







29th ITS WORLD CONGRESS

Driving Towards Intelligent Society — Quality Life

Suzhou International Expo Center



Supported by:

Ministry of Transport of the People's Republic of China Jiangsu Provincial People's Government

Hosted by:

Suzhou Municipal People's GovernmentSuzhou Transportation BureJiangsu Provincial Department of transportSuzhou Industrial Park AdmResearch Institute of Highway, Ministry of Transport of P. R. ChinaChina ITS Industry Alliance

Hosted by:

ITS Asia-Pacific ITS America ERTICO - ITS Europe

Co-hosted by:

Suzhou Transportation Bureau Suzhou Industrial Park Administration Committee China ITS Industry Alliance



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WELCOMES



Wu Qingwen

Chairman of the 29th ITS World Congress Mayor of Suzhou Municipal People's Government It is my great pleasure to invite you to join the 29th Intelligent Transport Systems (ITS) World Congress from 16 to 20 October, 2023 in Suzhou, China. This World Congress, supported by Ministry of Transport of the P.R.C., Jiangsu Provincial People's Government, is to be jointly hosted by Suzhou Municipal People's Government, Jiangsu Provincial Department of Transport, and the Research Institute of Highway of the Ministry of Transport of China, and co-hosted by ITS Asia-Pacific, ITS America, ERTICO-ITS Europe. It will be co-organized by Suzhou Bureau of Transportation, Suzhou Industrial Park Administrative Committee, and China ITS Industry Alliance.

Being a renowned historical and cultural city in China, Suzhou is also known for its openness, vitality and strong economy. As one of the key cities in the Yangtze River Delta, Suzhou enjoys prominent geographical advantages and a solid industrial foundation. It also boasts extensive international exchanges and cooperation, friendly environment for innovation, and rich experience in organizing conferences and exhibitions, which firms up our confidence in the successful holding of the Congress.

The 29th ITS World Congress theme of "Driving towards Intelligent Society -- Quality of Life" fully demonstrates our commitment to focusing on intelligent transportation and satisfying people's aspiration for a better life. With a dynamic program mainly including intelligent transportation conferences and exhibitions, technical demonstrations and others, the 29th ITS world Congress will provide an opportunity for sponsors and partners to expand their networks, share cutting-edge technologies, strengthen mutually beneficial partnerships, and fully enjoy the charm of intelligent transportation. It will bring together global experts to chart the course of intelligent transportation and propel the exchange and integration of the intelligent transportation industry in the Asia-Pacific region and beyond to a higher level and greater extent.

We are truly honored to host the 29th ITS World Congress in 2023 and look forward to your active participation, sponsorship and sharing of insights and know-hows in the Congress. Let us gather together in Suzhou for the 29th ITS World Congress. Welcome to Suzhou!





Akio Yamamoto Secretary-General ITS Asia-Pacific

On behalf of ITS Asia-Pacific, I would like to invite you all to the 29th ITS World Congress in Suzhou.

In China, which is a frontrunner in the ITS field, Suzhou is an international city that enjoys a remarkable industry foundation and superb innovation environment.

Currently, ITS is seeking the integration of mobility services and infrastructure in alignment with urban planning and digitalization. On top of that, ITS is expanding its scope from the transportation field itself to the integrated solutions for societal challenges, such as environmental issues, disaster recovery, and more.

With these views, the theme of the ITS World Congress in Suzhou, "DRIVING TOWARDS INTELLIGENT SOCIETY - Quality Life" is very much to the point. I expect we will be able to enjoy exceptional demonstrations leveraging advanced ITS technologies and services and gain knowledge through exhibition and valuable technical programs. I hope a lot of ITS stakeholders and experts will get together to discuss the future of better-quality life with ITS.

I am very much looking forward to coming over to Suzhou City, a place where the classical and the modern meet. We'll see each other in Suzhou!



Laura Chace President and CEO ITS America

On behalf of the Intelligent Transportation Society of America (ITS America), welcome to the 29th ITS World Congress in Suzhou! ITS America is proud to join with ITS Asia-Pacific and ERTICO – ITS Europe in organizing this exciting event in Suzhou that will bring the global ITS community together to learn, share knowledge, and build new relationships to further our goals of delivering safer, greener, smarter transportation.

The theme of "Driving towards intelligent society – quality life," is what our industry strives to achieve every day. Existing and emerging ITS technologies allow us to drive real world advances that will save lives, make our cities smarter and ultimately create thriving communities. The Congress will be an exciting conference with thought provoking sessions, demonstrations of new and emerging technologies and many opportunities to learn, share, and challenge one another.

At ITS America, our vision is of "A better future transformed by transportation technology and innovation. Safer. Greener. Smarter. For all. We are the leading voice advocating for the scaled deployment of innovative transportation technology through policy, thought leadership, and developing a diverse workforce. Our members are eager to engage with others around the world who share these same goals and I encourage you to make the most of your time at the 2023 World Congress in Suzhou!



Joost Vantomme Chief Executive Officer ERTICO - ITS Europe

On behalf of ERTICO – ITS Europe and our network of Partners, it is my pleasure to welcome you to the 29th ITS World Congress in Suzhou.

