmost to create a fantastic setting for the ITS World Congress.

I am convinced you will enjoy your rendez-vous with a beautiful, historic city where quality of life is in the core of everything we do.

ERTICO – ITS Europe, ITS America and ITS Asia-Pacific

Jacob Bangsgaard
CEO ERTICO – ITS Europe

On behalf of ERTICO – ITS Europe and its 120 Partners, I would like to invite you to the 25th ITS World Congress hosted by the city of Copenhagen from 17 to 21 September 2018.

"ITS – Quality of life" is the theme of the next Congress where intelligent solutions meet citizens' needs. Copenhagen was recently named one of the world's most liveable cities largely because of its developments and commitments to improve sustainability. The city is working hard to become carbon-neutral by 2025, and in the next ITS World Congress we will learn about the technologies and policies they are using to help this beautiful city achieve this goal.

With a programme focusing on mobility services, ITS and the environment, connected and automated transport, satellite technology, big and open data, freight operations networks operations, the ITS World Congress 2018 will show how intelligent transport and ITS systems and services can drive the deployment of smart cities.

The conference programme will be complemented by a fantastic exhibition and demonstrations showcase. Hundreds of companies and visitors from over a hundred countries around the globe will participate in the exhibition at the Bella Center, covering a total surface of 20,000+sqm. It will feature more than 30 demonstrations of the latest state-of-the art products and solutions for real-world mobility scenarios.

For five days, 10,000+ transport technology experts and businesses will gather in the stunning city of Copenhagen. I hope you can join us in September 2018.

Shailen Bhatt
President and CEO
ITS America

On behalf of the Intelligent Transportation Society of America, welcome to the 25th ITS World Congress in Copenhagen! I have been to previous World Congress events, but this is my first as president and CEO of ITS America, and I am looking forward to the sessions, demonstrations, and exhibitions.

It's fitting that the theme of 2018's World Congress is "ITS – Quality of Life." Copenhagen hopes to become the first carbon-neutral city by 2025, and intelligent transportation is critical to achieving that goal.

Building on the success of Montreal and Melbourne, this World Congress will focus on topics including ITS and the environment, the impact of connected and automated vehicles, applying satellite technology to mobility, and cross-border mobility solutions. Participants will have multiple opportunities to learn about these and other topics by participating in discussions and demonstrations, as well as spending time talking to exhibitors.

At ITS America, we advance the research and deployment of intelligent transportation technologies to save lives, improve mobility, promote sustainability, and increase efficiency and productivity. Our members, along with other industry stakeholders, are eager to engage with others around the world who share these same goals. The 2018 World Congress in Copenhagen is the venue in which we can make those connections with policymakers, entrepreneurs, researchers, academics, investors, and many others. I am confident it will be as exciting and valuable for you as I know it will be for me. Have a great week, and I look forward to seeing you in Copenhagen!

Hajime Amano
Secretary General
ITS Asia-Pacific

On behalf of ITS Asia-Pacific, I would like to invite you all to the 25th ITS World Congress in Copenhagen. ITS World Congress started 24 years ago as a cross disciplinary platform for research and development of Intelligent Transport Systems. Experts in mechanical engineering, civil engineering, electronic engineering and information science got together and worked together to create integrated transportation domain. As more attentions are paid to real world deployment, government officials, industry leaders, transportation service operators and entrepreneurs more actively joined for effective public investment and business opportunities.

Now, we have connected and automated vehicle technologies at hand and innovative transport services are emerging brought by new breed of ambitious people. Huge expectations and concerns are mixed as 'singularity' seems to be quickly approaching. Based on the achievements and experiences on ITS we have built, we have to quantitatively evaluate both potential benefits and risks of the innovative technologies and social innovations. How ITS could contribute to the wellness of people's life and sustainable development of the society.

Under the theme of 'ITS – Quality of Life', ever expanding diversity of contributions are anticipated to be shared across the academic disciplines, the industrial sectors and jurisdictions. I'm looking forward to your contribution and seeing you in Copenhagen.

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Commercial Partners

Diamond

HERE, the Open Location Platform company, enables people, enterprises and cities to harness the power of location. By making sense of the world through the lens of location we empower our customers to achieve better outcomes – from helping a city manage its infrastructure or an enterprise optimize its assets to guiding drivers to their destination safely. To learn more about HERE, including our new generation of cloud-based location platform services, visit http://360.here.com and www.here.com

Huawei is a leading global provider of information and communications technology (ICT) infrastructure and smart devices. With integrated solutions across four key domains – telecom networks, IT, smart devices, and cloud services – we are committed to bringing digital to every person, home and organization for a fully connected, intelligent world. Huawei's end-to-end portfolio of products, solutions and services are both competitive and secure. Through open collaboration with ecosystem partners, we create lasting value for our customers, working to empower people, enrich home life, and inspire innovation in organizations of all shapes and sizes. At Huawei, innovation focuses on customer needs. We invest heavily in basic research, concentrating on technological breakthroughs that drive the world forward. We have more than 180,000 employees, and we operate in more than 170 countries and regions. Founded in 1987, Huawei is a private company fully owned by its employees.

Saphe is a successful Danish company, working on improvement of traffic safety - in Denmark and throughout Europe. In the EU alone, more than 25,000 people lose their lives every year in traffic - that's 70 people every day. At the ITS 2018 Congress in Copenhagen Saphe are going to launch a new device that will make a huge difference as to traffic safety. In fact we call it a small revolution. Saphe was founded in 2015 by civil engineer and contractor Freddy Sørensen. www.saphe.dk

We are redefining mobility. With its "TOGETHER - Strategy 2025", the Volkswagen Group is paving the way for its lasting success in tomorrow's world of mobility: the realignment of one of the best carmakers to a globally leading provider of sustainable mobility. The Key building blocks are:

- Transform traditional core automotive business
- Address new mobility needs, esp. in urban areas.

Aspiring to shape the mobility of the future, it develops smart integrated urban solutions for both people mobility and good transportation. To that end, the Group relies on close collaborations with key partners for the mobility of the future.

Gold

Itron enables utilities and cities to safely, securely and reliably deliver critical infrastructure services to communities in more than 100 countries. Our portfolio of smart networks, software, services, meters and sensors helps our customers better manage electricity, gas and water resources for the people they serve. By working with our customers to ensure their success, we help improve the quality of life, ensure the safety and promote the well-being of millions of people around the globe. Itron is dedicated to creating a more resourceful world. Join us: www.itron.com

Michigan, where big ideas in mobility are born, welcomes ITS World Congress delegates to visit PlanetM in the ITS America Pavilion. PlanetM, organized by the Michigan Department of Transportation and the Michigan Economic Development Corporation is Michigan's partnership of mobility organizations and communities working together on the research, development and deployment of mobility technologies driving the future. It represents community, education, industry, research and government agencies that are aligned to deliver tomorrow's transportation technology economy. Available to any mobility-focused company or investor, PlanetM offers concierge services that connect you to Michigan's mobility ecosystem — the people, resources and places dedicated to the evolution of transportation mobility. To learn more, visit planetm.com.

Gold

The Capital Region is a driving force for growth and employment across Denmark. Our responsibilities include healthcare, environmental protection, regional development and social services. The vision is to create a green and innovative metropolis with high levels of growth and quality of life. Within Greater Copenhagen we cooperate with Region Zealand, Region Skåne and 79 municipalities to attract investments, talents and tourists in strong competition with metropolitan areas like Stockholm, Berlin and Hamburg. With four million inhabitants and international business strengths within the pharmaceutical industry, clean tech and energy as well as infrastructure and tourism we are well on track. www.regionh.dk

Sund & Bælt is a technology-driven infrastructure company that owns and operates the links across Storebælt and Øresund and, within few years, the link to Germany across Fehmarnbelt. Sund & Bælt aims to digitalise the operation of its infrastructure facilities in partnership with external technology experts and deliver solutions that increase efficiency within the infrastructure sector. Sund & Bælt's subsidiary, BroBizz A/S, operates automatic payment solutions on roads, bridges, ferries and at parking facilities in Scandinavia. Sund & Bælt aims to be best at constructing, operating and financing user-paid infrastructure that strengthens mobility in Denmark and across Europe. www.sundogbaelt.dk

Silver

Citelum is a global organization that is not only dedicated to managing and renewing public lighting in towns and cities, but also takes a leading role in the development of Smart Cities. In recent years the business has diversified into areas such as traffic systems, electrical charging, security monitoring and environmental sensors. Connecting the assets they install and manage (for example lighting and traffic system) to communication networks and their own MUSE® management software, Citelum brings major benefits to their customers, such as the ability to remotely manage their assets, proactive maintenance, reduced energy consumption and lower maintenance cost. www.citelum.com

Dynniq is a dynamic, high-tech and innovative company offering integrated mobility, parking and energy solutions. Our mission is to enable people, data and goods to reach their destinations efficiently, sustainably and safely through advanced technology solutions. Visit the Dynniq booth, where we will be showcasing the very latest in intelligent infrastructure and traffic systems, as well as future-proof parking solutions from our WPS Parking brand. www.dynniq.com

FORUM8 provides VR solutions based on in-house developed Interactive 3D VR simulation and modeling software "VR Design Studio UC-win/Road" that brings together various vehicle models and analysis data under one roof for visualization while allowing users to construct a vast VR environment with high resolution textures that can be driven around. Leveraging on this flexible and customizable software that can also send/receive vehicle information to/from Simulink and other 3rd party products to provide ideal VR simulation for autonomous driving, ADAS, ITS research and development; FORUM8 develops through system integration many tailor-made simulators including the 6DOF Driving Simulator to be featured onsite.

Getting from point A to point B is something people face every day. It's this movement of people that ensures that our cities and nations thrive and grow. Ramboll is a global design and engineering technology company that, understands the governance and finance structures of the transportation sector and combines it with domain know-how to develop blueprints for future transportation systems. Ramboll has unmatched experience from the Nordics in implementing low-carbon mobility systems and application of innovative data driven technologies. We work together with our partners, to deliver concepts, designs, plans and implementation models for realizing the Smart Mobility opportunity. www.ramboll.com

SWARCO is a growing international group providing the complete range of products, systems, services and solutions for road safety and intelligent traffic management. With almost five decades of experience in the industry, the corporation supports the growing mobility needs of society with turnkey systems and solutions in road marking, urban and interurban traffic control, parking, public transport, infomobility and street lighting. Cooperative systems, V2I communication, electromobility, and integrated software solutions for the Smart City are latest, future-oriented fields in the group's portfolio.www.swarco.com

Technolution is an internationally operating technology integrator. Founded in 1987, our focus is on mobility, energy, industry and public safety & security. Together with our clients, we develop technology that creates value, such as smart city solutions for Copenhagen. Smart cities offer a better quality of life by providing more living space, better transport and less energy usage. For Copenhagen, Technolution designed smart solutions that will help the city achieve its goal of becoming carbon neutral: dynamic signs for cyclists, intelligent street lighting, app-guided eco driving and a number of other applications. The connecting element is our central traffic management platform MobiMaestro. www.technolution.eu

The Transport Systems Catapult is the UK's technology and innovation centre for Intelligent Mobility, which harnesses emerging technologies to improve the movement of people and goods around the world. With a clear emphasis on collaboration, we forge links between UK Academia, SMEs, Big Businesses and Government; de-risking innovation, overcoming market complexity and bridging the gap between new ideas and commercial solutions. By acting as a catalyst for transport innovation in areas such as Data, Connected and Autonomous Vehicles, we aim to create jobs and generate long-term economic growth – whilst making transport better for everyone. www.ts.catapult.org.uk

Valeo is an automotive supplier and partner to automakers worldwide. As a technology company, we design innovative solutions for smart mobility, with a particular focus on intuitive driving and reducing CO2 emissions. Valeo focuses on the driver and develops a range of unique solutions to make driving more intuitive and mobility safer, more connected and greener. www.valeo.com/en/

During the ITS World Congress coffee breaks are kindly provided by Kapsch

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MinRejseplan

REJSEPLANEN

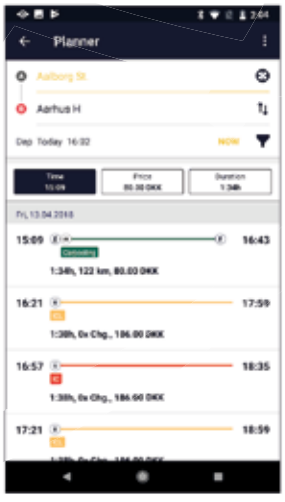
A Huge Step Towards a Mobility as a Service-App

MinRejseplan (MyJourneyPlanner), a MaaS app, includes all sorts of transport and mobility modes such as trains, buses, the metro, carpooling, harbour-ferries, taxis, car-sharing, bicycle-sharing, and city bikes.

It is the future nationwide mobility app in Denmark the delegates and the citizens of Copenhagen will be able to try.

During the ITS World Congress, delegates will get access to a digital ticket solution, which will be included in MinRejseplan, which is valid for public transport in the city of Copenhagen.

Bycyklen DriveNow DSB GoMore MOOVE movia



Programme

The Event

Hosted in a different location each year, the ITS World Congress is an international meeting point for the mobility sector, rotating between Europe, the Americas and Asia Pacific. This year, ERTICO – ITS Europe and the City of Copenhagen will host the 25th ITS World Congress. The Congress will attract more than 10,000 participants from over 100 countries, featuring more than 150 sessions, 400 exhibitors, several demonstrations and technical tours, as well as a series of associated events, social occasions and networking opportunities. This year's theme "ITS – Quality of Life", focuses on putting citizens first when it comes to mobility design - the ITS Congress will be the place to be to discuss and exchange best practices on how to achieve true quality of life in our cities.

The Congress' three pillars- the Programme, the Exhibition and the Demonstrations, will have a common thread covering all modes of transport; from improving the efficiency of land and maritime freight transport, to the key elements for building smart cities. Experts from the mobility sector (and beyond!) will discuss concerns related to cybersecurity, resilience planning and winning solutions for our transport infrastructure. There will also be focus on multimodality and the journey to achieving true seamless and effortless mobility. Last but not least, Cooperative, Connected and Automated Mobility will be highlighted with special focus on the legal and safety aspects.

Demonstrations and Technical visits are also a fundamental part of the Congress, and are one of the most interesting parts of the event. Participants can test new products and services, and experience vehicle technology first hand. They can also join Copenhagen's most innovative transport organisations on guided tours to experience the complex details of structures and systems backing Europe's most liveable city.

Organisers and Host

ERTICO – ITS EUROPE

ERTICO – ITS Europe is a public-private partnership of 120 companies and organisations representing service providers, suppliers, traffic and transport industry, research, public authorities, user organisations, mobile network operators, and vehicle manufactures. ERTICO embodies thought leadership and fosters stakeholder engagement; Together with our partners, we develop, promote and deploy Intelligent Transport Systems and Services (ITS) through a variety of activities including European co-funded projects, innovation platforms, international cooperation, advocacy and events. ERTICO is the organiser of the annual ITS regional and global Congress in Europe. Our work focuses on Connected & Automated Driving, Urban & Clean Mobility, and Infrastructure & Logistics.

European Commission

The European Commission represents the general interest of the EU and is the driving force in proposing legislation (to Parliament and the Council), administering and implementing EU policies, enforcing EU law (jointly with the Court of Justice) and negotiating in the international arena. The European Commission has its headquarters in Brussels, Belgium, and some services also in Luxembourg. The Commission has Representations in all EU Member States and 139 Delegations across the globe.

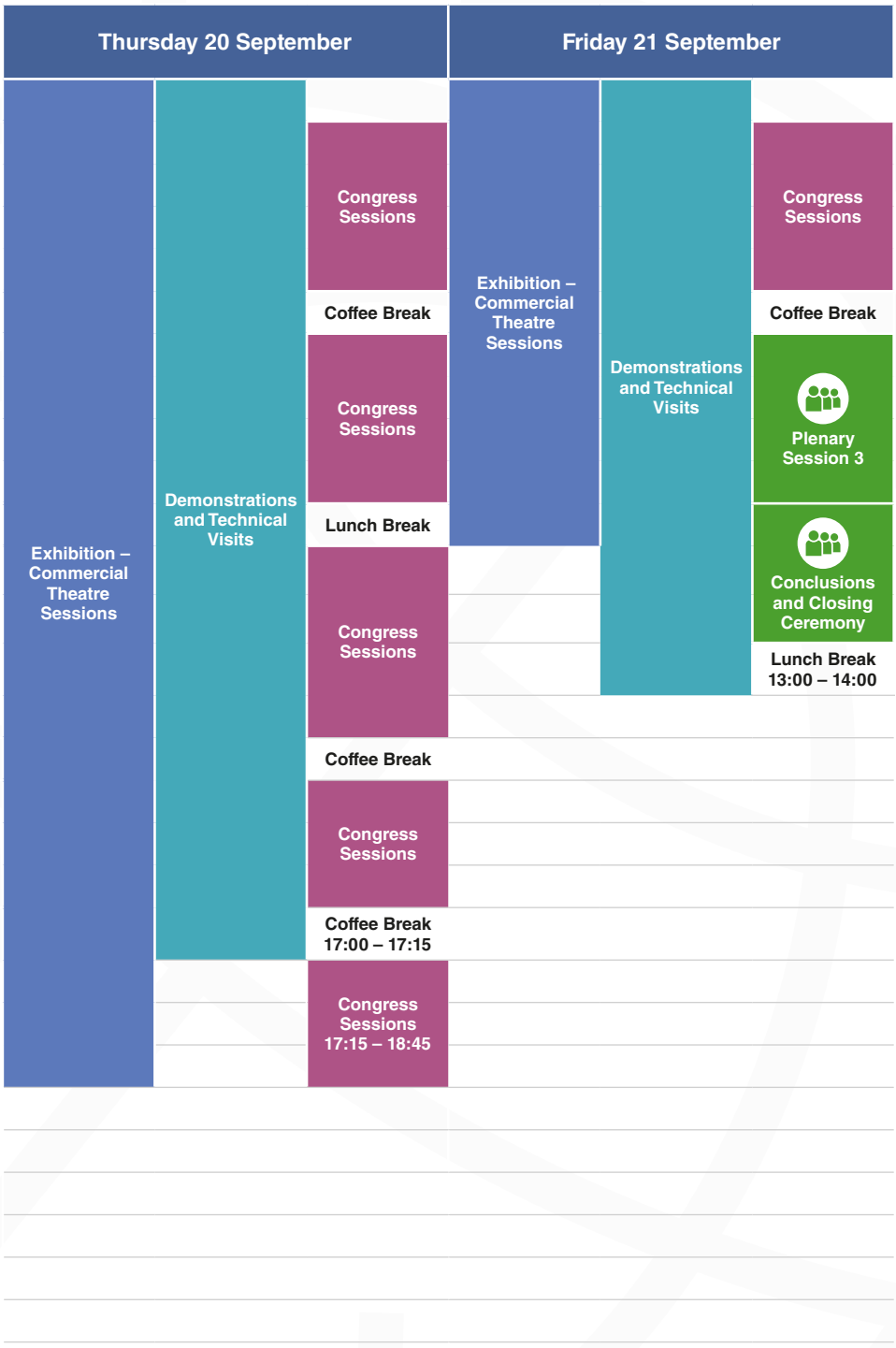
City of Copenhagen

Copenhagen is among the top 5 fastest growing big city destinations in Europe, and is a growth engine for Denmark. The City of Copenhagen is engaged in regional and international relations. To expand the visibility of the solutions that are employed, tested and demonstrated in Copenhagen we work to promote the city as an international showcase for smart green solutions. We do this by establishing showcase platforms, membership of international city networks and other means that showcase the solutions to a wider global audience. On the regional level, Copenhagen cooperates closely with the neighbouring regions in order to create an attractive business region.

Week at a glance

	Monday 17 September	Tuesday 18 September			Wednesday 19 September		
8:30		Exhibition – Commercial Theatre Sessions	Demonstrations and Technical Visits		Exhibition – Commercial Theatre Sessions	Demonstrations and Technical Visits	
9:00				Congress Sessions			Congress Sessions
9:30							
10:00							
10:30							
10:30 – 11:00				Coffee Break			Coffee Break
11:00	Congress Sessions			Plenary Session 1			Plenary Session 2
11:30							
12:00							
12:30							
12:30 – 13:30	Lunch Break			Lunch Break			Lunch Break
14:00	Congress Sessions		High Level Round Table	Congress Sessions			Congress Sessions
14:30							
15:00							
15:00 – 15:30				Coffee Break			Coffee Break
16:00	Opening Ceremony			Congress Sessions			Congress Sessions
16:30							
17:00							
17:30	Official Exhibition Opening and Welcome Reception			Coffee Break 17:00 – 17:15			
18:00				Congress Sessions 17:15 – 18:45			
18:30							
19:00							
19:30							Gala Dinner
20:00							
20:30							
21:00							
21:30							
22:00							

All delegates are warmly invited to attend these sessions



25TH ITS WORLD CONGRESS
COPENHAGEN
17 – 21 SEPTEMBER 2018
Quality of life

Programme at a glance

	Bella Center		Hall B				
	Auditorium Bordeaux	Auditorium Vienna	Tokyo	Montreal	London	Madrid	Turin
Monday 17 September							
11.00 – 12.30			**SIS01** Comparing permits authorising trials of automated vehicles. Which works best?	**TS01** Legal and governance issues	**SIS02** Communication technologies for connected vehicles and automated driving		**TS02** City air quality
Lunch (12.30 – 13.30)							
13.30 – 15.00			**SIS09** Legal framework for AV accident	**TS05** The future evolution of ITS	**SIS10** Assessing next generation technologies for emerging future transportation environments	**SIS03** Bringing new products and services to market	**TS06** Electromobility
16.00 – 17.30	Copenhagen Hall Opening Ceremony						
Tuesday 18 September							
09.00 – 10.30			**SIS16** Automated buses: the future of (last-mile) public transport?	**TS10** Better parking terminal operations	**SIS17** Evolution from current automotive connectivity and ITS deployments to 5G and 5G C-V2X	**TS11** Communication Technologies 1	**SIS18** ITS For Life
Coffee Break							
11.00 – 12.30	**PL1** Achieving higher quality of life in our cities						
Lunch (12.30 – 13.30)							
13.30 – 15.00	**ES01** Healthy and liveable cities	**ES02** Putting citizens first in mobility design	**SIS23** Deployment of Autonomous Shuttles on Public Roads – Experiences from Different Countries	**TS15** Safety	**SIS24** Smart Villages: ITS in Rural Areas	**TS16** Standards and architecture	**SIS25** Promote the Electromobility integration in urban environment
Coffee Break							
15.30 – 17.00	**ES03** Essentials for developing a smart city	**ES04** Managing the ebbs and flows of travel	**TS20** Public transit systems	**TS21** User acceptance	**SIS28** Cooperative-ITS Standards Gaps	**TS22** Communication technologies 2	**SIS29** Copenhagen CO2-Neutral by 2025
Coffee Break							
17.15 – 18.45			**SIS34** Autonomous Vehicles in Public Transport	**SIS35** Strategy of Practical Implement of V-I Cooperative Systems for Traffic Accident Avoidance	**SIS36** ICT serving automated road transport	**SIS37** From Problem to Prototype: A Coordinated, Use-Case Based Approach	**SIS38** Challenge of a common methodology to assess ITS impact on reducing emissions
Wednesday 19 September							
09.00 – 10.30			**SIS42** Automated shuttles – lessons from trials and the path to deployment	**TS27** Vulnerable Road Users	**SIS43** Technical Challenges to Integrating Low Speed Automated Vehicles into the Transportation Network	**TS28** Roadmaps to deployment	**SIS44** Smart metrics for smart cities – traffic signals' contribution to liveability
Coffee Break							
11.00 – 12.30	**PL2** Ensuring integrated mobility services						
Lunch (12.30 – 13.30)							
13.30 – 15.00	**ES05** MaaS: Seamless and effortless mobility	**ES06** Institutional and legal challenges of CCAM	**SIS48** Effective Measures of Success: The United States Connected Vehicle Pilots	**TS32** V2X Solutions & Concepts	**SIS49** Fast deployment of V2X using cellular networks and neutral servers	**TS33** Sensing, detection, classification	**TS34** Testing new approaches 1
Coffee Break							
15.30 – 17.00	**ES07** The role of Open Data in the digital infrastructure – AM	**ES08** Efficiency in freight transport – EU	**SIS53** Impact Assessment of Automated Vehicles on Traffic flow and Environment	**TS38** Traffic management and connected infrastructure 1	**SIS54** Establishing a Large-Scale Security Credential Management System for V2X Communication	**SIS55** Fusion of road infrastructure and vehicle sensor data for automated driving	**TS39** Signal optimising and traffic management

Topics: Mobility services | Environment | Automation | Freight | Satellite | Transport networks | Cross-border

25th ITS World Congress

Copenhagen, Denmark, 17 — 21 September 2018

Hall B								Exhibition – Hall C	
Berlin	Paris	Orlando	Sydney	Melbourne	Nagoya	Europe	Stockholm Nordic stream	ITS Forum	Theatre
	TS03 Traffic data 1	**SIS05** Maximise the potential and the market uptake of the EGNSS in mobility	**SIS06** IBEC: ITS resources to aid practitioners and decision-makers	**TS04** Open data and information	**SIS07** Rural MaaS – from definition to action	**SIS08** ITS for Persons with Reduced Mobility (PRM)			
SIS12 Defining Smart Cities: What is Best for Its Citizens?	**TS07** Traffic data 2	**TS08** Satellite services and mapping	**SIS13** Public and private partnerships towards Quality of Mobility and Quality of Life	**TS09** Network management tools	**SIS14** User-centric approaches enabling automated vehicles in mixed traffic	**SIS15** IoT advancing Automated Mobility and Smart Cities for improved Quality of Life	**NS0** Cross border mobility solutions: towards a seamless future by the ITS Nationals		
SIS19 The Next Traffic Management with Open Big Data to Automated Driving Era	**TS12** Realising MaaS	**TS13** Traffic flow and data	**SIS20** Improved Situational Awareness to Drive Improved Operations	**TS14** Public Private Cooperation	**SIS21** How to build a roaming ecosystem for MaaS?	**SIS22** Carefree paying for mobility in 2018	**NS1** The technical platform for seamless traveling	**C40** Opening Masterclass: Healthy & Liveable Cities – experience from leading cities	
SIS26 Intelligent Operations Models for Mobility-as-a-Service	**TS17** Data and public transport	**TS18** Road safety measures and applications	**SIS27** The value chains of (interactive) traffic management	**TS19** Use of tolling in network operations	**SP01** Environmental studies	**SIS63** Accessing Travel and Traffic Data in the EU	**NS2** Global standardized real-time maritime information sharing – why now?	Workshop: Connected, cooperative and sustainable – how cities can accelerate cycling through intelligent mobility solutions	**CP1** Urban living services 1
SIS30 Predictive Analytics for Intelligent Mobility	**TS23** Seamless travel	**SIS31** 5G with Satellite – Delivering Resilience and Reach	**SIS32** Advanced technologies for operation and maintenance of ITS Facilities	**SIS33** Using Big Data to Reduce Congestion & Prioritise Government Spending	**SP02** Users' needs and social factors 1	Workshop: Transforming Freight Movement through ITS	**NS3** How can Self-Driving Feeder Services improve Public Transport?	Start-up prize	Sund & Bælt commercial presentation
SIS39 Mobility as a Service – new business and service approaches	**TS24** Living Labs and Human factors	**TS25** Positioning and fleet management	**SIS40** Cooperative ITS services: moving from cross-border interoperability to market roll-out	**TS26** Traffic demand strategies	**SP03** Users' needs and social factors 2		**NS4** Automation and safety – sea, road and railway	**SIS41** 5 smart city European initiatives you want to meet: opportunities for cities-industry	Space-driven innovation for smarter, greener and safer roads
SIS45 Challenges on testing and validation of automated driving	**TS29** ITS for ageing population	**TS30** Charging and fleet management	**SIS46** Using analytics to drive better decisions and improve transportation service delivery	**TS31** Improving intersection management	**SP04** Safety 1	WS EU and Global opportunities for financing ITS	**N5** CaaS – Corridor as a Service	**SIS47** Future of Mobility: The questions we are afraid to ask!	TELEGRA commercial presentation
SIS50 Sharing data for traffic information between road authorities and service providers	**TS35** MaaS planning & policy	**SIS51** Autonomous Freight Vehicles: Benefits, Risks and Governance	**TS36** Network security	**TS37** Cross-border solutions	**SP05** Safety 2	**SIS52** Implementing MaaS pilots in Europe: state of the art and expected impacts	**NS6** Travellers Needs in Focus: Traffic Information in a United Voice	Workshop: how cities use cycling and ITS to develop a sustainable and smart transport system	**CP2** Data services
SIS56 Preparing next generation mobility	**TS40** Behavioural factors 1	**SIS57** Modelling the impact of Smart Mobility with traffic and transport simulation models	**TS41** Motorway operations	**TS42** Network management policies	**SP06** Security, testing and resilience	**SIS58** Secure and precise positioning: a key to success for autonomous driving	**NS7** ITS deployment corridors		SAENA commercial presentation

Session types: PL: Plenary Session ES: Executive Session SIS: Special Interest Session TS: Technical Session SP: Scientific Session CP: Commercial Paper Session NS: Nordic Stream

Programme at a glance

	Bella Center		Hall B				
	Auditorium Bordeaux	Auditorium Vienna	Tokyo	Montreal	London	Madrid	Turin
Thursday 20 September							
09.00 – 10.30	**ES09** Delivering effective CCAM	Workshop: ITS Security and Safety Issues for Automated Vehicles & MaaS 8.30 – 11.00	**SIS59** Road authorities and operators and connected, cooperative transport	**TS43** Traffic management and connected infrastructure 2	**SIS60** Cybersecurity for Public-Facing ITS Systems	**TS44** Testing and Simulations	**SIS67** Enabling electromobility services interoperability and enhanced performance of electric vehicles
Coffee Break							
11.00 – 12.30	**ES10** The real impacts of CCAM	Part 1: TM 2.0 and Public Authorities as Service Providers in Traffic Management	**SIS65** Data in autonomous driving: different strategies to data compatibility	**TS49** Mixed traffic and transitions	**SIS66** Open Auto Drive Forum: A New Cooperation Approach for Automated Driving Ecosystem	**TS50** Security	**TS45** Vehicle detection and network efficiency
Lunch (12.30 – 13.30)							
13.30 – 15.00	**ES11** Enhancing the cybersecurity & resilience of transport infrastructure	Part 2: TM 2.0 and hybrid infrastructure as enablers for MaaS in the context of automated transport		**TS55** Impact evaluation	**SIS72** Taking automated driving to the next level: solving challenging environmental conditions	**TS56** Traffic Control and Data	**SIS73** Connected Vehicle Certification – Today, Tomorrow and Beyond
Coffee Break							
15.30 – 17.00	**ES12** Upping the game in safety		**SIS76** Investigating the emerging employment opportunities created by future transport technology	**TS62** Modelling and simulation	**SIS77** Automated vehicle data sharing enabled by Feature Extraction and Anonymisation	**TS63** Alertness in automated vehicles	**SIS78** Deploying Connected ITS in small cities
Coffee Break							
17.15 – 18.45			**SIS84** Highway chauffeur and high density truck platooning in real environment	**TS66** Traffic management and connected infrastructure 3	**SIS85** Integrating Technology, Data, People and Training for Successful Traffic Incident Management	**TS67** Data and ITS	**TS68** CAV Testbeds 1
Friday 21 September							
09.00 – 10.30			**SIS90** Deploying C-ITS services and Learning from evaluations	**TS72** Traffic management and connected infrastructure 4	**TS73** Testing new approaches 2	**TS74** Automated decision making	**TS75** CAV Testbeds 2
Coffee Break							
11.00 – 13.00	**Auditorium Hamburg** PL3 What's next for automated mobility? + Conclusions + Closing Ceremony						
Lunch (13.00 – 14.00)							

Topics: Mobility services | Environment | Automation | Freight | Satellite | Transport networks | Cross-border

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25th ITS World Congress

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Hall B								Exhibition – Hall C	
Berlin	**Paris**	**Orlando**	**Sydney**	**Melbourne**	**Nagoya**	**Europe**	**Stockholm Nordic stream**	**ITS Forum**	**Theatre**
SIS61 Making Work Zones Smarter	**TS46** Behavioural factors 2	**TS47** Using technology to deliver goods	**SIS62** Traffic IOT sensing by various manners	**TS48** Travel time estimation	**SP07** Data and information	**SIS92** The Digital Transport and Logistics Forum (DTLF): headway towards digitised and connected supply chains	**NS8** Arctic Snowhow and the Automatization of Transport System		
TS51 Mobility on demand	**TS52** Enhancing safety 1	**TS53** Improving freight flows – logistics and innovation	**SIS68** ITS and Cognitive Technologies: Exploiting Artificial Intelligence and Machine Learning	**TS54** Traffic flow control	**SP08** Network management	**SIS69** Systemic impacts from infrastructure-based management of connected and automated driving	**NS9** 5G /G5 opportunities and telecom connections with C-ITS	**SIS70** Ports of the future towards automation	ITS WC Singapore 2019 promotion
TS57 ITS and mobility	**TS58** Enhancing safety 2	**TS59** Improving freight flows – logistics and smart data	**TS60** Road management operations 1	**TS61** Traffic Safety	**SP09** Simulation and modelling	**SIS74** European Cooperative, Connected and Automated Mobility (CCAM)	**NS10** Open Ecosystem for Mobility as a Service	**SIS75** Dragon's Den for MaaS – The future of public transport	**CP3** Network management services
SIS79 ITS for Shipping, Ports and logistics and ensuring a network data exchange : Part I	**TS64** Enhancing safety 3	**SIS80** Across the Pavement – smart freight delivery for the last metres	**SIS81** Impacts of AVs on Pavement	**TS65** Road management operations 2	**SP10** Commercial vehicles and freight solutions	**SIS82** Large scale deployment of C-ITS: Challenges and ways forward	**NS11** Better mobility with Public Transport	**SIS83** ITS decision-making in the round	
SIS86 ITS for Shipping, Ports and logistics and ensuring a network data exchange : Part II	**TS69** City scale & ITS planning	**SIS87** User friendly road infrastructure matched to multiple road users utilizing drive recorder	**TS70** Data driven traffic management 1	**TS71** Modelling and effective traffic management 1	**SP11** Deep learning	**SIS88** C-ITS Deployment becoming reality in Europe by 2019	**N12** Nordic test areas and demonstration sites	**SIS89** Discussing the impact of automated driving: a serious game	
TS76 Smart Parking	Smarter Mobility for Connected Two-Wheelers Safety		**TS77** Data driven traffic management 2	**TS78** Modelling and effective traffic management 2	**TS79** ITS for cycling		**NS13** MaaS in real life – The delegate app?	Research That Defines The Future of Mobility	**CP4** Urban living services 2

Session types: PL: Plenary Session · ES: Executive Session · SIS: Special Interest Session · TS: Technical Session · SP: Scientific Session · CP: Commercial Paper Session · NS: Nordic Stream

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Congress Format

PLENARY SESSIONS

All attendees are welcome to join the Opening and Closing Ceremonies and Plenary Sessions dedicated key ITS issues addressed by major personalities from the ITS world and beyond.

EXECUTIVE SESSIONS

In these sessions high level industry executives, public officials and academics will draw from their experiences to discuss key topical policies, opportunities and challenges.

SPECIAL INTEREST SESSIONS

Organised at the request of groups of experts developing and deploying ITS, these sessions provide the opportunity to focus on specific topics of interest.

TECHNICAL/SCIENTIFIC SESSIONS

These sessions are composed of presentations by international experts and will includes topics encompassing all technical, scientific, economic, organisational and societal aspects of ITS.

COMMERCIAL PAPER SESSIONS

Commercial Papers describe an activity aimed at generating or improving a specific product, device or idea for the market. Papers will be presented in groups with a moderator in the Exhibition area.

"OUT OF THE BOX" SESSIONS

These sessions taking place in the ITS Forum in the Exhibition, will feature different type of formats designed to encourage more interaction between the speaker and the audience.

Topics

- **Mobility services from transport to mobility**
- **ITS and the environment**
- **Connected and automated transport**
- **Next generation goods delivery**
- **Satellite technology applied to mobility**
- **Transport networks evolution**
- **Cross-border mobility solutions**

Plenary Sessions

OPENING CEREMONY

Monday 17 September 2018, 16:00–17:30 | Copenhagen Hall (Hall A1)

As per tradition, the Opening Ceremony will start with the official welcome by the Host, ERTICO – ITS Europe and the co-organisers representing Asia-Pacific and the Americas. This year we are delighted to announce HRH the Crown Prince of Denmark, as the patron of the 25th ITS World Congress. His participation tops a long list of high level personalities that will address the audience during the ceremony including the European Commissioner for Transports Violeta Bulc and Jean Todt delivering their message on the future of ITS and road safety. The Deputy Mayor of Paris, Christophe Najdovski, will also join the debate. Celebrations will include the Award 'Hall of Fame – Lifetime Achievement', entertainment and a highlights video to celebrate the 25th anniversary of the ITS World Congresses. The Opening Day will end with the official Exhibition Ribbon Cutting Ceremony and the Welcome Reception in the Exhibition.

PL1 – ACHIEVING HIGHER QUALITY OF LIFE IN OUR CITIES

Tuesday 18 September 2018, 11:00–12:30 | Bordeaux (Auditorium 11) & Vienna (Auditorium 12)

Focus on public authorities, citizens & planning

The global population trend to living in cities brings many challenges, and in particular for city authorities. How do we manage the increasingly complex system of energy supply and the transport of goods & people while improving air quality, cutting congestion and mitigating the effects of climate change? How can we ensure that people and goods are able to travel safely in an innovative, multi-modal way across our cities? How do we, as a city, provide more efficient mobility choices, particularly for those who are mobility disadvantaged? In the future is it sufficient to be 'smart' and to maximise productivity and the efficiency of our existing transport infrastructure, or is expansion unavoidable? How can our policy and decision-making procedures keep pace with the rapidly evolving planning and mobility landscape? How can we improve mobility and create societal benefits, improve liveability and thus provide a better quality of life for all citizens?

Keynote

Veni Shone, *President, LTE Product Line & Vehicle Communication Huawei, Vice Chairman, China ITS Industry Alliance*

Video message from Mariya Gabriel, *Commissioner for Digital Economy and Society*

Moderator

Karsten Biering Nielsen, *Deputy Director, Technical and Environmental Administration, City of Copenhagen, Denmark*

Speakers

Ninna Hedeager Olsen, *Mayor of Technical and Environmental Administration, City of Copenhagen, Denmark*
Mark Frequin, *Director General for Mobility and Transport, Ministry of Infrastructure and Environment, The Netherlands*
Kian Keong Chin, *Chief Engineer, Land Transport Authority, Singapore*
Carlos Braceras, *Executive Director, Utah Department of Transport, USA*

PL2 – ENSURING INTEGRATED MOBILITY SERVICES

Wednesday 19 September 2018, 11:00–12:30 | Bordeaux (Auditorium 11)& Vienna (Auditorium 12)

Focus on service providers and public transport operators

The shift from owning vehicles to using public transport networks and accessing new mobility services is a potential disruption to established business and governance models. For companies to succeed in a changing market, and for cities to plan for this new world of innovative mobility, stakeholders need to review what they do and how they do it, and also work on establishing new partnerships. How do we make use of open data without prejudicing security, personal privacy or the growth of businesses? Do we need a different approach to public/private partnerships and who should lead this approach? Do we need greater investment in digital and/or physical infrastructure? Do we need to adapt our legal framework and our regulatory regimes?

Keynote

Leen Balcaen, *Senior Director of Cities, HERE Technologies, Germany*

Moderator

Cees de Wijs, *CEO, Dynniq, The Netherlands*

Speakers

Ole Harms, *Chief Executive Officer, MOIA, Germany*
Matthew Baldwin, *Deputy Director-General for Mobility and Transport, DG MOVE, European Commission*
Jarrett Wendt, *Executive Vice President, Panasonic, North America, USA*
Xidi Liu, *Senior Strategy Director, DiDi Chuxing, China*

Plenary Sessions

PL3 – WHAT'S NEXT FOR AUTOMATED MOBILITY?

Friday 21 September 2018, 11:00–12:15 | Hamburg (Auditorium 15)

Focus on transport modes, telecommunications and infrastructure

Vehicle and ICT developments have brought us highly automated vehicle as well as a range of driver assistance systems and connected services that together will lead us towards driverless mobility for goods and people across all modes of transport. Each of these advances has the potential to bring great benefits for safety, traffic efficiency, and environmental impact, as well as accessibility, productivity, land use and society as a whole. But each of these innovations also raises questions about new investment and uncertainties related to infrastructure, markets, industry and regulation, the resilience of transport systems, as well as consumer behaviour and acceptance. Considering the opportunities and challenges associated with connected and automated transport, where do we want to be in 2030 and how do we want to get there?

Keynote

Zoi Sagia PhD, *Policy Officer SNE, Unit Smart Mobility and living, DG Connect, European Commission*

Moderator
Louise Wolff

Speakers
Thomas Møller Thomsen, *President Region I, Fédération Internationale de L'Automobile (FIA), Denmark*
Guido Di Pasquale, *Deputy Director Research & Innovation, International Association of Public Transport – UITP, Belgium*
Paul Retter, *Chief Executive and Commissioner, National Transport Commission, Australia*
Wassim Chourbaji, *SVP Government Affairs and Public Policy, Qualcomm Europe*

CONCLUSIONS AND CLOSING CEREMONY

Friday 21 September 2018, 12:15–13:00 | Hamburg (Auditorium 15)

The Conclusions, including key developments and pointers for the future will be presented by Professor Eric Sampson, Chief Rapporteur, based on inputs prepared by a team of Rapporteurs drawn from all regions. The Closing Ceremony will summarise the key moments that made the 25th ITS World Congress unique! It will include among others, official closing and keynote speeches from the Host, ERTICO – ITS Europe and from the European Commissioner for Competition, Margrethe Vestager and the Copenhagen 2018 highlights video, best session and paper awards, video presentations and invitations to 26th ITS World Congress (Singapore 2019), 27th ITS World Congress (Los Angeles 2020), 28th ITS World Congress (Hamburg 2021) and Passing the Globe Ceremony (Europe – USA – Asia-Pacific).

Executive Sessions

ES01 HEALTHY AND LIVEABLE CITIES

Tuesday 18 September 2018, 13:30–15:00 | Bordeaux (Auditorium 11)

Green and sustainable solutions are becoming more and more widespread in countries all over the world, not only as visions and political statements, but as a local theme influencing daily living and helping to improve the overall quality of life. From a mobility perspective, limited space in cities and continued growth comes with both challenges and opportunities. In the short term smart and intelligent transport solutions are an important means to enhance people's daily lives through seamless, smart, sustainable and safe mobility solutions. Long term city planning is a key tool for designing cities of tomorrow but it is not yet clear how best to incorporate ITS solutions. This session will address key questions including: What kind of mobility policies support the quality of life in a modern city? How do we ensure that potential solutions meet the need of citizens and businesses? How do we support mobility for all citizens – including children, the elderly and disabled? How do cities embrace the future of smart and intelligent transport systems and set the agenda for a better future world?

Moderator
Tina Saaby, *City architect Copenhagen, Denmark*

Speakers
John A. Barton, P.E., Senior Vice President, National DOT Market Sector Leader, HNTB Corporation, USA
Wai-leung Tang, *Deputy Commissioner for Transport/Planning and Technical Services Transport Department, The Government of Hong Kong SAR*
Gary Liddle,*Professor, Melbourne University, Australia*
Wolfgang Hoefs, *Head of Sector Strategic Planning and Communication, DG CONNECT, European Commission*

ES02 PUTTING CITIZENS FIRST IN MOBILITY DESIGN

Tuesday 18 September 2018, 13:30–15:00 | Vienna (Auditorium 12)

Advanced technologies provide the opportunities for multimodality and service integration and ultimately achieve the goals and core value of user-centric mobility. It is well recognized that shared services integrated with public transport form the foundation for sustainable mobility. This integration and on demand mobility with affordable door-to-door service have become the basics for user-centric mobility. There are various challenges for achieving user-centric mobility, such as its influence on travel behaviour, planning for mobility as a service and incentives, institutional and legal barriers, as well as affordability and the potential business model. In this executive session, questions will cover designing and delivering user-centric mobility: Do AI, big data and other new technologies help the understanding of travel behaviour and are they the catalyst for change? What kind of incentives or packages could make MaaS more attractive? Are there successful cases or deployments of user centric mobility and will these successes be able to be implemented in other regions/cities? What kind of role government should play and what is the potential of public and private partnership to ensure sustainability? How to remove institutional and legal barriers behind integrated public transport and shared mobility?