ERTICO – ITS Europe is delighted to co-organise this event with ITS Asia-Pacific and ITS America, and join our Hosts from China in their ambition to promote smart and sustainable mobility solutions and services.

The ITS World Congresses are one of the most significant events globally and represent the ultimate showcase of mobility services deployment and are the means for the ITS Community to keep pace with the incredible evolution of the industry and cutting edge technologies. These events embrace the latest in smart mobility and the digitalisation of transport, particularly in cities and regions where they are hosted and are important channels to raise awareness among stakeholders, policy makers, experts and the general public.

'Driving Towards Intelligent Society – Quality Life' is the theme of the Congress where intelligent and innovative solutions meet societies' and citizens needs and enhance people's daily life through seamless, smart, and sustainable mobility solutions.

The ITS Congresses are a great vehicle in bringing together the ITS Community to unite and share ideas, bridging the gaps and connecting the dots across all key mobility players.

I hope that many of you will attend ITS Suzhou 2023 for having the chance to share ideas at this great event for the entire mobility community.



The ITS World Congress is an international congress launched by the International Organization of Intelligent Transportation in America, Europe, and the Asian-Pacific region, which is the most influential comprehensive international congress in the field and is also the most extraordinary platform for achievement exhibition and technology exchange. Since 1994, countries on three continents have taken turns holding it once a year to promote the research of cutting-edge technologies in the field and the application of intelligent transportation systems. The ITS World Congress has been successfully held for 28 sessions. It integrates the exhibition and academic conference to show the technological strength and research achievements in the development of intelligent transportation in the countries. Government officials, technical experts, business people, and experts from relevant international organizations will be invited here.

Basic Introduction

The 29th ITS World Congress will take place at the Suzhou International Expo Center from October 16-20, 2023. Suzhou is the second city after Beijing to hold the ITS Congress on behalf of China. The theme of this year's Congress is Driving Towards Intelligent Society - Quality Life. A variety of events will be held, including sessions, exhibition, demonstration, technical tours and social events. The exhibition covers an area of 27,000 square meters, focusing on the products and technologies of cutting-edge ITS equipment, intelligent vehicles, intelligent transportation management and control, and the new generation of transportation systems and services worldwide. Officials, professionals, experts, and scholars across the globe will have an opportunity to visit Suzhou and witness the latest achievements in ITS development in China and beyond.

HIGH LEVEL POLICY ROUNDTABLE

Ministerial Roundtable

A considerable contingent of experts, scholars, industry professionals, and government officials from all over the world will be in attendance at this World Congress. Organizing a ministerial roundtable discussion during this period presents valuable opportunities for international cooperation and greater progress in cutting-edge transportation technologies, and foster international exchanges and collaborations in intelligent transportation across countries and regions.

Theme

The main theme of the ministerial roundtable is "Digitalization and Intellectualization for High-quality Transportation Development". Discussions will primarily revolve around leveraging digital and intelligent technologies to facilitate an affordable and equitable transportation system, bolstering the resilience and safety of the transportation infrastructure, and exploring sustainable development of intelligent transportation system.

Time: October 15, 2023 (Sunday) Venue: TBD



Mayoral Roundtable

As one of the key high-level events of the previous ITS World Congresses, the Mayoral Roundtable aims to showcase the achievements and aspirations of each participating city's intelligent transportation system, which brings more opportunities and momentum to the technical upgrading, business promotion and industrial development of intelligent transportation in the participating cities.

With the ITS World Congress serving as a catalyst, we intend to enhance our collaboration and communication with the participating city leaders in such areas as urban governance and city development, etc.

Theme

The forthcoming Mayoral Roundtable will center around the theme of "Advancing ITS industries, empowering traffic governance in big cities, and facilitating Suzhou's modern industrial system through ITS". Discussions will primarily revolve around leveraging digital and intelligent technologies to facilitate an affordable and equitable transportation system, bolstering the resilience and safety of the transportation infrastructure, and exploring sustainable development of intelligent transportation system.

Time: October 19, 2023 (Thursday) **Venue:** TBD



Plenary Sessions (PL)

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

Executive Sessions (ES)

In these sessions, high-level industry executives, public officials and academia from around the world will draw from their experiences to share their views on ITS achievements, issues and challenges.

Special Interest Sessions (SIS) Organised at the request of groups of experts developing and deploying ITS, these interactive, tailor-made sessions provide the opportunity to focus on specific topics of interest.

Scientific Sessions (SP)

These sessions are a major forum for academic and scientific excellence to share substantial findings and achievements on an advanced topic and to inspire an intensive discussion in that field.

Technical Sessions (TS)

These sessions aim to provide engineers and researchers with a venue for broad-ranging discussion on technical subjects as well as the institutional, business and economic aspects of ITS.

Interactive Sessions (IS)

These sessions provide a space for an interactive discussion via a poster presentation or two stages presentations including a short oral presentation followed by a poster presentation. It is hoped that this climate of free, face-to-face dialogue leads to further innovations in the field.

PROGRAMME TOPICS



Sustainable and Transformational **Development of Transport**



Advanced Technology for Improved Services



Connected, Cooperative and Automated Mobility



Smart Cities and Future Transport



Intelligent and Digital Transport Infrastructure



Pricing and Travel Demand Management



Integrated Transport Systems



Policy, Standards and Harmonization



PROGRAMME

SCHEDULE AT A GLANCE

ES Executive Sessions

All preliminary programs are subject to changed. Updated as of July 24, 2023.