Moderator
Mike Rudge, *Australia and New Zealand Director, Stantec, New Zealand*

Speakers
Michael Fischer, *Head of Public Relations & Public Affairs, MOIA, Germany*
Carlos Braceras, *Executive Director, Utah Department of Transportation, USA*
Roger Millar, *Director, Washington State Department of Transportation, USA*
Muhan Wang, *Director General, Ministry of Transportation and Communications (MOTC), Chinese-Taipei*

ES03 ESSENTIALS FOR DEVELOPING A SMART CITY

Tuesday 18 September 2018, 15:30–17:00 | Bordeaux (Auditorium 11)

Smart City innovators cite partnerships as a key foundation for integrating public and private sectors to provide mobility services, integrated transit, communications and data sharing as well as setting a vision for their cities and engaging communities. A look at the wider needs such as providing incentives for the use of electrified cars, freight, ports, health, environment and quality of life is also important. Key decisions also need to be made to build the communications infrastructure - cloud first, mobile first, regional data hubs and GIS services, open data, and public information. When imperatives are addressed early and integrated on a region wide basis, smart cities provide a next generation solution to mobility and accessibility and improve quality of life for all communities in their surrounding metropolitan areas. In this thought provoking session, executives will discuss what early innovators in the Smart City movement have found as imperative to implementation and the vital decisions that pave the way to the creation of smart urban networks.

Moderator
Kirk Steudle, *Director, Michigan Department of Transportation, USA*

Speakers
Russ Shields, *Chair, Ygomi LLC, USA*
Gaku Nakazato, *Director, Ministry of Internal Affairs and Communications, Japan*
Sharelynn Moore, *Senior Vice President, Networked Solutions, Itron, United States*
Leen Balcaen, *Senior Director of Cities, HERE Technologies, German*

Executive Sessions

ES04 MANAGING THE EBBS AND FLOWS OF TRAVEL

Tuesday 18 September 2018, 15:30–17:00 | Vienna (Auditorium 12)

Traditionally, congestion or road pricing is used to match travel demand to the available supply of road capacity. Current road pricing schemes rely on the detection of vehicles at specific points in the road network, based on the footage provided by video cameras or DSRC sensors. How effective have these road pricing schemes been? How can a GNSS-based road pricing system improve on the effectiveness of road pricing as a demand management tool? Can demand management of new mobility services provided by shared vehicles continue to be effective with current road pricing schemes? What changes are required? Is there a role of using real-time and more accurate travel information to manage travel demand as a complement to road pricing? Are there other forms of regulation required to better manage travel demand of these new mobility services?

Moderator
John Sun, *Executive Director of Innovation, THI Consultants Inc., Chinese-Tiapei*

Speakers
Leslie Richards, *Secretary, Pennsylvania Department of Transportation, USA*
Kian Keong Chin, *Chief Engineer, Road and Traffic, Land Transport Authority, Singapore*
Dennis Pozzobon,*General Manager of ITS, Transurban, Australia*
Jeremy Cowling, *Vice President / Regional Manager UK/APMEA, SWARCO, UK*

ES05 MAAS: SEAMLESS AND EFFORTLESS MOBILITY

Wednesday 19 September 2018, 13:30–15:00 | Bordeaux (Auditorium 11)

Mobility as a Service, or MaaS, is seen by many in the industry as the next stage of transport evolution, promising seamless travel on planes, trains, automobiles and more - all provided through a single application which adapts to the needs of the user. Today's challenge is to bridge the gap between pilot projects at a regional level and the lessons learned from them and to proceed towards the vision of a seamless service at an international level. However, many questions still need to be answered. For instance, how can we integrate public and private services that currently operate in isolation? What business models would be affordable or profitable in both urban and rural environments? Can such a system operate across regional and international boundaries? And what role would governments have to take? This session will explore these questions and many more.

Moderator
Henriette van Eijl, *Policy Adviser, DG MOVE, European Commission*

Speakers
Paul Campion, *CEO, Catapult Transport Systems, United Kingdom*
Randell Iwasaki, *Executive Director, Contra Costa Transportation Authority, USA*
Eddie Lim, *Head, Global Land Transport, NCS Pte Ltd, Singapore*
Blair Monk, *Technical Director, Transport, Aurecon, New Zealand*

ES06 INSTITUTIONAL AND LEGAL CHALLENGES OF COOPERATIVE, CONNECTED AND AUTOMATED MOBILITY (CCAM)

Wednesday 19 September 2018, 13:30–15.00 | Vienna (Auditorium 12)

Technologies for cooperative, Connected and Automated Vehicles (CAVs) have drastically evolved and field trials have already begun globally in real road environments, under carefully designed and tested guide lines. Once an operational design domain is clearly defined, it is not difficult for the general public to accept this new mode of mobility. However, with both conventional manually-controlled vehicles and CAVs in our city streets, the legal and institutional challenges to be resolved have increased. In order to ensure roads are safe as well to ensure the convenience and comfort of travel, what kind of criteria is necessary for CAVs? What kind of infrastructure should be prepared? And if a serious accident involving a CAV takes place, who investigates the cause and how? Who is responsible for the accident and who carries the cost and penalty? In this Executive Session, experts with different backgrounds from Europe, America and Asia Pacific review issues for the real social implementation of CAVs.

Keynote
Marten Kaevats, *National Digital Advisor, Estonian Government Office, Estonia*

Moderator
Atsushi Yano, *Advisor, Sumitomo Electric Industries, Co., Ltd., Japan*

Speakers
Claire Depré, *Head of Unit DG MOVE, European Commission*
John Schroer, *Commissioner, Tennessee Department of Transportation, USA*
Neil Pedersen, *Executive Director, Transportation Research Board (TRB), USA*
Toshihiro Sugi, *Director of Automated Driving Planning Office, National Police Agency, Japan*

ES07 THE ROLE OF OPEN DATA IN THE DIGITAL INFRASTRUCTURE

Wednesday 19 September 2018, 15:30–17:00 | Bordeaux (Auditorium 11)

More quality data is needed to proactively optimize traffic management, transit operations, etc. Using data across agency silos adds value and utility to the data, but offering it on an open data portal exponentially increases its value. A Smart City is built upon digital infrastructure that produces "Big Data" and an open data policy can be a strong catalyst for meeting Smart City goals. Accessible open data will support new applications, visualizations and analytics to be built by third parties to leverage Smart City investments. Data sharing may also lead to new business models where different data types may be entrusted and exchanged while further leveraging an agency's digital infrastructure investment. Quality assured data may be provided in standard formats that note whether it has been cleaned / filtered / scrubbed and by whom. The big question in relation to data ownership, is the unanswered: "Do people own the data they generate?"

Moderator
Jarrett Wendt, *Executive Vice President, Panasonic Corporation North America, USA*

Speakers
Cordell Schachter, *Chief Technology Officer, New York City Department of Transportation, USA*
Katsuya Abe, *Director, Road Bureau, Ministry of Land, Infrastructure, Transport and Tourism, Japan*
Ralf-Peter Schafer, *Vice President, TomTom Traffic, Germany*
Keith Delle Donne, *Digital Advisor, Microsoft, New Zealand*

ES08 EFFICIENCY IN FREIGHT TRANSPORT

Wednesday 19 September 2018, 15:30–17:00 | Vienna (Auditorium 12)

Prosperous economies are based on trade and the movement of goods but for cities, especially those linked to ports, ensuring reliable passenger traffic as well as efficient supply chains for freight can be a major challenge. Intelligent transport systems (ITS) can help to optimise goods traffic, particularly at border crossings, by integrating it within the wider transport system. There are also considerable expectations for the solutions provided by new technologies. ITS also brings ways to deal with changes in customers' delivery requirements. Key developments include digitalisation; platforms for sharing stakeholders' information to delivering real-time mobility management; and new solution concepts, such as Mobility as a Service and enhanced traffic management, that promote cooperative engagement of supply chain stakeholders. Freight delivery by drones rapidly is becoming a reality, trials of truck platooning, and advances with unmanned inspection and 'last mile' systems can reduce delivery times and make supply chains cheaper and cleaner.

Moderator
Zeljko Jeftic, *Head of Global Innovation, IRU, Geneva*

Speakers
Gzim Ocakoglu, *Deputy Head of Unit, Maritime Transport & Logistics, DG MOVE, European Commission*
Bill Panos, *Wyoming Department of Transportation, USA*
Young Kyun Lee, *Executive Director, ITS Korea*
Mike Kopczynski, *Industry Practice Advisor, Transportation, Cisco IoT, New Zealand*

ES09 DELIVERING EFFECTIVE COOPERATIVE, CONNECTED AND AUTOMATED MOBILITY (CCAM)

Thursday 20 September 2018, 09:00–10:30 | Bordeaux (Auditorium 11)

The traveling public and the freight and logistics community have been hearing for years that a state of the art 21st century transportation network is nearly upon on us. But it is not that simple, is it? Although innovative technologies integrated both in vehicles and on-the-road infrastructures abound, and with significant real-world testing and demonstrations now commonplace, challenges remain to align the policies, standards and regulatory frameworks as well as the communication solutions that will ensure safety, security and privacy for road users. This session's highly accomplished international panel will speak on the significant progress made as well as progress in acquisition, management and use of CCAM-sourced data, the latest on V2I communications and the DSRC v. 5G debate, and the development of infrastructure to match CCAM deployment and enhance road environment for CAD, all in the spirit of cooperative ITS.

Moderator
Beth Kigel, *Transportation Commissioner, State of Florida, USA*

Speakers
Kenneth Leonard, *Director, Intelligent Transportation Systems, ITS Joint Programs Office, U.S. Department of Transportation, USA*
Greg Winfree, *Agency Director, Texas A&M Transportation Institute, USA*
Koji Hachiyama, *Counsellor, National Strategy Office of ICT, Cabinet Secretariat, Japan*
Eddy Hartog, *Head of Unit Smart Mobility and Living, DG CONNECT, European Commission*
Klaus Schierhackl, *CEO, ASFINAG, Austria*

Executive Sessions

ES10 THE REAL IMPACTS OF COOPERATIVE, CONNECTED AND AUTOMATED MOBILITY (CCAM)

Thursday 20 September 2018, 11:00–12:30 | Bordeaux (Auditorium 11)

Cooperative, Connected and Automated Mobility (CCAM) will have a major impact on the individual, transport system, and society, especially when highly/fully automated driving reaches a high penetration and road network coverage. The speed of CCAM deployment depends both on technology development and the action of industry, and on how well user needs are addressed. It also depends on what role public authorities will take in allowing or actively supporting deployment, which hinges on the costs of CCAM versus its benefits. The multiple aspects of benefits are here explored. This session discusses the impacts of CCAM at all levels, from user acceptance and behavior change to accessibility and affordability; from VRU, freight and public transport to traffic management impacts; from employment and land use to other macro social impacts. The panel, representing key CCAM stakeholders around the globe, will address the major benefits and costs of CCAM, for highway, urban, and rural applications.

Moderator
Joost Vantomme, *Smart Mobility Director, European Automobile Manufacturers' Association – ACEA, Belgium*

Speakers
Martin Knopp, *Associate Administrator, Office of Operations, FHWA, USDOT, USA*
Rajeev Roy, *P. Eng. Director, Business Planning and Technology, Transportation Services Department, The Regional Municipality of York, Canada*
Naohiko Kakimi, *Director, ITS and Autonomous Driving Promotion Office Ministry of Economy, Trade and Industry, Japan*
Chien-Pang Liu, *Engineer, Ministry of Transportation and Communications, Chinese-Taipei*
Marc Vrecko, *President Comfort & Driving Assistance Business Group, Valeo, France*

ES11 ENHANCING CYBERSECURITY & RESILIENCE OF TRANSPORT INFRASTRUCTURE

Thursday 20 September 2018, 13:30–15:00 | Bordeaux (Auditorium 11)

Cyber and physical risks continue to grow in the connected world of CAV's, smart cities and smart transportation with new weaknesses related to networks, applications, data and physical assets. There is an increase in threats resulting from more available opportunities to penetrate a system through the other systems that are connected to it. The NotPetrya ransomware attack hit major shipping, financial, and air travel systems and is a costly example of these threats. There is a need to address the legal, safety, and economic risks in this new environment. This session will examine the executive concerns related to these risks, lessons learned from recent attacks, cooperative defensive approaches, and the need to include cyber risks as part of the overall community and regional resilience planning. This is an opportunity to answer the question: what can I do now to avoid an attack or at least minimize the impact of one in the future?

Moderator
C. Douglass Couto, *Independent Consultant, USA*

Speakers
Joe Waggoner, *CEO/Executive Director, Tampa Hillsborough Expressway Authority Florida, USA*
Abbas Mohaddes, *President and COO, Econolite, USA*
Jaeson Yoo, *Chief Security Evangelist,* Penta Security Systems Inc., *Korea*
Jim Beveridge, *Telecom and cybersecurity expert, ERTICO – ITS Europe*

ES12 UPPING THE GAME IN SAFETY

Thursday 20 September 2018, 15:30–17:00 | Bordeaux (Auditorium 11)

How can Automated Driving Systems deliver enhanced road traffic safety? What is the difference between Automated Driving Systems and Advance Driver Assistance System (ADAS) and other collision warning systems? What kind of advanced sensors, V2X communications, interactive flow management or incident detection and management systems will effectively improve road traffic accident risks? The answer lies in a modal shift by citizens from car use to public transport and encouraging slower traffic solutions like walking or bicycling. This will directly enhance safety and can be achieved by making available integrated intermodal information systems. One of the most important challenges is to establish an effective integrated package of political initiatives and regulations/standardization in addition to Intelligent Transport Systems technologies. This session discusses how, why, and to what extent enhanced safety solutions can be delivered from several different points of view.

Moderator
Brian Negus, *Immediate Past President, ITS Australia, Australia*

Speakers
Matthew Baldwin, *Deputy Director-General for Mobility and Transport, DG MOVE, European Commission*
Takahiro Hirasawa, *Director, Road Transport Bureau, Ministry of Land, Infrastructure, Transport and Tourism, Japan*
Randell Iwasaki, *Executive Director, Contra Costa Transportation Authority, USA*
Mike Lenne, *Seeing Machines, Australia*

Special Interest Sessions

SIS01 COMPARING PERMITS AUTHORISING TRIALS OF AUTOMATED VEHICLES. WHICH WORKS BEST?

Monday 17 September 2018, 11:00–12:30 | Tokyo (B3 M1-2)

Victoria, Netherlands and California have introduced permits to authorize trials of automated vehicles. Which regulatory model is sufficiently flexible to enable further innovation and change in the industry while allowing government to monitor safety and security risks to the community? An interactive discussion on what, how and why of regulatory permits for automated vehicles?

Organiser
Julie Van Dort, *Transport for Victoria, Australia*

Moderator
Kirsten McKillop, *National Transport Commission, Australia*

Speakers
Gerben Feddes, *RDW, Netherlands*
Steven Shladover, *the University of California PATH Program, United States*
Julie Van Dort, *Transport for Victoria, Australia*

SIS02 COMMUNICATION TECHNOLOGIES FOR CONNECTED VEHICLES AND AUTOMATED DRIVING

Monday 17 September 2018, 11:00–12:30 | London (B3 M3-4)

Nowadays, implementation and realization of automated driving has been quickly promoted, and environment surrounding ITS has drastically changed because of rapid development of mobile networks (including 5G), AI and utilization of big data. This session features representatives from ITU-R, Japan, Europe, United States, and industries who will discuss ITS radio communication policies, standards, application, service images and technologies, including consideration of combination along DSRC, LTE/5G, various V2X communications for Cooperative ITS and others. Moreover, this session will also include a discussion on current issues and solutions of international harmonization of ITS radio communication standards toward World Radiocommunication Conference 2019 (WRC-19) which has Agenda Item 1.12 to consider possible global or regional harmonized frequency bands for the implementation of evolving ITS applications.

Organiser
Yosuke Nishimuro, *Ministry of Internal Affairs and Communications, Japan*

Moderator
Satoshi Oayama, *Association of Radio Industries and Businesses, Japan*

Speakers
Koji Hara, *Ministry of Internal Affairs and Communications, Japan*
Sergio Buonomo, *ITU-R, Switzerland*
Tomohiro Otani, *KDDI Research, Inc., Japan*
John Kenney, *Toyota Info-Communication Center, U.S.A.*
Niels Peter Skov Andersen, *C2C-CC Communications Consortium, Denmark*

SIS03 BRINGING NEW PRODUCTS AND SERVICES TO MARKET

Monday 17 September 2018, 13:30–15:00 | Madrid (B5 M2)

ITS continues to come up with innovations to improve transport and mobility. In fact, ITS creates new products and services and changes how transport is regulated, organized, managed, distributed and used. But moving from the creative ideas and research and development phases to successful product and services launch is a complex and hazardous process. This Special Interest Session will allow those involved in navigating this journey to share their experiences, frustrations and insights in launching ITS products and services. It will use feature some success stories and share thoughts on how innovation could be brought to market more effectively. What does disruption look like inside an innovation company that operates in a world of fast pace disruption. Key ideas will explore capital raising, identifying market potential, R&D experience, the innovation hunch and risks, identifying supply or demand, regulation barriers that limit innovation, competition for innovators.

Organiser
Richard Harris, *Ohmio Automotion, UK*

Moderator
Dean Zabrieszach, *HMI Technologies Pty Ltd, Australia*

Speakers
Murphy Sun, *ITS Taiwan, Executive Vice President, Chinese-Taipei*
Victoria Markewitz, *Business Development Principle, RideWithVia, Germany*
Mohammed Hikmet, *Chairman, HMI Group New Zealand*
Raphael Ani, *Head of Intelligent Mobility, Wayra UK, United Kingdom*
Xidi Liu, *Head of Public Transportation Division, DiDi Chuxing, China*

Special Interest Sessions

SIS05 MAXIMISE THE POTENTIAL AND THE MARKET UPTAKE OF THE EGNSS IN MOBILITY

Monday 17 September 2018, 11:00–12:30 | Orlando (B3 M5)

Customer access to Mobility as a Service offering is likely to happen through a mobile application, which collets mobility needs of the user and offers the different alternatives for traveling. Instant geolocation of user and vehicles available are then necessary to match supply and demand. Satellite navigation technologies are widely used for this purpose and it´s a key enabler for most of the services. This session will provide an overview of satellite technologies from the GSA on the benefit for the deployment of multimodality, new mobility services and digital platforms, it will share advancement made in the GALILEO for mobility projects funded by the EC and the point of view of the transport authorities, industries and users.

Organiser
Guido Di Pasquale, *International Organisation of Public Transport – UITP, Belgium*

Moderator
Fiammetta Diani, *GNSS Agency (GSA), Czech Republic*

Speakers
Alberto Fernandez Wyttenbach, *European GNSS Agency, Czech Republic*
Martí Massot, *RACC, Spain*
Steve Beck, *SONY, United Kingdom*
Josep Maria Salanova Grau, *CERTH-HIT, Greece*
Martí Jofre, *PILDO, Spain*
Vivek Landge, *Transport Systems Catapult, United Kingdom*
Jordi Ortuño, *Barcelona City Council, Spain*

SIS06 IBEC SESSION: ITS RESOURCES TO AID PRACTITIONERS AND DECISION-MAKERS

Monday 17 September 2018, 11:00–12:30 | Sydney (B4 M3-4)

Attending the annual ITS World Congress is a vital part of staying up to date with the latest trends and developments. However, there are other resources available to help and support both new and experienced practitioners and decision-makers. This panel session will present five exciting and valuable resource centres and detail their specific coverage. These comprise IBEC (the ITS Benefits Evaluation Community); the World Road Association knowledge base on Road Network Operations and ITS; the ITS Observatory hosted by ERTICO; the Capitals ITS training project; and the European Commission supported MIND-SETS project. The session will encourage participation and questions from the audience and is aimed at all ITS practitioners, but students of ITS and young ITS professionals will be especially welcome. It will focus on knowledge exchange, education and professional development in ITS.

Organiser
Richard Harris, *Ohmio Automotion, UK*

Moderator
Thomas E. Kern, *AASHTO, USA*

Speakers
Martin Böhm, *AustriaTech, Austria*
Richard Harris, *Ohmio Automotion, UK*
Matthieu Graindorge, *Director, City of Helmond, The Netherlands*
Laurie Pickup, *Vectos, Italy*
Sylvain Belloche, *CEREMA, France*

SIS07 RURAL MAAS – FROM DEFINITION TO ACTION

Monday 17 September 2018, 11:00–12:30 | Nagoya (B4 M5)

Rural MaaS was first addressed in 2017 ITS World Congress, indicating great demand and similar challenges everywhere, but little in terms of solutions yet. This session highlights what has been achieved and what will happen next in MaaS for less-dense areas, and takes a step further into the definition of 'Rural MaaS' to provide structure for future actions.

Organiser
Sami Sahala, *Forum Virium Helsinki, Finland*

Moderator
Sami Sahala, *Forum Virium Helsinki, Finland*

Speakers
Dwight Mengel, *Tompkins County Department of Social Services, United States of America*
Soeren Soerensen, *SFMCON ApS, Denmark*
Valerie Lefler, *Feonix-Mobility Rising, USA*
So Morita, Tokyu Corp, Japan
Bethan Cocker, *Future Mobility Design, ESP Group, United Kingdom*

SIS08 ITS FOR PERSONS WITH REDUCED MOBILITY (PRM)

Monday 17 September 2018, 11:00–12:30 | Europe (B4 M6)

Transport is increasingly recognised as having a significant impact on the quality of life of people with disabilities, who are experiencing a greater degree of exclusion from the current transport system compared to people without disability.

Taking into account the fact that 1 in 6 people are affected to some degree by disability, as well as the ageing of population, the need for information on barrier-free transport options in cities will only grow with time. Individuals with a disability who wish to use transport services have a variety of specific needs, ranging from accessible written information to standard products and services with embedded accessibility features.

This session will discuss the latest developments concerning innovation in the ITS PRM sector and will examine the degree of implementation of the delegated act on EU-wide Multimodal Travel Information Services in relation to the minimum datasets pertaining to Persons with Reduced Mobility that need to be made accessible.

Moreover, discussions will take place with the aim to increase awareness and improve the application of measures and policies that enhance the accessibility of transport services for users with reduced mobility and strengthen their passenger rights, before, during and after the trip. Best practices needed in facilitating travel for PRMs will be presented within the project of best practices guide for all modes of transport on the carriage of persons with reduced mobility. Finally, a short presentation will take place on the state-of-play of the ongoing project on mapping accessibility for PRMs.

Organiser
Evangelia Kaselimi, European Commission, DG MOVE, Belgium

Moderator:
Elisabeth Kotthaus, *European Commission, DG MOVE*

Speakers:
Fabien Couly, *AFIMB, France*
Evangelos Bekiaris, *CERTH, Greece*
Kurt Hultgren, *EPF and Resenärsforum, Sweden*
Martin Pichl, *Ministry of Transport, Czech Republic*
Laura Dittscheid, *Door2Door, Germany*

SIS09 LEGAL FRAMEWORK FOR AV ACCIDENT

Monday 17 September 2018, 13:30–15:00 | Tokyo (B3 M1-2)

Automated driving technologies could reduce traffic accidents drastically, but not entirely. Therefore, law will need to address accidents involving automated vehicles. How will liability be assigned and how should it be? From the social viewpoint, it is essential to understand and clarify the legal framework for automated vehicle accidents. The purpose of this session is to consider model legal frameworks for automated vehicle accidents through discussion with legal experts from various countries. Furthermore, studies regarding civil and criminal liabilities for automated vehicle accident have been started everywhere, but are not yet resolved. The discussion would also provide an important opportunity for exchanging ideas and developing best practices.

Organiser
Masayuki Satoh, *ITS Japan, Japan*

Moderator
Masayuki Satoh, *ITS Japan, Japan*

Speakers
Sabine Gless, *Basel University, Switzerland*
Takeyoshi Imai, *Hosei University, Japan*
Bryant Walker Smith, *University of South Carolina, United States of America*

SIS10 ASSESSING NEXT GENERATION TECHNOLOGIES FOR EMERGING FUTURE TRANSPORTATION ENVIRONMENTS

Monday 17 September 2018, 13:30–15:00 | London (B3 M3-4)

As the world moves toward cooperative and automated systems that comprise Internet of Things (IoT) environments that connect more and more activities in our communities, there are new demands for better and more robust secure communications. Communications and cybersecurity technologies are evolving to meet these demands. From a transportation perspective, these new technologies must support unique requirements that enable cooperative exchanges with fast-moving, highly mobile devices; include unique capabilities such as ultra-low communications latency, multi-path management, more optimum use of the airwaves, cybersecurity threat denials, and privacy mitigations. This Special Interest Session will present the global approaches to assessing and evaluating the next generation of communications and cybersecurity technologies and their capabilities for the future transportation environment; discuss the complexities associated with establishing test procedures for rapidly evolving technologies, including providing examples of methods associated with spectrum sharing and co-existence; and describe insights associated with establishing hybrid communications environments.

Organiser

Suzanne Sloan, U.S. Department of Transportation, USA

Moderator

C. Douglass Couto, Independent Consultant, USA

Speakers
Kevin Gay, *U.S. Department of Transportation, USA*
Gianmarco Baldini, *European Commission's Joint Research Centre, Ispra Digital Citizen Security Unit, Italy*
Tom Lusco, *Iteris, USA*

Special Interest Sessions

SIS12 DEFINING SMART CITIES: WHAT IS BEST FOR ITS CITIZENS?

Monday 17 September 2018, 13:30–15:00 | Berlin (B4 M1-2)

Over the past several years, "Smart Cities" have been the subject of many conferences and presentations at prior ITS World Congress. Further, there is a wide variety of definitions of a Smart City. While the technologies that can be used to make a city smart have been identified, one aspect of Smart Cities that has not been covered extensively is basing the selection of technologies on user needs expressed by citizens and travellers. This session will discuss citizen involvement in Smart Cities and exemplary processes that ensure that Smart Cities solutions are based on the needs of city residents and travellers.

Organiser
Carol Schweiger, *Schweiger Consulting LLC, USA*

Moderator
Pete Costello, *Iteris, Inc., USA*

Speakers
Mads Gaml, *City of Copenhagen, Denmark*
Patricia Elizondo, *Independent Consultant, United States*
Randell Iwasaki, *Contra Costa Authority, USA*
Young-Jun Moon, *The Korea Transport Institute (KOTI), Korea*
Taehyung Kim, *The Korea Transport Institute (KOTI), Korea*
Youjun Choi, *Korea Automotive Technology Institute (KATECH), Korea*
Lilian Pun, *The Hong Kong Polytechnic University, China*

SIS13 KEY ASPECTS TOWARDS IMPROVING QUALITY OF MOBILITY AND QUALITY OF LIFE

Monday 17 September 2018, 13:30–15:00 | Sydney (B4 M3-4)

The quality of mobility is an important factor not only in the city but also in the rural life. The population of large cities is increasing, and continuous improvement and improvement of traffic infrastructure is required. On the other hand, in smaller rural areas, youth outflows and decreases are conspicuous, and the sustainable management of public transport, which should be a means of transportation for the elderly, is a severe situation. The realization of a society where anyone can move freely anywhere is our goal. In addition to people's mobility needs and logistics big data, it is necessary to have a common information infrastructure that can analyse traffic related social data integrally. In this session, we will discuss how to realize QoL (Quality of Life) based on QoM (Quality of Mobility), which realizes human-centric transport by needs based approach, utilizing ICT technology such as IOT and big data.

Organiser
Makoto Otsuki, *ITS Japan, Japan*

Moderator
Nobuyuki Ozaki, *Toshiba Corporation, Japan*

Speakers
Krista Huhtala-Jenks, *MaaS Global, Finland*
Sorawit Narupiti, *ITS Thailand, Thailand*
Nobuyuki Ozaki, *Toshiba Corporation, Japan*

SIS14 USER-CENTRIC APPROACHES ENABLING WIDER ACCEPTANCE OF AUTOMATED VEHICLES IN MIXED TRAFFIC

Monday 17 September 2018, 13:30–15:00 | Nagoya (B4 M5)

Automation in road transport is one of the top ranked research topics worldwide and its deployment is estimated to accelerate over the next years while it is expected to strongly impact safety and transport efficiency. Automated Vehicles (AVs) are likely to be deployed in mixed traffic, however their ease-of-use, reliability and trustworthiness have to be significantly improved in order to achieve societal acceptance. AVs need to advance not only in terms of technology but mainly in the way they interact with other road users. In this direction the needs and requirements of the AV users and the other road users need to be considered and the interaction between Automated Vehicles and other road users need to be improved. This session will examine the evolution of research and technologies that can help AVs being widely accepted by the general public by increasing their safety and integration within mixed traffic environment.

Organiser
Anna Schieben, *German Aerospace Center (DLR), Germany*

Moderator
Angelos Amditis, *ICCS, Greece*

Speakers
Anna Schieben, *German Aerospace Center (DLR), Germany*
Daniel Watzenig, *Virtual Vehicle Research Center, Austria*
Melissa Cefkin, *Nissan Research Center-Silicon Valley, United States*
Satoshi Kitazaki, *National Institute of Advanced Industrial Science and Technology (AIST), Automotive Human Factors Research Center, Japan*
Florent Avon, *Mov'eo, France*
James Jenness, *Center for Transportation, Technology & Safety Research, Westat, United States*

SIS15 IOT ADVANCING AUTOMATED MOBILITY AND SMART CITIES FOR IMPROVED QUALITY OF LIFE

Monday 17 September 2018, 13:30–15:00 | Europe (B4 M6)

The urban population is growing continuously and now exceeds 75% in most EU countries. EU cities face expanding challenges for water, energy, environment and mobility management, and therefore need innovative platforms to administer their resources and services more efficiently. The Internet of Things, which will soon see all electronic devices connected to the internet, is expected to change our lives significantly. Connected devices will generate an abundance of useful information. Big Data produced by large numbers of IoT devices will impact the future of cities and play a major role in providing possible solutions to various societal challenges. Can mobility in cities be improved by Automated Driving and the Internet of Things to enhance quality of life? How can we deal with cyber-security, privacy and interoperability? These are questions that this Special Interest Session will answer.

Organiser
Seppo Haataja, *Business Tampere, Finland*

Moderator
Francois Fischer, *ERTICO – ITS Europe, Belgium*

Speakers
Martin Brynskov, *Open Agile Smart Cities, Denmark*
Guido Di Pasquale, *International Organisation of Public Transport – UITP, Belgium*
Rasmus Reeh, *Copenhagen Solutions Lab/Copenhagen Business School, Denmark*
Ralf Willenbrock, *T-Systems International GmbH, Germany*
Daniel De Klein, *City of Helmond, Netherlands*
Gilles Le Calvez, *VEDECOM, France*

SIS16 AUTOMATED BUSES: THE FUTURE OF (LAST-MILE) PUBLIC TRANSPORT?

Tuesday 18 September 2018, 09:00–10:30 | Tokyo (B3 M1-2)

Pilots with autonomous buses have been carried out on open roads in various European cities. Self-driving minibuses are expected to significantly increase public transport quality and service levels, as well as bring about emission reductions and cost savings. However, these robot buses have never been truly integrated in existing transportation systems: the full maturity of the solution has not yet been demonstrated. Is the technical solution ready for real-life deployment? What are the barriers and drivers? Is an autonomous bus fleet economically feasible? What needs to be done to integrate robot buses into existing public transportation? In this Special Interest Session, a round table with representatives of manufacturers, legislative bodies, procurers and PT operators from various continents will discuss this and answer the question if automated buses are the future of public transport.

Organiser
Renske Martijnse-Hartikka, *Forum Virium Helsinki, Finland*

Moderator
Renske Martijnse-Hartikka, *Forum Virium Helsinki, Finland*

Speakers
Andrew Mehaffey, *HMI Technologies Pty Ltd, Australia*
Gerben Feddes, *RDW, Netherlands*
Masayuki Kawamoto, *University of Tsukuba, Japan*
Nadège Faul, *VEDECOM, France*
Dan Langford, *Nevada Governor's Office of Economic Development, United States*

SIS17 EVOLUTION FROM CURRENT AUTOMOTIVE CONNECTIVITY AND ITS DEPLOYMENTS TO 5G AND 5G C-V2X

Tuesday 18 September 2018, 09:00–10:30 | London (B3 M3-4)

A number of connectivity technologies that are relevant for ITS in general, and for the automotive industry in particular, are or will soon be available:

- 5G – the next generation of mobile communication systems is on the verge of its deployment, the first commercial 5G deployments are expected from 2019 onwards.
- 5G will contain numerous features that appeal to the automotive / transportation industry to include enhanced mobile broadband, ultra high reliability and low latency for direct and network communications, and massive IoT.
- It will include concepts like network slicing, (edge) cloud computing, localization improvement, and new radio technology.5G, including 5G C-V2X, is the first network that has potential to connect all road users -- vehicles, riders, pedestrians – and the road infrastructure. This ubiquitous connectivity will play an important role in road transport automation.

Organiser
Tim Leinmueller, *DENSO, Germany*

Moderator
Roger Berg, *DENSO International America, Inc., USA*

Speakers
Johannes Springer, *Deutsche Telekom AG, Germany*
Takehiro Nakamura, *NTT DOCOMO, Japan*
Julius Muller, *AT&T, United States*
Stefano Sorrentino, *Ericsson, Sweden*
Jovan Zagajac, *Ford, United States*
James Misener, *Qualcomm, United States*
Joerg Plechinger, *Director, Audi, Germany*

Special Interest Sessions

SIS18 ITS FOR LIFE

Tuesday 18 September 2018, 09:00–10:30 | Turin (B5 M3)

ITS is an enabler – not just for improving transportation, rather, for improving 'life'. The explosion of data, the numerous data sources that have emerged, the incredible number of information distribution systems in existence today provide us with a revolutionary means to positively affect life well beyond just transportation. This session will explore how we enter a gateway where we can marry the myriad of underutilized transportation data with life's everyday needs to make life altering decisions. Examples include doctor scheduled medical appointments based on a patient's modal capabilities (to include total estimated drive time or estimated transit trip times to include longer or shorter transfer delays). Grocery and retail store sales timed to coincide with low traffic volumes – improving customer experience, reducing congestion and improving air quality. ITS can improve lives in many ways beyond just transportation.

Organiser
Janneke van der Zee, *ITS Canada, Canada*

Moderator
Richard B. Easley, *E-Squared Engineering, USA*

Speakers
Richard B. Easley, *E-Squared Engineering, USA*
Shailen Bhatt, *ITS America, USA*
Steven Dellenback, *Southwest Research Institute, USA*

SIS19 THE NEXT TRAFFIC MANAGEMENT WITH OPEN BIG DATA TO AUTOMATED DRIVING ERA

Tuesday 18 September 2018, 09:00–10:30 | Berlin (B4 M1-2)

The progression of connected and automated vehicles is increasingly heightening expectation to realize various mobility applications using probe data collected from vehicles themselves as well as the next generation smart traffic management. These include not only solving the negative legacy brought by the automobile society such as traffic jams and traffic accidents, but also enhancing the comfort of mobility and giving new values to mobility. On the other hand, traditional traffic managers also possess precious big data such as road sensor information and traffic signal information. By realizing the fusion of both data, it is expected to create new value in society. In this session, we will introduce some practical activities utilizing open big data to enhance mobility in Japan, Asia region and Western region, and discuss some technical and political subjects concerning fusion of public and private big data.

Organiser
Masafumi Kobayashi, *Sumitomo Electric Industries, Ltd., Japan*

Moderator
Masafumi Kobayashi, *Sumitomo Electric Industries, Ltd., Japan*

Speakers
Kenya Sato, *Faculty of Science and Engineering Department of Information Systems Design, Doshisya University, Japan*
Akira Iihoshi, *HONDA Motor Co., Ltd, Japan*
Mohit Sindhwani, *Quantum Inventions, Singapore*
Nick Cohn, *TomTom, USA*
Hiroshi Matsumoto, *Sumitomo Electric Industries, Ltd., Japan*
Laitu Yang, *Cennavi Technology Co.,Ltd, China*

SIS20 IMPROVED SITUATIONAL AWARENESS TO DRIVE IMPROVED OPERATIONS

Tuesday 18 September 2018, 09:00–10:30 | **Sydney (B4 M3-4)**

Improved Situational Awareness for Transportation Authorities will be a key part of delivering future operations and this session seeks to explore how the industry and government are working together to provide the traveller and the cars of the future with as much relevant and accurate information as they can in order to help them make an informed decision or travel choice and how they change their behaviours as real life incidents occur.

Organiser
Chris Bax, *Cubic, Australia*

Moderator
Dave Powell, *Cubic, United Kingdom*

Speakers
Chris Bax, *Cubic, Australia*
Scott Benjamin, *WSP, Australia*
Josh Johnson, *Southwest Research Institute (SwRI), United States*
Andrew Davidson, *Transport Scotland, United Kingdom*

SIS21 HOW TO BUILD A ROAMING ECOSYSTEM FOR MAAS?

Tuesday 18 September 2018, 09:00–10:30 | Nagoya (B4 M5)

Roaming of the MaaS services, from city to city and across borders, is one of the key elements for the success of MaaS. By enabling service roaming we ensure not only quick scalability but more importantly unprecedented usability for end-users. Given that people already cross borders with their vehicles, it is important to allow them that same freedom of movement without vehicle ownership. Eventually the target will be the global roaming of mobility services. Looking for the inspirations from the telecom industry and global players, the session will discuss the vision and roadmap to fully roamable MaaS ecosystem. Also the MaaS Alliance "User Bill of Rights" will be presented during the session.

Organiser
Piia Karjalainen, *ERTICO – ITS Europe, Belgium*

Moderator
Piia Karjalainen, *ERTICO – ITS Europe, Belgium*

Speakers
Jose Aranda, *GSMA, Belgium*
Evelien Marlier, *European Passenger Federation, Belgium*
Marko Javornik, *COMTRADE, Slovenia*
Krista Huhtala-Jenks, *MaaS Global, Finland*
Laura Eiro, *Finnish Ministry of Transport and Communications, Finland*
Jana Sochor, *RISE Viktoria & Chalmers University of Technology, Sweden*

SIS22 PAYING FOR MOBILITY IN 2018

Tuesday 18 September 2018, 09:00–10:30 | Europe (B4 M6)

The way in which we have paid for mobility has continuously evolved over the last 100 years. In 2018, there will be a multitude of different payment solutions ranging from traditional cash to contactless bank cards to mobile payment systems but how should transport operators and service providers choose which systems to prioritise and which payment methods do travellers prefer? The session will explore the challenges of providing numerous payment methods to travellers and how this affects the business models of integrated mobility schemes.

Organiser
Maria Kechagia Tsiakiri, European Commission, DG MOVE, Belgium

Moderator:
Claire Depré, *European Commission, DG MOVE*

Speakers:
Andy Tailor, *Cubic Transportation Systems, United State*
Louis Brosse, *Wizway Solutions, United Kingdom*
Igor Taranic, *VVA Europe, Belgium*
Matthew Hudson, *Transport for London, United Kingdom*
Jarl Eliassen, *Ruter, Norway*

SIS23 DEPLOYMENT OF AUTONOMOUS SHUTTLES ON PUBLIC ROADS – EXPERIENCES FROM FIVE DIFFERENT COUNTRIES

Tuesday 18 September 2018, 13:30–15:00 | Tokyo (B3 M1-2)

Autonomous shuttles are a promising way to bridge the first/last mile in public transport. Early adopters around the world have started trials to test autonomous shuttles on public roads. The SIS sheds light on the question, how the process of deploying an autonomous shuttle on a public road in mixed traffic is currently handled in different countries. Speakers from Austria, Australia, Germany, Sweden, Switzerland share their experiences concerning the following aspects: getting a test permission, national or local regulations, role of road authorities, adaptations to the vehicles in order to be compliant with national regulations, adaptations to the physical or digital infrastructure, applied test procedures, overall deployment process, best practices and learnings.

Organiser
Karl Rehrl, *Salzburg Research, Austria*

Moderator
Martin Russ, *AustriaTech, Austria*

Speakers
Karl Rehrl, *Salzburg Research, Austria*
Johannes Liebermann, *Wiener Linien, Austria*
Markus Riederer, *Swiss Federal Roads Office (FEDRO), Switzerland*
Thomas Huber, *Deutsche Bahn Regio Bus, Germany*
Patrick Walker, *RAC WA, Australia*
Birger Löfgren, *RISE Viktoria, Sweden*
Peter Hafmar, *Nobina Technology, Sweden*

Special Interest Sessions

SIS24 SMART VILLAGES: ITS IN RURAL AREAS

Tuesday 18 September 2018, 13:30–15:00 | London (B3 M3-4)

This session will focus on the use of ITS in rural areas. The discussion will feature case studies from Japan, Europe and the United States, as well as research and development trends and efforts to prepare for implementation in society. It will also include approaches to the unique challenges posed by rural areas, such as narrow, winding roads, snowfall and other harsh weather conditions and inadequate communications environments.

Organiser
Kazunari Nakamura, *Ministry of Land, Infrastructure, Transport and Tourism, Japan*
Satoshi Sato, *Mitsubishi Research Institute, Inc.,*

Moderator
Hironao Kawashima, *Keio University, Japan*

Speakers
Nadège Faul, *VEDECOM, France*
Carrie Morton, *Mcity, the University of Michigan, United States*
Kevin J. Salzer, *Jacksonville Transportation Authority, United States*
Siddartha Khastgir, *University of Warwick, United Kingdom*
Nakamura Kazunari, *Ministry of Land, Infrastructure, Transport and Tourism, Japan*

SIS25 PROMOTE THE ELECTROMOBILITY INTEGRATION IN URBAN ENVIRONMENT

Tuesday 18 September 2018, 13:30–15:00 | Turin (B5 M3)

Electromobility is widely pursued as a mean to decarbonise road transportation but the actual speed of the transformation still does not meet the ambitious vision of fully electric fleets. This special interest session discusses the means to support a shift from fossil fuel to electrified urban mobility, focusing especially on the European efforts towards the familiarisation of users with the usage of EVs (including light vehicles) in urban environments. The presenters will discuss the recent findings concerning the citizens' attitudes towards such vehicles, how a mind-shift could be achieved and the current barriers and procurement guidelines for cities.

Organiser
Angelos Amditis, *ICCS, Greece*

Moderator
Jean-Charles Pandazis, *ERTICO – ITS Europe, Belgium*

Speakers
Alexander Froetscher, *Austriatech, Austria*
Angelos Amditis, *ICCS, Greece*
Andrew Winder, *ERTICO – ITS Europe, Belgium*
Marco Ottella, *Infineon Technologies Austria AG, Austria*
Micaela Troglia, *CISC, Austria*
Mika Kulmala, *City of Tampere, Finland*

SIS26 INTELLIGENT OPERATIONS MODELS FOR MOBILITY-AS-A-SERVICE

Tuesday 18 September 2018, 13:30–15:00 | Berlin (B4 M1-2)

Mobility-as-a-Service (MaaS) has recently emerged as the consequence of a rapid paradigm shift from traditional fixed-line-and-timetable public transport to more personalised personal transport services in the context of ever-growing urban landscapes. This new way of re-organising the transportation system should incorporate multiple concepts such as: car/bike/taxi sharing, on-demand mobility, multiservice integration, multimodal, flexibility. According to various world-wide initiatives, the MaaS concept should focus more on the services being provided and not on transportation modes. But merging these concepts is a true challenge and currently there isn't a single distribution model that can answer to all these needs. Various initiatives have been adopted around the world to address the same mobility issues but in different socio-cultural environments. This sessions aims at bringing together innovative operational models for MaaS from various international domain experts, with the aim of sharing the lessons learned, discuss new strategies and methodologies to deal with these challenges.

Organiser
Adriana-Simona Mihaita, *DATA61|CSIRO, Australia*

Moderator
Chen Cai, *DATA61|CSIRO, Australia*

Speakers
Kevin Orr, *Liftango, Australia*
David Adelman, *Via, USA*
Kara Livingston, *Keolis, France*
Stacey Ryan, *ITS Australia, Australia*
Andy Taylor, *Cubic Transportation Systems, United States*

SIS27 THE VALUE CHAINS OF (INTERACTIVE) TRAFFIC MANAGEMENT

Tuesday 18 September 2018, 13:30–15:00 | Sydney (B4 M3-4)

Many initiatives and groups supported by the European Commission are rapidly developing technologies involving road data available from different sources. There is a need for coordination and a view on the full data and value chain leading to a better use of the road infrastructure. The objective of the session is to discuss an overview of the different elements present in the different possibilities for data and value chains. The session will address dynamic data, cooperation models, pilots and the different views on value and data chains. This will facilitate the creation of a common view and ways of cooperation between Service Providers, OEMs and Public Authorities in Europe, Asia and the US. The challenge for the combination of data and value chains, their consistency and ways forward will be discussed by international experts representing both public and private organisations as the city of Copenhagen, Here, Be-Mobile, CROCODILE and BMW.

Organiser
Coen Bresser, *RWS, Netherlands*

Moderator
Wim Broeders, *MAPtm, Netherlands*

Speakers
Mads Gaml, *City of Copenhagen, Denmark*
Irina Koller-Matschke, *BMW, Germany*
Mark Grefhorst, *Be-Mobile, The Netherlands*
Bart Coppelmans, *HERE Technologies, Netherlands*
Martin Böhm, *AustriaTech, Austria*
Stephen T'Siobbel, *TomTom, Belgium*

SIS63 ACCESSING TRAVEL AND TRAFFIC DATA IN THE EU

Tuesday 18 September 2018, 13:30–15:00 | Europe (B4 M6)

In Europe, public and private travel and traffic datasets are becoming readily accessible, thanks to both individual efforts and National/European frameworks. But WHAT datasets are available for re-use in Europe, HOW are they made accessible and what can be improved for the future? This session will explore what priorities should be established by the public and the private sector in order to best support integrated, multimodal and cleaner transport.

Organiser
Gilles Carabin, European Commission, DG MOVE, Belgium

Moderator:
Gilles Carabin, *European Commission, DG MOVE*

Speakers:
Ralf-Peter Schafer, *TomTom, the Netherlands*
Bernard Schwob, *DGTIM, France*
Annabelle Huet, *UITP, Belgium*
Els de Wit, *DGMI, the Netherlands*
Martin Johansson, *Finnish Ministry of Transport and Communications, Finland*

SIS28 COOPERATIVE-ITS STANDARDS GAPS

Tuesday 18 September 2018, 15:30–17:00 | London (B3 M3-4)

In late 2015, the European Commission, Transport Certification Australia, and the U.S. Department of Transportation came together to collaborate on identifying standards needed for a complete Cooperative-ITS environment. Japan joined the effort in 2017. Together, these Nations and their experts have performed the analysis and identified gaps—gaps that are critical for an interoperable, trusted, and cooperative data exchange via hybrid communications. Priority gaps include (among others): security, data distribution, location and time, authorization, electronic traffic codes. Gaps are due to no standard being available (including from other industries); an incomplete standard or need to update existing standards; or because of standards overlaps which, from a deployer's perspective, can create confusion. The end results are available through on-line tools developed by the international team; and will be provided through a series of final reports. This special interest session will offer the results of this international collaborative effort.

Organiser
Suzanne Sloan, *U.S. Department of Transportation, USA*

Moderator
Kevin Gay, *U.S. Department of* Transportation, *USA*

Speakers
Knut Evensen, *Q-Free ASA, Norway*
Tom Lusco, *Iteris, USA*
Junichi Hirose, *HIDO, Japan*
Philip Lloyd, *Transport Certification Australia, Australia*

Special Interest Sessions

SIS29 HOW CAN COPENHAGEN BECOME A CO_2 NEUTRAL CAPITAL?

Tuesday 18 September 2018, 15:30–17:00 | Turin (B5 M3)

As the first capital in the world, Copenhagen set a target to become CO_2 neutral by 2025, but placing yourself in the forefront of the development of a sustainable city globally is huge challenge, especially related to mobility. However, Copenhagen's experience shows it generates opportunities, which can be turned into an advantage for the city itself, contributing with direct CO_2 reductions, green growth, and a healthier and more liveable city for the Copenhageners. Taking the lead, requires the development of innovative solution that my not exist, and this needs to happen in close relationship with expert partners from the business community.

Through this session you will get an insight on how Copenhagen works with their ambitious climate target, and how green mobility solutions developed in collaboration with the private sector contributes to reaching it.

Organiser
Klaus Bundgaard, *The City of Copenhagen, Denmark*

Moderator
Christian Ibsen, *CONCITO, Denmark*

Speakers
Jørgen Abildgaard, *The City of Copenhagen, Denmark*
Mikkel Krogsgaard Niss, *City of Copenhagen, Denmark*
David Marc Gurewitsch, *The City of Copenhagen, Denmark*
Anders Torp Madsen, *City of Copenhagen, Denmark*

SIS30 PREDICTIVE ANALYTICS FOR INTELLIGENT MOBILITY

Tuesday 18 September 2018, 15:30–17:00 | Berlin (B4 M1-2)

In a world of new interconnectivity and high-performance transportation networks the need for fast and accurate traffic predictions has become a necessity to alleviate congestion. Various efforts have been put in adopting Intelligent Transportation Systems or Advanced Traffic Management Systems for incident management and real-time traffic monitoring. Having accurate predictions in the next 15-30 minutes enables a proactive event-handling and a better multi-modal coordination between various transportation modes. However, these valuable insights require high-frequency real-time data streams and massive volumes of historical data to fit the predictive models. Providing predictive analytics at a large-scale is a true challenge which requires high computational power and long processing times. This session aims at addressing these challenges by inviting various international experts in data-driven predictive solutions applied to large urban areas or dedicated areas/corridors, with the aim of sharing the lessons learned as well as their intelligent operating models and strategies.

Organiser
Adriana-Simona Mihaita, *DATA61|CSIRO, Australia*

Moderator
Chen Cai, *DATA61|CSIRO, Australia*

Speakers
Christopher Bentley, *DATA61|CSIRO, Australia*
Chris Bax, *Cubic, Australia*
John McCarthy, *Arup, United Kingdom*
Pete Costello, *Iteris, Inc., USA*
Gavin Jackman, *Aimsun Ltd., United Kingdom*

SIS31 5G WITH SATELLITE – DELIVERING RESILIENCE AND REACH

Tuesday 18 September 2018, 15:30–17:00 | Orlando (B3 M5)

Deploying robust ITS services that work seamlessly irrespective of the users location – whether rural or urban – poses an interesting challenge for ITS connectivity. With 5G and new satellite constellations (OneWeb, Iridium Next, etc) in the near future, along with the convergence of terrestrial and satellite technology, the provisioning of seamless connectivity on the move – in urban, rural and wilderness – will become a reality and pave the way for richer ITS services. 5G has the ambition to enable harmonious integration of heterogeneous networks whether terrestrial and satellite. It is forecasted that by 2025 around 27.2% of automotive use cases will use satellite connectivity.

Organiser
Ashweeni Beeharee, *SA Catapult, United Kingdom*

Moderator
Ashweeni Beeharee, *SA Catapult, United Kingdom*

Speakers
Andrew Faiola, *Intelsat, United*
Tim Last, *Iridium, USA*
Christopher Bentley, *Fraunhofer FOKUS, Germany*
Ian Goetz, *Juniper, United Kingdom*
Devan Parek, *Phasor Solutions, United Kingdom*

SIS32 ADVANCED TECHNOLOGIES FOR OPERATION AND MAINTENANCE OF ITS FACILITIES

Tuesday 18 September 2018, 15:30–17:00 | Sydney (B4 M3-4)

It is necessary to discuss the operation and maintenance of ITS facilities. These are important to keep the good condition and get the benefits from the systems. ITS has passed nearly 20 years from commencement and it is the time to consider the effective method to replace. In this session we will continue to discuss proactive maintenance, preventive maintenance, maintenance date and so on.

Organiser
Takahiro Azuma, *West Nippon Expressway Facilities Company Limited, Japan*

Moderator
Masao Kuwahara, *Tohoku University, Japan*

Speakers
Yotaro Nagai, *West Nippon Expressway Company Limited, Japan*
Rie Ikushima, *West Nippon Expressway Engineering Kansai Company Limited, Japan*
Takashi Ueda, *West Nippon Expressway* Company Limited, *Japan*
Kazuma Hashimoto, *Central Consultant Inc., Japan*
Matija Mavrič, *Cestel d.o.o., Slovenia*
Minoru Onoyama, *West Nippon Expressway Company Limited, Japan*

SIS33 USING BIG DATA TO REDUCE CONGESTION & PRIORITISE GOVERNMENT SPENDING

Tuesday 18 September 2018, 15:30–17:00 | Melbourne (B3 M6)

Governments at all levels, and highways agencies in particular, have limited budgets and need to prioritise investment and expenditure decisions to maximise user benefits. GPS probe data can be used to provide quick and low cost insight in both real-time and historically to monitor, manage, and evaluate the performance of the road network. The UK has announced £1.1 billion to tackle congestion, and a further £220 million to improve road safety and congestion on motorways specifically. This investment will generate the maximum societal benefit if it is concentrated on the very worst traffic hotspots.

Organiser
Steve Dobson, *INRIX, United Kingdom*

Moderator
Scott Sedlik, *INRIX,United States*

Speakers
Mads Gaml, *City of Copenhagen, Denmark*
Joachim Wahle, *TraffGo, Germany*
Cordell Schacter, *NYCDOT, United States*
Darcy Bullock, *Purdue University, United States*
Jennifer Cohan, *Delaware DOT, USA*

SIS34 AUTONOMOUS VEHICLES IN PUBLIC TRANSPORT

Tuesday 18 September 2018, 17:15–18:45 | Tokyo (B3 M1-2)

For cities, public transport remains the most attractive way of reducing congestion on the roads. Autonomous, and possibly electric, vehicles hold great promise in delivering green and efficient transport. In this session, we discuss some of Singapore's ambitious plans to roll out autonomous vehicles in public transport and touch on different aspects of making this happen.

Organiser
Mohit Sindhwani, *Quantum Inventions, a Continental Corporation company, Singapore*

Moderator
Mohit Sindhwani, *Quantum Inventions, a Continental Corporation company, Singapore*

Speakers
Andreas Rau, *TuM CREATE, Singapore*
Xavier Salort, *Easymile, France*
Alvin Chua, *Land Transport Authority, Singapore*
Jean-Francois Simeon, *Continental Corporation, France*

Special Interest Sessions

SIS35 STRATEGY OF PRACTICAL IMPLEMENT OF V-I COOPERATIVE SYSTEMS FOR TRAFFIC ACCIDENT AVOIDANCE

Tuesday 18 September 2018, 17:15–18:45 | Montreal (B5 M1)

It is the most important problem through many countries to prevent road traffic users from having traffic accident, especially critical accident, which are negative products in motorized societies. Many of traffic accidents are occurred by human error. In order to make the traffic environment even safer, adopting advanced technologies, including automated driving technologies, is expected as one of the key tools. Japanese Police is developing and deploying the V-I Cooperative systems that avoid traffic accidents and contribute to deployment of highly automated driving systems. These kind of systems are also developed and deployed by US and EU and attract people's attention. This session aims to introduce the development and deployment of V-I Cooperative systems and to discuss some technological and political subjects of V-I Cooperative systems for traffic accidents avoidance.

Organiser
Nakaba Izumoto, *National Police Agency, Japan*
Takashi Kimura, *UTMS Society of Japan, Japan*

Moderator
Takashi Oguchi, *the University of Tokyo, Japan*

Speakers
Nakaba Izumoto, *National Police Agency, Japan*
Yasumasa Kobayashi, *UTMS Society of Japan, Japan*
Masafumi Kobayashi, *UTMS Society of Japan, Japan*
Martin Böhm, *AustriaTech-Federal Agency for Technological Measures Ltd., Austria*
Ning He, *Genvict, China*
Maxime Flament, *5G Automotive Association e.V., Germany*

SIS36 ICT SERVING AUTOMATED ROAD TRANSPORT

Tuesday 18 September 2018, 17:15–18:45 | London (B3 M3-4)

Hybrid connectivity ensures availability of data, redundancy and resilience for the needs of automated driving and is a very important research topic in Europe highlighted in several working groups and platforms such as the C-ITS platform established and chaired by the EC. Moreover, additional technologies, stemming from 5G, such as Ultra Reliable Low Latency Communication (URLLC), massive Machine Type Communication (mMTC) and network slicing are also under investigation for automotive purposes. In this connectivity chain, the role of cybersecurity and data privacy are key aspects which need to be addressed properly to ensure timely deployment. Cyber-threats and cyber-attacks might become a substantial impediment towards this direction. The goal of this session is to gather key in the field of connected and automated road transport and offer the opportunity to present the current initiatives, debating open needs and future challenges, while investigating the outlook of those technologies.

Organiser
Angelos Amditis, *ICCS, Greece*

Moderator
Angelos Amditis, *ICCS, Greece*

Speakers
Gregory Neven, *IBM Research – Zurich, Switzerland*
Tim Leinmueller, *DENSO, Germany*
James Misener, *Qualcomm, USA*
Steffen Schulz, *Nokia Solutions and Networks GmbH & Co. KG, Germany*
Adrien Becue, *Airbus Defence and Space, France*

SIS37 FROM PROBLEM TO PROTOTYPE: A COORDINATED, USE-CASE BASED APPROACH

Tuesday 18 September 2018, 17:15–18:45 | Madrid (B5 M2)

Deploying cutting-edge transportation technologies can be risky in a rapidly evolving and uncertain world. Many claims have been made about the capabilities and benefits of these technologies, yet there have not been enough pilots or real-world trials to prove those claims. As agencies look to pilot new technology, champions strive to link technologies as solutions to local challenges and secure leadership support. An action network of cities across the U.S. has taken a novel approach to addressing these problems by collaborating to identify agencies best positioned to test new technologies and by prioritizing community-based use-cases that are most impactful to the network's agencies. This panel will highlight the activities of the 10 states and 20 participating cities in this collaboration including developing and prioritizing technology use-cases in the following five areas over the past year: access & equity, seamless mobility, energy & sustainability, operations & infrastructure, and freight & logistics.

Organiser
Andrea Gold, *The University of Texas at Austin, USA*

Speakers
Leah Treat, *Portland, Oregon Bureau of Transportation, USA*

SIS38 CHALLENGE OF A COMMON METHODOLOGY TO ASSESS ITS IMPACT ON REDUCING EMISSIONS

Tuesday 18 September 2018, 17:15–18:45 | Turin (B5 M3)

Intelligent Transport Systems for road transport, whether in-vehicle, infrastructure or cloud-based, are recognised as having a potential to reduce the environmental footprint of this mode. Numerous studies and trials have produced good and interesting results, but ones which are rarely comparable across different locations or different ITS applications due to measurement methodologies, local circumstances, etc. This session will take stock of where we are now and discuss, in the context current environmental targets, what next steps are possible or desirable in pursuit of a common Impact Assessment methodology for ITS applications concerning the reduction of different types of emissions such as CO_2, NOx or Particulate Matter.

Organiser
Andrew Winder, *ERTICO – ITS Europe, Belgium*

Moderator
Jean-Charles Pandazis, *ERTICO – ITS Europe, Belgium*

Speakers
Leonidas Ntziachristos, *Aristotle University of Thessaloniki, Greece*
Andrew Winder, *ERTICO – ITS Europe, Belgium*
Jeroen Borst, *TNO, Netherlands*
Tetsuya Suzuki, *Japan Automobile Research Institute, Japan*

SIS39 MOBILITY AS A SERVICE – NEW BUSINESS AND SERVICE APPROACHES

Tuesday 18 September 2018, 17:15–18:45 | Berlin (B4 M1-2)

Mobility as a Service solutions will put users at the heart of the transport network, offering tailor-made travel services based on their preferences. MaaS has the potential to become the mobility service of choice for future generations, disrupting the traditional link between mobility and vehicle ownership. This session will drill down into the details of MaaS and examine the status of development and deployment and the different approaches being applied. It will also discuss the industry and city and regional perspectives of MaaS and focus on developments the business, service and policy aspects of this trending topic and the partnerships that are delivering them. MaaS will also provide the means to achieve the smarter, simplified transportation landscape envisioned and expected by future users

Organiser
Richard Harris, *Ohmio Automotion, UK*

Moderator
Ralf Baron, *Arthur D. Little, Germany*

Speakers
Carol Schweiger, *Schweiger Consulting LLC, USA*
Richard Harris, *Ohmio Automotion, UK*
Michael Kieslinger, *Fluidtime Data Services, Austria*
Sue Zielinski, *Zielinski Consulting, USA*
Hans Arby, *UbiGo, Sweden*

SIS40 COOPERATIVE ITS SERVICES: MOVING FROM CROSS-BORDER INTEROPERABILITY TO MARKET ROLL-OUT

Tuesday 18 September 2018, 17:15–18:45 | Sydney (B4 M3-4)

Building on successful developments and cross-testing, Cooperative ITS (C-ITS) services are now moving from pilot to large scale deployment: 2019 is hence considered as key milestone for the start of C-ITS market roll-out. This is a step change made possible by various industry sectors and political engagement on both national and EU level. During this session, current and upcoming experiences on cross-border interoperability testing of short-range Wi-Fi and cellular networks and their (hybrid) combination will be presented and discussed. Speakers will also unfold future perspectives for harmonized and coherent C-ITS market roll-out. Here the focus will be on organisational processes, including aspects like strategy, policy, procurement, standards and innovation.

Organiser
Giacomo Somma, *ERTICO – ITS Europe, Belgium*

Moderator
Giacomo Somma, *ERTICO – ITS Europe, Belgium*

Speakers
Eric Ollinger, *DGTIM, France*
Gary Crockford, *Department for Transport, United Kingdom*
Serge van Dam, *Dutch Ministry of Infrastructure and Water management (Rijkswaterstaat), Netherlands*
Helge Molin, *Austrian Ministry for Transport, Innovation and Technology, Austria*
Sandro Berndt, *Federal Highway Research Institute (BASt), Germany*
Thomas Biehle, *Volkswagen/ Cooperative safety and electronic processes, Germany*

Special Interest Sessions

SIS41 5 SMART CITY EUROPEAN INITIATIVES YOU WANT TO MEET: OPPORTUNITIES FOR CITIES-INDUSTRY

Tuesday 18 September 2018, 17:15–18:45 | ITS Forum

Joint public-private actions in the EIP Smart cities aim to mobilise 300 million EUR investments in 100 cities by the end of 2019 – and you can join in! Would you like to meet up with 4 European initiatives that roll out ITS-applications in European cities? In this session, you will learn how you could get involved in their actions to deploy and replicate tested solutions in your city in; special and electric vehicles, urban air mobility, mobility services, and linking energy-mobility. This session is organised by the Action Cluster Sustainable Urban Mobility of the European Innovation Partnership in Smart Cities, that brings together cities and regions with companies and other smart city actors to showcase innovative mobility solutions and support their replication at scale.

Organiser
Henriette van Eijl, *European Commission, DG MOVE, Belgium*

Moderator
Henriette van Eijl, *European Commission, DG MOVE, Belgium*

Speakers
Enrico Gaspari, *PwC, Italy*
Edwin Mermans, *Province of Noord-Brabant/ Brabantstad, the Netherlands*
Tamara Goldsteen, *Province of Noord-Brabant/ Brabantstad, the Netherlands*
Eunice Ribeiro, *Ubiwhere, Portugal*
Paul Blakeman, *Urban Foresight, United Kingdom*
Vassilis Agouridas, *Airbus, France*

SIS42 AUTOMATED SHUTTLES – LESSONS FROM TRIALS AND THE PATH TO DEPLOYMENT

Wednesday 19 September 2018, 09:00–10:30 | Tokyo (B3 M1-2)

With the proliferation of automated shuttle trials around the world, this session will focus on the lessons learnt from trials in New Zealand, Australia, California, USA, and Singapore.

Organiser
Hany Eldaly, *Mobility as a Service Australia*

Moderator
Hany Eldaly, *Mobility as a Service Australia*

Speakers
Andrew Mehaffey, *HMI Technologies Pty Ltd, Australia*
Randell Iwasaki, *Contra Costa Authority, USA*
Kian Keong Chin, *Land Transport Authority, Singapore*

SIS43 TECHNICAL CHALLENGES TO INTEGRATING LOW SPEED AUTOMATED VEHICLES INTO THE TRANSPORTATION NETWORK

Wednesday 19 September 2018, 09:00–10:30 | London (B3 M3-4)

There has been an explosion of pilots and demonstrations all over the world of autonomous shuttles. These low speed automated vehicles, operate in limited/restricted operational design domains and are targeted for carrying passengers and goods. These pods have the potential to augment, and in some cases, replace existing means of last mile transportation. The session will explore the technical challenges that have been encountered, and are expected to be encountered, during integration of these systems into the transportation network.

Organiser
Ryan Lamm, *Southwest Research Institute, USA*

Moderator
Ryan Lamm, *Southwest Research Institute, USA*

Speakers
Matthew Lesh, *Mobility e3, USA*
Siddartha Khastgir, *WMG, UK*
Richard Fairchild, *Aurrigo, a division of RDM Group, UK*
Mahmood Hikmet, *Ohmio Automotion Ltd, New Zealand*

SIS44 SMART METRICS FOR SMART CITIES – TRAFFIC SIGNALS' CONTRIBUTION TO LIVEABILITY

Wednesday 19 September 2018, 09:00–10:30 | Turin (B5 M3)

Smart cities offer an opportunity to improve liveability, important due to ever increasing urban populations around the world. Transport is an important dimension of liveability and urban streets are an important place in these cities. Traffic signals remain crucial to the citizen's experience of both. Big Data will have a role to play in making cities smart, but leaves an important question unanswered – what should we be trying to achieve? What is it that represents better? This session will explore both the principles and the practicalities of using metrics and setting targets that help traffic signals to play their role in achieving smart and liveable cities.

Organiser
Andrew Somers, *Transoptim, Australia*

Moderator
Andrew Somers, *Transoptim, Australia*

Speakers
David Johnston, *Intelligent Transport Services, Australia*
Thomas Riedel, *Adaptive Traffic Control AG, Switzerland*
Farhad Pooran, *Econolite Systems, United States*

SIS45 CHALLENGES ON TESTING AND VALIDATION OF AUTOMATED DRIVING

Wednesday 19 September 2018, 09:00–10:30 | Berlin (B4 M1-2)

Testing and validation of automated driving functions and vehicles are considered key topics expected to boost automated driving implementation. A safe deployment of automated vehicles involves the definition of a comprehensive methodology to verify and validate whether vehicles comply with regulatory and technological requirements. This session will provide an overview of the testing activities of automated driving functions on public roads across Europe and the ongoing evaluation work. A major European contribution comes from the flagship research project L3Pilot that tests automated driving functions of SAE levels 3 and 4 on public roads, including cross-border activities.

Organiser
Aria Etemad, *Volkswagen Group Research, Germany*

Moderator
Angelos Amditis, *ICCS, Greece*

Speakers
Yves Page, *Groupe Renault, France*
Satu Innamaa, *VTT Technical Research Centre of Finland Ltd., Finland*
Hendrik Weber, *Institute for Automotive Engineering (ika) of RWTH Aachen University, Germany*
Andrés Aparicio, *Applus IDIADA Group, Spain*
Andreas Knapp, *Daimler AG, Germany*

SIS46 USING ANALYTICS TO DRIVE BETTER DECISIONS AND IMPROVE TRANSPORTATION SERVICE DELIVERY

Wednesday 19 September 2018, 09:00–10:30 | Sydney (B4 M3-4)

The promise of big data in transportation is about to be realized, although the term has become hackneyed through widespread use. This session addresses the need for practical application examples and focuses on going beyond the hype associated with big data and provides a deeper insight into how insight and understanding gleaned from big data can drive better decision-making and improved transportation service delivery. Five perspectives are explored by a combination of public and private sector speakers, illustrating the practical application of big data analytics within the transportation realm. After each short presentation, a roundtable session will be held to explore issues and opportunities identified during the presentations

Organiser
Kyle Connor, *Cisco, United States*

Moderator
Mark Knellinger, *Cisco, United States*

Speakers
Robert Hubbard, *Bob McQueen and Associates, United States*

Special Interest Sessions

SIS47 FUTURE OF MOBILITY: THE QUESTIONS WE ARE AFRAID TO ASK!

Wednesday 19 September 2018, 09:00–10:30 | ITS Forum

The special session proposes to raise and discuss some of the more practical and pragmatic questions about how do we really make such systems work for society, how do we avoid the rebound effects of unintended consequences and what do we realistically think users want and expect from such systems and indeed what is needed to ensure we can better guide the outcomes of these developments to deliver a positive outcome for society.

Organiser
Phil Blythe, *Newcastle University, United Kingdom*

Moderator
Phil Blythe, *Newcastle University, United Kingdom*

Speakers
Alasdair Cain, *US Department of Transport, United States*
Richard Bruce, *Department for Transport, United Kingdom*
Barbara Lenz, *German Aerospace Center (DLR), Germany*
Dean Zabrieszach, *HMI Technologies Pty Ltd, Australia*
Darren Capes, *City of York Council, UK*

SIS48 EFFECTIVE MEASURES OF SUCCESS: THE UNITED STATES CONNECTED VEHICLE PILOTS

Wednesday 19 September 2018, 13:30–15:00 | Tokyo (B3 M1-2)

In 2015, the United States Department of Transportation (USDOT) selected three locations (New York City, Tampa, and Wyoming) to take part in the world's largest Connected Vehicle (CV) pilot. Now that it is up and running, how will the U.S. measure its success? How will they track the results with real-world drivers? Representatives from the USDOT and the pilot sites will share how each of the pilot sites plan to measure the effectiveness of connected vehicle technology, how they will baseline their current traffic safety situations and how each of the CV applications performed in real-world settings. The results will have significant implications for the future of all connected and cooperative vehicle deployments.

Organiser
Kate Hartman, *U.S. DOT Intelligent Transportation Systems Joint Program Office, U.S.A.*

Moderator
Kenneth Leonard, *U.S. Department of Transportation (USDOT) Intelligent Transportation Systems Joint Program Office (ITS JPO), U.S.A.*

Speakers
Mohamad Talas, *Director of System Engineering, ITS, New York City Department of Transportation, USA*
Kevin Gay, *U.S. DOT Intelligent Transportation Systems Joint Program Office, U.S.A.*
Bob Frey, *Tampa-Hillsborough County Expressway Authority, U.S.A.*
Robert Rausch, *TRANSCORE, U.S.A.*

SIS49 FAST DEPLOYMENT OF V2X USING CELLULAR NETWORKS AND NEUTRAL SERVERS

Wednesday 19 September 2018, 13:30–15:00 | London (B3 M3-4)

Connected and automated driving is advancing rapidly in technology development, testing and demonstrations. During the past years, it has become evident that V2X connectivity requires a hybrid solution of direct point2point short-range communication and broadcast type medium/long-range communications. Recent pilot deployments have shown that cellular cloud2cloud solutions over the existing 3G/4G networks can provide V2X connectivity with latencies below 1s, which is sufficient for most V2X applications, even safety-related ones. Such solutions provide for fast deployment of V2X over the wide road networks and for major part of the vehicle fleets. The session will present results on the interoperability, technical performance, user acceptance, transport and other impacts as well as socio-economy from all parts of the world. The panellists will also describe the major deployment issues and their solutions for such cloud2cloud V2X service ecosystems as well as the possible business models facilitated.

Organiser
Risto Kulmala, *Traficon, Finland*

Moderator
Risto Kulmala, *Traficon, Finland*

Speakers
Gilles Carabin, *European Commission, DG MOVE, Belgium*
Ilkka Kotilainen, *Finnish Transport Agency, Finland*
Olle Isaksson, *Ericsson, Sweden*
Ahmed Nasr, *HERE Technologies, Belgium*
James Misener, *Qualcomm, United States*

SIS50 SHARING DATA FOR TRAFFIC INFORMATION BETWEEN ROAD AUTHORITIES AND SERVICE PROVIDERS

Wednesday 19 September 2018, 13:30–15:00 | Berlin (B4 M1-2)

Traffic information is a powerful tool for traffic management and an important part of exploring new possibilities of using data for connected and automated vehicles, MaaS and smart cities with the aim of improving traffic safety and mobility. Road authorities and service providers have different goals, roles and business models in this development. Road authorities have the goal of using traffic information for traffic management and attach importance to all drivers receiving both safety related traffic information and information on incidents in order to reduce the risk of accidents and improve mobility. Service providers add significant value to the traffic information received from road authorities and provide drivers with a wide range of traffic and travel related services. The purpose of this session is to discuss possible models for improved cooperation between service providers and road authorities.

Organiser
Charlotte Holstrom, *Vejdirektoratet, Denmark*

Moderator
Charlotte Vithen, *The Danish Road Directorate, Denmark*

Speakers
Peter Ryberg Neess, *Aarhus Kommune, Denmark*
Olaf Vroom, *Dutch National Data Ware House, The Netherlands*
Stine Bendsen, *The Danish Road Directorate, Denmark*
Nick Cohn, *TomTom, USA*
Rick Shuman, *INRIX, USA*
Georg Held, *Here, Germany*
Mark Timms, *Here, United Kingdom*

SIS51 AUTONOMOUS FREIGHT VEHICLES: BENEFITS, RISKS AND GOVERNANCE

Wednesday 19 September 2018, 13:30–15:00 | Orlando (B3 M5)

Adoption of autonomous technology in the freight industry is likely to be quicker than in the passenger market due to a combination of commercial pressures and attitudes towards risk. As a result, driverless trucks could be a regular presence on many roads within the next ten years and are already operating in controlled environments such as ports or mines. Moreover, there are even trials on public roads in many regions including the United States and the European Union. Several important questions remain unanswered with respect to the deployment of autonomous trucks:

1. How can the total social benefits from autonomous freight vehicles be maximised?
2. What is the likely scale of the benefits from driverless trucks?
3. What risks do autonomous freight vehicles pose for society?
4. What governance scheme should be adopted?

Organizer
Steve Dobson, *INRIX, United Kingdom*

Moderator
Adrian Ulisse, *INRIX, United Kingdom*

Speakers
Avery Ash, *INRIX, United States*
Serge van Dam, *Dutch Ministry of Infrastructure and Water management (Rijkswaterstaat), The Netherlands*
Aravind Kailas, *Volvo Group North America, United States*
Bill Panos, *Wyoming Department of Transportation, United States*

SIS52 IMPLEMENTING MAAS PILOTS IN EUROPE: STATE OF THE ART AND EXPECTED IMPACTS

Wednesday 19 September 2018, 13:30–15:00 | Europe (B4 M6)

A new wave of projects funded by the European Commission is deploying Mobility-as-a-Service (MaaS) in several pilots across Europe and is creating proof of concept to accelerate the adoption of new behaviour and approach to business towards MaaS. Core to this approach are the recent H2020 projects MyCorridor, IMOVE and MaaS4EU aiming at combining efforts to maximise impact and harmonise results. 2018 is the European year of Multimodality with major advances foreseen such as new regulations on multimodal passenger rights and data. How are MaaS pilots and projects aligned with new regulations and how is regulation taking into account results from field trials? This session will provide an overview from the European Commission on the regulatory framework around deployment of multimodality, it will share advancement made in the three MaaS projects funded by the EC and update on initiatives of members of the MaaS Alliance

Organiser
Monica Giannini, *ERTICO – ITS Europe, Belgium*

Moderator
Guido Di Pasquale, *International Organisation of Public Transport - UITP, Belgium*

Speakers
Georgios Sarros, *INEA, Belgium*
Roberto Palacin, *Newcastle University, United Kingdom*
Marco Boero, *Softeco, Italy*
Akrivi Vivian Kiousi, *Intrasoft International, Greece*
Piia Karjalainen, *ERTICO – ITS Europe, Belgium*

Special Interest Sessions

SIS53 IMPACT ASSESSMENT OF AUTOMATED VEHICLES ON TRAFFIC FLOW AND ENVIRONMENT

Wednesday 19 September 2018, 15:30–17:00 | Tokyo (B3 M1-2)

Automated vehicle is expected to improve traffic flow and reduce traffic congestion and environment impact, but it can have negative impact depending on running performance of the vehicle or its deployment scenario. This session invites speakers from Europe, the US and Asia Pacific to introduce projects related to impact assessment of automated vehicles on traffic flow and environment and exchanges views on how should we introduce the new technology into the real world.

Organiser
Takashi Oguchi, *The University of Tokyo, Japan*

Moderator
Masao Kuwahara, *Tohoku University, Japan*

Speakers
Daisuke Oshima, *Pacific Consultants Co., Ltd., Japan*
Jaap Vreeswijk, *MAP traffic management, The Netherlands*
Steven Shladover, *the University of California PATH Program, United States*
Hitsatomo Hanabusa, *i-Transport Lab Co. Ltd., Japan*

SIS54 ESTABLISHING A LARGE-SCALE SECURITY CREDENTIAL MANAGEMENT SYSTEM FOR V2X COMMUNICATION

Wednesday 19 September 2018, 15:30–17:00 | London (B3 M3-4)

The use of V2X safety and mobility applications to transmit information between transportation entities can help save lives, prevent injuries, ease traffic congestion, and improve the environment. The benefits of V2X technologies are enabled by a communication system that users can trust. In order to create the required environment of trust, a security credential management system (SCMS) is needed to provide authentication of system users and messages. The U.S. has developed a proof-of-concept SCMS as a first step to understanding the challenges associated with developing a large-scale, national system, an effort that is expected to be undertaken by private industry. Meanwhile, the European Commission is establishing their own credential management system (CMS) in Europe. This session will offer perspectives from both the U.S. and Europe, as well as private industry (OEMs), on the technical and policy challenges associated with establishing a large-scale security credential management system.

Organiser
Jeffrey Bellone, *U.S. Department of Transportation, USA*

Moderator
Kevin Gay, *USDOT FHWA, USA*

Speakers
Benedikt Brecht, *Volkswagen Group of America, USA*
David Sequino, *Integrity Security Services, USA*
Gerhard Menzel, *European Commission, DG JRC, Austria*
Raymond Resendes, *USDOT Volpe Center, United States*

SIS55 FUSION OF ROAD INFRASTRUCTURE AND VEHICLE SENSOR DATA FOR AUTOMATED DRIVING

Wednesday 19 September 2018, 15:30–17:00 | Madrid (B5 M2)

Since the performance of vehicle surround sensors is limited, two approaches for motorway and urban areas are presented to extend the vehicles' field of view by latest infrastructure sensors, 5G radio network and data fusion algorithms. On motorways, different sensor technologies, image processing algorithm, and novel infrastructure radar technology are used to acquire single vehicle data. To optimize data quality, the data of different sensors is merged and a deep learning algorithm is used to perform a detailed traffic flow analysis. This approach is also used for the validation of automated driving functionalities. In urban areas, the approach relies on a complementary road side sensor system, mobile edge computing, and a local environment model to be transmitted the automated vehicles by means of a 5G prototype mobile network. Empirical simulation on microscopic traffic data helps to elicit the requirements toward the overall system for optimum circulation in mixed traffic situations.

Organiser
Rüdiger W. Henn, *Robert Bosch GmbH, Germany*

Moderator
Martin Nemec, *ASFINAG, Austria*

Speakers
Jacqueline Erhart, *ASFINAG Maut Service GmbH, Austria*
Thomas Zach, *ALP.Lab GmbH, Austria*
Michael Buchholz, *Ulm University, Germany*
Michael Gabb, *Robert Bosch GmbH, Germany*
Hubert Rehborn, *Mercedes-Benz, Germany*

SIS56 PREPARING NEXT GENERATION MOBILITY

Wednesday 19 September 2018, 15:30–17:00 | Berlin (B4 M1-2)

Mobility challenges are a worldwide priority. Mobility means access to jobs, education, culture, leisure, health care and quality of life. Mobility is also a political necessity, since it is so closely connected to social inclusion. The whole world is undergoing an industrial revolution, and for the transport industry, digitalization means a revolution in mobility services. Society is changing, and we can see new ways of consuming mobility services through car-sharing, co-modality, and new mass transit services. Main megalopolis are all working, in ways specific to their context, on jointly optimizing high speed network and heavy transit systems as well as promoting multimodality, clean infrastructure, and connected and autonomous vehicles…Through that lens, worldwide experts will share their ideas that works as well as failures, experiences, solutions to provide new options to boost mobility services with equal access to all users. New skills and knowledge for the future of the European economy are also crucial. Speaker of the sessions will present a set of approaches and solutions applied to various mode of transport, in addition to focusing on urbanization trends within major metropolitan worldwide with example of implementation as well as to provide answers on training and education to prepare ourselves for future transport challenges.

Organiser
Malika Seddi, *ASFA - Association of French toll motorway operators, France*

Moderator
Malika Seddi, *ASFA - Association of French toll motorway operators, France*

Speakers
Mathew Click, *HNTB, United States*
Noboru Kondo, *East Nippon Expressway Company Limited, Japan*
Christophe Boutin, *ASFA - Association of French toll motorway operators, France*
Gilles Carabin, *European Commission, DG MOVE, Belgium*
Pierpaolo Tona, *INEA, Belgium*
Paul Wadsworth, *Capita, United Kingdom*
Roberto Arditi, *SINA, Italy*

SIS57 MODELLING THE IMPACT OF SMART MOBILITY WITH TRAFFIC AND TRANSPORT SIMULATION MODELS

Wednesday 19 September 2018, 15:30–17:00 | Orlando (B3 M5)

In the past decades, traffic and transport models have been used to support policymaking, infrastructure decisions and in more recent years operational aspects of ITS. Smart Mobility solutions such as C-ITS, CAV and MaaS will change travel behaviour in the traditional traffic and transport models. These models are not suitable to model the impact of Smart Mobility on traffic and transport systems, because of the changing driving behaviour and travel patterns. Modelling the impact of Smart Mobility requires modifications of the way in which existing traffic and transport models simulate travel and driving behaviour, integrating the changes Smart Mobility has on behaviour. In this session we will provide context for the challenge of updating our current models for Smart Mobility, as well as best practices from around the world showing what is already possible and what challenges we are still facing.

Organiser
Antoine de Kort, *Ministry of Infrastructure and Watermanagement (Rijkswaterstaat), Netherlands*

Moderator
Erik Verroen, *Dutch Ministry of Infrastructure and Water management (Rijkswaterstaat), Netherlands*

Speakers
Darren Capes, *City of York Council, UK*
Jordi Casas, *Aimsun, Spain*
Tamara Djukic, *Aimsun, Spain*
Tim Strong, *ARCADIS, United Kingdom*
Alastair Evanson, *PTVgroup, Germany*
Glynn Barton, *Transport for London, United Kingdom*
Tilly Chang, *San Francisco County Transportation Authority, United States*
Antoine de Kort, *Ministry of Infrastructure and Watermanagement (Rijkswaterstaat), Netherlands*
Jaya Shankar, *Smart Mobility Solutions, Institute for Infocomm Research, Singapore*

Special Interest Sessions

SIS58 SECURE AND PRECISE POSITIONING: A KEY TO SUCCESS FOR AUTONOMOUS DRIVING

Wednesday 19 September 2018, 15:30–17:00 | Europe (B4 M6)

The launch of Autonomous Vehicles is driving a paradigm shift in the industry. Satellite positioning (GNSS) is already playing a role in the main prototypes and is complimentary with integrated sensor data and connectivity-based information. However, due to the rapid spread of connectivity, cyber security has suddenly become a major concern. There is an increasing need to deliver a secure GNSS module that can provide an efficient, resilient and low-cost defence against jamming or spoofing attacks at an affordable cost. Powerful GNSS signals, advanced techniques and other innovations that are coming within a couple of years will bring to the industry a centimetre-level absolute positioning solution, functioning seamless in challenging environment such as deep urban and in the low visibility weather conditions. Automotive car makers and organizations will share their experience in autonomous driving for cars and trucks working with satellite navigation solutions and cooperative localization techniques in real pilots.

Organiser
Alberto Fernandez Wyttenbach, *European GNSS Agency, Czech Republic*

Moderator
Roberta Mugellesi Dow, *European Space Agency, United Kingdom*

Speakers
Patrick Henkel, *ANavS GmbH, Germany*
Fredrik Hoxell, *Scania AB, Sweden*
Tom Jensen, *TomTom, Denmark*
Roland Trauter, *Daimler, Germany*
Matt Cuddy, *U.S. Department of Transportation, United States*
Satoru Nakajo, *Mitsubishi Research Institute, Inc., Japan*

SIS59 ROAD AUTHORITIES, OPERATORS AND OEMS AND CONNECTED, COOPERATIVE TRANSPORT

Thursday 20 September 2018, 09:00–10:30 | Tokyo (B3 M1-2)

The World Road Association (PIARC) technical committees have been at the forefront of transportation thinking for more than a 100 years. The technical committee on road network operations provides information and insight to those responsible for the performance of our road infrastructure. This session will comprise international experts from the technical committee B1 Road Network Operations together with experts from CEDR and ACEA to provide an interesting and insightful look at how road operators are planning to facilitate the deployment and integration of connected and automated vehicles.

Organiser
Richard Harris, *Ohmio Automotion, UK*

Moderator
Patrick Malléjacq, *World Road Association (PIARC – AIPCR), France*

Speakers
Martin Böhm, *AustriaTech, Austria*
Serge van Dam, *Dutch Ministry of Infrastructure and Water management (Rijkswaterstaat), Netherlands*
Joost Vantomme, *ACEA, Belgium*
Dale Thompson, *FHWA, USA*
Eva Boethius, *INEA, Belgium*

SIS60 CYBERSECURITY FOR PUBLIC-FACING ITS SYSTEMS

Thursday 20 September 2018, 09:00–10:30 | London (B3 M3-4)

The introduction of new public-facing interfaces to ITS platforms such as V2I and interactive cloud-based services will increase the cybersecurity threat surface of critical transportation infrastructure. Traditionally, these complex systems have been designed to be isolated from the outside world with strict perimeter security to protect internal resources which are often vulnerable to well-known and repeatable attacks and difficult or impossible to update with routine software patches. This session will examine these new threats and ways to mitigate them. The speakers will share their experience, trends, and research. A facilitated roundtable discussion will encourage attendees to share their experiences, lessons learned, and mitigating strategies.

Organiser
Pino Porciello, *ESCRYPT, Canada*

Moderator
Pino Porciello, *ESCRYPT, Canada*

Speakers
C. Douglass Couto, *Independent Consultant, USA*
Kevin Henry, *ESCRYPT, Canada*

SIS61 MAKING WORK ZONES SMARTER

Thursday 20 September 2018, 09:00–10:30 | Berlin (B4 M1-2)

Reducing the number of crashes in work zones improves the quality of life for travellers passing through and for the construction workers making the improvements. Using new technology like drones and vehicle probe data can help make a work zone smarter and enable monitoring of traffic performance in the area. This session will also explore adding components to a work zone to make it smarter.

Organiser
Pete Costello, *Iteris, Inc., USA*

Moderator
Pete Costello, *Iteris, Inc., USA*

Speakers
Thomas Brennan, *The College of New Jersey, United States*
Valerie Shuman, *Shuman Consulting Group; Connected Vehicle Trade Association, USA*
Hagen Geppert, *GEWI, France*
Steve Remias, *Wayne State University, USA*

SIS62 TRAFFIC IOT SENSING BY VARIOUS MANNERS

Thursday 20 September 2018, 09:00–10:30 | Sydney (B4 M3-4)

Traffic environment sensing is the key for traffic monitoring. Not only traffic volume but also pedestrian volume could affect traffic smoothness. Traditionally, sensing devices, such as loop counter and ultrasonic detector, are embedded into the road infrastructure. Thanks to ICT technology, traffic volume data created from probe cars or smartphone applications becomes one of the promising sources for visualizing traffic conditions. Or, it may collect from advanced sensing technology such as image processing and active sensing by either OBU or RSU. However, data from different sources have different characteristics. This session will try to bring various approaches together to discuss in wide range their advantages and disadvantages from various applications point of views. New and challenging ways of traffic control will be discussed from both seed and need sides.

Organiser
Nobuyuki Ozaki, *Toshiba Corporation, Japan*

Moderator
Nobuyuki Ozaki, *Toshiba Corporation, Japan*

Speakers
Nobuyuki Ozaki, *Toshiba Corporation, Japan*
Majid Sarvi, *The University of Melbourne, Australia*
Jos van Vlerken, *City of Copenhagen, Denmark*
Jaya Shankar, *Institute for Infocomm Research, Singapore*

SIS92 THE DIGITAL TRANSPORT AND LOGISTICS FORUM (DTLF): HEADWAY TOWARDS DIGITISED AND CONNECTED SUPPLY CHAINS

Thursday 20 September 2018, 09:00–10:30 | Europe (B4 M6)

Digitalisation in transport and logistics is an important driver for efficiency, simplification, lowering costs, and a better use of resources and existing infrastructures. It creates new opportunities for all players in supply and logistics chains, thus fundamentally changing the way cargo and traffic flows are organized and managed. To reap those benefits and tap in the huge potential of digitalisation, freight transport should aim at becoming digital by default, embrace innovation and focus on interoperability of systems and services, accessibility, sharing and re-use of information across supply chains. To support this process, the Commission established in 2015 the Digital Transport and Logistics Forum (DTLF), an expert group to advise and assist in implementing the Union's activities aimed at fostering a more efficient exchange of electronic information in transport and logistics. The session will report the results achieved by the DTLF during its first mandate and focus on two areas: (1) the digitalisation and acceptance of transport, including the proposal for a Regulation on electronic freight transport information (EFTI) adopted by the Commission on 17 May 2018; (2) the establishment of digital corridor information and management systems, based on a federative network of information exchange platforms, to facilitate data sharing along the logistics and supply chain. The session will also present the relevant follow up activities currently undertaken by the European Commission.