PL Plenary Session



 SIS
 Special Interest Sessions
 SP
 Scientific Sessions
 TS
 Technical Sessions

ssions IS Inte

IS Interactive Sessions

16	Opening Ceremony Executive Special Interest Closing Ceremony Sessions Sessions					Scientific Sessions			Technical Sessions			
Mon	1	2	3	4	5	6	7	8	9	10	11	12
00-12:00	Opening Ceremony & Ribbon Cutting Ceremony											
30-14:00						Lunch						
		ES01	SIS01	SIS02	SIS03	SIS04	SP01	SP02	TS01	TS02	TS03	
00-15:30		ES01 Imagine the Future: The Vision of Intelligent Mobility and Future City	Navigating the Future: The Role of Electromobility and EV Charging Infrastructure (AP ID 93)	C-V2X Empowering Safe and Connected Mobility (AP ID50)	Extended and Defragmented Operational Design Domains for Higher Automation (EMEA ID 60)	Intelligent Highway Technology and Operation Service (AP ID88)	Climate Goals and Action Plans in Transport	ITS Technology for Traffic Safety	Mobility as a Service	V2X Communication Technologies and Cooperative Systems (1)	Cloud Computing, Edge Computing, Artificial Intelligence, Digital Twins, Blockchain in Transportation (1)	
50-16:00						Coffee Break						
		ES02	SIS05	SIS06	SIS07	SIS08	SP03	SP04	TS04	TS05	TS06	
00-17:30		ES02 Active Modes and ITS	Green Transport and Green Energy (AP 61)	Automatic driving test technology and demonstration area construction (AP ID49)	Global V2X Demonstration and Operation Service Providers: Present and Future (AP ID52)	Visualizing Smart Mobilities Intelligent Transportation System in the New Capital City (AP ID92)	Mobility as a Service	Waterway Transport Applications and 5G Solution	Climate Goals and Action Plans in Transport	V2X Communication Technologies and Cooperative Systems (2)	Cloud Computing, Edge Computing, Artificial Intelligence, Digital Twins, Blockchain in Transportation (2)	
50-18:30	Welcome Reception											
00-21:30	Entertainment at Cul	tural Centre										
	Exhibition	- Demonstra	ation	– – Technica	al Tours							

10 oct	o											
09:00-10:30	PL 1 Sustainable and Intelligent Integrated Transport											
10:30-11:00						Coffee Break						
11:00-12:30		ES03 Intelligent Infrastructure, Moving to a Larger Scale	SIS09 Advancing Intelligent and Sustainable Urban Transport in Developing Countries (AP 67)	SIS10 Latest Progress of Engineering Application of V2X Networking Technology (AP ID54)	SIS11 National ITS Activities in Japan - Future Transport Society with DX (AP ID33)	SIS12 Development of Traffic Active Control under Smart Highway (AP ID65)	SP05 Energy, Noise and Environmental Impacts	SP06 Mulrimodal travel Information and Planning Services & Bike Sharing	TS07 Shared Mobility	V2X Communication Technologies and Cooperative Systems (3)	TS09 Artificial Intelligence	
12:30-14:00	Lunch											
14:00-15:30		ES04 ES04 The Global Development of Intelligent Automobiles	SIS13 Novel electric Micromobility and Mobility as a Service (EMEA 69)	SIS14 Current and Future Spectrum Strategy for Cooperative Automated Vehicle (AP ID56)	SIS15 How to Protect Users as Technology Advances (AM ID39)	SIS16 ICT-enabled the development of ITS (AP ID64)	SP07 Electromobility and EV Charging Infrastructure	SP08 Multimodal Journey Planner	TS10 Energy, Noise and Environmental Impacts	V2X Communication Technologies and Cooperative Systems (4)	TS12 Availability, Quality and Visualization of Data	ISO1 14:00-17:00 Sustainable and Transformational Development of Transport & Policy, Standards and Harmonization
15:30-16:00						Coffee Break						
16:00-17:30		ES05 Ecarbonization in Public Transport	SIS17 Energy-based Green ITS Services for Smart City Mobility (AP ID75)	SIS18 Connected, Cooperative and Automated Mobility (AP ID58)	SIS19 Using Transportation Big Data Intelligence to Serve Ground Transportation Economy Development (AP ID89)	SIS20 Sustainable and digital development of multimodal transport systems (AP ID43)	SP09 Next Generation Human Machine Interface and Human Factors	SP10 Intelligent Supply Chain and Logistics	TS13 Electromobility and EV Charging Infrastructure	TS14 Simulation and Modelling	TS15 Innovative Use of ETC Infrastructure for Other Applications	
19:00-21:30	Entertainment at Cul	tural Centre										
	Exhibition Demonstration Technical Tours 09:00-18:30 09:30-18:30 09:30-18:30											

SCHEDULE AT A GLANCE

SIS21

SIS2

ES06

ES06 Usi

ES07

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SIS22

Chi (AP

SIS26

SIS23

SIS27

All preliminary programs are subject to changed. Updated as of July 24, 2023.