Organiser:
Maria Kechagia Tsiakiri, *European Commission, DG MOVE*

Moderator:
Gzim Ocakoglu, *European Commission, DG MOVE*

Speakers:
Mikael Lind, *RISE Viktoria, Sweden*
Nik Delmeire, *European Shippers Council, Belgium*
Olle Isaksson, *Ericsson, Sweden*
Szymon Oscislowski, *European Commission, DG MOVE*

Special Interest Sessions

SIS65 DATA IN AUTONOMOUS DRIVING: DIFFERENT STRATEGIES TO DATA COMPATIBILITY

Thursday 20 September 2018, 11:00–12:30 | Tokyo (B3 M1-2)

The increase of intelligent automation in transport offers opportunities for improving the safety, efficiency and smooth operation of transport and goods services and for reducing harmful impacts on the environment. Data is key factor in automated and autonomous driving. Quality, quantity and distribution speed of usable and applicable traffic-data are essential for autonomous driving.

Organiser
Janne Hauta, *Ministry of Transport and Communication of Finland, Finland*

Moderator
Renske Martijnse-Hartikka, *Forum Virium Helsinki*

Speakers
Jun Shibata, *Japan Digital Road Map Association, Japan*
Kimmo Ylisiurunen, *Infotripla, Finland*
Phil Blythe, *Newcastle University, United Kingdom*
Edoardo Felici, *National Data Warehouse for Traffic Information, Netherlands*
Mika Rytkönen, *Here, Finland*

SIS66 OPEN AUTO DRIVE FORUM: A NEW COOPERATION APPROACH FOR AN AUTOMATED DRIVING ECOSYSTEM

Thursday 20 September 2018, 11:00–12:30 | London (B3 M3-4)

Highly automated driving (HAD) maps, their integrity and reliability, accurate and dependable location and lane referencing are critical core components for reaching higher automation levels (beyond 3). Harmonized standardization is vital for the synchronization between vehicle and back-end, between different map and data providers as well between OEMs and software/hardware vendors. The Open Auto Drive Forum (OADF) is tackling this challenge by an open collaboration model, which will be introduced in this session. Some selected key topics will be discussed in a moderated panel discussion. The organizers expect the active involvement of the audience, challenging the concept and problem-solving approaches presented.

Organiser
Markus Junker, *Navigation Data Standard Association, Germany*

Moderator
Valerie Shuman, *Shuman Consulting Group, LLC, USA*

Speakers
Matthias Unbehaun, *TISA, Belgium*
Michael Klingsoehr, *ADASIS / Bosch SoftTec, Germany*
Prokop Jehlicka, *SENSORIS / HERE, Germany*
Valerie Shuman, *Shuman Consulting Group, LLC, USA*
Martin Schleicher, *Elektrobit Automotive GmbH, Germany*

SIS67 ENABLING ELECTROMOBILITY THROUGH INTEROPERABILITY AND ENHANCED PERFORMANCE OF ELECTRIC VEHICLES

Thursday 20 September 2018, 09:00–10:30 | Turin (B5 M3)

Electromobility is an essential component in decarbonising road transportation. Still, electric vehicles (EVs) have not massively entered the market and a main obstacle is the reduced range and the slow re - charging possibility of such vehicles. A fresh approach is needed to increase efficiency and range of EVs. This session will highlight some of the most cutting-edge latest developments in the area, demonstrating the remarkable results of research activities as have been conducted through prominent EU-funded projects. These include the: i) development of more accurate, and standardized BMS and the revision of the electric and electronic architecture to diminish complexity; ii) the deployment of innovative solutions as super-fast charging or dynamic wireless on-road charging and of enabling the provision of interoperable electromobility services.

Organiser
Angelos Amditis, *ICCS, Greece*

Moderator
Jean-Charles Pandazis, *ERTICO – ITS Europe, Belgium*

Speakers
Angelos Amditis, *ICCS, Greece*
Carlo Mol, *VITO, Belgium*
María Pérez Ortega, *Gfi, Belgium*
Adrien Castagnié, *Renault, France*
Maurizio Maggiore, *DG Research and Innovation, European Commission, Belgium*
Umberto Guida, *UITP: Advancing Public Transport, Belgium*

SIS68 ITS AND COGNITIVE TECHNOLOGIES: EXPLOITING ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

Thursday 20 September 2018, 11:00–12:30 | Sydney (B4 M3-4)

The terms Artificial Intelligence (AI) and machine learning have becoming much more familiar. But while AI and machine learning are very much related, they are not quite the same thing. AI is a branch of computer science attempting to build machines capable of intelligent behaviour, while machine learning is the science of getting computers to act without being explicitly programmed. AI is a rapidly developing scientific field. AI based technologies depends for its power on many prerequisites, including: computing power, bandwidth, and large-scale data sets. If data is the fuel, AI is the engine of the digital revolution. Artificial Intelligence is particularly useful for sorting data, finding patterns and making predictions. It is already being used to power ITS solutions, so understanding the opportunities and challenges is becoming crucial as we progressively make all our ITS installations and services smarter.

Organiser
Yaniv Gal, *HMI, New Zealand*

Moderator
Mahmood Hikmet, *HMI Technologies, New Zealand*

Speakers
Steven Dellenback, *Southwest Research Institute, USA*
Young-Jun Moon, *The Korea Transport Institute (KOTI), Korea*
Reynald Riviere, *Continental Automotive GmbH, Germany*
Heesang Chung, *ETRI, Korea*
Tae Yeon KIM,*Korea Expressway Corporation, Korea*

SIS69 SYSTEMIC IMPACTS FROM INFRASTRUCTURE-BASED MANAGEMENT OF CONNECTED AND AUTOMATED DRIVING

Thursday 20 September 2018, 11:00–12:30 | Europe (B4 M6)

With a first generation of innovative vehicles and services expected to come to market soon, this session touches a key bottleneck for C-ITS deployment. It is not entirely clear how systemic impacts contribute to a better transport and mobility future. Connected and automated driving have the potential of generating substantial reductions in energy use, emissions, transport cost, improved transport efficiency, increased safety and more. Infrastructure-based management (e. g. I2V, automated processes) adds significant momentum. Bringing these loose ends together is one guiding principle for this round-table-type session with panellists from North America and Europe. Forging on systemic impacts is intended to go this next step for significantly improved validity and credibility. We dig into some of the rationales from ongoing and recently started lighthouse demonstration projects on a global scale and entire programs, link a variety of evaluation processes and work on an outlook into the near future.

Organiser
Walter Aigner, *HiTec, Austria*

Moderator
Pedro Barradas, *European Commission, DG MOVE, Belgium*

Speakers
Pedro Barradas, *European Commission, DG MOVE, Belgium*
Martin Böhm, *AustriaTech, Austria*
Bernd Datler, *ASFINAG Maut Service GmbH, Austria*
Luca Studer, *Politecnico di Milano, Italy*
Richard Bishop, *Bishop Consulting, USA*
Sandra Ulrich, *ARNDT IDC GmbH & Co, Germany*
Walter Aigner, *HiTec, Austria*

SIS70 PORT OF THE FUTURE TOWARDS AUTOMATION

Thursday 20 September 2018, 11:00–12:30 | ITS Forum

This session will bring ports around the world, solution providers and public authorities together, to discuss the future trends of the next generation port, focusing on both port operations and hinterland connections. Enabling technologies, such as 5G, IoT/ smart devices and automation technologies like truck platooning will be discussed. The logistics industry is one of the later industries to jump on the band wagon of automation, embracing opportunities to reduce operating costs and optimise efficiency and space for terminal operators. Automation and complementary technologies can bring a new way to manage container terminals, addressing several business needs, including an improved efficiency of cargo transfer into and out of a terminal. This session will present several technological innovations in the context of but not limited to the COREALIS Port of the Future project and stimulate the discussion around user needs for the Port of the Future Panel.

Organiser
Lina Konstantinopoulou, *ERTICO – ITS Europe, Belgium*

Moderator
Angelos Amditis, *ICCS, Greece*

Speakers
Zeljko Jeftic, *Head of Global Innovation, IRU, Switzerland*
Phanthian Zuesongdham, *Port of Hamburg, Germany*
Ralf Grigutsch, *T-Systems International GmbH, Germany*
Paolo Pagano, *Port of Livorno, Italy*
Isabelle Schnell-Lortet, *VOLVO, France*
Joris Cornelissen, *Dutch Ministry of Infrastructure and Water management (Rijkswaterstaat), Netherlands*
Mats Rosenquits, *VOLVO, France*
Bo Wu, *Qingdao Port Authority, China*

Special Interest Sessions

SIS72 TAKING AUTOMATED DRIVING TO THE NEXT LEVEL: SOLVING CHALLENGING ENVIRONMENTAL CONDITIONS

Thursday 20 September 2018, 13:30–15:00 | London (B3 M3-4)

Annually, snow can cover over 30% of the world's land area. Regions experiencing most snow are North America, Europe, Russia and Greenland. As automated driving technology is becoming more available, it needs to be able to break out of its comfort zone and handle snowy skies and icy roads just as well as glaring sun and scorching heat. This session brings together representatives from the three snowiest regions (North America, Europe and Russia) to discuss how they contribute to the development of automated driving that works in any kind of weather. Speakers include test site managers, engineers and scientists working with the intricate technical details of automated driving and experts on collecting and analysing winter condition data. Our experts will share their experiences on these topics and provide their estimate on when residents of the snowy regions of the world can expect to let go of the wheel for good.

Organiser
Eetu Pilli-Sihvola, *Finnish Transport Safety Agency, Finland*

Moderator
Alina Koskela, *Finnish Transport Agency, Finland*

Speakers
Shinji Itsubo, *Research Center for Infrastructure Management, Japan*
Matti Kutila, *VTT Technical Research Centre of Finland Ltd., Finland*
Mark Chaput, *American Center for Mobility, United States*
Heikki Konttaniemi, *Lapland University of Applies Sciences, Finland*

SIS73 CONNECTED VEHICLE CERTIFICATION - TODAY, TOMORROW AND BEYOND

Thursday 20 September 2018, 13:30–15:00 | Turin (B5 M3)

Understanding what each other is saying is critical to successful communication. Using common terminology along with a clear definition of the terminology ensures communications are proper and understood. In the world of Connected Vehicles, communication between vehicles is crucial to vehicles knowing where other vehicles are and their intentions. Certification of Connected Vehicle devices was established to ensure that all Connected Vehicles devices regardless of manufacturer communicate and interpret messages from other Connected Vehicle devices. But what about tomorrow and the future? Will there be a need to enhance or even perhaps redefine what certification is and does? The expert panel will discuss how certification has evolved to date and express their viewpoints on where certification is going in the future.

Organiser
Stephen Novosad, *HNTB, United States*

Moderator
Stephen Novosad, *HNTB, United States*

Speakers
Mike Brown, *Southwest Research Institute, USA*
Dmitri Khijniak, *7Layers, United States*
Dave Miller, *Siemens, United States*
Bob Frey, *Tampa Hillsborough Expressway Authority, United States*
Richard Michalski, *Sirius XM, United States*
Kevin Henry, *ESCRYPT, Canada*

SIS74 EUROPEAN COOPERATIVE, CONNECTED AND AUTOMATED MOBILITY (CCAM)

Thursday 20 September 2018, 13:30–15:00 | Europe (B4 M6)

C-ITS equipped vehicles are expected to hit European roads soon. Key advances have been realised in 2018 in order to support harmonised deployment across the EU. This session will provide an insight of the developments reached so far and guidance on the issues that still need further attention.

With this first milestone just ahead of us, the speakers will be requested to also identify what to prioritise in our path towards connected and automated mobility. Given the presence of both industry players and actors from the public authority side, we will try to focus on areas where public private cooperation is crucial in order to make CCAM a reality in Europe.

Organiser
Claire Depré, European Commission, DG MOVE, Belgium

Moderator:
Claire Depré, *European Commission, DG MOVE*

Speakers:
Joost Vantomme, *ACEA, Belgium*
Torsten Geissler, *Federal Highway Research Institute (BASt), Germany*
Stephanie Leonard, *TomTom, Belgium*
Friedhelm Ramme, *Ericsson, Germany*
Federica Polce, *Ministry of Transport, Italy*

SIS75 DRAGON'S DEN – MAAS SERVICE PROMISE AND THE FUTURE OF PUBLIC TRANSPORT

Thursday 20 September 2018, 13:30–15:00 | ITS Forum

The concept of mobility as a service (MaaS) came storming in a few years back and is currently a very hot topic. MaaS promises to deliver the freedom of mobility by combining various digital public and private mobility services and creating multimodal, sustainable and seamless mobility experience for the customer. MaaS is still its infancy, but the concept aims to provide, and guarantee a truly feasible alternative to the ownership of a private car. As with any change, overcoming the administrative, organizational and traditional operating practices while gaining public understanding and acceptance is the major challenge. This fully interactive session will bring together leading MaaS and public transport experts and service providers to discuss the MaaS service promise and relation between public transportation and transport services offered by the private sector. The format of the session is called "Dragon's Den" meaning that the session will be interactive and audience is expected to contribute and pose questions to the panellists and put a real pressure on them. This is the event where we implore you to play devil's advocate.

Organiser
Altti Iiskola, *Finnish Ministry of Transport and Communications, Finland*

Moderator
Soeren Soerensen, *SFMCON ApS, Denmark*

Speakers
David Adelman, *Via, USA*
Kian Keong Chin, *Land Transport Authority, Singapore*
Jonna Pöllänen, *MaaS Global Ltd, Finland*
Erdem Ovacik, *Donkey Republic, Denmark*
Bjarke Fonnesbech, *Letsgo, Denmark*

SIS76 INVESTIGATING THE EMERGING EMPLOYMENT OPPORTUNITIES CREATED BY FUTURE TRANSPORT TECHNOLOGY

Thursday 20 September 2018, 15:30–17:00 | Tokyo (B3 M1-2)

The perception, from outside the ITS Industry, is gravitating towards negativity when discussing how autonomous (or driverless) vehicles and other intelligent transport related technology will impact employment, and reduce the need for humans in transport related service industry roles. From within the ITS Industry, the opposite appears to be true. The issue is more about the growing need for people with the right skills allowing for organisations to adapt and change as the technology becomes more commonplace. Constructive discussion about new employment opportunities in the ITS sector, and the skills and training that are needed to build on these opportunities will help shape the ITS industry employment opportunities, and ensure positive progress, positive perception and optimistic adoption of these technologies.

Organiser
Susan Harris, *ITS Australia, Australia*

Moderator
Susan Harris, *ITS Australia, Australia*

Speakers
Dean Zabrieszach, *HMI Technologies Pty Ltd, Australia*
Richard B. Easley, *E-Squared Engineering, United States*
Simon Mattock, *ISR Recruitment Ltd, United Kingdom*
Lam Wee Shann, *Land Transport Authority, Singapore*
Carol Schweiger, *Schweiger Consulting LLC, United States*

SIS77 AUTOMATED VEHICLE DATA SHARING ENABLED BY FEATURE EXTRACTION AND ANONYMIZATION

Thursday 20 September 2018, 15:30–17:00 | London (B3 M3-4)

Numerous datasets consisting of vehicle operations data and personal data have been collected in field operational tests (FOTs) and automation pilots. Personal data such as video and GPS are contributing with essential information that enables an objective view on e.g. how the driver/user interacts with different vehicle functions. The personal data demands though a high level of data protection not to reveal the personal identity outside the group of approved researchers. If the data could be anonymized while still keeping the information that is essential to research, the access and re-use of the valuable data would be greatly facilitated. This session provides insights into different strategies of anonymization including automated feature extraction. The issues of personal data from pilots and FOTs will be presented and different aspects of data sharing will finally be addressed in a panel discussion to expand the insights and future research needs in the data privacy area.

Organiser
Helena Gellerman, *SAFER, Sweden*

Moderator
Niels Agerholm, *Aalborg University, Denmark*

Speakers
John D. Lee, *University of Wisconsin-Madison, United States*
Marcos Nieto, *Vicomtech, Spain*
Helena Gellerman, *SAFER, Sweden*
Ariel Gold, *U.S. DOT Intelligent Transportation Systems Joint Program Office, USA*
Tom Alkim, *Ministry of Infrastructure and the Environment, The Netherlands*

Special Interest Sessions

SIS78 DEPLOYING CONNECTED ITS IN SMALL CITIES

Thursday 20 September 2018, 15:30–17:00 | Turin (B5 M3)

Increasingly, smaller cities and urban areas are investing in C-ITS as a way of meeting difficult policy challenges and to ensure readiness for coming in-vehicle technology. The specific difficulties that small cities face present a different set of challenges from those faced by larger cities and conurbations but it will become increasingly important that all highway authorities, irrespective of their size are able to make the most of the potential benefits cooperative, connected and autonomous mobility has to offer. Public expectation that the advanced driver systems in new vehicles work anywhere will become pervasive. This Special Interest Session will give smaller cites the opportunity to share experience of deploying C-ITS and Cooperative, Connected and Automated Mobility (CCAM) technologies; it will focus on early adopters of CCAM and will allow sharing of experiences from across the world and the discussion of solutions that work in smaller cities and urban areas.

Organiser
Darren Capes, *City of York Council, United Kingdom*

Moderator
Darren Capes, *City of York Council, United Kingdom*

Speakers
Tim Gammons, *Ove Arup & Partners, United Kingdom*
Stephanie Leonard, TomTom, Belgium
Andrew Mehaffey, *HMI Technologies Pty Ltd, Australia*
André Perpey, *Geoloc systems, France*

SIS79 ITS FOR SHIPPING, PORTS AND LOGISTICS AND ENSURING A NETWORK DATA EXCHANGE : PART I

Thursday 20 September 2018, 15:30-17:00 | Berlin (B4 M1-2)

Information and communication technologies (ICT) are applied more and more to transport logistics operations. This session will look it from the shipping and Port operators point of view whilst examining these operations from the shippers and freight forwarders perspective. Global trade requires seamless transport chains from the point of departure until the final delivery of the goods. In this, shipping and ports operations play a key role: they depend on harmonised, interoperable ICT systems on a global scale. These needs and experiences will be addressed from the biggest shipping operator, the port authorities from the three continents, and the shippers. The role and experience of public authorities will be presented too.

Organiser
Fotis Karamitsos, *Senior Advisor, shipping, road transport,ITS,logistics*

Moderator
Fotis Karamitsos, *Senior Advisor , shipping,road transport,ITS,logistics*

Speakers
Philippe Duchesne, *EMSA, Portugal*
Jens Meier, *Hamburg Maritime Port Authority, Germany*
Nik Delmeire, *European Shippers Council, Belgium*
Simon Bergulf, *A.P. Møller - Maersk, Denmark*
Lina Konstantinopoulou, *ERTICO-ITS Europe, Belgium*

SIS80 ACROSS THE PAVEMENT - SMART FREIGHT DELIVERY FOR THE LAST METRES

Thursday 20 September 2018, 15:30–17:00 | Orlando (B3 M5)

We often discuss “last mile” deliveries in terms of consolidation centres and fleets of smaller, cleaner vehicles. But in the real world the final drop off is often a big challenge. Many recipients do not offer a loading bay or other dedicated parking, many do not have 24 hour manning, the highways authority may have a number of restrictions in place. This session collects and presents a number of ITS solutions for those last metres from vehicle to recipient, contributing to a cleaner and more efficient way of dealing with freight.

Organiser
Jennie Martin, *ITS UK, United Kingdom*

Moderator
Jennie Martin, *ITS UK, United Kingdom*

Speakers
Richard B. Easley, *E-Squared Engineering, USA*
Peter Colon, *Buck Consultants, Netherlands*
Neil Herron, *Grid Smarter Cities, Tyne & Wear*
Georgia Ayfadopoulou, *CERTH/HIT, Greece*
Lina Konstantinopoulou, *ERTICO - ITS Europe, Belgium*

SIS81 IMPACTS OF AVS ON PAVEMENT

Thursday 20 September 2018, 15:30–17:00 | Sydney (B4 M3-4)

The adoption of AVs which will follow very regular impacts will have an impact on the pavement infrastructure because vehicles will not move side to side as much as traditionally manned vehicles, this will accelerate pavement wear and create ruts. When truck platoons are closely space they will cause highway "bounce" (similar to what railroads experience) that will accelerate the movement of water up into the roadway which will increase maintenance requirements. This session focus on the problem as well as how technology can be used to minimize these impacts.

Organiser
Steven Dellenback, *Southwest Research Institute, USA*

Moderator
Steven Dellenback, *Southwest Research Institute, USA*

Speakers
Dale Thompson, *FHWA, USA*
Timo Saarenketo, *Roadscanner, Finland*
Pauli Kolisoja, *Tampere University of Technology, Finland*
Sigurdur Erlingsson, *Pavement Technology, Sweden*

SIS82 LARGE SCALE DEPLOYMENT OF C-ITS: CHALLENGES AND WAYS FORWARD

Thursday 20 September 2018, 15:30–17:00 | Europe (B4 M6)

Cooperative Intelligent Transportation Systems aim to exploit connected vehicles and infrastructures technologies towards greener, smarter and safer mobility for road transport. In parallel several policy oriented activities at EU level, aiming to support the deployment of C-ITS, the EC and EU member states have invested in the development and deployment of C-ITS. The proposed SIS will cover current aspects related to the large scale deployment of Cooperative Intelligent Transportation Systems. The SIS aims to shed light, foster discussions and an open debate among high level representatives of the C-ITS deployment domain, aiming to assess the current status as well as to address key parameters that will influence the widespread of cooperative technologies in the road transport domain.

Organiser
Giacomo Somma, *ERTICO – ITS Europe, Belgium*

Moderator
Giacomo Somma, *ERTICO – ITS Europe, Belgium*

Speakers
Gilles Carabin, *European Commission, DG MOVE, Belgium*
Álvaro Arrúe, *Applus IDIADA, Spain*
Eric Ollinger, *DGTIM, France*
George de Boer, *TomTom, the Netherlands*
Niels Peter Skov Andersen, *Car-2-Car Communication Consortium, Denmark*
Mads Gaml, *City of Copenhagen, Denmark*

SIS83 ITS DECISION-MAKING IN THE ROUND

Thursday 20 September 2018, 15:30–17:00 | ITS Forum

How can Greater Copenhagen adapt its mobility to meet climate-change targets? Gate 21, a public-private "enterprise partnership" in Greater Copenhagen for whom sustainable mobility is a main axis of interest will host an "innovation session" where a panel of their members and stakeholders representing all sectors will explore together how a new cooperative partnership might work to deliver a 30% reduction in greenhouse-gas emissions from transport and mobility sources (mainly CO_2) by 2030 from 2005 levels (the EU target).

Organiser
Anna Thormann Boesen, *Gate 21, Denmark*

Moderator
Paul Kompfner, *ERTICO – ITS Europe, Belgium*

Speakers
Anna Thormann Boesen, *Gate 21, Denmark*
Casper Harboe, *City of Copenhagen, Denmark*
Anja Puggaard, *MOVIA, Denmark*
Nikolaj Kyhn, *Nobina, Denmark*
Jonas Engberg, *IKEA, Denmark*
Kåre Alberchtsen, *The Capital Region, Denmark*
Niels Carsten Blume, *Albertslund Municipality, Denmark*
Helle Dahl, *NORDEA, Denmark*
Paul van Koningsbruggen, *Technolution, the Netherlands*

Special Interest Sessions

SIS84 HIGHWAY CHAUFFEUR AND HIGH DENSITY TRUCK PLATOONING IN REAL ENVIRONMENT

Thursday 20 September 2018, 17:15–18:45 | Tokyo (B3 M1-2)

The gradual introduction of advanced automated driving capabilities in passenger vehicles and trucks will have a significant impact on European motorways. State-of-the-Art technologies for cooperative ITS services in such vehicle systems have the potential to be the decisive differentiation factor for user acceptance., effectiveness and efficiency of automated driving. To make this a reality and to support automated driving, interoperability testing will be carried out throughout different communication systems. A close cooperation with C-ITS and C-Roads platform involving a wide list of European Member states countries, will support this initiative.

Organiser
Eusebiu Catana, *ERTICO – ITS Europe, Belgium*

Moderator
Eusebiu Catana, *ERTICO – ITS Europe, Belgium*

Speakers
Edwin Fischer, *Deutsche Telekom AG, Germany*
Maciej Muehleisen, *Ericsson Research, Germany*
Gelau Christhard, *Federal Ministry of Transport and Digital Infrastructure (BMVI), Germany*
Gerardo Daalderop, *NXP, the Netherlands,*
James Misener, *Qualcomm, United States*
Geerd Kakes, *Tech Lead 5G field lab, KPN, the Netherlands*
Igor Passchier, *Tass International, the Netherlands*

SIS85 INTEGRATING TECHNOLOGY, DATA, PEOPLE AND TRAINING FOR SUCCESSFUL TRAFFIC INCIDENT MANAGEMENT

Thursday 20 September 2018, 17:15–18:45 | London (B3 M3-4)

Traffic incidents continue to severely impact transportation safety and efficiency on roadways internationally. The purpose of this special interest session is to emphasize the criticality of Traffic Incident Management (TIM) for motorist and responder safety and efficient operations. Given the coordinated multidiscipline and multifaceted approach to responding to roadway emergencies, the session will also illustrate the need for deliberate and balanced integration of technology, data, people and training for managing traffic incidents successfully.

Organiser
Steven Cyra, *HNTB Corporation, United States*

Moderator
Bob Frey, *Tampa-Hillsborough County Expressway Authority, U.S.A.*

Speakers
Steven Cyra, *HNTB Corporation, United States*
Robert Fischer, *Geospatial Transportation Mapping Association, United States*
Charlotte Holstrom, *Vejdirektoratet, Denmark*
Martin Knopp, *FHWA, United States*
Shailen Bhatt, *ITS America, USA*
Joseph Sagal, *Maryland Department of Transportation, State Highway Administration, USA*
Grace Ong, *Land Transport Authority, Singapore*

SIS86 ITS FOR SHIPPING, PORTS AND LOGISTICS AND ENSURING A NETWORK DATA EXCHANGE : PART II

Thursday 20 September 2018, 17:15–18:45 | Berlin (B4 M1-2)

Fragmentation and lack of connectivity around ICT-based systems for logistics decision making are some of major challenges for the sector resulting in road congestion and high emissions. These information gaps can be overcome through a global platform available to every actor of the supply chain and capable of providing several secured services (e.g., interoperability of data, compatibility of tools, integration of standards, shared dashboard). The session will explore the needs and expectations of the different stakeholders (European Shippers Council, CLECAT of freight forwarders, IRU transport union, World Customs Organisation, European Commission, as well as solution providers such as ATOS and INLECOM and also SMARTFREIGHT which is global organisation working towards measurement the global emission monitoring.

Organiser
Lina Konstantinopoulou, *ERTICO – ITS Europe, Belgium*

Moderator
Lina Konstantinopoulou, *ERTICO – ITS Europe, Belgium*

Speakers
Szymon Oscislowski, *European Commission, DG MOVE, Belgium*
Rodrigo Castiñeira, *Indra Sistemas, Spain*
Magnus Swahn, *NTM, Network for Transport Measures, Sweden*
Simon Bergulf, *A.P. Møller - Maersk, Denmark*
Nikos Tsampieris, *SELIS, Belgium*
German Herrero, *ATOS, Spain*
Nik Dermeire, *European Shippers' Council, Belgium*
Iraklis Stamos, *IRU Projects, Belgium*

SIS87 USER FRIENDLY ROAD INFRASTRUCTURE MATCHED TO MULTIPLE ROAD USERS UTILIZING DRIVE RECORDER

Thursday 20 September 2018, 17:15–18:45 | Orlando (B3-M5)

The image-recording type driving event video recorder (Drive Recorder) has been contributing to traffic accident reduction just like a "flight recorder". This SIS has already constructed a global consensus through the last eight ITS World Congresses that DR is an effective and efficient traffic accident reduction technology combined with well-designed software application. In this session, we will discuss about "user friendly road infrastructures" from VRU (Vulnerable Road Users) point of views by using DR meeting "smart city" concept. We will discuss which aspect of the road infrastructure should satisfy to ensure "user friendly attributes" by making use of collected DR data installed on bicycle and wheel-chair. For example, a Japanese speaker will introduce "Rin-Rreco" (exclusively developed DR for bicycles) application at Kamakura-city, the ancient capital and the international tourist city in Japan, and European colleagues will introduce their scientific and practical achievement on "bicycle friendly road" as well.

Organiser
Koji Ukena, *UK-Consultant, Japan*

Moderator
Sadao Horino, *Kabagawa University, Japan*

Speakers
Koji Ukena, *UK-Consultant, Japan*
Daishi Watabe, Saitama Institute of Technology, Japan
Marco Dozza, *Chalmers Institute of Technology, Sweden*
Zhi Wang, *Saitama Institute of Technology, Japan*
Stephanie de Hair - Buijssen, *Applied Research Organization (TNO), the Netherlands*

SIS88 C-ITS DEPLOYMENT BECOMING REALITY IN EUROPE BY 2019

Thursday 20 September 2018, 17:15–18:45 | Europe (B4 M6)

In November 2016 the European Commission published "A European Strategy on Cooperative Intelligent Transport Systems, a milestone towards cooperative, connected and automated mobility" following a request of the European transport ministers written down in the Declaration of Amsterdam. In parallel the European industry stated its intention to start full scale deployment of C-ITS enabled vehicles in 2019. In December 2016 the C-Roads Platform was officially launched to link C-ITS activities across Europe. 16 European countries have agreed on working together to deploy interoperable and seamless cross-border C-ITS services for European travellers as well by 2019. This session will focus on the current deployment activities undertaken all across Europe and will show how single European countries are prepared for C-ITS service provision by 2019.

Organiser
Martin Böhm, *AustriaTech, Austria*

Moderator
Martin Böhm, *AustriaTech, Austria*

Speakers
Claire Depré, *European Commission, DG MOVE, Belgium*
Eric Ollinger, *DGTIM, France*
Manfred Harrer, *ASFINAG Maut Service GmbH, Austria*
Eric Olsen, *NordicWay 2, Finland*
Alenka Kosic, *DARS d.d., Slovenia*
Ana Isabel Blanco Bergareche, *DGT. Ministerio del Interior, Spain*

Special Interest Sessions

SIS89 DISCUSSING THE IMPACT OF AUTOMATED DRIVING: A SERIOUS GAME

Thursday 20 September 2018, 17:15–18:45 | ITS Forum

The impacts of automated driving are manifold, complex and far-reaching, touching safety, mobility, environment and traffic efficiency, but also land use, public health, socio-economic processes, accessibility, and equity. In addition to the intended impacts, automated driving will have some unintended (positive or negative), typically indirect impacts. Therefore, understanding the big picture and underlying relationships is important. The Trilateral (EU, US and Japan) Working Group on Automation in Road Transportation has developed a coordinated impact assessment framework. In this session we will have short presentations about the impacts automated transport may have, followed by an interactive activity using a "serious gaming" approach. Starting from a range of possible scenarios, such as shared transport, attendees will use an interactive tool to estimate possible outcomes on various impact areas.

Organiser
Yvonne Barnard, *University of Leeds, UK*

Moderator
Yvonne Barnard, *University of Leeds, UK*

Speakers
Hannah Rakoff, *Volpe National Transportation Systems Center, U.S. Department of Transportation, United States*
Tom Alkim, *Ministry of Infrastructure and the Environment, the Netherlands*
Satu Innamaa, *VTT Technical Research Centre of Finland, Finland*
Hiroaki Miyoshi, *Professor, Doshisha University, Japan*

SIS90 DEPLOYING C-ITS SERVICES AND LEARNING FROM EVALUATIONS

Friday 21 September 2018, 09:00–10:30 | Tokyo (B3 M1-2)

The story of Cooperative ITS in Europe is unfolding further and further. Deployment has really taken off, while automation of vehicles and – in a wider perspective – mobility is also getting into the picture. How can we maintain the C-ITS momentum and also contribute to automation that benefits the whole society?

The Amsterdam Group facilitates cooperation between European infrastructure organisations and automotive industry for corridor-based harmonised deployment of C-ITS services. In doing so, it promotes interoperable deployment and provides an essential strategic cooperation element among implementers which complements the C-ITS Platform and C-Roads.

Furthermore, funding for C-ITS invariably comes with a requirement to evaluate, but the challenges encountered and lessons learnt from actually delivering these are rarely published. The vast majority of the C-ITS evidence base is derived from modelling and work to combine different predicted effects. Published evidence from field operational trials is scarce, meaning there was no template to follow when developing our evaluation approach. At this session we will share what we learnt about C-ITS evaluation looking at three UK programmes - InterCoR, Compass 4D and a Department for Transport competition to promote C-ITS activity in English Local Authorities.

Through sharing our experience we hope we can all learn more quickly what works when implementing C-ITS and how we can shape the future together.

Organiser
Maarten Amelink, *Arcadis, the Netherlands*

Moderator
Phil Blythe, *Newcastle University, United Kingdom*

Speakers
Torsten Geissler, *Federal Highway Research Institute (BASt), Germany*
Darren Capes, *Department for Transport, United Kingdom*
Martin Bohm, *AustriaTech, Austria*
Gary Crockford, *UK Department for Transport, United Kingdom*
Niels Andersen, *Car-2-Car Communication Consortium, Denmark*
Claire Depré, *European Commission, DG MOVE*

Technical Sessions

TS01 – LEGAL AND GOVERNANCE ISSUES

Monday 17 September 2018, 11:00–12:30 | Montreal (B5 M1)

Moderator
Vincent J. Cassidy, *Tampa-Hillsborough County Expressway Authority, USA*

EU-TP1059 Self-driving vehicles: preparing road traffic law for a driverless future
Nynke Vellinga, *University of Groningen, the Netherlands*

EU-TP1261 The "Robomobile Life" Permanent Prospective Workshop
Louis Fernique, *MTES/CGDD/DRI, France*

AM-TP1646 The Legal Obligation, Obstacles, and Opportunities for Automated and Connected Vehicles to Improve Mobility and Access for People Unable to Drive
Adeel Lari, *State and Local Policy Program at the University of Minnesota's Hubert H. Humphrey School of Public Affairs, United States*

TS02 – CITY AIR QUALITY

Monday 17 September 2018, 11:00–12:30 | Turin (B5 M3)

Moderator
Jill Hayden, *Atkins, United Kingdom*

EU-TP1048 Shuttle diplomacy: developing environmentally friendly city transport
Richard Harris, *Ohmio Automotion, United Kingdom*

EU-TP1318 Developing a healthy route planner and warnings system for Madrid citizens using IoT, Big Data and Cloud computing: IKAAS final outcomes
Sergio Fernandez Balaguer, *Empresa Municipal De Transportes De Madrid S.A., Spain*

EU-TP1501 Scale up intelligent traffic solutions towards a Co2 neutral Copenhagen
Paul van Koningsbruggen, *Technolution, the Netherlands*

EU-TP1529 Embracing the Future – Planning for new Mobility Technologies
Maria Vestergaard, *Aalborg Municipality, Denmark*

EU-TP1561 Reducing vehicle emissions through cooperative ITS
Dave Williams, *Atkins, United Kingdom*

EU-TP1576 Targeted air quality improvement via management of environmental zones of plug-in hybrid buses
Marcin Seredynski, *E-Bus Competence Center, Luxembourg*

TS03 – TRAFFIC DATA 1

Monday 17 September 2018, 11:00–12:30 | Paris (B5 M4)

Moderator
Masahiko Ikawa, *Mitsubishi Electric Corporation, Japan*

EU-SP1037 Novel Models and Methods for Accidents prediction and Impact Assessment
Fabio Galatioto, *Transport Systems Catapult, United Kingdom*

AP-TP1106 Accuracy improvement of transportation mode detection using machine learning classifier
Hiroyuki Kumazawa, *Osaka Sangyo University, Japan*

AP-TP1193 Traffic state estimation using traffic measurement from the opposite lane – Verification of recognition accuracy using a vehicle-mounted camera
Katsuya Kawai, *Mitsubishi Electric Corporation, Japan*

EU-TP1284 Modelling Timing Delays with Underlying Spatial Dynamics of in situ Point Geometry of Public Transport
Mehdi Katranji, *VEDECOM, France*

AM-TP1444 Microwave Sensors and Smart Data Management in a Smart City
Cécile Bauvin, *iCOMS Detections SA Belgium*

AP-TP1626 Practical Trajectory Anonymization Methods to Preserving Privacy, Based on Population Distribution
Toshiro Hikita, *The University of Tokyo, Japan*

Technical Sessions

TS04 – OPEN DATA AND INFORMATION

Monday 17 September 2018, 11:00–12:30 | Melbourne (B3 M6)

Moderator
Sandro Berndt, *BASt (Federal Highway Research Institute), Germany*

EU-TP1027 A new approach to traffic modelling for urban regions
Hans Fiby, *Verkehrsverbund Ost-Region (VOR) GmbH / ITS Vienna Region, Austria*

EU-TP1061 Data and the constant challenge for improved mobility services
Mahmood Hikmet, *HMI Technologies, New Zealand*

EU-TP1073 Austria's real-time traffic information beyond administrative borders (EVIS): Collecting, exchanging and providing data
Tobias Schleser, *ASFINAG Maut Service GmbH, Austria*

EU-TP1206 Deployment of a big data platform for traffic control on highways
Miguel Carpio, *Cintra Servicios de Infraestructuras, Spain*

EU-TP1426 Open Data for Railway Traffic and the Development of Passenger Information
Heidi Saarinen, *Finnish Transport Agency, Finland*

EU-TP1569 The progress of the research project Centauro
Eftychios Papapanagiotou, *Technische Universität München, Germany*

AM-TP1584 Integration in a Data Rich World: Structuring the Morass of Transportation Data
Megan Katsumi, *University of Toronto, Canada*

TS05 – THE FUTURE EVOLUTION OF ITS

Monday 17 September 2018, 13:30–15:00 | Montreal (B5 M1)

Moderator
Jill Hayden, *Atkins, United Kingdom*

EU-TP1140 Paradigm-shift in the roles of public funding in implementation of innovative and sustainable transport services
Bahar Namaki Araghi, *Technical University of Denmark, Denmark*

EU-TP1375 Cloud Based Large Scale Video Annotations to improve mapping and mobility for connected, cooperative and automated transport
Erwin Vermassen, *ERTICO – ITS Europe, Belgium*

EU-TP1386 Entrepreneurial environment for Intelligent Transport Systems deployment
Christina Nikolova, *University of National and World Economy, Bulgaria*

EU-TP1560 IoT- and Cloud- enabled Platform for heterogeneous safety applications in road transport
Pavlos Kosmidis, *Institute of Communication and Computer Systems, Greece*

EU-TP1647 The Future of Transport Technology
Matthew Clarke, *Atkins, United Kingdom*

TS06 – ELECTROMOBILITY

Monday 17 September 2018, 13:30–15:00 | Turin (B5 M3)

Moderator
Jennie Martin, *ITS UK, United Kingdom*

EU-TP1278 EV charging QoS and power system robustness through ICT applications; NeMo's approach
Thodoris Theodoropoulos, *ICCS, Greece*

EU-TP1373 Designing and Demonstrating a System for Efficient and Sustainable Road Freight based on Dynamic Power Supply
Gerrit Stumpe, *Siemens AG, Germany*

EU-TP1417 Geofencing as an enabler for Zero-Emission Zones
Ane Dalsnes Storsæter, *Norwegian Public Roads Administration, Norway*

EU-TP1616 Towards sustainable Autonomous E-Mobility as a Service: lessons learned from a Climate-KIC Pathfinder project.
Kelly Pitera, *NTNU, Norway*

EU-TP1654 Perceptions of using electric light vehicles in cities: Survey results from six cities in the ELVITEN project
Andrew Winder, *ERTICO – ITS Europe, Belgium*

TS07 – TRAFFIC DATA 2

Monday 17 September 2018, 13:30–15:00 | Paris (B5 M4)

Moderator
Hamed Benouar, *Connected Transportation Systems and Networks (CTSN), United States*

EU-TP1070 ASFINAGs' mobility service "unterwegs" – state of play 2018
Martin Nemec, *ASFINAG, Austria*

EU-TP1133 User-driven Development of Traffic Information Services
Malin Stoldt, *Urban Transport Administration, City of Gothenburg, Sweden*

EU-TP1337 Using smartphones for something more than tracking only
Martin Hudak, *University of Zilina, Slovakia*

EU-TP1409 In bad weather, road users find information on Trafikinfo – the Danish Road Directorate's traffic information service
Sine Dyreborg, *Danish Road Directorate, Denmark*

EU-TP1524 Traffic information in metropolitan areas – a method for analysing the customer needs of traffic information services
Joakim Barkman, *Swedish Transport Administration, Sweden*

EU-TP1565 Is app-collected data the future for collecting travel survey data?
Emeli Adell, *Trivector Traffic, Sweden*

TS08 – SATELLITE SERVICES AND MAPPING

Monday 17 September 2018, 13:30–15:00 | Orlando (B3 M5)

Moderator
Carol Kuester, *Metropolitan Transportation Commission, USA*

EU-TP1115 A Protocol for the Certification of High-Definition Maps
Jennifer Simeon, *GEOSAT SARL, France*

EU-TP1362 A Fast and Versatile Map Matching Engine
Jean-Sébastien Gonsette, *AISIN AW, Belgium*

EU-TP1411 Standardization issues related to hybrid GNSS positioning
David Betaille, *IFSTTAR, France*

EU-TP1605 Precise Road Maps from Space
Hartmut Runge, *German Aerospace Center (DLR), Germany*

TS09 – NETWORK MANAGEMENT TOOLS

Monday 17 September 2018, 13:30–15:00 | Melbourne (B3 M6)

Moderator
Sang Hyup Lee, *KICT, Republic of Korea*

EU-TP1137 Developing Innovative Business Models for ITS applications: Value Network Approach
Viara Bojkova, *Ortelio Ltd, Spain*

AP-TP1172 Effectiveness of flashing speed limit sign on average and variance of speed in school zones based on vehicle speed trajectories
Young-Hyun Seo, *Seoul National University, Republic of Korea*

AP-TP1494 Diagnosis on Degree of Saturation Model of COSMOS Affected by Geometric and Detection Conditions and Detector Placements
Yong-Bin Cho, *Korea National University of Transprotation, Republic of Korea*

EU-TP1684 Future Road Charging; ubiquitous but invisible
Volker Vierroth, *T-Systems International GmbH, Germany*

Technical Sessions

TS10 – BETTER PARKING TERMINAL OPERATIONS

Tuesday 18 September 2018, 09:00–10:30 | Montreal (B5 M1)

Moderator
Masami Mizutani, *Fujitsu Laboratories of America, Inc., Japan*

AP-TP1342 Development of illegal on-street parking report system by citizen participation using mobile application
Shinji Tanaka, *Yokohama National University, Japan*

AP-TP1396 Evolution of Electronic Parking in Singapore
Ang Sok Giam, *Land Transport Authority of Singapore, Singapore*

EU-TP1574 Rotterdam The Hague Airport: an analysis of the application of automated vehicles at Rotterdam the Hague Airport as part of the tender 'Marketplace for Infrastructure'
Reanne Boersma, *Delft University of Technology, the Netherlands*

AP-TP1636 Evaluation of Autonomous Valet Parking System Considering Capacity of Entrance Zones
Shinnosuke Nakamura, *Nagoya University, Japan*

TS11 – COMMUNICATION TECHNOLOGIES 1

Tuesday 18 September 2018, 09:00–10:30 | Madrid (B5 M2)

Moderator
Thomas E. Kern, *AASHTO, USA*

AM-TP1052 Composition of Distributed and Centralized Wireless Communications for the Era of Automated Vehicles
Hirofumi Onishi, *Alpine Electronics Research of America, Inc., United States*

EU-TP1075 Understanding 'Digital Demand': how will demand for digital connectivity evolve across different road environments, and what does this suggest for digital infrastructure requirements?
James Padden, *Department for Transport, UK, United Kingdom*

AP-TP1101 Multi-Layer Vertical Transport Communications System
Mark Henaway, *Aurecon, Australia*

AP-TP1245 Efficient C-V2X service operation using cellular network
Shinpei Yasukawa, *NTT DOCOMO, Inc., Japan*

AP-TP1559 Wireless Multiple Access Technologies for Vehicle Platooning
Sang-Sun Lee, *Hanyang University, Republic of Korea*

EU-TP1630 C-Roads Project in Flanders: The use of cellular communication in Cooperative ITS deployment
Sven Vlassenroot, *Tractebel – Engie, Belgium*

EU-TP1662 Tools for Technical Evaluation of C-ITS Interoperability
Bart Netten, *TNO, the Netherlands*

TS12 – REALISING MAAS

Tuesday 18 September 2018, 09:00–10:30 | Paris (B5 M4)

Moderator
Norbert Handke, *INGHA, Germany*

AP-TP1031 Study on system architecture for realization MaaS in Japan
Yosuke Hidaka, *East Japan Railway Company, Japan*

EU-TP1058 Italian best practice: myCicero, One-stop mobility shop
Daniela Vasari, *Pluservice, Italy*

EU-TP1096 The Mobility as a Service Maturity Index: Preparing Cities for the Mobility as a Service Era
Maria Kamargianni, *MaaSLab, University College London, United Kingdom*

AP-TP1194 Enabling Smart Cities with Mobility As A Service of Intelligent Transport Systems
Ismail Md. Saleh, *Intelligent Transport System Association of Malaysia, Malaysia*

EU-TP1596 TM2.0 as an enabler of MaaS and its employment in MyCorridor
Giulia Dovinola, *Swarco Mizar, Italy*

EU-TP1628 The future is mobile: insights from UK MaaS trials
Nitish Bakshi, *Atkins, United Kingdom*

TS13 – TRAFFIC FLOW AND DATA

Tuesday 18 September 2018, 09:00–10:30 | Orlando (B3 M5)

Moderator
Hiroyuki Kumazawa, *Osaka Sangyo University, Japan*

EU-TP1042 Handling local traffic-actuated intersection control with V2I data
Thomas Riedel, *Adaptive Traffic Control AG, Switzerland*

EU-TP1269 Towards empirical detection of F-S-F transitions indicating subsequent traffic breakdown
Yildirim Dülgar, *Mercedes-Benz, Germany*

AP-TP1469 Vehicle Behaviour Analysis in Wire Rope Sections Using ETC 2.0 Probe Data
Jian Xing, *Nippon Expressway Research Institute Company Limited, Japan*

EU-TP1506 Towards a National Floating Car Data Platform for Austria
Karl Rehrl, *Salzburg Research, Austria*

TS14 – PUBLIC PRIVATE COOPERATION

Tuesday 18 September 2018, 09:00–10:30 | Melbourne (B3 M6)

Moderator
Carol Kuester, *Metropolitan Transportation Commission, USA*

EU-TP1034 Piloting video image as an open data source for smart transport systems and services
Mikko Lehtonen, *City of Helsinki, City environment sector, Finland*

AP-TP1354 "Will I catch my plane?" A Kiwi story about cost-effective and practical ITS solutions which deliver measurable benefits to travellers, airport operators and road authorities.
Richard Young, *Beca, New Zealand*

AP-TP1372 Validation of the Effectiveness of Traffic Information Expanded by Combined Private Sector Probe
Akira Tsukamoto, *Vehicle Information and Communication System Center, Japan*

EU-TP1377 Integrating smart mobility services in operational dynamic traffic management
Patrick Hofman, *MAP traffic management, the Netherlands*

EU-TP1492 Collaboration to improve performance of a UK smart motorway
Joe Castle, *Atkins, United Kingdom*

EU-TP1582 Piloting ITS Before Full Scale Implementation in Oulu, Northern Finland
Harri Vaarala, *City of Oulu, Finland*

TS15 – ENHANCING SAFETY 1

Tuesday 18 September 2018, 13:30–15:00 | Montreal (B5 M1)

Moderator
Julie Castermans, *ERTICO - ITS Europe, Belgium*

AP-TP1335 Haptic Notification of Hazards Around a Vehicle Using Seat Actuators
Akimasa Suzuki, *Iwate Prefectural University, Japan*

EU-TP1384 A Scenario-Based Hazard Analysis Approach Oriented to The Modelling of Autonomous Driving Functions
Antonello de Galizia, *VEDECOM Institute – AIRBUS Group (APSYS), France*

EU-TP1407 Multi-car collision avoidance
Charlie Wartnaby, *Applus IDIADA, United Kingdom*

AM-TP1459 PPP role in enabling the Connected, Cooperative and Automated Transport Commercial Business Model
Brenda Connor, *Ericsson, United States*

AM-TP1603 Identifying Crash Hotspots using Connected Vehicle Data
Brian Park, *University of Virginia, United States*

EU-TP1639 Interface design for an assistance system focused on high attentional load situations
Sofia Sanchez Mateo, *Technical University of Madrid, Spain*

Technical Sessions

TS16 – STANDARDS AND ARCHITECTURE

Tuesday 18 September 2018, 13:30–15:00 | Madrid (B5 M2)

Moderator
Holger Drees, *BASt (Federal Highway Research Institute), Germany*

EU-TP1076 C-ITS (Cooperative Intelligent Transport Systems) Deployment in Europe – Challenges and Key Findings
Meng Lu, *Dynniq, the Netherlands*

EU-TP1089 Open cloud architecture for connected C-ITS services
Meng Lu, *Dynniq, the Netherlands*

AP-TP1393 Standardisation of DSRC for ITS in Singapore
Colin Yap, *Land Transport Authority, Singapore*

EU-TP1425 C-MobILE C-ITS Reference Architecture
Marcos Pillado, *Applus IDIADA, Spain*

EU-TP1643 ADAS&ME System Architecture: The automotive systems architecture for next-generation ADAS
Sri Venkata Naga Phanindra Akula, *Technische Universität Chemnitz, Germany*

AM-TP1672 Challenges of sharing DSRC band in the U.S.
John Kenney, *Toyota InfoTechnology Center, United States*

TS17 – DATA AND PUBLIC TRANSPORT

Tuesday 18 September 2018, 13:30–15:00 | Paris (B5 M4)

Moderator
Siow Chong Goh, *Urban Redevelopment Authority, Singapore*

EU-TP1141 ITS Systems as data sources for Transport – and Spatial Planning Processes – the Austrian PT Service Level Indicator
Stefan Schwillinsky, *AustriaTech, Austria*

EU-TP1301 Moovel: an urban mobility company, making cities smarter
Christoph Stadler, *Moovel Group GmbH, Germany*

AP-TP1302 Development of DOKONE-Navi – A Navigation System for Pedestrian with BLE Beacon
Hitoshi Morita, *University of Nagasaki, Japan*

EU-TP1390 Multimodal travel companion enabled by Artificial Intelligence
Guido Di Pasquale, *International Organisation of Public Transport – UITP, Belgium*

AP-TP1460 Investigation for possibility of bus service management using ETC 2.0 probe data
Okuto Yamaguchi, *Tobu Business Solution Corp., Japan*

AP-TP1610 The analysis of the ridership and transfer time based on Smart Card AFC data: Case study in Beijing South Railway Station
Ruxin Xie, *Beijing University of Technology, China*

TS18 – ROAD SAFETY MEASURES AND APPLICATIONS

Tuesday 18 September 2018, 13:30–15:00 | Orlando (B3 M5)

Moderator
Nobuyuki Ozaki, *Toshiba Corporation, Japan*

AP-TP1100 A Non-Line-of-Sight Moving Object Detection System using Mobile Wireless Communications
Masakazu Ikeda, *SOKEN, INC., Japan*

AP-TP1111 Regarding the New Ground fault location detector
Hiroshi Uchida, *Central Nippon Highway Engineering Nagoya Company Ltd., Japan*

AP-TP1116 Prevention system for wrong way driving
Masanori Kikuchi, *AISIN AW CO., LTD., Japan*

AP-TP1190 Promotion of Traffic Safety Measures Based on Traffic Accident Analysis Using Probe Data
Shohei Nemoto, *Tokyo Metropolitan Police Department, Japan*

EU-TP1274 Safety-critical positioning engine for Level 4 autonomous driving
Jessica Garcia Soriano, *FICOSA, Spain*

EU-TP1307 CORE project: policy, standards and harmonisation in satellite navigation based telematics for the transport of dangerous goods
Antonella di Fazio, *Telespazio, Italy*

TS19 – USE OF TOLLING IN NETWORK OPERATIONS

Tuesday 18 September 2018, 13:30–15:00 | Melbourne (B3 M6)

Moderator
Thomas Desseilles, *ERTICO – ITS Europe, Belgium*

EU-TP1099 Intelligent transport systems in the Republic of Tatarstan: Integrated solutions of Weight Control, Toll Roads and video enforcement
Rifkat Minnikhanov, *Road Safety, Russia*

EU-TP1204 Trip Determination of A Transit and Online Toll Provisioning on Private Highways of Turkey
Ahmet Sahan, *Aselsan, Turkey*

EU-TP1415 Fjordforbindelsen Frederikssund Tolling Scheme – 'Tolling as a Service' for Denmark
Rachel Kenny, *Arup, Denmark*

AP-TP1279 Digital Transformation – The Journey of PLUS
Azman Ismail, *PLUS Malaysia Berhad, Malaysia*

TS20 – PUBLIC TRANSIT SYSTEMS

Tuesday 18 September 2018, 15:30–17:00 | Tokyo (B3 M1-2)

Moderator
Rajeev Roy, *P. Eng., The Regional Municipality of York, Canada*

AP-TP1016 Exploitation of Fully Automated Automatic Train Operation (ATO) Schemes for Superior Urban Mobility: Case Studies
Koorosh Gharehbaghi, *RMIT University, Australia*

AP-TP1203 Speed control of automated bus for crossing signalized intersections in a public road test
Bo Yang, *The University of Tokyo, Japan*

EU-TP1363 System Engineering using Model-Approach in Railways
Stephane Callet, *SNCF, France*

AM-TP1365 Rail Transit Connected Vehicles & Ultra-wideband for Communications & Location
Robert James, *HNTB, United States*

EU-TP1423 SmartFeeder – seamless, connected and automated feeder and shuttle services
Trond Foss, *SINTEF, Norway*

AP-TP1481 Design of an Autonomous Modular Public Transit System
Andreas Rau, *TUMCREATE, Singapore*

TS21 – USER ACCEPTANCE

Tuesday 18 September 2018, 15:30–17:00 | Montreal (B5 M1)

Moderator
Sylvain Belloche, *CEREMA, France*

EU-TP1158 Behavioral intention to use autonomous and connected vehicles: A focus-based questionnaire survey on university students
Ilias Panagiotopoulos, *Harokopio University of Athens (HUA), Greece*

AP-TP1183 Public-relations considerations for the creation of acceptance of autonomous vehicles
Yasuhide Nishihori, *TTRI (Toyota Transportation Research Institute), Japan*

AP-TP1293 Evaluating Malaysia's Readiness Towards Autonomous Vehicle Implementation
Hizal Hanis Hashim, *Malaysian Institute of Road Safety Research, Malaysia*

AP-TP1456 Social Acceptance of Autonomous Vehicles in Japan: Before-after trial in Field Operation Tests of AVs based at road-side stations in rural depopulated areas
Ayako Taniguchi Kaneko, *University of Tsukuba, Japan*

EU-TP1609 ADAS: from owner to user
Ilse Harms, *Connecting Mobility, the Netherlands*

EU-TP1631 New theoretical approach assessing the acceptance of Cooperative, Connected and Automated Mobility by Risk Integrated Technology Acceptance Model
Wolfgang Schulz, *Zeppelin University, Germany*

Technical Sessions

TS22 – COMMUNICATION TECHNOLOGIES 2

Tuesday 18 September 2018, 15:30–17:00 | Madrid (B5 M2)

Moderator
Sue Bai, *Honda R&D Americas, Inc., United States*

AM-TP1056 Network Communication Protocols for Driverless Vehicles, Drones, and Infrastructure
A.M. Chande, *University of Maryland Baltimore County (UMBC), United States*

AP-TP1081 Performance Comparison of Spreading codes for DS/SS-IVC Based on Location Oriented Code Allocation
Makoto Itami, *Tokyo University of Science, Japan*

AP-TP1181 Evaluation of the process on omitting message verification of V2X communication
Masamichi Tanji, *Mitsubishi Electric Corporation, Japan*

AP-TP1197 Proposal of a scheme for omitting message verification of V2X communication
Manabu Misawa, *Mitsubishi Electric Corporation, Japan*

AP-TP1465 60 GHz multi-gigabit wireless technology for connected vehicles
Masataka Irie, *Panasonic Corporation, Japan*

AM-TP1669 System Overview and Descriptive Evaluation of Baseline Communication Performance of the Virginia Connected Corridors
Zac Doerzaph, *Virginia Tech Transportation Institute, United States*

TS23 – SEAMLESS TRAVEL

Tuesday 18 September 2018, 15:30–17:00 | Paris (B5 M4)

Moderator
Josef Czako, *Moving Forward Consulting, Germany*

EU-TP1150 Trip and tourist tour planning with integrated fare and ticketing management
Sven Maerivoet, *Transport & Mobility Leuven, Belgium*

EU-TP1296 The MILL: Smart Mobility Co-Creation in Dundee
Paul Blakeman, *Urban Foresight, United Kingdom*

EU-TP1332 Towards seamless multimodal pay-as-you-go mobility
Stéphane Péan, *EIT DIGITAL, France*

EU-TP1498 Rejsekort – a smart ticket for Danish nationwide seamless public transport
Gregers Mogensen, *Rejsekort A/S, Denmark*

EU-TP1504 Smartphone ticketing – a key element in accelerating interoperability and increasing the use of transport services
Louis Brosse, *Wizway Solutions, France*

EU-TP1673 Cooperative Strategies and Operating Conditions for Platform Based Living Labs on the Markets of Transportation Services
Jani-Pekka Jokinen, *Aalto University, Finland*

TS24 – LIVING LABS AND HUMAN FACTORS

Tuesday 18 September 2018, 17:15–18:45 | Paris (B5 M4)

Moderator
Ian Patey, *WSP, United Kingdom*

AP-TP1168 Signage information service based on estimation of a driver's intention
Kazuyo Yoshimura, *Mitsubishi Electric Corporation, Japan*

AP-TP1398 Vibration Influence Elimination Methods for Heartbeat Detection by Doppler Radar in Cars
Kenta Mochizuki, *Aisin Seiki Co., Ltd., Japan*

AP-TP1467 Occupant State Estimation for Vehicle by Using Biosignals
Koji Nagase, *Toyota Technical Development Corporation, Japan*

EU-TP1557 Mobility Lab – From concept to prototype in nine months
Erik Schoone, *SmartwayZ.NL/Province of Noord-Brabant, the Netherlands*

EU-TP1590 Living Lab Bus platform for the public transportation services development
Olli Pihlajamaa, *VTT Technical Research Centre of Finland, Finland*

TS25 – POSITIONING AND FLEET MANAGEMENT

Tuesday 18 September 2018, 17:15–18:45 | Orlando (B3 M5)

Moderator
C Douglass Couto, *Independent Consultant, United States*

EU-TP1083 Mapping "Mobility as a Service" components towards economic indicators in Europe
Josep Maria Salanova Grau, *CERTH-HIT, Greece*

AP-TP1184 Development of lane identification for automotive ECU
Shunya Kumano, *SOKEN INC., Japan*

EU-TP1361 "GLONASS+112" system as one of the elements of situational centre of the Republic of Tatarstan
Maria Dagaeva, *Ministry of Informatization and Communication, Russia*

EU-TP1370 Developing and operation of geographic information system of the Ministry of transport and road economy of the Republic of Tatarstan within GLONASS +112
Airat Sadykov, *Directorate of the Regional Automated Management Information System of the Ministry of Transport and Road Facilities of the Republic of Tatarstan, Russia*

EU-TP1441 Challenges to simulation of GNSS reception in dense urban environments
Tommaso Panicciari, *Spirent, United Kingdom*

TS26 – TRAFFIC DEMAND STRATEGIES

Tuesday 18 September 2018, 17:15–18:45 | Melbourne (B3 M6)

Moderator
Josh Johnson, *Southwest Research Institute, USA*

EU-TP1132 Collaborative Traffic Management (CTM) – Delivering Traffic and Demand Management Strategies Between Different Stakeholders and Regions
Jessica Darvill, *Atkins, United Kingdom*

AM-TP1207 New UTC for Bogota. From Traffic Control to Integral Mobility Management
Beatriz Chavarri, *IDOM, Spain*

EU-TP1418 Traffic Signals in a Diverging Diamond Interchange
Eric Gautier, *ÅF Infrastructure Planning, Denmark*

AM-TP1588 Integration of Legacy ATMS with Integrated Corridor Management System
Lew Gaskell, *Kapsch TrafficCom, United States*

AM-TP1665 Global Perspectives on the Past, Present and Future of Active Traffic Management: Focus on Ramp Control Implementations
Robert Bertini, *University of South Florida, United States*

TS27 – VULNERABLE ROAD USERS

Wednesday 19 September 2018, 09:00–10:30 | Montreal (B5 M1)

Moderator
Frans Tillema, *HAN University of Applied Sciences, the Netherlands*

AP-TP1313 Introduction of low-speed automated driving mobility-based service system
Hitoshi Watanabe, *YAMAHA MOTOR CO., LTD., Japan*

EU-TP1434 Efficient combination of LIDAR Intensity and 3D information for real-time pedestrian recognition
Dzmitry Tsishkou, *IMRA Europe SAS, France*

EU-TP1523 Challenging assumptions of Autonomous Vehicles use in urban areas and interactions with non-equipped, active modes
Niccolò Panozzo, *European Cyclists' Federation, Belgium*

AP-TP1526 AIMES Ecosystem: vulnerable road user solutions
Scott Benjamin, *WSP, Australia*

EU-TP1551 Cooperative transport systems and vulnerable road users
Jonas Åström, *Trivector Traffic AB, Sweden*

Technical Sessions

TS28 – ROADMAPS TO DEPLOYMENT

Wednesday 19 September 2018, 09:00–10:30 | Madrid (B5 M2)

Moderator
Jennie Martin, *ITS UK, United Kingdom*

AM-TP1088 Minnesota Connected Corridor Program: Roadmap to Near-Term Connected Vehicle Benefits
Cory Johnson, *Minnesota Department of Transportation, United States*

EU-TP1228 European Nation-Wide ETC systems Re-Procurement
Michael Bibaritsch, *Prime Consulting Services, Austria*

AP-TP1159 Mobile-based ITS. The disruptive solution to implement ITS in developing countries
Iñigo Larraondo, *IDOM, Spain*

EU-TP1488 Road infrastructure support levels for automated driving
Jacqueline Erhart, *ASFINAG Maut Service GmbH, Austria*

EU-TP1550 Barriers and knowledge gaps for ITS and C-ITS deployment
Fanny Malin, *VTT Technical Research Centre of Finland, Finland*

EU-TP1623 Promoting value chain innovations in the emerging "Connected Car" industry: ICCar approach
Diego Rodríguez Nión, *CTAG – Automotive Technology Centre of Galicia, Spain*

AM-TP1686 Preparing a connected vehicle roadmap for optimal system deployment scenarios: case study of the state of Oregon, United States
Robert Bertini, *University of South Florida, United States*

TS29 – ITS FOR AGEING POPULATION

Wednesday 19 September 2018, 09:00–10:30 | Paris (B5 M4)

Moderator
Koji Oguri, *Aichi Prefectural University, Japan*

AP-TP1078 An analysis for reconsidering mobility of elderly people
Ryosuke Ando, *TTRI (Toyota Transportation Research Institute), Japan*

AP-TP1117 Model verification of smartphone-based support system for mobility-impaired
Yukiko Hatazaki, *UTMS Society of Japan, Japan*

AP-TP1237 Study of The Development of High Accuracy Digital Mapping in Automated Driving Setbox
Toshiya Hirose, *Shibaura Institute of Technology, Japan*

EU-TP1470 Smart Mobility Services and Senior Citizens – A Framework for Co-creation and Analysing User Needs
Virpi Oksman, *VTT Technical Research Centre of Finland, Finland*

TS30 – CHARGING AND FLEET MANAGEMENT

Wednesday 19 September 2018, 09:00–10:30 | Orlando (B3 M5)

Moderator
Steve Kuciemba, *WSP USA, United States*

EU-TP1082 Autonomous port vehicle fleet management
Josep Maria Salanova Grau, *CERTH-HIT, Greece*

AP-TP1475 Basic research on introduction of autonomous charging system by satellite positioning technology
Tsuyoshi Ikeda, *Nippon Expressway Research Institute Company Limited, Japan*

EU-TP1608 GNSS-Tolling: Ability to Detect Correct Road-United States ge based on Geo-Objects and Map-Matching Methods
Martina Zabic, *Sund & Bælt, Denmark*

EU-TP1661 An intelligent road access and weight control system – first application is 64-74 ton trucks
Sten Wandel, *Lund University, Sweden*

EU-TP1683 The importance of API design for Tolling Service provision
Volker Vierroth, *T-Systems International GmbH, Germany*

TS31 – IMPROVING INTERSECTION MANAGEMENT

Wednesday 19 September 2018, 09:00–10:30 | Melbourne (B3 M6)

Moderator
Shinji Tanaka, *Yokohama National University, Japan*

EU-TP1057 Impact of waiting times on pedestrians' and car drivers' behaviour on signalised tramway crossings
Nicolas Speisser, *CEREMA, France*

AP-TP1431 A Study on Iterative Improvement Method for Signal Control Parameters
Yuzo Hirotsu, *Panasonic System Solutions Japan Co., Ltd., Japan*

AP-TP1454 Safety evaluation of unsignalised T-junctions using traffic conflict measures: A case study in Singapore
Mo Zhou, *National University of Singapore, Singapore*

AP-TP1600 A Study on Information Capacity of Graphic Route Information Panels at Motorway Junctions
Jian Xing, *Nippon Expressway Research Institute Co., Ltd., Japan*

AM-TP1678 Using Data Visualization to Evaluate the Operation of New York City's Transit Signal Priority System
Robert Rausch, *TRANSCORE, United States*

AP-TP1690 The road traffic congestion reductions in Moscow City by installing ARTEMIS
Ryota Notaki, *Kyosan Electric MFG. Co., Ltd., Japan*

TS32 – V2X SOLUTIONS & CONCEPTS

Wednesday 19 September 2018, 13:30–15:00 | Montreal (B5 M1)

Moderator
Ron Pati, *WSP, United States*

EU-TP1131 User – centred approach for C-ITS solution proof of concept
Erwin Vermassen, *ERTICO – ITS Europe, Belgium*

EU-TP1219 Distributed Intelligence in PAC V2X Project
Oyunchimeg Shagdar, *VEDECOM, France*

EU-TP1235 Šentvid Tunnel – Case Study
Savin Gorup, *Asist d.o.o, Slovenia*

AP-TP1271 Data Relaying for Low Rates of Received Frames in Crash Warning Application using V2X communication
Takeshi Hirai, *Nagoya University, Japan*

EU-TP1424 Virtual environment for validation of Cooperative Intelligent Transport Systems
Ricard Molins, *IDIADA, Spain*

TS33 – SENSING, DETECTION, CLASSIFICATION

Wednesday 19 September 2018, 13:30–15:00 | Madrid (B5 M2)

Moderator
Joe Castle, *Atkins, United Kingdom*

EU-TP1046 Monitoring winter road conditions using commonly available vehicle variables for cooperative applications
Moksheeth Padarthy, *HAN University of Applied Sciences, the Netherlands*

EU-TP1104 ITS-enabled advanced road weather services and infrastructures for vehicle winter testing, professional traffic fleets and future automated driving
Timo Sukuvaara, *Finnish Meteorological Institute, Finland*

AP-TP1177 The effect evaluation method of changing wheel loads for vehicle dynamic performance
Mizuki Yamamoto, *Shibaura Institute of Technology, Japan*

AP-TP1345 Image Processing based Automatic Road Damage Detection System for Autonomous Car
Seungki Ryu, *Korea Institute of Civil Engineering and Building Technology, South Korea*

EU-TP1579 Weather Classification with traffic surveillance cameras
Khouloud Dahmane, *CEREMA, France*

Technical Sessions

TS34 – TESTING NEW APPROACHES 1

Wednesday 19 September 2018, 13:30–15:00 | Turin (B5 M3)

Moderator
Christina Kopp, *Tampa-Hillsborough County Expressway Authority, United States*

EU-TP1333 BeCamGreen: the new advanced ITS solution to reduce the number of single-occupancy car trips
Stéphane Péan, *EIT DIGITAL, France*

EU-TP1338 Visual City – ÅF's smart integrated planning process with visual simulations and synergy analysis
Paoli Marco, *ÅF Infrastructure AB, Sweden*

EU-TP1487 First results and lessons-learnt on air quality and traffic management from the application of VSL within the BrennerLEC project
Roberto Cavaliere, *IDM Suedtirol / Alto Adige, Italy*

EU-TP1554 Effects of Fuel Taxation – A Systematic Literature Review
Henrik Sällberg, *Blekinge Institute of Technology, Sweden*

EU-TP1585 Analytics from the Birmingham Clean Air Zone Trial
Stephen Hanley, *Amey, United Kingdom*

TS35 – MAAS PLANNING & POLICY

Wednesday 19 September 2018, 13:30–15:00 | Paris (B5 M4)

Moderator
Sascha Westerman, *City of Hamburg, Germany*

AP-TP1018 Complexities in optimization of the Transportation Infrastructure for the smart cities
Koorosh Gharehbaghi, *RMIT University, Australia*

EU-TP1316 CAVs without MaaS – The Doomsday Scenario
Orla O'Halloran, *Arup, Ireland*

AP-TP1341 Big Data Analysis on Taiwan's MaaS potential users
Siang-Jie Chen, *Institute of Transportation, Chinese Taipei*

EU-TP1598 Enable Open MaaS Market by Stick or Carrot
Soeren Soerensen, *SFMCON ApS, Denmark*

EU-TP1653 Planning Liveable Automated Cities
Helga Jonuschat, *InnoZ – Innovation Centre for Mobility and Societal Change, Germany*

TS36 – NETWORK SECURITY

Wednesday 19 September 2018, 13:30–15:00 | Sydney (B4 M3-4)

Moderator
Andrew Gurr, *Fusion Networks, New Zealand*

EU-TP1051 Case Study of Security Approach to a Highways Telecoms Network
Peter Crumpton, *Fluor, United Kingdom*

EU-TP1055 Cybersecurity Consideration for Intelligent Transportation System Network
Chih-Hong Lin, *Moxa Europe GmbH, Germany*

AM-TP1094 Cyber Attacks against Intelligent Transportation Systems
Numaan Huq, *Trend Micro, Canada*

EU-TP1655 Providing secure mechanisms to protect personal data in a mobility platform
Antonio Marqués, *Grupo ETRA, Spain*

TS37 – HOST SESSION – CROSS BORDER SOLUTIONS

Wednesday 19 September 2018, 13:30–15:00 | Melbourne (B3 M6)

Moderator
Jeppe Gronholdt-Pedersen, *City of Copenhagen, Denmark*

EU-TP1122 National Access Points: Challenges for Success
Peter Lubrich, *BASt, Germany*

EU-TP1240 Oresund Metro – Linking Copenhagen and Malmö with an automated driverless metro line
Jarl Zinn, *City of Copenhagen, Denmark*

EU-TP1484 The importance of standards in cross border ITS-solutions Example from EasyGo becoming an international service within the framework of EETS
Søren Rasmussen, *Sund & Bælt Holding A/S, Denmark*

EU-TP1491 Collaboration cross borders for ITS excellence
Jonas Ivarsson, *Trafikverket, Sweden*

EU-TP1543 Linking of services: Fostering the shift towards flexible and seamless mobility in Europe
Alexander Hausmann, *AustriaTech, Austria*

EU-TP1553 Cross-Border ticketing, the different approaches: Belgium at the crossroad of technologies.
Pierre-Paul Bertieaux, *Belgian Mobility Card, Belgium*

EU-TP1695 Queensferry Crossing: Bridging the data gap
Douglas Cairns, *Amey, United Kingdom*

TS38 – TRAFFIC MANAGEMENT AND CONNECTED INFRASTRUCTURE 1

Wednesday 19 September 2018, 15:30–17:00 | Montreal (B5 M1)

Moderator
Giovanni Huisken, *MAP traffic management, the Netherlands*

AM-TP1162 Bus Priority Treatment Guidelines for Identifying Corridor Conditions that Deploying Transit Signal Priority
Evangelos Kaisar, *Florida Atlantic University, United States*

EU-TP1558 Intelligent Road Marking Systems enabling future connected mobility
Silvia Capato, *Swarco Mizar, Italy*

EU-TP1589 Intelligent traffic lights: from pilots to deployments
HarmJan Mostert, *Provincie Noord-Holland, the Netherlands*

EU-TP1599 A better guidance approaching the toll plaza thanks to the connected infrastructure
Malalatiana Randriamasy, *Normandie University, Sanef, France*

AM-TP1632 A Secure V2X Connected Vehicle Transponder System for Vehicle Prioritization
Pino Porciello, *ESCRYPT, Canada*

TS39 – SIGNAL OPTIMISING AND TRAFFIC MANAGEMENT

Wednesday 19 September 2018, 15:30–17:00 | Turin (B5 M3)

Moderator
Tim Leinmueller, *DENSO AUTOMOTIVE Deutschland GmbH*

EU-TP1120 The impact of green light optimal speed advisory in urban areas from a traffic management perspective
Mario Krumnow, *TU Dresden, Germany*

EU-TP1123 Optimizing the control of Traffic Management Systems by using Single Vehicle Data
Christoph Schwietering, *IB Schwietering, Germany*

EU-TP1201 Intelligent traffic solutions for a clean, safe and sustainable environment in Copenhagen
Mads Gaml, *City of Copenhagen, Denmark*

AP-TP1331 Research for Validation on Benefits of VICS WIDE service
Shinya Adachi, *Vehicle Information and Communication System Center, Japan*

AP-TP1468 A Study on the Effects of Green Wave System on CO2 Emissions
Ryota Horiguchi, *i-Transport Lab. Co.,Ltd., Japan*

EU-TP1537 Signal optimization of Åboulevard and Jagtvej corridor in the City of Copenhagen
Mogens Møller, *Via Trafik Rådgivning A/S, Denmark*

Technical Sessions

TS40 – BEHAVIOURAL FACTORS 1

Wednesday 19 September 2018, 15:30–17:00 | Paris (B5 M4)

Moderator
Monica Giannini, *ERTICO – ITS Europe, Belgium*

EU-TP1072 MaaS: still searching for the user demand
Susanna Hauptmann, *Kapsch TrafficCom, Austria*

EU-TP1084 Involving the End-user in Development and Deployment of Innovative Mobility Services
Charlotte Dillisse, *Province of Noord-Brabant/SmartwayZ.NL, the Netherlands*

AP-TP1110 Data analysis report of social experiment of One-way Car-sharing in Kobe City
Rie Hasegawa, *Mitsubishi Heavy Industries, Ltd., Japan*

EU-TP1112 Unintended consequence of the electric vehicle revolution
Lucy Wickham, *WSP, United Kingdom*

EU-TP1617 Matching mobility services with tourist traveller archetypes in rural destinations
Olli Pihlajamaa, *VTT Technical Research Centre of Finland Ltd., Finland*

EU-TP1693 The dawn of the mobility as a service era – Understanding and modelling users' needs and consumer behaviour
Tjark Eissfeldt, *FEV Consulting, Germany*

TS41 – MOTORWAY OPERATIONS

Wednesday 19 September 2018, 15:30–17:00 | Sydney (B4 M3-4)

Moderator
Koichi Sakai, *ITS Center, Institute of Industrial Science, The University of Tokyo, Japan*

AP-TP1253 Effect of the Moving Light Guidance System in Urban Expressway for Traffic Congestion Mitigation
Hiroyuki Masumoto, *Hanshin Expressway Company Limited, Japan*

AP-TP1289 An Advanced Pilot Study and Planning Project For Smart Safety Traffic Systems in Taiwan
Francis (Foun-Shea) Chang, *CECI, Chinese Taipei*

EU-TP1322 The Role of Key Performance Indicators in enhancing Motorway Operation Services in the Irish Road Network
Caitriona de Paor, *Roughan & O'Donovan, Ireland*

AP-TP1358 Development policy about the display system of parking lots congestion ratio at expressway rest area
Takashi Yamamoto, *Central Nippon Expressway Co., Ltd., Japan*

AP-TP1452 Verification of introduction possibility of dynamic channelization on the Metropolitan expressway
Kyo Tomohisa, *Metropolitan Expressway Co., Ltd, Japan*

AP-TP1485 Prediction of Congestion on Expressways by Artificial Intelligence using Traffic Counter Data and Its Utilization
Kazuyuki Murakami, *Nexco-East Innovation & Communications Company Limited, Japan*

TS42 – NETWORK MANAGEMENT POLICIES

Wednesday 19 September 2018, 15:30–17:00 | Melbourne (B3 M6)

Moderator
Chris Bax, *Cubic Transportation Systems Limited, USA*

AM-TP1145 R&D Policies on sustainable Public Transport: trends in Latin America, China and Singapore
Adriano Galindo Leal, *IPT - Institution for Technological Research, Brazil*

EU-TP1324 Maintaining an Effective ITS Service in Challenging Financial Times
Ian Cater, *Atkins, United Kingdom*

EU-TP1334 Mobility Demand Management strategies – Options for our Modern and future Worlds
Jose Carlos Riveira, *Kapsch TrafficCom AG, Spain*

EU-TP1346 FRAME NEXT - ITS Archtecture
Alexander Frötscher, *AustriaTech, Austria*

EU-TP1490 Investigating the feasibility of improving strategic road network management algorithms in England
Andy Fisher, *Highways Engla, United Kingdom*

EU-TP1625 SWOT Analysis of Intelligent Transportation Systems for Istanbul with Analytic Methods
Esin Mukul, *Galatasaray University, Turkey*

TS43 – TRAFFIC MANAGEMENT AND CONNECTED INFRASTRUCTURE 2

Thursday 20 September 2018, 09:00–10:30 | Montreal (B5 M1)

Moderator
Ilkka Kotilainen, *Finnish Transport Agency, Finland*

AP-TP1160 Australian Integrated Multimodal EcoSystem (AIMES)
Majid Sarvi, *The University of Melbourne, Australia*

EU-TP1328 Doing pilots on automated cars in Noord-Holland
Jeannet van Arum, *Provincie Noord-Holland, the Netherlands*

AM-TP1387 Comprehensive Analysis of GLOSA's Efficiency and Safety on Urban Streets
Cameron Kergaye, *Utah Department of Transportation, United States*

EU-TP1586 ATMS towards C-ITS
Jose Carlos Riveira, *Kapsch TrafficCom AG, Spain*

EU-TP1635 Urban traffic management in 2050: a "traffic-fiction" report
Aritza Aldama, *Kapsch TrafficCom, Spain*

EU-TP1650 Passive Network Monitoring in C-ITS Infrastructures
Stefan Ruehrup, *ASFINAG, Austria*

TS44 – TESTING AND SIMULATIONS

Thursday 20 September 2018, 09:00–10:30 | Madrid (B5 M2)

Moderator
Chris Mentzer, *Southwest Research Institute, United States*

EU-TP1200 Methodology for design of test facilities for self driving vehicles and smart mobility
Stefan de Vries, *Applus IDIADA Group, Spain*

AM-TP1437 On a reliable and efficient simulation-based platform for connected and intelligent vehicles systems testing and validation; PV-AEB case study
Nacer Eddine Chelbi, *University of Sherbrooke, Canada*

EU-TP1505 Development of an Automated Vehicle as an Innovation Platform
Johan Scholliers, *VTT Technical Research Centre of Finland, Finland*

AP-TP1549 The research of traffic density extraction method under Vehicular ad hoc network environment
Zhang Yiming, *Tongji University, China*

AM-TP1620 A Platform to Evaluate Connected Vehicle Applications Using Hardware-in-the-Loop Simulation
Srinivasa Sunkari, *Texas A&M Transportation Institute, United States*

EU-TP1330 Towards the legal admission of connected / automated vehicles
Gerben Feddes, *RDW, the Netherlands*

TS45 – VEHICLE DETECTION AND NETWORK EFFICIENCY

Thursday 20 September 2018, 11:00–12:30 | Turin (B5 M3)

Moderator
Susan Harris, *ITS Australia, Australia*

AP-TP1209 Vehicle type discrimination technology by non-contact sensor
Hirokazu Misu, *Nippon Expressway Research Institute Company Limited, Japan*

AP-TP1300 Crack Detection using Spectral Clustering Based on Crack Features
Kousuke Matsushima, *National Institute of Technology, Kurume College, Japan*

AP-TP1343 An analysis of propagation characteristics on infrastructure radar system using 79GHz band under rainfall environment
Toshiteru Hayashi, *Panasonic Corporation, Japan*

EU-TP1510 Traffic-flow & Air Quality Experiment
Christian Gaarde Nielsen, *Copenhagen Solutions Lab/Copenhagen Business School, Denmark*

AP-TP1619 Methodology and Learnings from Applying the Gini Index as a Measure for Efficient Road Utilization
Mohit Sindhwani, *Quantum Inventions, a Continental Corporation company, Singapore*

Technical Sessions

TS46 – BEHAVIOURAL FACTORS 2

Thursday 20 September 2018, 09:00–10:30 | Paris (B5 M4)

Moderator
Jaap Vreeswijk, *MAP Traffic Management, the Netherlands*

AP-TP1023 Information distribution system of location information for local bus equipped with smart device
Shina Takano, *University of Toyama, Japan*

AM-TP1092 Perception And Acceptability Analysis On User Location-Based Transit Mobile Application
Young-Jae Lee, *Morgan State University, United States*

EU-TP1103 Mobility as a Service (MaaS) do young people want to share their bike?
Marco Marechal, *Connected Strategic Change Processes, the Netherlands*

EU-TP1359 Citizens and mobility in Barcelona
Marti Jofre, *Creafutur, Spain*

EU-TP1518 "Fusion Mobility" – Using a Systemic Approach to Reframing the Relationship between Active Mobility and ITS
Manfred Neun, *European Cyclists' Federation, Belgium*

TS47 – USING TECHNOLOGY TO DELIVER GOODS

Thursday 20 September 2018, 09:00–10:30 | Orlando (B3 M5)

Moderator
Richard Easley, *E-Squared, USA*

EU-TP1347 Truck Platooning: An Update After The European Truck Platooning Challenge
Arjan van Vliet, *RDW, The Netherlands Vehicle Authority, the Netherlands*

EU-TP1493 Connecting Austria – Infrastructure-based management of automated truck convoys with C-ITS
Wolfgang Schildorfer, *HiTec, Austria*

EU-TP1533 Connected Corridor for Driving Automation and High Density Truck Platooning in the CONCORDA project
Eusebiu Catana, *ERTICO – ITS Europe, Belgium*

EU-TP1638 Intelligent truck platooning: how to make it work
Jeppe Rich, *Technical University of Denmark, Denmark*

TS48 – TRAVEL TIME ESTIMATION

Thursday 20 September 2018, 09:00–10:30 | Melbourne (B3 M6)

Moderator
Anna Quinones, *Tampa-Hillsborough County Expressway Authority, USA*

EU-TP1035 State Estimation, Short Term Prediction and Virtual Patrolling Providing a Consistent and Common Picture for Traffic Management and Service Providers
Luc Wismans, *DAT.Mobility, the Netherlands*

AP-TP1136 Data Conversion of Actual Traffic Situation by Learning Type Image-Sensing and its Application
Takashi Kodama, *Hanshin Expressway Company Limited, Japan*

AP-TP1156 Differentiating and Costing Recurring and Abnormal Congestion
David Johnston, *Intelligent Transport Services, Australia*

AP-TP1198 Traffic Volume Estimation Using Average Travel Time at Signalized Intersections
Minhyoung Lee, *University of Seoul, Korea*

EU-TP1303 Traffic State Estimation using CCTV Video Data
Marcel Gutsche, *AGT, Germany*

TS49 – MIXED TRAFFIC AND TRANSITIONS

Thursday 20 September 2018, 11:00–12:30 | Montreal (B5 M1)

Moderator
Ryota Horiguchi, *i-Transport Lab. Co., Ltd., Japan*

EU-TP1113 How can an operationally safe environment be assured in the transition to an automated environment?
Ian Patey, *WSP, United Kingdom*

AP-TP1216 SCATS Ramp Metering – From North American origins to autonomous vehicle readiness
Michael Bajenov, *Roads and Maritime Services, NSW Australia, Australia*

AP-TP1226 Analysis of speeds of merging vehicles for realization of next generation merging support service
Satoshi Sawai, *National Institute for Land and Infrastructure Management, MLIT, Japan,*

AP-TP1291 Right-angled Collision Analysis and Prevention Strategy with Connected Vehicle under Mixed Traffic Flow Environment at Unsignalized Intersection
Wei Lun Hsiao, *National Taiwan University, Chinese Taipei*

EU-TP1382 Assessment of automated driving to design infrastructure-assisted driving at transition areas
Anton Wijbenga, *MAP traffic management, the Netherlands*

EU-TP1416 The autonomous Rivium ParkShuttle, from dedicated lane to mixed traffic (SAE level 4)
Marc van der Knaap, *OC Mobility, the Netherlands*

TS50 – SECURITY

Thursday 20 September 2018, 11:00–12:30 | Madrid (B5 M2)

Moderator
Mike Brown, *Southwest Research Institute, USA*

AM-TP1033 Engineering Challenges to Deploy V2V Communication Security for Crash Warning Application
Hirofumi Onishi, *Alpine Electronics Research of America, United States*

EU-TP1142 Flexible software processing of the ETSI ITS-G5 security
Michał Kaźmierowski, *Q-Free ASA, Poland*

EU-TP1143 Message dissemination from Central ITS systems to vehicles
Ola Martin Lykkja, *Q-Free ASA, Norway*

AM-TP1340 Application of a cybersecurity framework to a connected vehicle deployment
Raymond Resendes, *USDOT Volpe Center, United States*

AM-TP1566 A Generic Framework for Security Risk Assessment for Intelligent Transportation Systems
Paul Bottinelli, *ESCRYPT, Canada*

TS51 – MOBILITY ON DEMAND

Thursday 20 September 2018, 11:00–12:30 | Berlin (B4 M1-2)

Moderator
Dave Williams, *Atkins, United Kingdom*

EU-TP1213 Optimization of a Demand Responsive Transportation Service – A Case Study on Real-World Data
Martin Reinthaler, *AIT Austrian Institute of Technology, Austria*

AP-TP1353 How to make a DRT trial financially sustainable
Adrian Schoenig, *Skedgo Pty Ltd, Australia*

AM-TP1442 Deploying Technology to Facilitate Service Coordination: Making it Work
Carol Schweiger, *Schweiger Consulting LLC, United States*

EU-TP1471 Use of individual level modelling in the estimation of passenger demand for Demand-Responsive transport services
Tomi Laine, *Strafica Ltd, Finland*

EU-TP1663 Multimodal activity Modelling for supporting mobility service operations
Patrizia Franco, *Transport Systems Catapult, United Kingdom*

AP-TP1689 On-demand shared mobility: Focusing on a great customer experience
Kevin Orr, *Liftango, Australia*

Technical Sessions

TS52 – ENHANCING SAFETY 2

Thursday 20 September 2018, 11:00–12:30 | Paris (B5 M4)

Moderator
Makoto Miwa, *Executive Expert, NEC Solution Innovator, Japan*

AP-TP1067 System Development Using Audible Information to Prevent Entry into a Tunnel
Kouji Yamamoto, *Central Nippon Expressway Co.,Ltd, Japan*

AP-TP1214 A Driver Navigation System Incorporating Traffic Accident Risks: Providing Drivers Low Accident Risk Directions
Kazuya Tamada, *Hanshin Express Company Limited, Japan*

AP-TP1263 Safer2School app – The development of a road safety data repository and analysis system at vicinity of school
Hizal Hanis Hashim, *Malaysian Institute of Road Safety Research, Malaysia*

AP-TP1507 Automatic Extraction of Passing Scene through Signalized Intersection in the Nighttime from Event Data Recorder
Mikuni Motoi, *Aichi Prefectural University, Japan*

TS53 – IMPROVING FREIGHT FLOWS – LOGISTICS AND INNOVATION

Thursday 20 September 2018, 11:00–12:30 | Orlando (B3 M5)