PL2 Future Mobility and Transport Industry Driven by Innovation

8

09:00-10:30 10:30-11:00

11:00-12:30

12:30-14:00

14:00-15:30

15:30-16:00

16:00-17:30

19:00-21:30

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10 Wed



14:00-17:00

Connected, Cooperative and Automated Mobility & Smart City

elligent ergency and dent nagement

ITS Technology for Traffic Safety (1)

ment

ES07 Sustainable Development of Intelligent Port and Frieght Safety Measure for Mixed Traff in Asia Pacific Region (AP 47) Using AI to Improve Traffic Detection (AM ID40) Digital infrastr New Advances in V2V, V2I and V2X Technology Edge Computing Al, Digital Twins, Blockchain in Intrastructure practice for serving autonomous driving scenarios (AP ID53) Prerequisite fo Road Safety in the US (EMEA ID85) Cybersec Data Sec urity and Coffee Break ES08 SIS29 SIS30 SIS31 SIS32 SP15 SP16 Sensor Data Sharing in ITS -Status and Outlook (EMEA ID 26) V2X Communication Technologies and Cooperative Systems Real-time Information, Intelligent Traffic Management ES08 L third d for nev High Precision Maps and Positioning Technologies for Automated Vehicles Sensing Technology for Expressway Traffic and Roa Exhibition ---- Demonstration ---- Technical Tours 09:30-18:30 09:00-18:30 09:30-18:30

11:00-12:30 Sis 3 Sis 4 Sis 4 <th></th> <th>1</th> <th></th>		1											
99:00-10:30 SIS33 SIS34 SIS34 SIS35 SIS36 SP17 SP18 TS26 TS26 TS27 09:00-10:30 Green Status of Europe KP1D2d) Forum on temported WP1D2d) Sinulation and Europe KP1D2d) Sinulation and Europe KP1D2d) Forum on temported WP1D2d) Sinulation and Europe KP1D2d) Sinulation and Europe KP1	10 0 Thu	o											
O9:00-10:30 Image:		1	/	SIS33	SIS34	SIS35	SIS36	SP17	SP18	TS25	TS26	TS27	
10:30-11:00 Coffee Break 11:00-12:30 SIS37 SIS38 SIS39 SIS40 SP19 SP20 TS28 TS29 Data Collection and Fuidow 11:00-12:30 Leveraging C/V to mprove Fuel (AM ID38) Managing Mind Taffic with Automated on (AM ID38) Global Policy and Structure and optical Description Impact, Structure and optical Structure and optical Description Predictive Structure and optical Automated Vehicles Predictive Structure and optical Automated Vehicles Predictive Automated Vehicles (2) Data Collection Taffic with Vehicles (2) Data Collection Taffic with Vehicles (2) Data Collection Taffic with Vehicles (2) Data Collection Taffic with Vehicles (2) TS Technology Taffic with Vehicles (2) Data Collection Taffic with Vehicles (2) TS Technology Taffic with Vehicles (2) Data Collection Taffic Minker Vehicles (2) TS Technology Taffic with Vehicles (2) TS Technology Technology TS Technology Technolo	09:00-10:30			Current Status of V2X in US and Europe (AP ID24)	Serving the testing and operation of autonomous vehicle (AP ID59)	Roadside infrastructure supported location-based services for urban connected automated mobility (AP ID74)	Forum on Intelligent Connected Urban Transport and Smart Governance (AP ID48)	Simulation and Modelling	Future Rail Experience	Sensors and Perception Methods for Automated Vehicles (1)	Data Collection and Fusion Technologies (1)	ITS Technology for Traffic Safety (2)	
SIS37 SIS38 SIS39 SIS40 SP19 SP20 T528 T529 T530 11:00-12:30 Imaging Mind In move Fuel (AH ID3) Imaging Mind In move Fuel (AH ID3) Global Policy and Taffic with red Automated Opportunities Global Policy and Standatization Issues (AP ID2) Imaget, Softward Automated Vehicles Predictive Softward Automated Vehicles Predictive Network ent, Influencing Sensors and Predictive Nationable ITS Data Collection and Facion Predictive Nationable ITS Data Collection and Facion Predictive Nationable ITS Data Collection Predictive Nationable ITS Sease IT Sease IT Predictive Nationable ITS Data Collection Predictive Nationable ITS Sease IT Sease IT Predictive Nationable ITS Data Collection Predictive Nationable ITS	10:30-11:00	Coffee Break											
11:00-12:30 Leveraging CVU to improve Fael Managing Mixed Traffic with Vehicles and Opportunities Global Policy and Standardization to suse (AP /D22) Transportation Standardization to be compared by bucket Predictive Standardization Traffic with Vehicles Sereos and Predictive Standardization Traffic with Vehicles Data Collection and Fusion Traffic with Vehicles To Tis Technology to Tis Technology 12:30-14:00 ES09 SIS41 SIS42 SIS43 SIS44 SP21 SP22 TS31 TS32 TS33 14:00-15:30 ES09 Sister in Vehicles Vehicles in Vehicles Mobility on traffic starky Mobility on traffic starky Mobility on traffic starky Mobility on traffic starky			/	SIS37	SIS38	SIS39	SIS40	SP19	SP20	TS28	TS29	TS30	
12:30-14:00 Linch ES09 Sil541 Sil542 Sil543 Sil543 SP21 SP2 TS31 TS32 TS33 ES09 Transport Eouty - Planning ADS React in Advinces (AP Intelligent Advances Filter Contents Advances (AP Intelligent Advances (AP ID IN) (AP Intelligent (AP ID IN) (AP IN INTEL (AP INTELL) (AP IN	11:00-12:30			Leveraging CAV to Improve Fuel Economy (AM ID38)	Managing Mixed Traffic with Connected and Automated Vehicles: Challenges and Opportunities (AP ID 71)	Global Policy and Standardization for Cybersecurity Issues (AP ID72)	Transportation 5.0: The DAO to Safe, Secure, and Sustainable ITS for DeEco and DeSoc (AP ID68)	Impact, Cost-benefit and Risk Accessment for Automated Vehicles	Predictive Network Management, Influencing Traveler Behavior, Citizens Engagement and Co-creation	Sensors and Perception Methods for Automated Vehicles (2)	Data Collection and Fusion Technologies (2)	ITS Technology for Traffic Safety (3)	
ESOP SIS41 SIS42 SIS43 SIS44 SP21 SP22 TS31 TS32 TS33 14:00-15:30 How Should an a Dwards How Should an ADS React Urban Connected Automated Statutors Intelligent and Generact Intelligent randway Mobility on demand. The rise profile Pilots, Trials and rest of Intelligent and Automated (1) Data Analytics for and Automated (1) New Advances in VZV V21 and V22 and Automated (1) Data Collection and Faulon (1) Smart Parking and Automated (1)	12:30-14:00						Lunch						
14:00-15:30 ES09 Transport a Diverse Workforce fully Needs for Mobility Needs for New Advances in New Advances			ES09	SIS41	SIS42	SIS43	SIS44	SP21	SP22	TS31	TS32	TS33	
Al	14:00-15:30		ES09 Transport Equity – Planning a Diverse Workforce that Advances Future Mobility Needs for All	How Should an ADS React in Atypical Situations (AM ID41)	Urban Connected Automated Shuttle Systems and Services (AP ID73)	Intelligent roadway infrastructure and traffic safety (AP ID57) (AP ID53)	Mobility on demand: The rise of disruptive technologies, models, and services (AP ID86)	Pilots, Trials and Tests of Intelligent and Autonomous Vehicles	Data Analytics for Traffic Monitoring and Management (1)	New Advances in V2V, V2I and V2X Technology	Data Collection and Fusion Technologies (3)	Smart Parking	