Moderator
Gideon Mbiydzenyuy, *NetPort Science Park/Borås University, Sweden*

AP-TP1170 The electrification of transportation and the impact on transportation funding – commercial vehicle perspective
Nina Elter, *EROAD, New Zealand*

EU-TP1378 Berlin as an urban test-bed for digitized traffic and sustainable city logistics: How can a city promote disruptive technologies and services to develop connected, cooperative and automated (last mile) transport?
Martin Sölle, *Berlin Agency for Electromobility eMO, Germany*

EU-TP1527 Market opportunities, barriers and solutions for logistics innovation platforms
Iraklis Stamos, *IRU Projects, Belgium*

AM-TP1674 Simulation Based Evaluation of Freight-Specific Advanced Traveller Information
Geza Pesti, *Texas A&M Transportation Institute, United States*

TS54 – TRAFFIC FLOW CONTROL

Thursday 20 September 2018, 11:00–12:30 | Melbourne (B3 M6)

Moderator
Chris Philp, *ITS Canada, Canada*

EU-TP1043 A rule-based distributed network control approach
Thomas Riedel, *Adaptive Traffic Control AG, Switzerland*

AP-TP1045 Development and Verification of Real Time Station Congestion Visualization Tool
Toru Sahara, *East Japan Railway Company, Japan*

AP-TP1178 Experiments on patients with MCI to confirm effects of measures against wrong-way driving
Yuya Shiota, *East Nippon Expressway Company Limited, Japan*

EU-TP1298 Adaptive Flow Management, where tunnel safety and network-wide traffic management go hand in hand
Erik-Sander Smits, *Arane Consultants, the Netherlands*

EU-TP1430 Motorway-to-motorway metering: control algorithms and modelled evaluation
Ian Cornwell, *Mott MacDonald, United Kingdom*

AP-TP1564 Improved Tabu Search Heuristic for Static Dial-A-Ride Problem: Faster and Better Convergence
Song Guang Ho, *Nanyang Technological University, Singapore*

TS55 – IMPACT EVALUATION

Thursday 20 September 2018, 13:30–15:00 | Montreal (B5 M1)

Moderator
Toru Saito, *Honda R&D Co., Ltd., Japan*

EU-TP1325 Towards an 'agile' common evaluation methodology for C-ITS
Simon Edwards, *Newcastle University, United Kingdom*

EU-TP1348 Methodology for evaluation in L3Pilot
Satu Innamaa, *VTT Technical Research Centre of Finland Ltd., Finland*

AM-TP1352 Dedicating Freeway Lanes for Connected and Automated Vehicle for Priority or Exclusive Use
Ram Kandarpa, *Booz Allen Hamilton, United States*

EU-TP1521 How may connected automated driving improve quality of life?
Elina Aittoniemi, *VTT Technical Research Centre of Finland, Finland*

EU-TP1541 Socio-economic impact of safety-related cooperative traffic information service
Satu Innamaa, *VTT Technical Research Centre of Finland Ltd., Finland*

EU-TP1601 Traffic Flow with Various Amount of Autonomous Vehicles – A Field Test
Torbjørn Haugen, *NTNU Traffic Engineering Research Centre, Norway*

TS56 – TRAFFIC CONTROL AND DATA

Thursday 20 September 2018, 13:30–15:00 | (Madrid (B5 M2))

Moderator
Vera Jin, *Sopra Steria Asia Pte Ltd, Singapore*

EU-TP1019 TLEX (Traffic Light EXchange), making intelligent traffic light information relevant
Paul Potters, *Monotch, the Netherlands*

EU-TP1134 Innovative signal control increases the capacity
Brian Rosenkilde Jeppesen, *Rambøll Denmark, Denmark*

AP-TP1189 Advanced Traffic Signal Prediction Systems
Yuichi Takayanagi, *UTMS Society of Japan, Japan*

AP-TP1462 Reduction of Vehicle Data Size Using Principal Component Analysis
Yusuke Yamamoto, *Sumitomo Electric Industries, Ltd., Japan*

TS57 – ITS AND MOBILITY

Thursday 20 September 2018, 13:30–15:00 | Berlin (B4 M1-2)

Moderator
Scott Belcher, *SFB Consulting, LLC, United States*

AP-TP1169 Experiment of customer service robot supported by remote staff
Manabu Sugasawa, *East Japan Railway Company, Japan*

EU-CP1383 DriveNow – shared, electric and connected mobility for urban areas
Christian Bäres, *DriveNow GmbH & Co. KG, Germany*

AM-TP1591 Use of PKI to Enable ITS Applications in Smart Cities
Paul Bottinelli, *ESCRYPT, Canada*

EU-TP1666 Open Service Innovation Ecosystem for Public Transportation
Juhani Linna, *University of Tampere, Finland*

AM-TP1676 Enabling energy innovation through on-demand shared mobility inclusive of bicycles
Andrew Duvall, *National Renewable ENergy Laboratory, United States*

EU-TP1691 Building the Foundations for the Future of Mobility in the UK
Phil Blythe, *Newcastle University, United Kingdom*

Technical Sessions

TS58 – ENHANCING SAFETY 3

Thursday 20 September 2018, 13:30–15:00 | Paris (B5 M4)

Moderator
Joe Castle, *Atkins, United Kingdom*

EU-TP1119 Sun Glare Detection and Visualization with QGIS
Jo Skjermo, *SINTEF, Norway*

AP-TP1191 Adoption of An Offset Design Assistant Tool for Deterring Over-speeding
Takeshi Abe, *Tokyo Metropolitan Police Department, Japan*

AP-TP1356 The Hard Numbers needed to deliver a Reliable Journey
Richard Young, *Beca, New Zealand*

EU-TP1567 Direct Enforcement Scenarios for Weigh-In-Motion systems
Stefan F.A. Daxberger, *Kapsch TrafficCom AG, Austria*

EU-TP1641 Digitalisation and Road Weather Forecasts to Help Decision Making for Road Maintenance
Janne Miettinen, *Finnish Meteorological Institute, Finland*

TS59 – IMPROVING FREIGHT FLOWS – LOGISTICS AND SMART DATA

Thursday 20 September 2018, 13:30–15:00 | Orlando (B3 M5)

Moderator
Hans Stapelfeldt, *Hamburg Logistik, Germany*

AP-TP1105 A field experiment on logistics vehicle management
Yuna Maki, *National Institute for Land and Infrastructure Management, MLIT, Japan,*

AP-TP1108 Utilization of ETC2.0 Technology in the Commercial Logistics Business and Construction Business
Toru Owada, *ITS Technology Enhancement Association, Japan*

EU-TP1114 Innovative Use of Speed Enforcement Systems for Weight Data Collection in Norway
Jorunn Riddervold Levy, *Statens Vegvesen, Norway*

EU-TP1612 TM 2.0 – DATEX II for logistics applications
Lina Konstantinopoulou, *ERTICO – ITS Europe, Belgium*

TS60 – ROAD MANAGEMENT OPERATIONS 1

Thursday 20 September 2018, 13:30–15:00 | Sydney (B4 M3-4)

Moderator
Young Kyun Lee, *ITS Korea, Republic of Korea*

EU-TP1028 Graph Integration Platform GIP: how to put an integrated nationwide digital reference system for traffic infrastructure data from the idea up to successful operation
Rainer Haselberger, *City of Vienna, Austria*

AP-TP1068 Performance evaluation of On-Board Sensing Technology for Use in Road Management Task
Kazunori Ooshima, *Ministry of Land, Infrastructure, Transport and Tourism, Japan*

AP-TP1097 The application of video image from running patrol car for the expressway maintenance
Yasunori Taneda, *Central Nippon Highway engineering Nagoya Co., Ltd., Japan*

AP-TP1421 Tunnel inspection system using high-speed moving visual inspection vehicle
Hiroyuki Kameoka, *Central Nippon Expressway Co.,Ltd, Japan*

AP-TP1451 Standardisation of ITS Asset Management Datasets
Clarissa Han, *Australian Road Research Board, Australia*

AP-TP1508 Development of a coil sensor and a wireless communication for AVC to reduce the roadway pavement damage
Sang Hyup Lee, *KICT, Republic of Korea*

TS61 – TRAFFIC SAFETY

Thursday 20 September 2018, 13:30–15:00 | Melbourne (B3 M6)

Moderator
Giovanni Huisken, *MAP traffic management, the Netherlands*

AP-TP1053 Impacts of winter weather and winter maintenance operations on traffic performance in Sapporo
Roberto Tokunaga, *Civil Engineering Research Institute for Cold Region, Japan*

EU-TP1087 In-depth analysis of the accident blackspot "Finkenwerder Ring" in the Port of Hamburg and evaluation of countermeasures via driving simulation
Dominik Muehlbacher, *WIVW GmbH, Germany*

EU-TP1314 ViaSmart – Optimal route evaluator
Aino Mensonen, *Ramboll Finland, Finland*

AP-TP1369 Enriching Customer Experience and Transport Services through Intelligent Customer and Day of Operations Services for Auckland Transport
Roger Jones, *Auckland Transport, New Zealand*

EU-TP1427 Analysis of Traffic Incidents using Machine Learning
Stephen Lynch, *Arup, Ireland*

EU-TP1685 User feedback application for construction site information on German highways
Gerhard Hermanns, *TraffGo Road GmbH, Germany*

TS62 – MODELLING AND SIMULATION

Thursday 20 September 2018, 15:30–17:00 | Montreal (B5 M1)

Moderator
Mika Rytkönen, *HERE, Finland*

EU-TP1138 CARSEM: A Cooperative Autonomous Road-vehicles Security Evaluation Methodology
Sammy Haddad, *Oppida, France*

EU-TP1157 Verifying automated driving systems in simulation: framework and challenges
Zeyn Saigol, *Transport Systems Catapult, United Kingdom*

AP-TP1476 Method for validation of conditional and highly automated driving systems
Walter My, *Bosch Automotive Products (Suzhou) Co. Ltd., China*

EU-TP1606 A Model Based System Engineering Methodology for an Autonomous Driving System Design
Asma Charfi Smaoui, *CEA France, France*

EU-TP1659 A VISSIM based ADAS simulation platform to complement the UKCITE real world connected vehicle test environment
Olivier Haas, *Coventry University, United Kingdom*

TS63 – ALERTNESS IN AUTOMATED VEHICLES

Thursday 20 September 2018, 15:30–17:00 | Madrid (B5 M2)

Moderator
I-Heng Meng, *Institute for Information Industry, Chinese-Taipei*

AP-TP1210 Estimation of Driver Drowsiness Change in Automated Driving using Heart Beat Analysis
Naoki Hashimoto, *Shibaura Institute of Technology, Japan*

AP-TP1218 The Effect of Unconscious Learning to Driver Attention
Shuji Sudo, *Shibaura Institute of Technology, Japan*

AP-TP1220 Driver State in Take-over from Automated to Manual Driving
Kenichi Sato, *Shibaura Institute of Technology, Japan*

AP-TP1233 Study on Effective Tasks for Keeping Driver's AroUnited States I Level in Automated Driving
Akihiro Abe, *Shibaura Institute of Technology, Japan*

EU-TP1514 Autonomous Vehicles and Driver Capability
Chris Hutchins, *WSP, United Kingdom*

EU-TP1528 Is your request just this? New automation paradigm to reduce the requests of transition without increasing the effort of the driver
Elisa Landini, *RE:Lab, Italy*

EU-TP1547 A case-study on drivers' mental model of partial driving automation
Niklas Strand, *Swedish National Road and Transport Research Institute (VTI), Sweden*

Technical Sessions

TS64 – ENHANCING SAFETY 4

Thursday 20 September 2018, 15:30–17:00 | Paris (B5 M4)

Moderator
Takaaki Sugiura, *Mitsubishi Research Institute, Inc., Japan*

AP-TP1246 Application of ANN Models to Simulate Personalities Causing Aberrant Driving Behaviour and Construct the Driving Risk Level for Inter-City Bus Drivers
Jia-Wei Lai, *National Cheng Kung University, Chinese Taipei*

AM-TP1309 Development of a predictive control methodology for a hydronic de-icing system for urban infrastructure
Ali Saberi Derakhtenjani, *Concordia University, Canada*

AP-TP1385 Research on the characteristics of rule breaking behaviours under vehicle restriction policy based on license plate recognition data
Zhiyong Liu, *Tsinghua University, China*

AP-TP1497 Study on drivers' reaction times against different types of traffic signals
Sarang Jokhio, *Korea National University of Transportation, South Korea*

EU-TP1597 Intersection of things – Connected intersection with open interfaces for safety-critical applications
Ernst Luckner, *SWARCO Futurit, Austria*

EU-TP1670 Road user distraction: can we really add Smart Mobility information?
Ilse Harms, *Connecting Mobility, the Netherlands*

TS65 – ROAD MANAGEMENT OPERATIONS 2

Thursday 20 September 2018, 15:30–17:00 | Melbourne (B3 M6)

Moderator
Bob Frey, *Tampa-Hillsborough County Expressway Authority, USA*

AP-TP1163 Concept of Operations in Practice
Blair Monk, *Aurecon, New Zealand*

EU-TP1229 Levels of automation for road operator's ITS
Risto Kulmala, *Traficon, Finland*

AP-TP1294 Getting Into Predictive Maintenance for Intelligent Transport Systems – An Exploration of Technologies
Jing Han, *Land Transport Authority, Singapore*

EU-TP1621 Traffic Management Systems improving resilience in smart cities
Laura Coconea, *Swarco Mizar, Italy*

TS66 – TRAFFIC MANAGEMENT AND CONNECTED INFRASTRUCTURE 3

Thursday 20 September 2018, 17:15–18:45 | Montreal (B5 M1)

Moderator
Jean-Michel Henchoz, *DENSO, Belgium*

EU-TP1130 Cooperative queue data for adaptive traffic control
Xiaoyun Zhang, *Dynniq, the Netherlands*

AP-TP1217 Development of autonomated driving set box
Yuichiro Nakayama, *Shibaura Institute of Technology, Japan*

AP-TP1232 Study of detecting look-ahead information using ETC2.0 probe data for automated driving
Shin Sakaki, *National Institute for Land and Infrastructure Management, MLIT, Japan*

EU-TP1563 Taking advantage of connected and autonomous vehicle technologies for road space management
Dave Williams, *Atkins, United Kingdom*

EU-TP1694 The changing roles of Road Authorities and Service Providers in Traffic Management 2.0 deployment: A Guidelines Document
Jop Spoelstra, *Technolution, the Netherlands*

TS67 – DATA AND ITS

Thursday 20 September 2018, 17:15–18:45 | Madrid (B5 M2)

Moderator
Chris Bluemle, *Crown Castle, United States*

EU-TP1273 Data collection for Automated and Cooperative Driving
Frank Rijks, *Tass International, the Netherlands*

EU-TP1388 Driving down costs for road authorities
Tomas Levin, *Norwegian Public Roads Administration, Norway*

EU-TP1391 Lessons learned from SPaT and MAP messages in C-ITS pilots
Chris Myatt, *Q-Free ASA, Australia*

AM-TP1466 LiDAR-Enhanced Connected Infrastructure Sensing and Broadcasting All Traffic Trajectories
Hongchao Liu, *University of Nevada, United States*

EU-TP1509 The Danish National Access Point
Christian von Huth, *Danish Road Directorate, Denmark*

EU-TP1570 National Access Points and Municipalities – Best Practices from the German National Access Point MDM
Timo Hoffman, *Federal Highway Research Institute (BASt), Germany*

TS68 – CAV TESTBEDS 1

Thursday 20 September 2018, 17:15–18:45 | Turin (B5 M3)

Moderator
David Hytch, *Parkgate Consultants, United Kingdom*

EU-TP1221 @CITY – Automated Cars and Intelligent Traffic in the City
Prasant Narula, *Delphi Deutschland GmbH, Germany*

EU-TP1247 Environment for efficient V2X field testing
Vaclav Mecerod, *Alps Electric Czech, Czech Republic*

EU-TP1255 C-ITS testing and piloting in Nordic conditions: case Finland
Lasse Nykänen, *VTT Technical Research Centre of Finland Ltd., Finland*

EU-TP1276 C-ITS Activities in the City of Kassel
Thorsten Miltner, *city of Kassel – traffic and roads authority, Germany*

EU-TP1483 IDIADA's Connected Vehicle Lab. Connectivity services for automotive mobility applications.
Marcos Pillado, *Applus IDIADA Group, Spain*

TS69 – CITY SCALE & ITS PLANNING

Thursday 20 September 2018, 17:15–18:45 | Paris (B5 M4)

Moderator
Norbert Handke, *INGHA, Germany*

EU-TP1192 Invipo – Smart City platform
Lukas Duffek, *Incinity, Czech Republic*

EU-TP1502 Use of Social Media and Open Data for Mobility Services in Tampere
Johan Scholliers, *VTT Technical Research Centre of Finland, Finland*

EU-TP1593 Mobility Data Space – An Open and Decentral Ecosystem for Mobility Data
Holger Drees, *Federal Highway Research Institute (BASt), Germany*

EU-TP1645 Ensuring Intermodality with A.I & Data Science
Aurélien Belhocine, *Qucit, France*

Technical Sessions

TS70 – DATA DRIVEN TRAFFIC MANAGEMENT 1

Thursday 20 September 2018, 17:15–18:45 | Sydney (B4 M3-4)

Moderator
Pete Costello, *Iteris, Inc, USA*

EU-TP1054 Data Driven Decisions and Business Intelligence in Dublin City's Transportation Management
Margaret O'Donnell, *Dublin City Council, Ireland*

AP-TP1374 Transport management by data from experience
Sei Sakairi, *East Japan Railway Co., Japan*

EU-TP1405 Improving traffic planning and real-time operations in Madrid through a new mobility data driven approach
Aritza Aldama, *Kapsch TrafficCom, Spain*

AP-TP1516 Solving Congesting by Combining ETC Big Data and Dynamic Traffic Management
Wen Jing Huang, *CECI Engineering Consultants, Inc., Chinese Taipei*

AM-TP1572 Data Integration for an Integrated Corridor Management System
Steven Dellenback, *Southwest Research Institute, United States*

AM-TP1642 Smart and Data Drive Arterial Management Using High-Resolution Traffic Signal Data and Anonymous Probe Vehicle Data
Thomas Brennan, *The College of New Jersey, United States*

TS71 – MODELLING AND EFFECTIVE TRAFFIC MANAGEMENT 1

Thursday 20 September 2018, 17:15–18:45 | Melbourne (B3 M6)

Moderator
Jian Xing, *Nippon Expressway Research Institute Company Limited, Japan*

AP-TP1249 Sensitivity Analysis of Traffic Parameters
Zhi Han, *China Merchants Chongqing Communications Research & Design Institute Co., Ltd., China*

AP-TP1327 Application of Machine Learning Techniques for Complementing Missing Traffic Flow Data in an Urban Road Network
Toshihiko Oda, *Vehicle Information and Communication System (VICS), Japan*

EU-TP1389 Autopilot, an Automated Traffic Measurement Decision Support System using a Genetic Algorithm
Edwin Mein, *Technolution, the Netherlands*

EU-TP1404 Improving the Quality of Results of Microscopic Traffic Flow Models by using Process Data of Traffic Signal Systems
Tanja Weidemann, *University of Kassel, Germany*

EU-TP1618 Using machine learning and object detection for signal-controlled intersections
Andreas Berre Eriksen, *Aalborg University, Denmark*

AM-TP1675 Development of Cloud-based Smart Cone System for Work Zone Traffic Management
Jun-Seok Oh, *Western Michigan University, United States*

TS72 – TRAFFIC MANAGEMENT AND CONNECTED INFRASTRUCTURE 4

Friday 21 September 2018, 09:00–10:30 | Montreal (B5 M1)

Moderator
Mathias Hoehne, *DLR, Germany*

EU-TP1154 Vehicle automation based on Traffic light assistance
Ørjan Tveit, *NPRA, Norway*

EU-TP1287 Development of Cooperative Day-1 Services – Hessian Pilot of C-ROADS Germany
Stephanie Cheung, *Hessen, Germany*

EU-TP1627 Expected systemic impacts on automated traffic from quantitative complexity rating
Walter Aigner, *HiTec, Austria*

EU-TP1660 The Mobility Intelligent Cooperative Systems (MOBICS): Towards Open Informatics System of Systems
Lara Moura, *A-to-Be, Powered by Brisa, Portugal*

TS73 – TESTING NEW APPROACHES 2

Friday 21 September 2018, 09:00–10:30 | London (B3 M3-4)

Moderator
Charlotte van der Giessen, *City of Eindhoven, the Netherlands*

AP-TP1095 Kinetic Energy Management with Surrounding Vehicles Behaviour Prediction
Yutaro Itoh, *DENSO CORPORATION, Japan*

EU-TP1124 Action plan for road traffic data in the Norwegian Public Roads Administration
Kristin Gryteselv, *Norwegian Public Roads Administration, Norway*

EU-TP1477 Conducting Studies on Intra-City Bus Travel Experience: Insights and Lessons Learned in Living Lab Bus Project
Elina Hilden, *Tampere University of Technology, Finland*

EU-TP1546 Experience with Sensory Network Implementation for Determining Environmental Deviations
Tomáš Tichý, *ELTODO, Czech Republic*

AM-TP1587 Comparison of Bluetooth And Bus GPS Data for Estimating Arterial Travel Time and Trip Chaining
Darcy Bullock, *Purdue University, United States*

EU-TP1651 Hackathons for innovation: case Living Lab Bus and passenger game Bussig in Junction 2017
Juho Kostiainen, *VTT Technical Research Centre of Finland, Finland*

TS74 – AUTOMATED DECISION MAKING

Friday 21 September 2018, 09:00–10:30 | Madrid (B5 M2)

Moderator
Jean-Michel Henchoz, *DENSO, Belgium*

AP-TP1079 A Proposal of Driver's Subjective Tension Identification Model by Using Machine Learning
Atsushi Harada, *TOKAI RIKA co., LTD., Japan*

AP-TP1176 Study on Effect of Artificial Image Noise to the Accuracy of Convolutional Neural Network
Mohd Hafiz Hilman Mohammad Sofian, *Shibaura Institute of Technology, Japan*

EU-TP1320 A System for Human-like Driving Learning
Alice Plebe, *University of Trento, Italy*

AP-TP1392 A Drive Planning Method for Autonomous City Vehicles – Route Planning and Decision-Making Methods by using a High Definition Map -
Yohei Mishina, *Nissan Motor Co., Ltd., Japan*

AP-TP1397 Automatic AI Update System
Takuya Yamaguchi, *Panasonic Corporation, Japan*

TS75 – CAV TESTBEDS 2

Friday 21 September 2018, 09:00–10:30 | Turin (B5 M3)

Moderator
David Hytch, *Parkgate Consultants, United Kingdom*

EU-TP1086 MobilitymoveZ.NL: how to organise a large scale real life test environment for cooperative and automated driving
Pierre van Veggel, *SmartwayZ.NL, the Netherlands*

EU-CP1238 C-Roads Lower Saxony Pilot: Current Status and Future Outlook
Fatih M. Özel, *OECON Products and Services Gmbh, Germany*

EU-TP1446 Catalonia Living Lab: a public-private initiative for the comprehensive testing of connected and automated driving
Cristina Pou Fonollà, *Generalitat de Catalunya, Spain*

EU-TP1532 Connected and Autonomous Vehicles Laboratory (CAVLab) – An accessible facility for development and integration of CAV technologies
Servando German, *Transport Systems Catapult, United Kingdom*

EU-TP1595 Aurora Borealis – The Intelligent Corridor for Snowtonomous Driving
Reija Viinanen, *Finnish Transport Agency, Finland*

AM-TP1671 Operationalizing Connected Vehicle Services
Steve Sprouffske, *Kapsch TrafficCom, United States*

Technical Sessions

TS76 – SMART PARKING

Friday 21 September 2018, 09:00–10:30 | Berlin (B4 M1-2)

Moderator
Scott Belcher, *SFB Consulting, LLC, USA*

EU-TP1144 Parking sensor with NB-IoT communication
Ola Martin Lykkja, *Q-Free ASA, Norway*

EU-TP1182 Implications and Challenges For The Design Of Intelligent Safe and Secure Truck Parking Areas in Cross-Border Networks in Hungary and Greece
Ádám Nagy, *Hungarian Public Roads Non-profit PLC Department for Traffic Management and Network Operation, Hungary*

EU-TP1239 Park and Ride monitoring – Regulation needed for open parking?
Kristin Kråkenes, *Norwegian Public Roads Administration, Norway*

AP-TP1248 Improving Cognition and Judgment with Dynamic Parking Lot Vacancy Information System for Expressway Rest Areas
Kouji Yamamoto, *Central Nippon Expressway Co.,Ltd, Japan*

EU-TP1380 The Smart Parking initiatives – Helping drivers find a vacant parking space
Jim Ring, *The City of Copenhagen, The Technical and Environmental Administration, Denmark*

EU-TP1592 Smart parking supported by predictive analytics to ease city traffic
Maxime Bricet, *IRISA, France*

TS77 – DATA DRIVEN TRAFFIC MANAGEMENT 2

Friday 21 September 2018, 09:00–10:30 | Sydney (B4 M3-4)

Moderator
Andrew Winder, *ERTICO – ITS Europe, Belgium*

AP-TP1186 Collecting and utilizing probe data from “ETC2.0” V2I systems
Kazunori Inoue, *Panasonic Corporation, Japan*

AP-TP1208 Analysis of the Usage Status of the Metropolitan Expressway by utilization data collected by mew-ti Application
Yu Hayashi, *Shutoko Engineering Company Limited, Japan*

EU-TP1420 Modelling Traffic Congestion Evolution through Speed Profile Generation using Floating Car Data
Maarten Houbraken, *Ghent University, Be-Mobile, Belgium*

EU-TP1503 Speed management in Spain via Internet of Things (IoT)
Alberto Arbaiza Martín, *Traffic General Directorate (DGT), Spain*

EU-TP1542 Network Coupling and Validation
Jørgen Bundgaard Wanscher, *Hermes Traffic Intelligence, Denmark*

EU-TP1545 Connected vehicles and weather estimations to evaluate the state of a road
Ibon Arechalde, *ASIMOB, Spain*

TS78 – MODELLING AND EFFECTIVE TRAFFIC MANAGEMENT 2

Friday 21 September 2018, 09:00–10:30 | Melbourne (B3 M6)

Moderator
Richard Easley, *E-Squared, United States*

EU-TP1440 Advanced Traffic Management driven by Real Time Data Fusion
Dennis Bjorn-Pedersen, *Technolution, the Netherlands*

AP-TP1478 Macroscopic Prediction of Traffic Congestion Using Neural Network
Hidekiyo Shimizu, *Japan Road Traffic Information Center, Japan*

AP-TP1517 Demonstration Experiment for using “Traffic Congestion Forecasting AI” in Tokyo Bay Aqua-Line
Keisuke Toyama, *East Nippon Expressway Company Limited, Japan*

AP-TP1577 A New On Ramp Metering Strategy
Chong Chee Chung, *ST Electronics Info-Comm System Pte Ltd, Singapore*

AP-TP1679 Improvement of Short Term Prediction of Micro-Simulation through Parameter Adjustment using Observed Traffic State
Kuniaki Sasaki, *University of Yamanashi, Japan*

TS79 – ITS FOR CYCLING

Friday 21 September 2018, 09:00–10:30 | Nagoya (B4 M5)

Moderator
Julie Castermans, *ERTICO – ITS Europe, Belgium*

EU-TP1026	Knowing how to optimize routing services for pedestrians and cyclists Andreas Unterluggauer, *Verkehrsverbund Ost-Region (VOR) GmbH / ITS Vienna Region, Austria*
EU-TP1060	Improving the understanding of cyclists through new data collection techniques Anna Clark, *Trivector Traffic AB, Sweden*
EU-TP1125	A scale-up network level study of green wave stabilization for cycling Xiaoyun Zhang, *Dynniq Nederlands, the Netherlands*
EU-TP1128	Traffic management for cyclists in Copenhagen Michael Dubbeldam, *Technolution, the Netherlands*
AP-TP1196	Kerbside design improvement for loading and bicycling utilization of ITS Ryoichi Ebisawa, *Tokyo Metropolitan Police Department, Japan*
EU-TP1531	How to effectively share Smart City infrastructure – and what are the challenges? Marianne Hornuff, *City of Copenhagen, Denmark*
EU-TP1575	Innovation in mobile counting solutions and extrapolation of data to optimize the construction of an active transportation observatory Laurent Guennoc, *Eco-Counter, France*
EU-TP1629	Better service level for cyclists using travel time information – More cyclists in Aarhus Michael Bloksgaard, *City of Aarhus, Denmark*

Scientific Sessions

SP01 – ENVIRONMENTAL STUDIES

Tuesday 18 September 2018, 13:30–15:00 — Nagoya (B4 M5)

Moderator
Roger Pagny, *Atec – ITS France, France*

AP-SP1188 Prediction of Energy Consumption for New Electric Vehicle Models by Machine Learning
Arika Fukushima, *Toshiba Corporation, Japan*

AP-SP1496 Air quality monitoring using stationary versus mobile sensing units: a case study from Lorraine, France
Chen Cai, *DATA61|CSIRO, Australia*

EU-SP1538 Calibration of Gipps' car-following model for trucks and the impacts on fuel consumption estimation
Johana Cattin, *Volvo Group – IFSTTAR, France*

EU-SP1637 City-Wide NOx Emissions Modelling Using Fleet Probe Vehicles
Christopher Rushton, *Transport Systems Catapult, United Kingdom*

SP02 – USERS' NEEDS AND SOCIAL FACTORS 1

Tuesday 18 September 2018, 15:30–17:00 — Nagoya (B4 M5)

Moderator
Carol Schweiger, *Schweiger Consulting LLC, USA*

AP-SP1025 A New Scheme for Providing Reliable Real-Time Travel-Time Information Using Individual Probe and Five-Minute Aggregated Data with High Travel-Time Variability
Jinhwan Jang, *Korea Institute of Civil Engineering and Building Technology, Republic of Korea*

EU-SP1074 Investigation of older driver's take-over control performance in highly automated vehicles under adverse weather conditions
Shuo Li, *Newcastle University, United Kingdom*

AM-SP1126 Evaluation of Mobile Ticketing Technologies for Public Transit
Kaan Ozbay, *New York University, United States*

EU-SP1254 Autonomous Hotels: A Review of Most Prominent Technologies
Juho Kostiainen, *VTT Technical Research Centre of Finland, Finland*

EU-SP1381 Potential Customers of MaaS: A Swedish Baseline
Jana Sochor, *RISE Viktoria & Chalmers University of Technology, Sweden*

SP03 – USERS' NEEDS AND SOCIAL FACTORS 2

Tuesday 18 September 2018, 17:15–18:45 — Nagoya (B4 M5)

Moderator
Toshio Ito, *Shibaura Institute of Technology, Japan*

EU-SP1364 An HMI Framework for Driver/Rider States Adaptive Transitions and ADAS
Stella Nikolaou, *CERTH, Greece*

AP-SP1379 A Base Station Equivalent Merging Model in Mobile Phone Data Processing and Applications
Wei Guo, *Tsinghua University, China*

EU-SP1519 Passenger Transportation Analysis Using Smartphone Sensors and Digital Surveys
Arto Perttula, *Tampere University of Technology, Finland*

EU-SP1552 Risk factors' importance and allocation in infrastructure Private Public Partnerships
Emil Numminen, *Blekinge Institute of Technology, Sweden*

SP04 – SAFETY 1

Wednesday 19 September 2018, 09:00–10:30 | Nagoya (B4 M5)

Moderator
Chris Philp, *ITS Canada, Canada*

AP-SP1066 Exploring Lane Change Safety Issues for Manually Driven Vehicles in Vehicle Platooning Environments
Cheol Oh, *Hanyang University, Republic of Korea*

EU-SP1199 Impacts of connected and automated vehicles on road safety in the UK
Jill Hayden, *Atkins, United Kingdom*

EU-SP1311 Advancing active safety and testing methodologies towards the protection of Vulnerable Road Users: The project PROSPECT
Ilona Cieślik, *IDIADA, Spain*

AM-SP1436 Proposal of a New Virtual Evaluation Approach of Preventive Safety Applications and Advanced Driver Assistance Functions Based on Metropolis-Hastings Algorithm – Application: AEB System -
Nacer Eddine Chelbi, *Université de Sherbrooke, Canada*

SP05 – SAFETY 2

Wednesday 19 September 2018, 13:30–15:00 | Nagoya (B4 M5)

Moderator
Cheol Oh, *Hanyang University, Republic of Korea*

EU-TP1482 Travel time reliability doesn't stop on the off-ramp
Marthe Uenk-Telgen, *National Data Warehouse for Traffic Information, the Netherlands*

AM-SP1098 Spatial and Statistical Correlation Techniques to Assess Various Types of Field Traffic Crashes and Surrogate Measures of Safety
Cameron Kergaye, *Utah Department of Transportation, United States*

EU-SP1368 Effect evaluation of left turn box for bicyclists
Rasmus Øhlenschlæger, *Aalborg University, Denmark*

EU-SP1429 Temporal and Spatial Dependent Risk Assessment of Wildlife-Vehicle Collisions in Hessen, Germany – A First Approach for Implementation
Eva Weidemann, *University of Kassel, Germany*

SP06 – SECURITY, TESTING AND RESILIENCE

Wednesday 19 September 2018, 15:30–17:00 | Nagoya (B4 M5)

Moderator
C Douglass Couto, *Independent Consultant, United States*

AM-SP1286 TIRCPS: Merging Safety and Cybersecurity Analysis in Product Design
Dajiang Suo, *Massachusetts Institute of Technology, United States*

EU-SP1326 Assessment of ITS Architectures
Manuel Fünfrocken, *Saarland University of Applied Sciences, Germany*

AP-SP1395 Rule-Based Searching for Collision Test Cases of Autonomous Vehicles Simulation
Satoshi Masuda, *IBM Research – Tokyo, Japan*

EU-SP1583 Diffie-Hellman Process and its Use in Secure and Authenticated Vehicular Communication Networks
George Dimitrakopoulos, *Harokopio University of Athens (HUA), Greece*

AM-SP1677 Implementation and Evaluation of Cooperative Adaptive Cruise Control Functionalities
Aravind Kailas, *Volvo Group North America, United States*

AP-SP1044 A Travel Time Prediction Method Based on Deep Learning Techniques
Kuen-Rong Lo, *Chunghwa Telecom Laboratories, Chinese Taipei*

Scientific Sessions

SP07 – DATA AND INFORMATION

Thursday 20 September 2018, 09:00–10:30 | Nagoya (B4 M5)

Moderator
Adam M. Lyon, *Iteris, USA*

EU-SP1040 Driver's Dashboard – Using Social Media Data as additional Information for Motorway Operators
Robert Neuhold, *Graz University of Technology, Institute of Highway Engineering and Transport Planning, Austria*

EU-SP1360 Towards a ground truth of AADT on using video data and tracking software?
Niels Agerholm, *Aalborg University, Denmark*

AP-SP1428 Vehicle Localization Based on Road Surface Information Using a Smartphone
Tomotaka Nagaosa, *Kanto Gakuin University, Japan*

EU-SP1445 Experiences and challenges with standards for location referencing from the GIS and ITS domains
Knut Jetlund, *Norwegian Public Roads Administration, Norwegian University of Science and Technology, Norway*

AP-SP1461 Estimating Traffic Conditions of the Radial-ring Expressway Network by Assimilating Probe and Detector Data into Traffic Simulation
Ryota Horiguchi, *i-Transport Lab. Co., Ltd.*

EU-SP1607 Evaluating alternative methods to estimate bus running times by archived Automatic Vehicle Location data
Benedetto Barabino, *University of Cagliari, Italy*

SP08 – NETWORK MANAGEMENT

Thursday 20 September 2018, 11:00–12:30 | Nagoya (B4 M5)

Moderator
Christopher Rushton, *Transport Systems Catapult, United Kingdom*

AP-SP1030 Assessment of Route Guidance System Utilizing Turning Movement Specific Link Travel Times
Sanghoon Jeon, *DGIST, Republic of Korea*

AM-SP1050 Next Generation Traffic Control for Autonomous Vehicles with Free Flow Focus
Keeranoor Kumar, *IBM Corp., United States*

AP-SP1173 Traffic flow characteristics on transition boundary between the steady and congested condition
Eun Hak Lee, *Seoul National University, South Korea*

AP-SP1464 Study on Dynamic Traffic Diversion Model Based on Dynamic Traffic Demand Estimation and Prediction
Yigang Li, *Beijing University of Civil Engineering and Architecture, China*

AP-SP1479 Measure of Effectiveness of Two-way Two-lane Motorways in Japan
Jian Xing, *National Institute of Technology, Akita College, Japan*

AP-SP1480 Research On Traffic Conflict Between Right-Turning Motor Vehicle And Straight-Driving Motor Vehicle At Signalized Intersection
Yuting Zhou, *Beijing University of Technology, China*

SP09 – SIMULATION AND MODELLING

Thursday 20 September 2018, 13:30–15:00 | Nagoya (B4 M5)

Moderator
Meng Lu, *Dynniq, the Netherlands*

EU-SP1062 Empty vehicle redistribution and fleet-size in autonomous taxi systems
Tatiana Babicheva, *VEDECOM, France*

AP-SP1085 A Spatial-Temporal Structural Model for Population Mobility Analysis and Anomaly Detection with Massive Mobile Phone Data
Zheng Zhang, *Beijing University of Technology, China*

AP-SP1215 A stochastic collective model of public transport passenger arrival process
Christopher Bentley, *DATA61|CSIRO, Australia*

AP-SP1463 Estimation of Sparse O-D Matrix Accounting For Demand Volatility
Chen Cai, *DATA61|CSIRO, Australia*

EU-SP1536 Simulating deployment of connectivity and automation on the ring road of Antwerp
Maria Alonso Raposo, *European Commission's Joint Research Centre, Ispra Sustainable Transport Unit, Italy*

SP10 – COMMERCIAL VEHICLES AND FREIGHT SOLUTIONS

Thursday 20 September 2018, 15:30–17:00 | Nagoya (B4 M5)

Moderator
Mohit Sindhwani, *Quantum Inventions, a Continental Corporation Company, Singapore*

AP-SP1171 Hierarchical Hub Location Problem for Freight Network Design
Dong-Kyu Kim, *Institute of Construction and Environmental Engineering (ICEE), Republic of Korea*

AP-SP1187 The Advanced Safe Truck Concept Project: A partnership program developing future integrated driver monitoring technology
Mike Lenne, *Seeing Machines, Australia*

EU-SP1257 INTRALOG – Intelligent Autonomous Truck Applications in Logistics; Single and Double Articulated Autonomous Rearward Docking on Distribution Centres
Rakshith Kusumakar, *HAN Automotive Research, the Netherlands*

AM-SP1648 Mapping of Truck Traffic in New Jersey Using Weigh-In-Motion (WIM) Data
Kaan Ozbay, *New York University, United States*

EU-SP1682 Impact assessments of Intelligent Transport System performance in a freight transport corridor
Gideon Mbiydzenyuy, *NetPort Science Park/Borås University, Sweden*

SP11 – DEEP LEARNING

Thursday 20 September 2018, 17:15–18:45 | Nagoya (B4 M5)

Moderator
Meng Lu, *Dynniq, the Netherlands*

AP-SP1174 A hybrid machine learning and optimisation method to solve a tri-level road network protection problem
Arash Kaviani, *The University of Melbourne, Australia*

AP-SP1458 Value Based Deep Reinforcement Learning for Adaptive Isolated Intersection Signal Control
Chia-Hao Wan, *Chian Engineering Consultants, INC., Chinese Taipei*

EU-SP1472 Multi-output Deep Learning for Bus Arrival Time Predictions
Niklas Christoffer Petersen, *Technical University of Denmark, Denmark*

AP-SP1512 Deep Learning Methods in Transportation Domain: A Review
Christopher Bentley, *DATA61|CSIRO, Australia*

Commercial Paper Sessions

CP1 – URBAN LIVING SERVICES 1

Tuesday 18 September 2018, 13:30–15:00 | Theatre

Moderator
Sylvain Belloche, *CEREMA, France*

EU-CP1024 Data based planning optimizes public transport capacity utilization;
Manfred Bock, *T-Systems International GmbH, Germany*

EU-CP1049 MaaS for the Segmented Masses
Beth Garner, *Viaqqio – ESP Group, United Kingdom*

EU-CP1127 The Mulhouse Mobility Account – A single user account for all mobility services
Laurent Glorieux, *Cityway, France*

EU-CP1241 Bike Citizens Analytics – GPS Data Analysis Tool for Bicycle Traffic Planning
Adi Hirzer, *Bike Citizens, Austria*

AP-CP1285 Next Generation Transport Management Centre OperationsPaper
Henry Wu, *JYW Consulting, Australia*

EU-CP1486 The Symbiosis between Traffic Management and Mobility-as-a-Service
Ruud van den Dries, *MAP traffic management, the Netherlands*

EU-CP1495 Testsite Kongsberg – Technology as a tool in building sustainable cities and quality of life
Elisabeth Skuggevik, *Norwegian Public Roads Administration, Norway*

CP2 – DATA SERVICES

Wednesday 19 September 2018, 13:30–15:00 | Theatre

Moderator
Jaap Vreeswijk, *MAP traffic management, the Netherlands*

EU-CP1022 Cutting through the big data hype – Big Data and Intelligent Traffic Light Controllers for Predictive Traffic Management Services
Bas van der Bijl, *Sweco, the Netherlands*

AP-CP1039 Driving Insight: A Driving Behaviour Analysis System for United States ge-Based Insurance
Wern-Sheng Shieh, *Chunghwa Telecom Laboratories, Chinese Taipei*

EU-CP1321 FANSI-Tool: An Integrated Software for Floating Data Analytics
Walid Fourati, *Technical University Branschweig, Germany*

EU-CP1366 IoT Baseplate - Onsite Traffic Data to go
Klaus Heimbuchner, *EBE Smart.Base, Heimbuchner Consulting GmbH, Austria*

AM-CP1443 Tire Anomaly Data Reporting and Analysis
Rish Malhotra, *International Road Dynamics, Inc., Canada*

EU-CP1539 Mobile Artificial Intelligence for Assisted Transport Infrastructure Management and Visual Monitoring
Markus Melander, *Vaisala Oyj, Finland*

EU-CP1540 Data From Sky - Advanced Traffic Analysis
Mikkel Færgemand, *COWI A/S, Denmark*

EU-CP1611 Connected Car Data Brings New Mobility Services
George de Boer, *TomTom, the Netherlands*

CP3 – NETWORK MANAGEMENT SERVICES

Thursday 20 September 2018, 13:30–15:00 | Theatre

Moderator
Ian Patey, *WSP, United Kingdom*

AM-CP1242 Understanding the Optimal Characteristics of Pavement Markings for Detection by Forward-Facing Optical Cameras
Susannah Clear, *3M Transportation Safety Division, United States*

EU-CP1243 Road weather monitoring and winter maintenance support system in the Czech Republic
Tomáš Jurík Jr, *MetSense AB, Czech Republic*

EU-CP1244 New generation of weigh-in-motion
Tomáš Juřík, *CROSS, Czech Republic*

EU-CP1414 VDX – new sensor enabling small road toll stations
Björn Crona, *Kapsch TrafficCom, Sweden*

EU-CP1520 Hacking Copenhagen. Bicycles sensing the city
Niccolò Panozzo, *European Cyclists' Federation, Belgium*

EU-CP1555 Using crowdsourced data for road surface quality estimates
Lars Randleff, *Hermes Traffic Intelligence, Denmark*

EU-TP1680 Scotland's Trunk Road and Motorway Network Future Intelligent Transport Systems Strategy 2017
Stewart Leggett, *Transport Scotland, United Kingdom*

CP4 – URBAN LIVING SERVICES 2

Friday 21 September 2018, 09:00–10:30 | Theatre

Moderator
Monica Giannini, *ERTICO – ITS Europe, Belgium*

EU-CP1148 Bespoke tolling back office systems: A success delivery experience
Francisco Javier Malagón, *SICE, Spain*

EU-CP1151 SICE Automatic Danger Warning System in Crossroads
Juan Jesús Mínguez Rubio, *SICE, Spain*

AP-CP1401 Advanced ARTEMIS traffic signal system to reduce traffic congestion and air pollution in China
Kazama Hiroshi, *Kyosan Electric MFG. Co., Ltd., Japan*

EU-CP1403 Should street lights and other smart city technologies be mixed together?
Jens Hørup, *Amplex Denmark Aps, Denmark*

EU-CP1515 Event Management as a Service: lessons from Amsterdam and Assen
Paul Van Beek, *Goudappel Coffeng, the Netherlands*

EU-CP1535 Designing future intelligent transport infrastructure in the Fehmarnbelt Link
Peter Andreas Henningsen, *Sund & Bælt Holding A/S, Denmark*

Commercial Presentations

SPACE-DRIVEN INNOVATION FOR SMARTER, GREENER AND SAFER ROADS VOLVO CARS PRESS LAUNCH: 1ST CAR EQUIPPED WITH THE ECALL

Tuesday 18 September 2018, 17:00–17:30 | Commercial Theatre

Volvo is the first car-maker to announce equipping its vehicles with the regulated eCall system. Those cars equipped with eCall take advantage of the precise positioning offered by the European satellite systems (EGNOS and Galileo) to quickly alert emergency services in the event of a road accident, and automatically dial the European emergency number 112. Moreover, Volvo cars use the same location source as for the in-vehicle navigation. In Europe alone, around 50 000 cars on the road are already enabled with Galileo satellite navigation capability and this is expected to rise to over 150 000 by the end of this year. The eCall device in the Volvo vehicles is manufactured by ACTIA Nordic in Sweden and has been successfully tested by NavCert´s Laboratory in Germany.

Organisers
Volvo & Actia powered by Galileo

SMART(ER) CITIES – ARTIFICIAL INTELLIGENCE ALGORITHMS FOR TRAFFIC VIDEO ANALYSIS, FOR TRAFFIC AND SAFETY MANAGEMENT IN SMART(ER) CITIES

Wednesday 19 September 2018, 09:30–10:30 | Commercial Theatre

Traffic managers have one ultimate goal – assure that traffic flows without disturbance, with as few incidents, casualties and damage, as possible. If they would achieve that goal, they would solve the problem that costs hundreds of millions of dollars annually in urban regions around the globe. The key for resolving this problem is prompt action – prevent incident that is happening or act immediately as it happens. Incidents are happening as consequences of slow traffic, traffic jam, fallen object on road, worsening weather conditions, movement of people or certain vehicles on unforeseen paths, etc. All these causes have common characteristics – for humans, they are very intuitive and noticeable when seen on video. For traditional ITS systems, these causes are demanding for detection because almost all of them require different sensors for detection, which is not practical nor economical. On the other hand, CCTV technologies are developing rapidly. The quality of video compression technologies enables traffic managers to have unimagined level of visible details in front of them in control center. However, there is a catch – the humans are not able to analyze hundreds/thousands of video feeds in real-time, 24/7. If there would be a technology that performs video analysis in real-time, almost as well as humans, it would be a breakthrough in traffic safety and management – smarter traffic management center for smarter cities. By developing Machine Learning based Artificial Intelligence technology for simultaneous identification of previously unimaginable information about the traffic flow and related events, through one single sensor – existing video camera, Telegra is enabling traffic managers to timely perform their traffic and safety management obligations.

Organiser
Telegra

Speakers
Dragan Momčilović, *Key Account Manager, Telegra Project, Croatia*
Jukka-Pekka Alanissi, *Operations Director, Dynniq Finland Oy, Finland*

Contact
Jelena Koller, Jelena.Koller@telegra-europe.com

COMMUNICATION BASED MANOEUVRE DECISION

Wednesday 19 September 2018, 10.45–11:30 | Commercial Theatre

Future mobility systems will need to know more about the environment than their on board sensors might be able to provide today. The testbed in Dresden/Saxony researches on communication based systems to support solutions that help resolving this shortcomings. Manoeuvre decisions based on other cars measurements and traffic servers central intelligence are developed here.

Organiser
SAENA GmbH, *Germany*

Speakers
Oliver Fohl, *Project Coordinator, FusionSystems GmbH, Germany*
Mario Krumnow, *Research associate, Dresden University of Technology, Germany*
Christian Andrä, *Project Manager, SAENA GmbH, Germany*

Contact
Joseph Loeser, joseph.loeser@saena.de

INTELLIGENT OPERATION OF TRANSPORT INFRASTRUCTURE IN FIXED LINKS

Tuesday 18 September 2018, 15:30–17:00 | Commercial Theatre

Sund & Bælt is a technology-driven infrastructure company that owns and operates the links across the Great Belt and Øresund and, within a few years, the link to Germany across the Fehmarnbelt. Sund & Bælt aims to digitalise the operation of major infrastructure facilities in partnership with external technology experts and deliver unique solutions that will increase efficiency within the infrastructure area. In the first presentation, we invite you to gain an insight into Denmark's three fixed cross-border links, and hear about more of the challenges and state-of-the-art solutions relating to the development, operation and upgrading of the advanced infrastructure of the fixed links. The second presentation exemplifies how working in collaboration with external technology experts can create a brand new visual data-driven decision management tool that enables multiple stakeholders across the value chain to collaborate, hence generating a decrease in investments and thereby operational costs.

Organisers
Sund & Bælt

Speakers
Lars Fuhr Pedersen, *Technical Director at the Great Belt Fixed Link.*
Bengt Hergart, *Property Director at the Oresund Fixed Link.*
Kim Smedegaard Andersen, *Technical Deputy Director, Immersed Tunnel, Femern.*
Bjarne Jørgensen, *Executive Director, Asset Management, Sund & Bælt A/S.*

Contact
Martina Zabic, Sund & Bælt
mza@SBF.DK

Nordic Stream

This year, the City of Copenhagen, in collaboration with the Network of ITS National Associations, will address the topic – "Cross-border solutions". In cooperation with the ITS Nordic Network, the City of Copenhagen will also organise a special Nordic Stream across the different topics highlighting the ITS Nordic way. Detailed information on the sessions will be added in the upcoming weeks.

NS0 CROSS BORDER MOBILITY SOLUTIONS: TOWARDS A SEAMLESS FUTURE. BY THE ITS NATIONALS

Monday 17 September 2018, 13:30–15:00 | Stockholm (Nordic Stream)

The roll out of Cooperative ITS services in Europe is accelerating, pushed forward by Industry funding and political engagement on both national and EU level. Cross-border cooperation on European scale and between countries is essential for harmonized and coherent deployment. To maximize the service for the user and to have maximum impact on reduction of traffic jams, pollution and number of accidents. This session will provide hands-on experience of C-ITS deployment in Europe in cross border initiatives. The panel, representatives from different countries will present:

- C-ITS deployment initiatives
- How public and private sectors organize their cross border cooperation across topics such as strategy, policy, procurement, standards and innovation.

The representatives will continue to share experience and knowledge in a Q&A slot. The session will end with the role of the individual ITS Nationals and the Network of ITS National Associations to promote deployment of cross border mobility solutions.

Organisers
Marije De Vreeze, *Connekt / ITS Netherlands, Netherlands*

Moderators
Marije De Vreeze, *Connekt / ITS Netherlands, Netherlands*

Speakers
Christer Karlsson, *ITS Sweden, Sweden*
Paul Hutton, *ITS UK, United Kingdom*
Martin Russ, *AustriaTech, Austria*
Roman Srp, *ITS&S Czech & Slovak, Czech Republic*
Mihai Niculescu, *ITS Romania, Romania*
Paul Vorster, *ITS South Africa, South Africa*
Maarja Rannama, *ITS Estonia, Estonia*

NS1 THE TECHNICAL PLATFORM FOR SEAMLESS TRAVELING

Tuesday 18 September 2018, 09:00–10:30 | Stockholm (Nordic Stream)

To get MaaS working – we need IT systems that work seamlessly between all participants from planning to operation. Which technical platform are needed for MaaS, what can we offer today? Three speakers from different transport modes provide their views.

Organiser
Henrik Eriksen, *Adibus, Denmark*

Moderator:
Lars E. Thomsen, *Nordjyllands Trafikselskab - North Denmark Region, Denmark*

Speakers
Pekka Eloranta, *Sitowise, Finland*
Åsmund Hogstad Johnsen, *GoMore, Denmark*
Niklas Löscher, *Hacon, Germany*

NS2 GLOBAL STANDARDIZED REAL-TIME MARITIME INFORMATION SHARING – WHY NOW?

Tuesday 18 September 2018, 13:30–15:00 | Stockholm (Nordic Stream)

Maritime companies have traditionally been secretive about their information. Sharing it used to mean that competitors took advantage. Nevertheless, the close collaboration between business partners in all industries is slowly being realized in shipping as well. There are several initiatives around the world and they tend to build partnerships in order strengthen each other. Shipping can leave its position as the black sheep of the logistical chain and become one the most vital parts in coming developments. Moreover, ports will become not only goods hubs but also information hubs.

Organiser
Ulf Siwe, *Swedish Maritime Administration, Sweden*

Moderator
Ulf Siwe, *Swedish Maritime Administration, Sweden*

Speakers
Thomas Christensen, *SMART, Korea*
Ben van Scherpenzeel, *Port of Rotterdam, the Netherlands*
Per Setterberg, *STM Validation project, Swedish Maritime Administration, Sweden*

NS3 HOW CAN SELF-DRIVING FEEDER SERVICES IMPROVE PUBLIC TRANSPORT?

Tuesday 18 September 2018, 15:30–17:00 | Stockholm (Nordic Stream)

Most cities are facing a growing urban population and increased need for smart and effective mobility. Largescale introduction of self-driving vehicles represents huge opportunities for individual mobility solutions. However, if such vehicles substitute passenger cars, it represents a potential increase in urban transport and thus reduced mobility for everybody. Transport authorities is challenged towards proving a more attractive and seamless public transport in a door-to-door perspective to obtain mobility for all and help ensure quality of life. Self-driving vehicles should be an integrated transport mean in the overall mobility solutions for communities. This session will cover deployment of self-driving vehicles as first and last mile services. This mode of transport is still new, and due to lack of suitable regulation, operational standards and business models, it is still to a large extent unproven. The Norwegian SmartFeeder-project will examine these issues and especially pay attention to the relationship between feeder operators and Public Transport Agencies in the Nordic Region.

Organiser
Ragnhild Wahl, *National Railway Directorate, Norway, Norway*

Moderator
Ragnhild Wahl, *National Railway Directorate, Norway, Norway*

Speakers
Lone Lervåg, *SINTEF, Norway*
Martina Mueggler, *PostAuto, Switzerland*
Oscar Nissin, *Metropolia University of Applied Sciences, Finland*
Marieke Martens, *TNO, the Netherlands*
Espen Strand Henriksen, *Kolumbus, Norway*

NS4 AUTOMATION AND SAFETY – AT SEA AND ROADS

Tuesday 18 September 2018, 17:15–18:45 | Stockholm (Nordic Stream)

As the level of automatisation is increasing in all transport domains, it is expected that transport safety will be enhanced substantially as a result. What are the underlying drivers and concepts for this development – and what are the conditions that need to be in place in the first place? What kind of new safety and risk issues will autonomous transport modes and new technology induce?

Organiser
Jenny Simonsen, *ITS Norway, Norway*

Moderator
John Erik Hagen, *The Norwegian Coastal Admnistration, Norway*

Speakers
Javier Yasnikouski, *International Maritime Organisation, Spain*
Hege Økland, *NCE Maritime CleanTech, Norway*
Anders Bjørnevik, *Kongsberg Seatex, Norway*
Hannu Karvonen, *VTT Technical Research Centre of Finland Ltd., Finland*
Siri Vasshaug, *Nordaland Fylkeskommune, Norway*
Jarle Hauge, *The Norwegian Coastal Admnistration, Norway*

NS5 CAAS – CORRIDOR AS A SERVICE

Wednesday 19 September 2018, 09:00–10:30 | Stockholm (Nordic Stream)

Corridor as a Service – CaaS providing. New competitive delivery alternatives for global traders. Cross continental door-to-door delivery transparency to traders. Accurate and fast delivery time with steady driving speed.

Organiser
Juha Kenraali, *Trafi Transport Safety Agency, Finland*

Moderator
Juha Kenraali, *Trafi Transport Safety Agency, Finland*

Speakers
Tomas Levin, *Norwegian Public Roads Administration, Norway*
Vasilii Kurguzov, *Federal road Agency, Russia*
Kyösti Orre, *YTL, Finland*
Matti Lankinen, *Vediafi Oy, Finland*

Nordic Stream

NS6 TRAVELLERS NEEDS IN FOCUS: TRAFFIC INFORMATION IN A UNITED VOICE

Wednesday 19 September 2018, 13:30–15:00 | Stockholm (Nordic Stream)

To provide good, accurate and useful traffic information it is necessary to know and understand the user needs. The traveller needs spans over a wide range of travel and transport modes and the user may often use a combination of modes when travelling to her destination. On the other hand, the user may not be aware or care about who the transport authority is that operates the service, but only interested in getting the right and relevant traffic information for her journey. Realising this has been a driving force behind cooperation and creation of joint traffic management services in the Nordic Countries.

Organiser
Lilia Halsen Bidar, *Urban Transport Administration, City of Gothenburg, Sweden*

Moderator
Lilia Halsen Bidar, *Urban Transport Administration, City of Gothenburg, Sweden*

Speakers
Magnus Vennersten, *Trafik Göteborg/Traffic Management Center Gothenburg, Sweden*
Helene Kærsgaard, *Danish Road Directorate, Denmark*
Kimmo Ylisiurunen, *Infotripla, Finland*
Mika Kulmala, *City of Tampere, Finland*

NS7 NEXT-ITS 3 – ITS DEPLOYMENT CORRIDOR

Wednesday 19 September 2018, 15:30–17:00 | Stockholm (Nordic Stream)

ITS deployment corridors form a backbone of European ITS deployment. Cross border cooperation is key both for the relevance of European funding as well as for potential market relevance when cooperating with industry. The corridor concept is also necessary for addressing door to door transport with a multi modal approach. Deployments are primarily driven by local needs. European harmonisation and corridor cooperation will contribute to upgrade these deployments to also improving corridor performance. This session will provide presentations on evaluation, development of corridor management guiding principles, cooperation between ITS-corridors and possibilities for the future facilitated by new technical solutions.

Organiser
Arne Lindeberg, *Swedish Transport Administration, Sweden*

Moderator
Jonas Sundberg, *Sweco, Sweden*

Speakers
Merja Penttinen, *VTT Technical Research Centre of Finland Ltd., Finland*
Jan Wilhelm Tierolf, *RWS, the Netherlands*
Karolina Hedberg, *Swedish Transport Administration / Viati Consultant, Sweden*
Arne Lindeberg, *Swedish Transport Administration, Sweden*

NS8 ARCTIC SNOWHOW AND THE AUTOMATIZATION OF TRANSPORT SYSTEM

Thursday 20 September 2018, 09:00–10:30 | Stockholm (Nordic Stream)

If it works in the Arctic Nordics, it will work everywhere. The Nordics are used to operate at extreme conditions, especially at winter time. Our transportation system on roads, rails, see and air works 365 days a year despite the challenging weather conditions, even when it is raining cats, dogs, snow or hail. Alongside with the automatization we will face new kind of challenges and especially the role of data becomes even more crucial. How to ensure a common, cross border data basis for all modes and all circumstances? How to collect data in extreme conditions and to maintain or preferably improve the service level in automated world? A discussion about the automatization of systems, processes and services and ensure cross border transportation system that works safely and securely in all conditions.

Organiser
Alina Koskela, *Finnish Transport Safety Agency, Finland*

Moderator
Alina Koskela, *Finnish Transport Safety Agency, Finland*

Speakers
Harri Santamala, *Sensible 4, Finland*
Oddgeir Kristiansen, *Norwegian mapping authority, Norway*
Hamid Zarghampour, *Finnish Trasport Administration, Sweden*
Mika Sorvisto, *Ahola Transport, Finland*
Maria Vestergaard, *Aalborg Municipality, Denmark*

NS9 5G /G5 OPPORTUNITIES AND TELECOM CONNECTIONS WITH C-ITS

Thursday 20 September 2018, 11:00–12:30 | Stockholm (Nordic Stream)

Almost all carmakers state that they will provide autonomous vehicles that will be connected to roadside equipment, authorities and other cars. However, a broad agreement supporting the connection of right standards and communication technology is still lacking. Cross-border communication is crucial to successful implementation in the Nordic region. There are two major projects in the Nordic region that highlight the problematic issues; general coverage, fragmented telecom actors and indecisiveness towards 5G/G5.

Organiser
Erik Olsen, *NordicWay 2, Norway*

Moderator
Erik Olsen, *NordicWay 2, Norway*

Speakers
Knut Evensen, *Q-Free ASA, Norway*
Stefano Sorrentino, *Ericsson, Sweden*
Marit Brandtsegg, *Norwegian Public Road Administration, Norway*
Stina Carlsson, *Volvo Car Corporation, Sweden*
Rickard Arvidsson, *Volvo Car Corporation, Sweden*
Ilkka Kotilainen, *Finnish Transport Agency, Finland*

NS10 OPEN ECOSYSTEM FOR MOBILITY AS A SERVICE

Thursday 20 September 2018, 13:30–15:00 | Stockholm (Nordic Stream)

The Nordics are the most known forerunners in Mobility as a Service. All Nordic countries have some activities in this field and especially in Finland and Sweden MaaS has become a part of national transport policy. What kind of similarities and differences the Nordics have in implementation of MaaS? What it takes to create a common Nordic market for new MaaS operators? What are the building blocks towards common Nordic market and genuine open ecosystems? What is the required service level, who are the crucial stakeholders and how to ensure transport policy objectives both on state and city levels.

Organiser
Krista Huhtala-Jenks, *MaaS Global, Finland*

Moderator
Krista Huhtala-Jenks, *MaaS Global, Finland*

Speakers
Sami Sahala, *Forum Virium Helsinki, Finland*
Göran Smith, *Chalmers, Sweden*
Endre Angelvik, *Ruter, Norway*
Susanne Krawack, *Aarhus, Denmark*

NS11 BETTER MOBILITY WITH PUBLIC TRANSPORT

Thursday 20 September 2018, 15:30–17:00 | Stockholm (Nordic Stream)

Good mobility is an important factor for many people. Public transport plays an important role in providing a good mobility service and liveable cities. In cities and rural areas the needs are different, but the biggest challenge is to provide equally good services under a sustainable model. The session will present different implemented public transport solutions from the Nordic countries.

Organiser
Jarl Eliassen, *Ruter, Norway*

Moderator
Jarl Eliassen, *Ruter, Norway*

Speakers
Sini Puntanen, *HSL, Finland*
Endre Angelvik, *Ruter, Norway*
Frode Hvattum, *RUTER AS, Norway*
Anette Enemark, *Public Transport Movia, Denmark*

Nordic Stream

NS12 NORDIC TEST AREAS AND DEMONSTRATION SITES

Thursday 20 September 2018, 17:15–18:45 | Stockholm (Nordic Stream)

This session will provide examples of demonstrations areas and test sites from four of the Nordic countries. We will relieve how geofencing and connected vehicles, Variable Messages Signs, Traffic Light Assistance, and legislations can be used to improve different traffic situations. We foresee that the long tradition of cooperation and exchange of experience between the Nordic countries will create a fruitful discussion during the session.

Organiser
Stina Apel, *NetPort Science Park, Sweden*

Moderator
Stina Apel, *NetPort Science Park, Sweden*

Speakers
Ørjan Tveit, *NPRA, Norway*
Noora Lähde, *Finnish Transport Safety Agency, Finland*
Olof Johansson, *Trafikverket, Sweden*
Michael Bloksgaard, *City of Aarhus, Denmark*

NS13 MAAS IN REAL LIFE – THE DELEGATE APP?

Friday 21 September 2018, 09:00–10:30 | Stockholm (Nordic Stream)

During the ITS World Congress, all the participants as well as the citizens of Copenhagen will be able to use a new MaaS-app "MinRejseplan" (meaning 'My Travel Planner'). It is developed by the public sector, and it will display information about all sorts of collective transportation – public as well as private transportation such as trains, the metro, buses, carpooling, harbor-ferries, taxis, car-sharing, bicycle-sharing, and city bikes. In the session the MaaS app will be presented, and will be compared with MaaS solutions from the other Nordic countries regarding the opportunities for PPP. Further info: https://itsworldcongress.com/media/news/world-premiere-of-multimodal-journey-planner-at-the-itswc18/

Organiser
Svend Tofting, *ITS Denmark, Denmark*

Moderator
Svend Tofting, *ITS Denmark, Denmark*

Speakers
Mårten Rignell, *Skånetrafiken, Sweden*
Christina Hvid, *Rejseplanen, Danmark*
Jonna Pöllänen, *MaaS Global Ltd, Finland*
Thomas Øster, *Nordjyllands Trafikselskab – North Denmark Region, Denmark*
Susanne Krawack, *City of Aarhus, Denmark*

Workshops

WORKSHOP: CONNECTED, COOPERATIVE AND SUSTAINABLE – HOW CITIES CAN ACCELERATE CYCLING THROUGH INTELLIGENT MOBILITY SOLUTIONS

Tuesday 18 September 2018, 13.30–15.00 | ITS Forum

A majority of the transport sector's innovation today is focused on motorized transportation, even though cycling now is the fastest growing mode (14%). The potential for accelerating sustainable transport such as cycling through ITS and other intelligent solutions is huge. How can cities and the private sector work together to make sure the innovations and new technologies of the future correspond with both public authorities and citizens' needs for mobility, better use of public space, dealing with congestion, more quality of life, public health, vibrant urban life and reduced emissions and pollution?

In the debate session, the world's two leading cycling countries, Denmark and the Netherlands, will bring together global experts to deliver advice and discussions on the following topics:

- Autonomous vehicles' impact on cycling
- Cycling and MaaS
- Potential and issues related to dockless bike sharing and e-bikes / speed pedelecs
- Space optimization through advanced cycle planning tools
- Data management for bicycle traffic
- ITS and cycling

Organiser
City of Copenhagen in partnership with Cycling Embassy of Denmark (Marianne Weinreich, *Chairman) and Dutch Cycling Embassy (*Mirjam Borsboom, *Director)*

Moderator
Kevin Mayne, *Development Director European Cyclists' Federation (TBC)*

Speakers
Klaus Bondam, *CEO Danish Cyclists' Federation, Denmark*
Mads Gaml, *Head of ITS Program, City of Copenhagen, Denmark*
Johan Diepens, *CEO Mobycon*
Monique Harmsen, *CEO LumiGuide*
Jonna Pöllänen, *Head of Early Markets MaaS Global, Finland*
Astrid Kellermann, *Senior Technical Consultant Mobility, Business Development and Strategy, Siemens Mobility GmbH*
Philippe Crist, *Advisor - Innovation and Foresight, ITF - OECD, France*

WORKSHOP: TRANSFORMING FREIGHT MOVEMENT THROUGH ITS

Tuesday 18 September 2018, 15:30–18:45 | Europe (B4 M6)

Heavy trucks have been recognized as likely early adopters of automation in all regions. The latest developments on heavy truck automation in Europe and North America will be presented in the first part of the workshop, including the new ENSEMBLE project (H2020). Platooning at both low and high levels of automation (e.g. a human driven lead truck, without drivers in the followers) will be addressed. Stand-alone trucks operating without drivers, under investigation will also be covered. For both platoons and stand-alone automated trucks, impacts and benefits, scenarios and guidelines for implementation, and business models will be discussed.

The second part of the workshop will focus on the expectations on the infrastructure side. Infrastructure operators will face new challenges to welcome automation programs and ITS technology in freight operation. Introduction of connected and automated HGVs, platoons, electric vehicles amongst highway traffic, will introduce significant changes in the design of infrastructure. It will require significant investments for the adaptation of the existing network, and will call for high standards of maintenance, efficient operations, and enhanced data provision. Different stakeholders will be involved with new tasks and responsibilities: truck manufacturers, carriers, infrastructure operators, energy suppliers, authorities in charge of transportation, etc. Safety aspects should be carefully investigated and mitigation of risks evaluated. Motorway concessionaires, road operators, public authorities, and construction companies will be involved.

Organiser
Bernard Jacob, *IFSTTAR, France*
Peter Sweatman, *CAVita, United States*

Moderator
Bastiaan Krosse, *TNO, The Netherlands*
Malika Seddi, *ASFA, France*

Keynote
Young Tae Kim, *Secretary General, OECD/ITF*

Speakers
Marika Hoedemaeker, *TNO, the Netherlands*
Richard Bishop, *Bishop Consulting, United States*
Eric Chan, *Ricardo, United Kingdom*
Mats Rosenqvist, *Volvo Group, Sweden*
Bastiaan Krosse, *TNO, The Netherlands*
Steven Shladover, *the University of California PATH Program, United States*
Peter Sweatman, *CAVita, United States*
Martin Knopp, *FHWA, United States*
Bernard Jacob, *IFSTTAR, France*
Oliver Quoy, *ATLANDES, France*
Marko Jandrisits, *ASFINAG, Austria*
Philip Lloyd, *Transport Certification Australia, Australia*
Steve Philips, *CEDR, Belgium*
Stephen Boyd, *Peloton Technology, United States*

Workshops

WORKSHOP: EU AND GLOBAL OPPORTUNITIES FOR FINANCING ITS

Wednesday 19 September 2018, 09:00–10:30 | Europe (B4 M6)

Intelligent Transport Systems cater for a fast growing global demand. There are a number of public and private EU or International funding and financing instruments available that support the development and deployment of intelligent transport systems. Each of these instruments is needed at different stages of the development process. Yet, it can be challenging for promoters to make the leap from one stage of development to another. This workshop on "Financing Intelligent Transport Systems" organised by the European Investment Bank explores how the existing funding and financing instruments can support private and public sector stakeholders to breach the gap and move to full scale commercial deployment.

Organiser
Stephane Petti, *European Investment Bank, Luxembourg*

Moderator
Stephane Petti, *European Investment Bank, Luxembourg*

Speakers
Henriette van Eijl, *European Commission, DG MOVE*
Tasha Keeney, *ARK Investment, United States*
Henrik Wallstrom, *Einride, Sweden*
Winnie Wang, *World Bank, United States*
Ilie Cimpoi, *Swarco AG, Romania*

WORKSHOP: HOW CITIES USE CYCLING AND ITS TO DEVELOP A SUSTAINABLE AND SMART TRANSPORT SYSTEM

Wednesday 19 September 2018, 13:30–17:00 | ITS Forum

The arguments pro-cycling are overwhelming: it is sustainable, healthy, zero emissions, silent and clean and cheap to purchase. More cycling means healthier, happier and more connected communities. In this workshop experts from all around the world will share their views on how cycling fits a smart city perspectives, their contribution to social and sustainable targets and how to cities can regulate bike shares to ensure healthy implementation and operations.

The workshop provides opportunity for participants to experience the ITS solutions that are being used for cycling. The experience is supported by keynotes of various experts on connecting the bike to the infrastructure, adaptive intelligent traffic lights to provide green lights for cyclists, crowdsourced sensor data to help shape cycling infrastructure and integration of bike share systems.

Organiser
Marije De Vreeze, *Connekt / ITS Netherlands, Netherlands*

Moderator
Karen Vancluysen, *Polis Network, Belgium*

Speakers
Robin van Haasteren, *Vialis, the Netherlands*
Emil Tin, *City of Copenhagen, Denmark*
Rico Andriesse, *Goudappel Coffeng, The*
Pablo Celis, *City of Aarhus, Denm*
Irene McAleese, *See.Sense, United Kingdom*
Nicola Kane,*Transport for Greater Manchester, United Kingdom*
Alexander Frederiksen, *Donkey Republic, Denmark*
Antionia Roberts, *BikePlus, United Kingdom*
Auke Adema, *Fietsparkeren in Amsterdam Municipality, the Netherlands*
Álvaro Nicolás Loscos, *Ajuntament De Barcelona, Spain*

WORKSHOP: ITS SAFETY AND SUSTAINABILITY - SECURITY AND SAFETY ISSUES FOR AUTOMATED VEHICLES & MAAS

Thursday 20 September 2018, 08:30–11.00 | Vienna (Auditorium 12)

The Intelligent Transport Systems Safety and Sustainability (ITSSS) group was formed in 2015 by means of an MoU involving the following members - ITS New Zealand, ITS Australia, China ITS Industry Alliance, ITS Finland, ITS Germany, ITS Korea/KOTI, ITS Norway, ITS Singapore, South African Bureau of Standards, ITS Sweden, ITS Taiwan, ITS UK, Contra Costa Transportation Authority, ERTICO ITS Europe, ITS Japan and ITS America. ITS New Zealand and ITS Australia have been the organisers of the regular meetings of this group.

Our first formal meeting was at the Bordeaux World Congress and that was successfully continued at the Melbourne World Congress and the Montreal World Congress. This is now an on-going annual event at World Congresses.

This year's meeting will focus on cyber-security threats to AV vehicle deployments. As has been the case in previous years, the session will include two key speakers from each of the 3 ITS Regions.

Organiser
ITS Australia and ITS New Zealand

Moderator
Phil Blythe, *Newcastle University and ITS UK*

Speakers:
Neil Pederson, *Executive Director, Transport Research Board, USA*
Steve Dellenback, *Vice President Intelligent Systems Division, Southwest Research Institute, USA*
Vera Jin, *Chief Executive Officer, Sopra Steria Asia, Singapore*
Phillip Lloyd, *General Manager Implementation, Transport Certification Australia, Australia*
Reynald Riviere, *Chapter leader Artificial Intelligence Intelligent Transportation System - eHorizon R&D, Continental, Germany*
Christian Rousseau, *Executive Expert Leader for Mobility and Transport Systems, Renault-Nissan Alliance, France*

TM 2.0 (PART 1 - SESSION): TM 2.0 AND PUBLIC AUTHORITIES AS SERVICE PROVIDERS IN TRAFFIC MANAGEMENT

Thursday 20 September 2018, 11:00–12:30 | Vienna (Auditorium 12)

The Public Authorities as Service Providers in Traffic Management concept in an essential element of TM 2.0 and is unique in the sense that it is the public authority that takes the initiative to create new business models and collaborations with commercial partners in its traffic management activities. The Session is meant for public and private traffic management stakeholders and will show practical guidelines on how the TM2.0 collaboration concept is prompting Public Authorities to re-asses their role in traffic management and to facilitate data exchange with Service Providers.

Organiser
Patricia Pelfrene, *ERTICO – ITS Europe, Belgium*

Moderator
Tiffany Vlemmings, *NDW, the Netherlands*

Speakers
Ivana Semanjski, *University of Ghent, Belgium*
Sascha Westermann, *City of Hamburg, Germany*
Stephanie Leonard, *TomTom, Belgium*
Matthias Mann, *HERE, the Netherlands*
Mads Gaml, *City of Copenhagen, Denmark*

TM 2.0 (PART 2 - BRAINSTORMING): TM 2.0 AND HYBRID INFRASTRUCTURE AS ENABLERS FOR MAAS IN THE CONTEXT OF AUTOMATED TRANSPORT

Thursday 20 September 2018, 13:30–15:00 | Vienna (Auditorium 12)

This Session is a brainstorming session that aims to discuss how can TM 2.0 concepts be combined with the hybrid infrastructure in order to enable MaaS in an automated or mixed traffic environment. The Session is meant for MaaS stakeholders, for public and private traffic management stakeholders, road operators and any other stakeholders interested in the above concepts and keen to untangle the complexity of what lies ahead.

Organiser
Patricia Pelfrene, *ERTICO – ITS Europe, Belgium*

Moderator
Angelos Amditis, *ICCS, Greece*

Speakers
Andy Taylor, *Cubic Transportation Systems, United States*
Pedro Barradas, *European Commission, DG MOVE, Belgium*
Steven Shladover, *the University of California PATH Program, United States*
Jaap Vreeswijk, *MAP traffic management, The Netherlands*
Frans Van Waes, *Vialis, The Netherlands*
Xavier Daura, *Abertis Autopistas España, Spain*

WORKSHOP: SMARTER MOBILITY FOR CONNECTED TWO-WHEELERS SAFETY

Friday 21 September 2018, 9:00–10:30 | Vienna (Auditorium 12)

Intelligent transportation system could enhance driving safety in order to achieve Vision Zero target. From the development of ADAS to autonomous vehicle, automobiles are capable of recognizing the surrounding environment to achieve active safety. However, there is a lack of safety assistance mechanism on two-wheelers such as motorcycles and bicycles. To ensure the driving safety of two-wheelers, the integrated systems should be able to identify automobiles and two-wheelers through the roadside detectors, and the detected information could be communicated among roadside units, automobiles and motorcycles. The OBU could alert the driver at dangerous crossroads, and remind the driver about the situation in the front to avoid accidents when appropriate. In this session, we will focus on smart systems, AI applications for intelligent driving and connected motorcycle driving safety and some related topics.

Moderator
Chien-Pang Liu, *Ministry of Transportation & Communication, Chinese Taipei*

Speakers
John Lenkeit,*Dynamic Research Inc., U.S.A*
Niels Peter Skov Andersen, *Car 2 Car-Communication consortium, Denmark*
Yasuhiro Aoyama,*Panasonic Corporation, Japan*
Muhammad Ruhaizat Abd Ghani, *Malaysia Road Safety Research, Malaysia*
Wan Hui Chen, *Tamkang University, Chinese-Taipei*
Yasushi Hashimoto, *YAMAHA MOTOR CO., LTD, Japan*

Workshops

PITCH SESSION – RESEARCH THAT DEFINES THE FUTURE OF MOBILITY

Friday 21 September 2018, 9:00–10:30 (ITS Forum)

For the first time in the ITS World Congress, three prestigious Nordic Universities including Aalborg University (AAU), Technical University of Denmark(DTU) and Lund University (LU) will jointly present their educational, research and innovation activities towards future of safe, smart, and sustainable mobility at the pitch session “Research That Defines The Future of Mobility”.

Organiser
Bahar Namaki Araghi, *Technical University of Denmark, Denmark*

Moderator
Francisco Camara Pereira, *Technical University of Denmark, Denmark*

Speakers
Niels Agerholm, *Aalborg University, Denmark*
Harry Lahrmann, *Aalborg University, Denmark*
Kristian Hegner Reinau, *Aalborg University, Denmark*
Carlos Miguel Lima Azevedo, *Technical University of Denmark, Denmark*
Bahar Namaki Araghi, *DTU Management Engineering, Technical University of Denmark, Bygningstorvet 116B, 2800 Kgs. Lyngby, Denmark, Denmark*
Aliaksei Laureshyn, *Lund University, Sweden*
Varhelyi András, *Lund University, Sweden*

saphe

Stay saphe in traffic

In Denmark, Saphe is the leading company in traffic alarms, working on improving traffic safety throughout Europe.

Soon we are going to launch a new device that will make a huge difference for traffic safety, which is showcased here at the ITS World Congress.

See you at the Congress

Stand C3-040, Copenhagen / DK
17 – 21 Sep 2018

A WAY OF LIFE

Greater Copenhagen is a metropolitan region that spans Eastern Denmark and Skåne in Southern Sweden.

The 79 municipalities in Greater Copenhagen are home to 4 million inhabitants and Scandinavia's largest recruitment base of highly-skilled employees. The region offers world class research facilities and a creative business environment with access to the markets of two countries.

Greater Copenhagen aims to be the leading metropolis in Northern Europe in terms of attracting and retaining international investments, companies, tourism and talent.

A JOINT TRAFFIC CHARTER

Greater Copenhagen has plenty to offer and we enjoy a high quality of life with highly educated citizens. Our business community and knowledge institutions have many strengths that should be brought into play. We want to break down the boundaries between municipalities, regions and countries, creating a partnership where we work collectively in the same direction to create growth and jobs.

The vision for Greater Copenhagen in 2020, is to be an international hub for investment and knowledge on a par with the most successful cities in Europe. When we stand together and have a more coherent region with shorter travel time, we expand the critical mass that gives the region international sustainable breakthrough and competitiveness.

Greater Copenhagen proposes a number of initiatives that require local, regional and national priorities and investments in both Denmark and Sweden.

Meet us at our break out session and learn more about our traffic charter and cross boarder initiatives.

For more information: **www.greatercph.com**

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GREATER CoPENHAGEN

Showcases


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DESTINATION
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NAVI
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NAVIGATION SYSTEMS
OF LOREM IPSUM
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Demonstrations

Living Lab Bus – Innovations and Electricity

Creating electric mobility passenger experience with a public transportation innovation platform: The demonstration showcases how electric buses and quick charging improve user and city experience through smooth, quiet and low-emission rides with better operational performance and reduced life-cycle costs. Innovative buses serve as a mobile test platform for new technologies, data collection, service development and demonstration. The demonstrated example solutions include road condition monitoring and forecasts, optimized driving solutions as well as tools for service provision and feedback channels for passengers.

Urban jungle, experience the on-demand driverless shuttle service

Bestmile, Ibeo Automotive Systems, PARAVAN and Hanseatische Fahrzeug Manufaktur (HFM) are joining forces to show an autonomous shuttle traveling through the wild, encountering tigers, elephants and gorillas. The participants can experience how the vehicle interacts with the Urban Jungle environment. Hail the vehicle in real time and experience a true on-demand autonomous shuttle service. Bestmile's Mobility Services Platform is used to configure and manage the service via an operator dashboard, and supplies the traveler app used to hail vehicles. Ibeo Automotive Systems provides the LiDAR sensor system for environmental perception and object tracking as well as the software for autonomous driving. PARAVAN delivers the steer by wire system Space Drive II and HFM manufactures the vehicle.

Q-Free – Become a Cooperative Intelligent Transport System Cyclist

Copenhagen is known as one of the most biking friendly cities in the world. Q-Free wants to take the positive biking experience one step further and invite visitors to become urban Cooperative Intelligent Transport System cyclists. By the help of innovative technology, the live demonstrations allow participants to experience a range of practical Urban ITS scenarios. Visitors will use electrical bikes and will be guided through a city environment by the help of audio and visual information through screens mounted on the bikes and Bluetooth earphones. The screens and earphones give interactive information on the traffic situations. Several simulated situations will show how safety and efficiency can work in an urban ITS mobility setting.

NordicWay 2

Are you curious about how public authorities can use C-ITS for Traffic Management? Participate in the NordicWay 2 demonstration right outside Bella Center where you can take a ride with a Volvo XC90. We will show how a car – without driver intervention – can react to traffic management decisions provided by "the sky" from the Nordic road authorities. The car will react automatically to traffic signal information by stopping the engine when appropriate and starting it again when you have green light. In dedicated geofence zones we can force a hybrid car to drive by electricity and in other geofence zones we can restrict speed based on road works warnings. We regard this demonstration as a starting point for connected and automated driving.

Discover the first autonomous cab on the market at ITS 2018

By presenting Navya Autonom Cab, Keolis reinforces its role as a pioneer in all forms of everyday shared transport by promoting its vision of more connected, autonomous, shared and electric mobility solutions. In the future, autonomous shared vehicles will smoothly integrate the existing multimodal transport networks and enhance mass transit modes (automated metro, tram…), which are critical to building sustainable and efficient mobility in the cities of tomorrow. The autonomous cab, a complementary solution to mass transit modes.

Autonomous Valet Parking – Making your car park ready for the driverless car of tomorrow, today

Today each OEM has their own way of managing autonomous cars in parking environments. This is fine for small scale pilots and trials, but drivers of the future will want to access services that work in car parks that are close to where they want to be not where the OEM directs them to. Tomorrow car parks need to connect with driverless cars using an open interface protocol supported by access control, bay allocation, way finding and incident detection layers. The Swarco/Audi demonstration will show such a service working.

C-MobILE C-ITS interoperability deployment

The C-MobILE demonstration will showcase interoperability between services deployed in eight European cities. The innovative architecture of C-MobILE will allow end users to receive data seamlessly via short-range radio (ITS-G5) and cellular (3G/4G) communication in a standardized way. The City of Copenhagen and its service providers will deploy the C-MobILE hybrid architecture, bundling a coherent set of C-ITS services within an integrated suite of applications. To demonstrate interoperability, service providers from other cities will come to Copenhagen and use vehicles equipped with radio and cellular connectivity to demonstrate that their apps work natively in another city. Interoperability will be proven both on radio and cellular connectivity.

Olli by Local Motors, Dynamic Demonstration

A joint demonstration between Local Motors by LMI, a US company and Autonomous Mobility, a Danish company, where attendees will experience how the autonomous systems work within vehicles while also being educated on the technology, safety and sustainability of our product. We will showcase the vehicle's ability to dynamically avoid obstacles by allowing people to move obstacles around prior to the ride experience showing that the vehicle is constantly learning and observing in order to change its trajectory in real time. We will also have a vehicle on display for attendees to spend more time in, as well as ask our subject matter experts questions about Olli, 3D-Printing and autonomous technology.

Aurrigo self-driving pod shuttle service

Come and experience Aurrigo's latest 4 seater self-driving pods. Take a test ride from the metro station to the exhibition hall and hear firsthand how we can help you join the autonomous transport revolution.
Self-driving pods are set to change the way we transport people efficiently on the last stage of their journey from transport hubs to and from a wide range of destinations. Shopping centers, airports, campuses, sporting venues, aged care centers and eco towns are just some of the sectors actively moving forward with self-driving trials. Stand no: C3 – 050.

MinRejseplan – A Huge Step Towards a Mobility as a Service-App / MaaS App

MinRejseplan app (MyJourneyPlanner), includes all sorts of transport and mobility modes such as trains, buses, the metro, carpooling, harbor-ferries, taxis, car-sharing, bicycle-sharing, and city bikes. It is the future nationwide mobility app in Denmark the delegates and the citizens of Copenhagen will be able to try. During the ITS World Congress, delegates will get access to a digital ticket solution, which will be included in MinRejseplan, which is valid for public transport in the city of Copenhagen.

Demonstrations

SWARCO: Micro-Mobility – making the travel experience safer, quicker, more convenient and environmentally sound

The Micro-Mobility industry is developing at a fast pace. Towns and cities increasingly invest in the expansion of their cycle path networks. Services such as bike-sharing, car-sharing, public transport etc. are becoming more and more attractive. However, such sustainable, intermodal transportation also raises new safety concerns.
SWARCO demonstrates jointly with its partners several highly innovative safety use cases, among others collision warning between pedestrian and cyclists, the Bike Lane Assist and AI-based video analytics for real-time traveler insights. We improve quality of life by making the travel experience safer, quicker, more convenient and environmentally sound.

Avanti R&D in cooperation with Murata Manufacturing Co. Ltd – Traffic Monitoring System for Bicycles

The Avanti R&D, Inc. demonstration, in cooperation with Murata Manufacturing Co., Ltd., will showcase a bicycle monitoring system. The system, originally designed for vehicles, is an edge computing architecture which utilizes computer vision to provide non-identifying, aggregated information on count, speed, class, and type, and transmit it to the cloud via a self-healing wireless mesh network. By employing such an architecture, the amount of data output by the system is drastically reduced compared with traditional hard-wired camera-based systems. This minimizes the amount of infrastructure needed, thereby reducing the installation and maintenance costs.
The Avanti team will be exploring extension of its edge computing architecture for the anonymous re-identification of cyclists between adjacent nodes without sending data to the cloud. By outputting this information, calculation of travel times along specific paths could be combined, giving a picture of overall flow.

Copenhagen 1:1

Experience the smart city of Copenhagen and learn about what the city has done to improve the quality of life for its citizens. Copenhagen 1:1 offers a unique opportunity for a one-on-one meeting with the professionals from the City of Copenhagen who have implemented solutions and experienced the results. Join experts on guided tours and experience what has made Copenhagen one of the most livable cities in the world.

ITS solutions for cyclists in Copenhagen

Tuesday 18 September: 12:00–14:30 and 15:00–17:30

Visit to bicycle ITS solutions in Copenhagen. Join us on electric bicycles tour to see how Variable Message Signs (VMS) for bicycles provides dynamic information to cyclist based on real-time sensor data, how sensor data is used to prioritize cyclists in intersections and how bicycle barometers placed in key locations are used communicate to cyclists. See how LED lane lights and apps can make it easier to follow waves for cyclists. Try our “I Bike CPH” app first hand and experience the ITS services it offers to cyclists, and hear how this open source app can collect anonymous bicycle data like travel times and thereby support our traffic management for cyclists.

Intelligent Street Lighting in Copenhagen

Thursday 20 September: 18:00–20:00

Hear about Copenhagen City's smart city network (the mesh network) installed in street lighting. Learn about the solutions, where cyclist and pedestrians are detected and the street lighting is adapted to actual traffic conditions. Get a chance to experience the functionality of the street lighting, the intelligent intersections and intelligent pedestrian crossings.

Photo Credit: Troels Heien

Scaling C-ITS solutions in City of Copenhagen – a ITS experience in City of Copenhagen

Tuesday 18 September: 13:00–14:30

Since 2014, the City of Copenhagen with its Technology partners Dynniq and Technolution have implemented cooperative services in almost 50 intersections in Copenhagen. The tour will present a state-of-the-art and real-world system and application for improving efficiency – a solution applicable for other cities. As part of the ITS experience you will hear more on the learnings on how to implement and scale up C-ITS solutions and impacts, and how the implemented C-ITS solutions are being upgraded to Day 1 / Day 1'5 C-ITS services in the C-MobILE project.