Coffee Break SIS24

Insurtech and ITS: Transportation Risk Assessment and Management Solutions TRAMS (TRAMS) (AM ID87)

Lunch

SIS28

nd ITS

SP11

Sensors and Perception Methods for Automated Vehicles

SP13

TS16

ITS in Airpo Ground Operations

SP14

TS17

ITS Policy & Strategy &

New Type Detectors and Sensors

15:30-16:00		Coffee Break									
		ES10	SIS45	SIS46	SIS47	SIS48	SP23	SP24	TS34	TS35	TS36
16:00-17:30		ES10 Transportation innovation and personalized service- The intersection of equity, accessibility and technology	Transit Automation – Moving From the Lab to Deployment (AM ID42)	In Cabin challenges: from Requirement to homologation (EMEA ID78)	Developing Highway Systems for Connected & Autonomous Vehicles: Achieving Global Consensus (AP ID77)	Global Commercialization Policy and Strategy for ITS (AP ID79)	Next Generation Traffic Mangement	Data Analytics for Traffic Monitoring and Management (2)	Railway Applications and 5G Solution	Next Generation Traffic Management	Future Metropolitan Transport & Disruptive Innovations in Digital Transport
18:30-21:00	Gala Dinner										
19:00-21:30	Entertainment at Cultural Centre										
	Exhibition Demonstration Technical Tours 09:00-18:30 09:30-18:30 09:30-18:30										

SCHEDULE AT A GLANCE

All preliminary programs are subject to changed. Updated as of July 24, 2023.



10 oct Fri	o											
09:00-10:30	PL3 Digitization Reshapes the Future of Transportation and Society											
10:30-11:00						Coffee Break						
		ES11	SIS49	SIS50	SIS51	SIS52	SP25	TS37	TS38	TS39	TS40	
11:00-12:30		ES11 Going further with uniform ticketing in MaaS	How can intelligent connected vehicles achieve commercial application of vehicle-road coordination? (AP ID51)	Defining levels of driving automation (AM ID80)	Data Sharing to Improve Safety and Mobility in Connected Transportation System (AM46)	How to achieve the large-scale deployment of LTE-V2X industrialisation across the Asia-pacific region (EMEA ID 84)	Intelligent Emergency and Incident Management	Platooning	Multimodal Journey Planner & Smart and Green Vehicle Routing	ITS Infrastructure for Automated Vehicles	Data Analytics for Traffic Monitoring and Management (1)	
12:30-14:00						Lunch						
		ES12	SIS53	SIS54	SIS55	TS41	TS42	TS43	TS44	TS45	TS46	
14:00-15:30		ES12 Digital Infrastructure	Smart Parking Assists the Construction of Smart Cities (AP ID91)	How microsimulation can help to foresee and optimize the impact of CAV on urban traffic (AP ID82)	Connecting Artificial Intelligence to ground mobility (AM ID63)	Bicycle Sharing	Technologies for Travel Demand Management	Crowdsourcing and Big Data Analytics	Tolling, Fare Payment and User Charging	Policy and Regulation for Connected and Autonomous Vehicles	Data Analytics for Traffic Monitoring and Management (2)	
15:30-16:00						Coffee Break						
16:00	Closing Ceremony											
	Exhibition	- Demonstra 09:30-12:	a tion – – – – – – – – – – – – – – – – – – –	Technica 09:30-	l Tours 12:30							

PL1 SUSTAINABLE AND INTELLIGENT INTEGRATED TRANSPORT

Tuesday, 17 October 2023 | 09:00-10:30 | Room: TBD

It has been a goal of all countries to achieve sustainable transport, which is green, safe and convenient. Intelligent technology is an important tool to achieve a cleaner and more sustainable integrated transport system. Electric vehicles, alternative fuels, digital infrastructure, intelligent integrated transportation hubs and the synergy of multiple modes of transportation can make it more possible for our transport system to decarbonize faster, reduce congestion and reduce air pollution. Officials, experts, and entrepreneurs from the transport industry, information industry, and energy sectors will gather together to discuss:

- How to cooperate, support and deploy various intelligent integrated transport solutions?
- What policies do we have or we are going to have?
- What are the existing challenges?

PL2 FUTURE MOBILITY AND TRANSPORT INDUSTRY DRIVEN BY INNOVATION

Wednesday, 18 October 2023 | 09:00-10:30 | Room: TBD

The integration of IoT, artificial intelligence, machine learning, big data and a new generation of information technology, represented by 5G with transport has resulted in numerous innovations, which will drive the revolution in vehicles, travel behavior, traffic service, and management. It will inevitably stimulate the development of the new transport industry. This session will focus on the following aspects:

- What are the new intelligent travel services, both implemented and to be implemented around the world?
- What is the possible development of the Intelligent Transportation System like in the future?
- What benefits a successful project can bring to ordinary people and enterprises?
- How a successful project can promote the transformation of transport and the increase of efficiency?

PL3 DIGITIZATION RESHAPES THE FUTURE OF TRANSPORTATION AND SOCIETY

Friday, 20 October 2023 | 09:00-10:30 | Room: TBD

Digitization, networking, and intelligentization are shaping new transport and social forms. The new generation of digitalization will not only profoundly affect the organization, process control, and value definition of transport, which will promote human beings to enter an intelligent interconnection of everything era, where "humans, machines and things" are integrated with each other, but also make it more possible for underdeveloped countries/regions to access more digital infrastructure, enabling them to enhance their transportation and traffic conditions. This plenary session will focus on:

• How the new generation of digital products and services will be used in the real world and what opportunities and challenges it will bring to us?

• How to better realize user-centered technologies and services to provide people and goods with mobility service which is secure, seamless, smart, inclusive, resilient, climate-neutral and sustainable?

- How to formulate an architecture for sustainable development, and how to coordinate various stakeholders?
- How to formulate policies to support future development?

• What is the vision of the funding policies of organizations like the World Bank, ADB and AllB for the digital infrastructure development in underdeveloped countries and regions in order to provide equal opportunities for the people in these regions to enjoy the benefits brought by a much greener, smarter and safer transport system?

ES01 IMAGINE THE FUTURE: THE VISION OF INTELLIGENT MOBILITY AND FUTURE CITY

Monday, 16 October 2023 | 14:00-15:30 | Room: TBD

As we enter a new era of transportation featuring the boom of innovative technologies, the future of intelligent mobility is becoming increasingly important and fascinating. The picture of intelligent mobility is more than just cars that can drive by themselves. It will cover diverse ranges of transportation options that will shape the future of mobility, including intelligent high-speed railways, smart boats and even flying cars. The speakers will share their insights on how these advances will revolutionize transportation and transform our cities and communities, as well as the potential impact on society as a whole. This session intends to envision the future of intelligent mobility and explore numerous possibilities for a more connected, efficient, sustainable and innovative transportation system.

ES02 ACTIVE MODES AND ITS

Monday, 16 October 2023 | 16:00-17:30 | Room: TBD

The sustainable and transformational development of transport requires integrating active mobility modes like biking, walking, and scooters with Intelligent Transport Systems (ITS) to reduce carbon emissions, improve road safety, and manage congestion. ITS provides real-time data on traffic flows, parking, and public transport options to optimize traffic management and provide better information to pedestrians and cyclists.

Other technologies such as shared mobility solutions and smart parking systems can also support the return of urban space to pedestrians and bikes. Balancing the needs of different users and considering the impact on businesses and residents is crucial in managing urban space.

By this session will explore how integrating ITS and other technologies into urban planning and management, cities can create liable, efficient, and sustainable environments that benefit everyone.