Photo Credit: Troels Heien

Bicycle planning is city planning

Thursday 20 September: 10:00–12:00 and 12:30–14:30

Copenhagen is known as the best bicycle city in the world. 41 % of all commutes to work or schools happen by bike and 97% state that they are happy with the quality of the bicycle infrastructure. This is not a coincident. The city and its many stakeholders have been working hard for decades to improve the network of bike lanes and the overall quality of the cycle experience. Safety and speed has been improved in many areas and for the first time Copenhagen has more cyclists than cars driving through the city centre. On this 2-hour cycle tour we will get the Copenhagen Cycle experience and learn how innovative bicycle solutions has made Copenhagen one of the world's most liveable cities.

Boat tour – Sustainable solutions in the liveable harbour

Wednesday 19 September: 15:30–18:00
Thursday 20 September: 15:30–18:00

The harbour of Copenhagen is rapidly changing. Gone are the industry and big ships of the past and in come the harbour baths, kayaks and life. On this tour we will focus on the urban transformation of the harbour and how the city aims for creating sustainable and liveable neighbourhoods along the docks of Copenhagen. We will visit the new developments of Southern and Northern part of the harbour and see some examples of how Copenhagen plans to become carbon neutral in 2025.

Copenhagen Street Lab and BLOXHUB

Tuesday 18 September 14:30–17:30
Thursday 20 September 14:30–17:00

Copenhagen has dedicated an area in the heart of the city to test what role innovative technologies can play in initiatives to benefit the citizens. Copenhagen Street Lab showcases the newest solutions within smart city and IoT, including smart parking, mobility monitoring and smart waste management. The 1:1 urban laboratory provides proof of concept for decision-makers and companies and helps determine which qualified solutions to scale. The tour will offer a first-hand experience of how living labs can help create smarter, greener and more liveable cities, and will include a visit to BLOXHUB, Copenhagen's new hub for sustainable urban development.

Copenhagen 1:1

Traffic Management Strategy in Copenhagen

Tuesday 18 September: 11:00–12:30
The City of Copenhagen has the last three years had focus on optimizing major corridors on the road network – with focus on getting better mobility for the bicycles, pedestrians, public buses and motorists. By optimizing the traffic signals along the major corridors, the waiting time at controlled intersections is prevented or shortened. Thereby getting the maximum out of the road network. As such, cyclists, public transport bus passengers, pedestrians and motorist can be provided with service goals. Service goals that give cyclists and public transport a competitive edge over the motorcar in the city. Join us on this guided tour to learn more about traffic optimization in Copenhagen.
Photo Credit: Troels Heien

Technical visits

Traffic Tower East – Traffic management centre

Tuesday 18 September: 9:30–13:00
Tuesday 18 September: 13:00–16:00
Wednesday 19 September: 9:30–13:00
The Traffic Tower East contains control centres for the railway in Eastern Denmark, the commuter train in the metropolitan area and all national roads in Denmark. The Traffic Tower East is a brand new building with an exciting architecture built specifically for the purpose of traffic management. The visit consists of a brief introduction to the background, architecture and ideas behind the Traffic Tower East and visits to the traffic management centre of the Danish Road Directorate and the traffic management centre of Banedanmark.

The future of mobility – Ideon science park

Wednesday 19 September: 9:00–14:30
In the Swedish city of Lund, less than one hour from Copenhagen, Ideon Science park has been the birthplace of global technology giants such as Bluetooth and Ericsson Mobile. Today it is a central platform for developing the mobility solutions of tomorrow. The tour participants will be introduced to some of its cutting edge ITS start-ups and Electric Vehicle solutions. They will also learn about sustainable mobility as a service, and how to develop user centric platforms open for combined mobility.

Copenhagen Airport – Intelligent solutions for passenger services

Wednesday 19th Sept.: 9:30 - 11:30.
Go to Copenhagen Airport and take a deep dive in intelligent solutions for Wayfinding, Check-in and Taxi Management. Director of Passenger Service, Thomas Hoff Andersson, will join you on this landside tour, where you can learn about the newest digital trends and solutions in Copenhagen Airport.

Technical visits

Visit to DTU: Transport 2.0 meets Energy 2.0

Wednesday 19 September: 13:30–16:30
A visit to EV Lab offers you the chance to experience the Grid-integrated Electric Vehicle (GIV). GIV represents a new generation of EVs purposely designed to support the power system. New technology called Vehicle-To-Grid (V2G) allows the EVs to send energy from the battery back to the grid to help keep the power system in balance. EV lab specializes in EV power system integration, which includes smart grids, interoperability, and power measurement studies. The lab also specializes in technologies and components important to the operation and performance of EVs. The EV Lab is located at the Technical University of Denmark (DTU).

Aalborg University – the smart link between business, innovation and technical ITS research

Wednesday 19 September: 13:00–17:30
Aalborg University, AAU, invites to a technical visit at our campus in Copenhagen. AAU prides itself with problem-based learning through cooperation with more SMEs and large international companies than other universities in the region. AAU is ranking 8th in the world and 1st in Europe amongst the best universities for engineering, and focuses on an agile cooperation between students as well as high-level international renowned professors with the business sector. The technical visit will demonstrate how the professors and students work to combine both the theoretical learning and cooperation with the business around AAU to prepare the students in the best way for their first job after they finished theirs Masters.

The Oresund bridge – the smart link between Denmark and Sweden

Wednesday 19 September: 11:00–14:00
Friday 21 September: 9:00–12:00
Guided bus transfer over the Oresund bridge with general information of the only fixed link between Sweden and Denmark. During the transfer, there will be a presentation of the purpose of building the link – to facilitate integration between two countries. On arrival in the Toll station on the Swedish side of the link different ITS systems will be shown in 3–6 stations. In the Toll station, we will focus on Electronic Toll Collection including vehicle detection. We will also show a smart and safe way to control speed through the toll station.

DOLL Living Lab

Thursday 20 September: 9:00–13:00
DOLL Living Lab is Europe's largest test-field, showroom and innovation hub for smart city and intelligent lighting in a full-scale real-life urban environment, addressing the needs of the emerging smart and connected cities. The tour offers insights into some of the world's leading smart city solutions and latest technologies implemented in Greater Copenhagen. This includes motion detection for cars, bikes and pedestrians; driverless buses; light management systems; EV-stations, and much more. Since its opening in 2014, DOLL has created an innovative playground and transparency in the new complex markets with more than 40 different international and Danish companies currently testing and showcasing their newest smart solutions.
Photo Credit: Rasmus Degnbol

Technical visits

Smart and green traffic solutions in Malmö, Sweden

Thursday 20 September: 13:00–17:30

To create a world class public transport system in Malmö, the city will have several Bus Rapid Transport (BRT) lines. The first line started in 2014 and has proven to be a great success. By the end of 2018 electrical buses will be introduced in Malmö, and from 2021 the first electrical BRT-lines are planned to start running. Excellent bus traffic also needs excellent traffic information with new commuter signs and improved functionality in mobile apps. In a Mobility as a Service (MaaS) perspective, the city is improving bike facilities and green vehicle parking/charging. Welcome to Malmö to experience our smart solutions!

The new Metro Cityring

Tuesday 18 September: 10:00–12:00

The construction of the new metro line, The Cityring, is the largest construction project in the capital since Christian IV founded Christianshavn in the 17th century. The Cityring will have 17 underground stations and will cover major parts of the city centre as well as other districts of Copenhagen. In 2025, 9 out of Denmark´s 10 largest stations will have metro connection. Cityring takes shape both below and above the ground. The elevator towers pop up, escalators are lowered in the stations, the rail system grows day by day and the new trains are being tested in the tunnels as we approach the opening in the summer of 2019.

Copenhagen's autonomous metro

Friday 21 September: 10:00–12:00

The metro in Copenhagen is driverless and is controlled by a fully automated operating system. The system increases safety in the metro and minimizes the risk of human error. The Copenhagen Metro has helped to set new standards in public transport and has contributed to creating good transport options, urban development and growth. But how does a driverless train work? And who's behind the backbone to get the whole system around the clock, 7 days a week and 365 days a year? Now you have a unique chance to see the heart of the metro system – at the Metro Control and Maintenance Center.

MEET OUR LEADING EXPERTS AT SUND & BÆLT
STAND E-079

"We are excited to show how Sund & Bælt and BroBizz A/S daily contribute to **SMART transport infrastructure in our innovative and technology-driven initiatives** – and how they enable growth and mobility and increase life-quality to citizens."

Mikkel Hemmingsen, CEO, Sund & Bælt

SUND & BÆLT IS A TECHNOLOGY-DRIVEN infrastructure company that owns and operates the links across Storebælt and Øresund and soon the link across Fehmarnbelt. Our subsidiary, BroBizz A/S, operates automatic payment solutions on toll roads, bridges, ferries and at parking facilities.

Sund≈Bælt

Social Events

Welcome reception

Monday 17 September 2018

Immediately after the Opening Ceremony and Panel Discussion, you as well as your accompanying person(s) are cordially invited to the Welcome Reception taking place in the Exhibition Area in the Halls C & E. The Welcome Reception is an excellent opportunity to meet all your ITS colleagues and network with our commercial partners as well as exhibitors. This networking experience is included in your registration fee and we kindly ask you to register for it.

Gala Dinner at Øksnehallen

Wednesday 19 September 2018

Join us for a very special evening in the heart of Copenhagen! Placed in the Meatpacking District the beautiful venue "Øksnehallen" welcomes you for an evening to taste the many flavours of Copenhagen, enjoy good company and dance the night away to your favourite music. Make sure to secure your participation upon your registration so you don't miss out on this amazing evening of dinning and fun! The fee of 145,00 € covers dinner, beverages, entertainment and transport from the Bella Center to the venue and shuttle service back to main hotels after the event.

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Associated Events

The Congress provides also open informal sessions and workshops arranged by associated organisations, groups and high level partners of the 2018 World Congress. Delegates are invited to attend these open meetings, unless specified otherwise below. To attend any of these events, you must be registered to the Congress as well, at least as Exhibition Visitor. Exact location and timing will be updated regularly.

AASHTO International Day

Now in its 15th year as an integral part of the ITS World Congress, AASHTO International Day is presented by the American Association of State Highway and Transportation Officials in partnership with the US Department of Transportation. It brings together transportation officials from around the world to take on topics of consequence addressing the transportation challenges and opportunities facing public agencies.

The 15th Annual AASHTO International Day (AID) will focus on "ITS – Quality of Life" and the latest ITS solutions and mobility technologies from around the world. Topics will include: Cooperative Automation Highway Systems; Connected and Automated Vehicle scenario planning, pilots, and use cases; Mobility as a Service (MaaS); Big Data; the importance of infrastructure for mobility and the evolution of V2I and V2X; and Alternative/Agnostic Communications to support and enable CV/AV and other transportation technologies.

American Association of State Highway and Transportation Officials

AASHTO

Presentations will be offered from by policy experts and practitioners representing each of the three ITS regions (ITS America, ERTICO – ITS Europe and ITS Asia Pacific) and from Denmark, the host of this year's ITS World Congress.

Contact
Thomas Kern, AASHTO, tkern@transportationops.org
Date and time
Sunday 16 September, 13:00–17:00
Location
AC Hotel Bella Sky Copenhagen

FOT-Net International Workshop: Strategies for sharing data and knowledge

FOT-Net is arranging its 11th international workshop in conjunction with the ITS World Congress. FOT-Net was established in 2008 as a European Commission's support action with the mission to create a networking platform for stakeholders interested in Field Operational Tests (FOTs). FOT-Net has tackled common working issues and fostered cross-region cooperation. The three regions (Europe, Asia-Pacific and North America) cooperate on common FOT and pilot issues, such as data handling and sharing, methodology and deployment. The European project CARTRE operates the network activities during 2017–2018. With CARTRE focus on automation, the 11th international workshop will discuss how to further develop the knowledge base and data handling and sharing to suit connected automated vehicle pilots.

This workshop aims to facilitate exchange of information on experiences from automation pilots and data sharing between the three regions.

CARTRE
Coordination of Automated Road Transport Deployment for Europe

Contact

Julie Castermans, ERTICO - ITS Europe,
j.castermans@mail.ertico.com
Date and time
Monday 17 September, 08:30–15:30
Location
AC Hotel Bella Sky Copenhagen
Room 173 and 139 + 140 for the breakouts

Connected and Autonomous Vehicles Round Table on Collaboration

The primary intent is to ensure understanding between all parties of the common requirements for each nation to deliver safe, public operation of CAV through harmonised standards, physical testing, virtual/simulation testing, regulation and accident investigation. The International Working Group (IWG) is intended to provide a forum for ongoing discussion on these issues and encourage and enable collaboration at a high level across the different critical areas of development, physical/infrastructure, regulatory, policy and legislation, and testing.

Organiser
Meridian Mobility Technology, United Kingdom
Date and time
Tuesday 18 September 2018, 13:45–16:30
Location
Room 20 1st floor Bella Center
Contact
David Hytch, parkgate@btinternet.com

VOLKSWAGEN

AKTIENGESELLSCHAFT

How does **URBAN MOBILITY** look like in the cities of tomorrow?

Come and find out at our booth C3-054

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Reliable Communication for All Scenarios
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Supports GNSS
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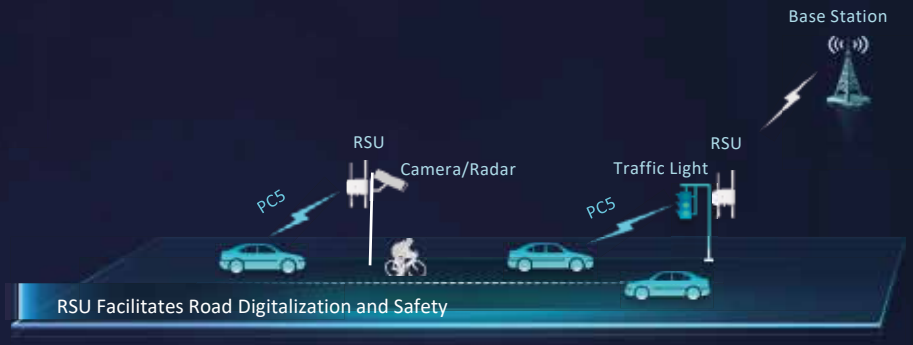


PC5 Specifications
- Coverage: RSU>500m,PRR>99%
- Latency：<20ms
- Output Power: 23dBm±2dB

LTE Specifications
- CAT 6
- Output Power: 23dBm±2dB

Frequency Bands
- PC5: 5875~5925MHz
- PC5 Carrier Bandwidth: 10/20MHz
- LTE: Band 3/8 /39/41
- LTE Carrier Bandwidth: 5/10/15/20MHz

Equipment Spec.
- Input Power: AC 110~220V, POE -48V
- Power Consumption: < 26W
- Weight: ≤4.6Kg
- Dimension: 180mm×240mm×81mm
- 1 SIM card slot (Anti-theft Design)

Environment
- Temperature: -40℃~+60℃
- Humidity: 5% to 95% RH
- Ingress Protection: IP65

Transmission Port
- Electrical Port:100Mbps/1000Mbps
- Optical Port：1.25Gbps

Synchronization
- GPS
- BDS

Standard Compliance
- 3GPP: R14 (PC5), R13/14(LTE)
- Anti-seismic: YD5083
- Storage Environment: EUROPEAN ETS 300 019-1-1 Class 1.2"not temperature-controlled storage"
- Transportation Environment: EUROPEAN ETS 300 019-1-2 Class 2.3 "PUBLIC transportation"

HUAWEI

Intelligent Vehicle Testing Symposium 2.0

The Intelligent Vehicle Testing Symposium 2.0 is the continuation of a special session hosted by the State of Michigan at the ITSWC in Montreal in 2017. The session will focus on the collaborative efforts between testing environments across the globe to harmonize global policy, regulations and standards to safely accelerate the implementation of CAV Technologies.

Organiser
MEDC
Date and time
Wednesday 19 September 2018, 12:30–16.30
Location
Room 20 1st floor Bella Center
Contact
Nathan Fergus (MEDC), fergusn@michigan.org

2nd EU – Singapore workshop

Building on the success of the first EU-Singapore joint workshop in Montreal, the first part of this workshop will focus on the potential of shared mobility and mobility-on-demand to promote efficiency, convenience and sustainability of transportation within urban cities. The session will explore ways of integrating those disruptive modes of transport with the public transportation network. The second part of the session will revolve around port cities as main gateways of global logistics chains. The focus will be on the optimisation of port operations through the deployment of Cooperative Intelligent Transport Systems and on the means of further facilitating wider use of electronic freight documents.

Organiser
DG MOVE, European Commission
Date and time
Wednesday 19 September, 13:00–17:00
Location
Room 18 1st floor Bella Center

9th National ITS Association Meeting

Organised by the three ITS Regional Associations, ERTICO, ITS Asia-Pacific and ITS America, the 9th National ITS Association Meeting will address the following topics

- How can governments influence improvements in liveability particularly air quality?
- Will radical changes to legislation or regulations be needed for deployment of new mobility services?
- How can we manage urban space use for public transport, active modes and private vehicles, and also accommodate highly automated vehicles?

Date and time
Thursday 20 September 2018, 14:00-15:30
Location
Room 6 1st floor Bella Center

C-ITS City Pool Roundtable – Time for wide deployment of C-ITS services

Launched in 2015, the C-ITS City Pool is a group of public authorities interested in Cooperative Intelligent Transport Systems. Operating as a reference initiative, it raises awareness, addresses C-ITS implementation needs and benefits, and identifies deployment challenges and enablers in an urban context. It now aims for wide-scale deployment of interoperable C-ITS services, in cities and on the trans-European road network.

This Roundtable will provide a space where cities committed to deployment can share experiences, best practices and business perspectives with other cities. Traffic managers, operators and users will have the opportunity to engage in the C-ITS City Pool, while experiencing services deployed in Copenhagen and demonstrated at this Congress.

CITY OF COPENHAGEN

C-MOBILE

Contact
Giacomo Somma, ERTICO – ITS Europe
g.somma@mail.ertico.com
Date and time
Monday 17 September, 09:30–13:30 including 2 demos & coffee breaks of 30 min.
Location
Room 180, Bella Sky Copenhagen

MaaS Summit 2018 – from modes to multimodal MaaS

This 4th annual Mobility as a Service Summit will be hosted by the Finnish Ministry of Transport and Communications, the MaaS Alliance and the European Commission. This event is part of the EC's Multimodality year thematic discussions and it will take place in conjunction with the ITS World Congress in Copenhagen.

This year Summit will focus on the crucial questions around multimodality in MaaS. By improved multimodality we can meet the demand of customers by more efficient and environmentally friendly manners. In the context of MaaS, the multimodality should be understood as a seamless use of different transport modes (both active and vehicle-based modes) and public, private and shared fleets and resources. However, there are some operational and regulatory hindrances to overcome, requiring improved coordination and cooperation and targeted policy actions and (re)regulation. The aim of this high-level summit is to identify next steps needed to endorse the development of a versatile and scalable MaaS ecosystem and real "omnimodality".

European Commission

LVM

MaaS ALLIANCE

Contact
Piia Karjalainen, MaaS Alliance, ERTICO – ITS Europe
p.karjalainen@mail.ertico.com
https://maas-alliance.eu/
Date and time
17 September 2018, 10:00–13:30
Location
Room 18/19 1st floor Bella Center
Registration
The Summit is on invitation-only

Healthy & Liveable Cities - experience from leading cities

This session introduces the climate and health partnership between Novo Nordisk and C40 and their research programme on the co-benefits of walkability and bikeability. The programme has supported research in 16 cities, helping them strengthen the case for climate actions with health benefits. We will hear from 3 leading C40 cities on their work on active mobility; the mayors and political representatives from Copenhagen, Barcelona and Singapore will share insights, challenges and successes from their walking and cycling programmes.

Organisers
Novo Nordisk and C40
Date and time
Tuesday 18 September, 09:00–10:30
Location
ITS Forum

ERTICO

ITS EUROPE

ERTICO highlights

ERTICO FOCUS ON "Next generation eCall"

The workshop will look at future eCall developments; these include essential principles of the next generation eCall technical specification to use Voice over IP mobile networks, the inclusion of new vehicles categories, and other technical and organisational issues for a seamless completion of eCall deployment. This event is part of the ERTICO FOCUS ON series and open to ERTICO Partners.

Date and time
Monday 17 September, 9:00–13:30
Location
Room 17 1st floor Bella Center
For ERTICO Partners only

Breakfast with the ERTICO expert: Francois Fischer on IoT

Come at the ERTICO stand to hear from our experts about the hottest topics in transport and mobility with a coffee and the traditional Danish cinnamon buns.

Date and time
Tuesday 18 September, 8:30–9:00
Location
ERTICO Stand C3-025

EU-China Summit

This event is an opportunity to explore new collaboration initiatives between ERTICO Partners and the ITS industry in China. This event is organised for ERTICO Partners as a unique opportunity to develop relationships with Chinese businesses and peers. Facilities for B2B sessions will be made available after the Summit for discussions between companies of the two regions.

Date and time
Wednesday19 September, 8:00–12:00
Location
Room 19 1st floor Bella Center
For ERTICO Partners only

Breakfast with the ERTICO expert: Piia Karjalainen on Mobility as a Service - from modes to mobility, ERTICO's MaaS Vision

Come at the ERTICO stand to hear from our experts about the hottest topics in transport and mobility with a coffee and the traditional Danish cinnamon buns.

Date and time
Wednesday19 September, 8:30–9:00
Location
ERTICO Stand C3-025

ERTICO event "Blockchain and Distributed Ledger Technologies for Mobility"

This event will present different views and initiatives from ERTICO, the European Commission and the International Transport Forum on Blockchain technologies and advanced solutions in the mobility sector. More specifically, it will explore the potential areas of deployment in MaaS and will discuss use cases for digital supply chains and whether the Blockchain-as-a-Service model is applicable to these sectors. To conclude the event, a panel of experts from public sector, industry, startups and research will explore whether these new technologies are the "Silver Bullet" solution that is claimed to be and what are the requirements and challenges for their deployment.

Date and time
Wednesday19 September, 13:00–16:30
Location
Room 19 1st floor Bella Center

ERTICO cocktail

Join the World Congress organisers, ERTICO, ITS America and ITS Asia-Pacific at the annual reception at the ERTICO stand. This will be the first of the regional cocktails to celebrate 25 years of the ITS World Congress.

Date and time
Wednesday19 September, 17:00–17:30
Location
ERTICO Stand C3-025

Breakfast with the ERTICO expert: Thomas Desseilles on Digital Innovation Hub for Logistics

Come at the ERTICO stand to hear from our experts about the hottest topics in transport and mobility with a coffee and the traditional Danish cinnamon buns.

Date and time
Thursday 20 September, 8:30–9:00
Location
ERTICO Stand C3-025

ERTICO workshop "The role of 5G in Automation"

5G is expected to, provide breakthrough mobility models and new innovative applications and services that match user needs and societal challenges transforming the transport sector towards a global Digital Smart Mobility. The workshop will discuss 5G key technologies to be deployed in the next generation 5G networks and discuss how they contribute towards Automated Driving innovations.

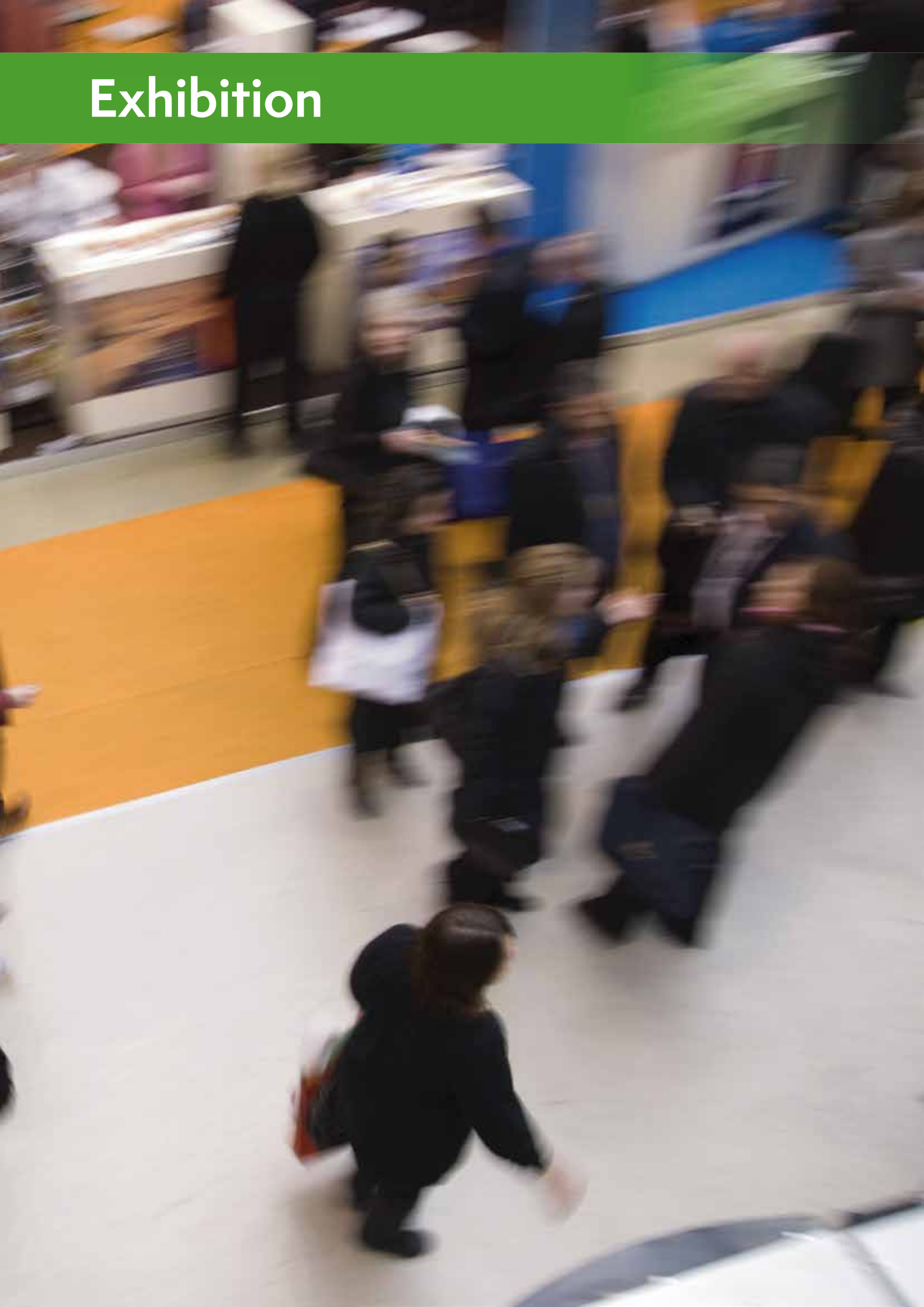
Date and time
Thursday 20 September, 9:00–10:30
Location
Room 19 1st floor Bella Center

Breakfast with the ERTICO expert: Monica Giannini on C-ITS

Come at the ERTICO stand to hear from our experts about the hottest topics in transport and mobility with a coffee and the traditional Danish cinnamon buns.

Date and time
Friday 21 September, 8:30–9:00
Location
ERTICO Stand C3-025

Exhibition



The Exhibition hall will showcase more than 400 companies, dedicated to ITS technologies and services, as well as local and European public authorities. View the online floor plan to review information about the exhibitors and their booth location.

Startup Village

Discover young entrepreneurs from all corners of the world are eager to share their innovative ideas with you in Copenhagen.

Sessions in the Exhibition area

The ITS Forum will house exciting “out of the box” sessions that will challenge your creative thinking, interaction and enhance dialogue. The Theatre will house Commercial Paper Sessions and Commercial Presentation Sessions. These Sessions present near-market material activity aimed at generating or improving a specific product, device or idea for the market, with a particularly strong commercial or deployment flavour. All these Sessions are listed in the Congress programme. Any registered attendee can attend any Session taking place in the Exhibition.

Press Room

The press room located at the entrance of the Exhibition will provide registered media a space to work and network with colleagues.

Exhibition opening hours

Date	Schedule	Hall Open Hours
Monday 17 September	Exhibition area open	17:30–19:30
Tuesday 18 September	Exhibition area open	08:30–19:30
Wednesday 19 September	Exhibition area open	08:30–18:30
Thursday 20 September	Exhibition area open	08:30–19:30
Friday 21 September	Exhibition area open	08:30–13:30

Making smart cities a reality, together

Today, the city – and all its moving parts – remains a fragmented space with few connections between datasets. Using location as a unifier and a way to link data, HERE Technologies is building bridges between data silos and enabling new **collaborative services**, **insights** and **monetization opportunities**.

Together with governments, automakers and countless mobility services, we're making smart cities a reality.

Join us at booth **E-074**, and we'll show you how.

Find out more about us at **www.here.com/ITSWC**

AREA C –startup connector

This year at the ITS world Congress we are very pleased to launch the first-ever exhibition space dedicated to young venturers in smart mobility at an ITS World Congress: AREA C – startup connector. This area will be cooperatively hosted by ERTICO – ITS Europe, City of Copenhagen and allDots.

We have invited startups from all over the world to apply and get connected with companies, experts, researchers and public officials from the international ITS community. Our primary task to provide a link between these established participants and the newcomers in the market.

The thematic focus will reflect the overall topics of the ITS World Congress and services dealing with mobility and logistics platforms, information, data collection/ processing and connectivity of transportation systems and new modes of transport.

AREA C: startup connector will attempt to answer the question of how we can change the status quo in the current transportation environment towards more efficient, sustainable, safe and inclusive solutions.

AREA C PROGRAMME

Monday	Tuesday	Wednesday	Thursday	Friday
16:30 – 18:00 Opening Ceremony ITS World Congress 2018	**09:30 – 10:00** Opening Ceremony AREA C **10:00 – 12:00** EU funding Workshop **13:30 – 14:30** Pitch Session No. 1 **16:00 – 17:00** Pitch Session No. 2	**11:00 - 12:00** FIA Impact **13:30 – 14:30** Pitch Session No. 3 **16:00 – 17:00** Pitch Session No. 4	**09:00 – 12:00** Nordic Innovation Workshop **13:30 – 14:30** Pitch Session No. 5 **16:00 – 18:30** Startup Reception by future.hamburg (including Pitch Session 6)	**12:30 – 13:30** Closing Ceremony ITS World Congress 2018

Participants:

EU Startup Prize Pitch Session

Created at the initiative of Karima Delli, Member of the European Parliament, Ecologist and Chairwoman of Committee on Transport and Tourism at the European Parliament, the EUSP is dedicated to European startups whose activity is focused on sustainable, clean and connected mobility. It aims to help those startups to scale up to another level and become European leaders for tomorrow's mobility. The prize was launched in December 2017 under the high patronage of the European Commission, the European Parliament and several economic stakeholders such as BCG, Via ID, Blablacar, SNCF, Europcar,… It received more than 500 applications for its first edition!

The 10 finalists of the 2018 Edition, will present their startup.

Introduction
Karima Delli, *Member of the European Parliament*

Moderator
Suzanne Newman, *Community Lead, Startup Sesame*

Speakers
AddMovement AB, *Mike Redford*
AppyParking, *Dan Hubert*
Atsukè, *Damien Bousson*
Best Mile, *Anne Mellano*
Cargonexx, *Rolf-Dieter Lafrenz*
Cocolis, *Eliette Vincent*
Klaxit, *Enis Mansour*
MaasGlobal, *Sampo Hietanen*
Tracefy, *Jeroen van Kester*
Voltia, *Silvester Pullman*

for mobility

European Startup Prize for mobility

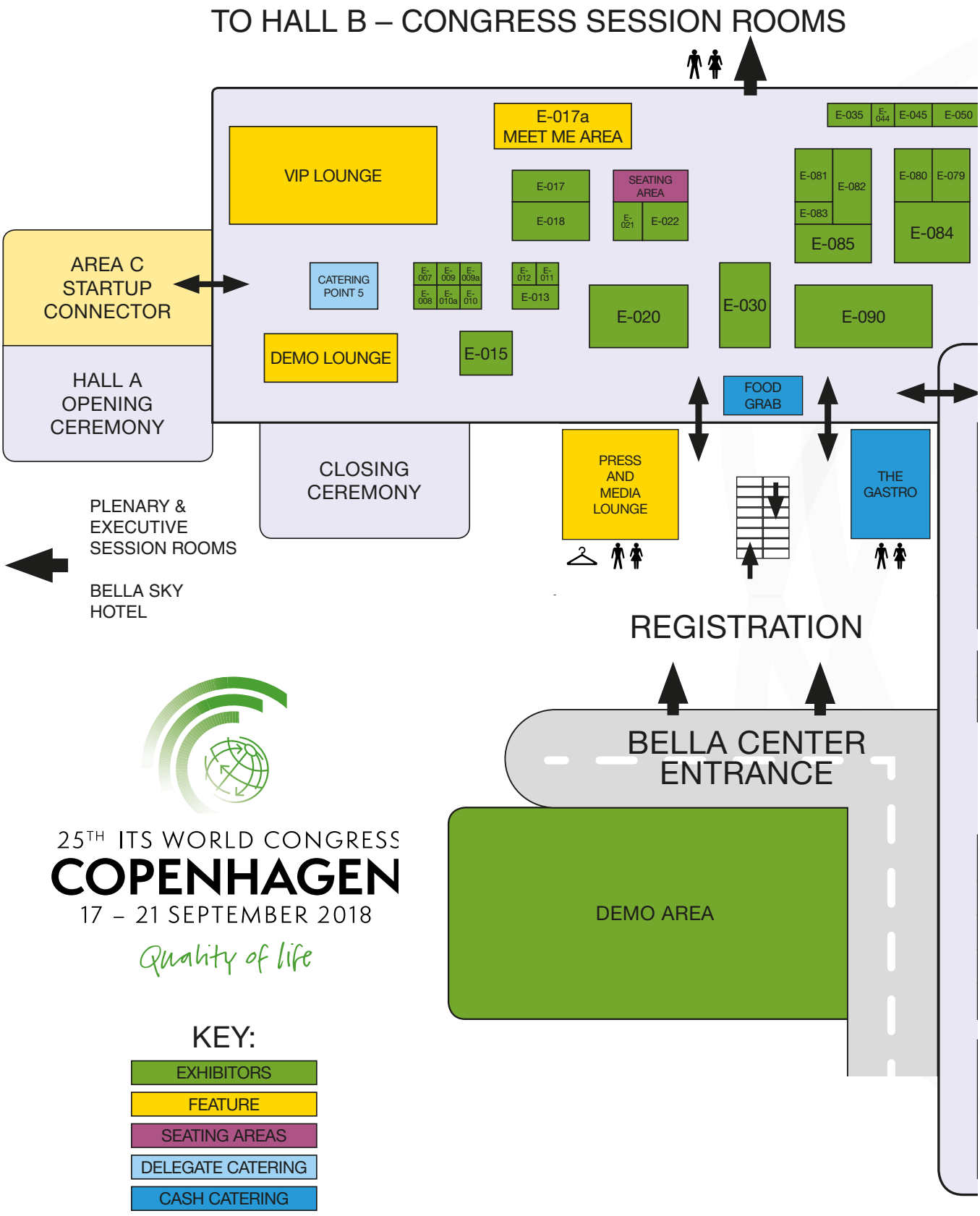
VOLKSWAGEN

AKTIENGESELLSCHAFT

Come and experience the **URBAN MOBILITY OF TOMORROW**

See you at our booth C3-054

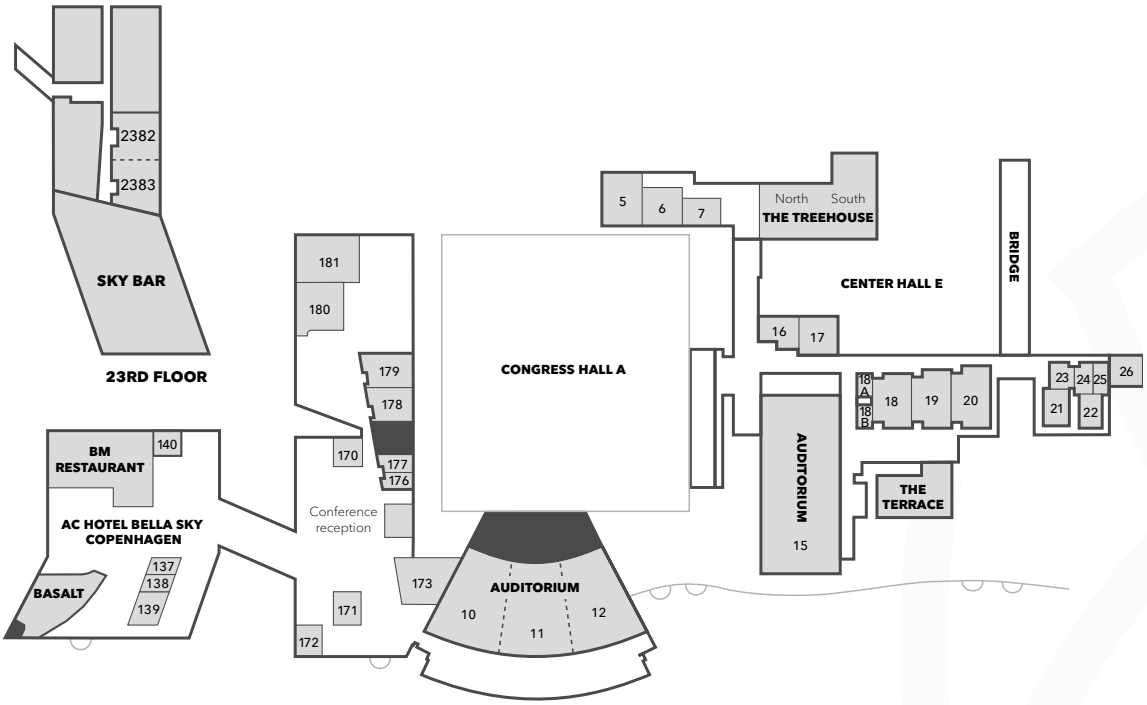
Floorplan


TO HALL B – CONGRESS SESSION ROOMS
E-017a
MEET ME AREA
E-035
E-044
E-045
E-050
VIP LOUNGE
E-017
E-018
SEATING AREA
E-021
E-022
E-081
E-082
E-083
E-085
E-080
E-079
E-084
AREA C
STARTUP
CONNECTOR
CATERING POINT 5
E-007
E-009
E-009a
E-008
E-010a
E-010
E-012
E-011
E-013
E-020
E-030
E-090
DEMO LOUNGE
E-015
FOOD GRAB
HALL A
OPENING
CEREMONY
CLOSING
CEREMONY
PRESS
AND
MEDIA
LOUNGE
THE
GASTRO
PLENARY &
EXECUTIVE
SESSION ROOMS
BELLA SKY
HOTEL
REGISTRATION
BELLA CENTER
ENTRANCE
DEMO AREA
25TH ITS WORLD CONGRESS
COPENHAGEN
17 – 21 SEPTEMBER 2018
Quality of life
KEY:
EXHIBITORS
FEATURE
SEATING AREAS
DELEGATE CATERING
CASH CATERING

TO HALL B – CONGRESS SESSION ROOMS

Venue Map

First Floor



Ground Floor

General Information

Internet access

Wireless internet connection is available in all the areas of the Bella Center.

Language

English is the official language of the Congress. All spoken presentations, printed material and online information will be available in English only.

Insurance and security

Kindly note that all attendees are requested to wear their badge for admission at all times. Please do not leave your personal items or coats unattended. There will be a cloakroom at your disposal. In addition, regular badge control will take place throughout the Congress.

Travelling to Copenhagen

Travel by air

The airport is located roughly 10 minutes by car from the "Bella Center". Taxis are available at the Airport until the last flight. Should you prefer another means of transportation, you can take the metro or use the shuttle service. For more information on the public transportation and to plan your journey, please visit https://dinoffentligetransport.dk/service/for-tourists/

Airport Shuttle Service

The shuttle service operates every 30 min from 6am to 11pm and runs between Copenhagen Airport and the AC Hotel Bella Sky Copenhagen (which is directly connected to Bella Center Copenhagen) and Crowne Plaza Copenhagen Towers. The shuttle bus is filled on a first come, first served principle. Price is DKK 15 / € 2 each way. From the airport to the hotel, the shuttle bus departs from the shuttle parking at terminal 2. Your will find the timetable by the information counter. When departing the hotel, please order the shuttle bus at the hotel reception.

Metro

The Metro line M1 runs between Vanløse and Vestamager (West Amager). The "Bella Center" Metro Station is located next to Bella Center Copenhagen's East Entrance. More information can be found at www.m.dk/

Buses

A number of bus lines (A4, 34, 250S) stop outside the Bella Center. Bus timetables and how to plan your trip with public transport can be found on the website https://dinoffentligetransport.dk/service/for-tourists/

Trains

To get to and from Copenhagen Central Station, you can also take the bus line 30, which takes around 20–25 minutes. All regional trains also stop at Ørestad Station, where you can transfer to the Metro. Note that Intercity Trains DO NOT currently stop at Ørestad Station.

By car

There is a motorway right to the front door from Denmark and Sweden. Follow the "Airport Motorway", E20. The exit to Center Boulevard is number 19 and is called "Ørestad" with "Bella Center" listed below. Parking is DKK 25/hour. DKK 100 for 24 hours

Taxis

Taxis can pick up passengers at terminal 1 and 3. A taxi from Bella Center Copenhagen to the city centre costs about DKK 200. A taxi from Bella Center Copenhagen to Copenhagen Airport costs about DKK 150–200. Taxa: +45 35 35 35 35 http://www.taxa.dk/en/airport-transfer/

PURE MOBILITY

As the automotive world moves toward fully connected and self-driving cars, it's no surprise who's driving the future of the industry. Michigan. Home to the world's first and only real-world testing facility for autonomous vehicles, Michigan leads the country in research, development, innovation and technology. And it all makes up the epicenter of mobility known as PlanetM. Visit us in the ITS America Pavilion. Find out why Michigan is the hands-down choice for your business at **planetm.com**

MICHIGAN ECONOMIC DEVELOPMENT CORPORATION | PURE MICHIGAN®

planetm®
Michigan. Where big ideas in mobility are born.

Getting around Copenhagen – a green city is a precondition for a liveable and healthy city

It is often rated as one of the best places to live in the world

For a city of its size Copenhagen has a surprisingly high number of Michelin Stars – 15 altogether!

Tivoli Gardens is the world's second oldest amusement park (the oldest is Bakken, just north of Copenhagen) and is Denmark's most popular attraction

You can get to the city centre in about 13 minutes by metro or train

The driverless metro, buses and trains can bring you everywhere you want in the city. Elevators available at all metro and train stations

About 62% of Copenhageners cycle to and from work, so the cityscape is dominated by bike lanes, bike parking and special traffic lights

The original Carlsberg brewery was founded in 1847 and is located in Copenhagen and is now one of the most popular places to visit in the capital

The Danish flag is the oldest flag in the world and, according to legend, was adopted in 1219

Shop high-end brands tax-free in Strøget street. Copenhagen's most famous shopping street is about one kilometre long and is perfect for high tax free purchases

You can rent a City Bike all over Copenhagen. The city bikes are intelligent electric bikes available 24/7, 365 days a year. Each bike has a touch screen tablet for navigation and guidance to points in Copenhagen. You can also rent bikes in shops all over Copenhagen

Almost every Copenhagener speaks English so you won't feel "lost in translation"

Built in 1642, Copenhagen's iconic Rundetårn (Round Tower) is the oldest working observatory in Europe

Copenhagen's harbour is clean enough for swimming

The 13th ITS European Congress 2019

Brainport Region - The Netherlands
3-6 June 2019

A unique opportunity to

- Exchange information with 3000 industry stakeholders and influencers
- Discover the latest mobility solutions
- Share experiences and lessons learned
- Monitor progress and measure results of implementation and deployment
- Exhibit and experience cutting-edge technologies and innovative products and services
- Enter business and partnership opportunities
- Experience the latest technology first hand through demonstrations

Visit **www.2019.itsineurope.com** for information on Call for Contributions and Commercial Partnership & Exhibition opportunities.

Organised by: ERTICO ITS EUROPE

Hosted by: EINDHOVEN, Gemeente Helmond

Supported by: Connekt ITS Netherlands, Ministerie van Infrastructuur en Waterstaat, Brainport Development, Provincie Noord-Brabant

Europe

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