ES03 INTELLIGENT INFRASTRUCTURE, MOVING TO A LARGER SCALE

Tuesday, 17 October 2023 | 11:00-12:30 | Room: TBD

There is convincing evidence that intelligent infrastructure delivers crucial transportation benefits including increased safety, improved efficiency and enhance user experience. This session explores the question about whether it is time to step up the scale of investments and intelligent infrastructure. Having provided proof based on initial experience, are we now constraining the full value that can be achieved from intelligent infrastructure by taking an incremental approach, rather than large scale investments? This session will address the advantages of taking a "moon-shot" approach to intelligent infrastructure deployment using large-scale coordinated investments, focused on the achievement of bold goals. This will include a discussion on the need for critical mass and a desire to create outcomes and impacts that are of national and international significance.

ES04 THE GLOBAL DEVELOPMENT OF INTELLIGENT AUTOMOBILES

Tuesday, 17 October 2023 | 14:00-15:30 | Room: TBD

With the application of more innovative technologies and the push of user demands, automobiles are no longer just transportation tools Instead, they have become comprehensive products that incorporate multiple industrial technologies. The global cooperation in the industry chain, supply chain, as well as data and information security of smart cars, is crucial for providing a sustainable development ecosystem for the future of intelligent mobility. This conference aims to explore this issue from various dimensions, including policy regulations, development trends, opportunities, and challenges.

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ES05 DECARBONIZATION IN PUBLIC TRANSPORT

Tuesday, 17 October 2023 | 16:00-17:30 | Room: TBD

While electrification and the shift toward alternate fuels in the transport industry are being touted as a way to reduce greenhouse gas emissions, we recognize that the use of alternate fuels may not completely address other issues that significantly impact mobility. The picture that many transport professionals paint regarding electrification is that if more personal vehicles are electrified, that alone will not solve our most serious transport problems including congestion. However, electrification and the use of alternate fuels can make a positive impact on the environment. This, in conjunction with an increase in the use of shared mobility, can improve life in cities. Also, if electrification and the use of alternate fuels are extended to vehicle fleets, such as those operated by public transport and other municipal agencies, the result can be even better for urban mobility. This session will explore decarbonizing public transport fleets and incentivizing decarbonization through innovative ITS tools like mobility as a service (MaaS).

ES06 USING ARTIFICIAL INTELLIGENCE (AI) TO IMPROVE OPERATIONS AND SECURITY OF OUR TRANSPORTATION SYSTEM

Wednesday, 18 October 2023 | 11:00-12:30 | Room: TBD

Operations of transportation systems creates extremely large sets of data. Trying to interpret that data is very difficult and we should be moving to Artificial Intelligence (AI) techniques to analyze and reduce the data to a quantity that can be understood by an operator. AI systems excel at identifying patterns and trends that could be exploited to improve operations. As connected vehicles start to proliferate the market, techniques to merge the terrestrial system data with the vehicle data will be critical to long term operational success. This session would focus on technique being applied in different regions of the world.

ES07 SUSTAINABLE DEVELOPMENT OF INTELLIGENT PORT AND FREIGHT

Wednesday, 18 October 2023 | 14:00-15:30 | Room: TBD

The emergence and application of new technologies and the continuous push of production and demand in modern society under the background of globalization have greatly prompted the intelligent development of ports and logistics. The investment in intelligent equipment and solutions by ports has greatly improved the efficiency of port operations and cargo handling while reducing costs. At the same time, these intelligent approaches further reduce carbon emission, reduce environmental impacts, and adapt to future market demands, which promotes the sustainable development of ports.

1. In this context, what opportunities and challenges do we face?

2. What impact will new technologies, such as big data, virtual reality, artificial intelligence, and unmanned logistics, have on ports?

3. What kind of solutions do we need to seek to meet these opportunities and face these challenges?

ES08 UTILISING THE THIRD DIMENSION FOR NEW MOBILITY SERVICES (ALTERNATIVELY: CCAM IN THE AIR)

Wednesday, 18 October 2023 | 16:00-17:30 | Room: TBD

The session-addressing UAM developers, integrators, service providers and regulators-will investigate the status of UAM research, development and deployment in the different regions in relation to technologies, available services, air space management and regulatory aspects. Business models for new UAM services will be presented which will pay on the transition towards sustainable mobility.

Sometimes UAM technologies and services are regarded as an extension of land-based CCAM solutions for freight and people transport. Questions similar to those discussed in the CCAM community such as system resilience against cyber-attacks (and hostile drones) or teleoperation need to be investigated, but might deliver different answers. Issues related to management of air space, teleoperation and regulatory needs will round off the session.

ES09 TRANSPORT EQUITY – PLANNING A DIVERSE WORKFORCE THAT ADVANCES FUTURE MOBILITY NEEDS FOR ALL

Thursday, 19 October 2023 | 14:00-15:30 | Room: TBD

Transport systems connect people to essential services and opportunities, however, the system is not designed by diverse voices needed to meet the needs of all people transport serves. What practices and strategies can we implement to ensure diversity is represented across the transportation workforce so that the system is planned, designed, build and maintained to meet the needs of all community members? What innovative approaches are global ITS leaders using to ensure they are thinking about the different experiences community members have and how the transport system must support various needs? What are the existing barriers and challenges for women, people of color, and underserved communities in the workforce that keep them from advancement? Join us to address these questions and hear from universities around the globe as they discuss existing research surrounding this topic and best practices for working toward a more equitable workforce.

ES10 TRANSPORTATION INNOVATION AND PERSONALIZED SERVICE - THE INTERSECTION OF EQUITY, ACCESSIBILITY AND TECHNOLOGY

Thursday, 19 October 2023 | 16:00-17:30 | Room: TBD

Al, 5G, cloud computing, big data are all essential digital technologies that are being explored in incorporating into transportation system. Technology has empowered transportation organizations with new tools they can use to better understand the nature of challenges facing their communities. Technologies also benefit opertional efficiencies tied to sustainability and drive ESG forward. While organizations continuously innovate the services, individual and community's needs are equally important when it comes to ESG, accessibility and equity.

Road user charging, congestion charging, or distance-based charging are means frequently adopted to achieve equity and ESG goal by organizations. Yet individual's need to move from point A to point B through safe, efficient, and cost-effective ways is the key element required to be designed in transportation system.

The Executive Session will showcase new technology, best practice, successful pilot or real case in implementing and developing personalized transportation service while taking ESG, equity and accessibility into service design. Innovative approaches of utilizing digital technologies into improving safety, mobility, climate resilience, infrastructure investments, ESG, and more will be shared during the session as reference for worldwide transportation agencies, service providers, and solution providers.

ES11 GOING FURTHER WITH UNIFORM TICKETING IN MAAS

Friday, 20 October 2023 | 11:00-12:30 | Room: TBD

There is little doubt that seamless access to MaaS is in the best interest of operators, service providers, cities and citizens. Uniform ticketing is an important step toward seamless mobility, but hurdles for wider deployment are huge. Today's ticketing processes are spread over isolated islands marked by different payment services and a variety of technologies in use (credit/ debit cards, dedicated smart cards). An integrated multisectoral approach for ticketing and its background processes is needed for success.

The session will identify the hurdles for further deployment of uniform ticketing for MaaS services and bring together stakeholders crucial for successful roll-out coming from the transport, services and financial sector. Best practices for opening closed markets from all over the world will be presented. Regulatory challenges and solutions under preparation (such as European Commission's Multimodal Digital Mobility Services (MDMS)) as well as business models will be discussed.

ES12 DIGITAL INFRASTRUCTURE

Friday, 20 October 2023 | 14:00-15:30 | Room: TBD

The transportation industry is in the process of transforming itself with the development of Intelligent Transport Systems (ITS). With this change comes the need to build intelligent and digital transport infrastructure that meets the needs of modern cities and societies.

However, fFor digital infrastructure to be inclusive and sustainable, issues such as interoperability, standardisation, governance, and regulation must be addressed.

This executive session aims at providing a platform for experts, practitioners, and policymakers to explore the latest trends, challenges, and opportunities in building inclusive and sustainable digital transport infrastructure.

Key themes that will be discussed in the session include advanced technologies for transport infrastructure such as AI, IoT, data analytics, and digital twins, satellite technology and continuous connectivity, financing and business models, and the importance of interoperability, standardisation, governance, and regulation in digital transport infrastructure.

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SIS01 NAVIGATING THE FUTURE: THE ROLE OF ELECTROMOBILITY AND EV CHARGING INFRASTRUCTURE

Monday, 16 October 2023 | 14:00-15:30 | <Room · TBD>

As we face the challenges of climate change and urban air pollution, the promotion of electromobility and EV charging infrastructure has become increasingly essential. Electromobility offers a viable and sustainable solution to reduce greenhouse gas emissions, improve air quality, and foster energy security. Under these circumstances, this session will discuss the transformative potential of electromobility and the critical role of EV charging infrastructure in shaping transportation systems. In this session, multiple topics to be covered by presenters, including current trends in EV adoption, integration of electromobility with existing transportation systems, planning, operation and management of EV charging infrastructure and mobility services, and strategies for interaction between EV infrastructure and power grids. The session is intended for researchers, practitioners, policymakers, and others interested in electromobility and the evolution of EV charging infrastructure.

Organizer:

ENJIAN YAO, Beijing Jiaotong University, China

Moderator:

SIS02 C-V2X EMPOWERING SAFE AND CONNECTED MOBILITY

Monday, 16 October 2023 | 14:00-15:30 | <Room · TBD>

C-V2X (Cellular Vehicle-to-Everything) technology and its applications cover collaborative innovation of Information and Communication Technology (ICT), automobile, and transportation industries to trigger cross-industry transformation. Become an important driving force, C-V2X will empower the innovative development of Intelligent Connected Vehicles and Cooperative Vehicle Infrastructure Systems for Automated Driving and Intelligent Transportation Systems (ITS). Promoted by the related standardization, extensive testing and verification, and commercial projects, C-V2X is mature and being deployed globally, and will play a pivotal role for industrial innovations and changes of social operation modes. C-V2X can reduce and defuse the risk of collisions and ensure the safety of life and property, and show the advantages of improving the efficiency of the transportation networks, energy conservation and emission. This session will introduce the latest advances empowered by C-V2X in connected vehicle, automated mobility, and cooperative interacting among traffic participants. The unique insight of the implementation and practice will be shared for technology, standardization, industrialization, business, and regulation.

This session will include the following key information:

• The status quo of the C-V2X technology, standardization, and industrialization.

• The global collaboration of C-V2X for the wide-spread implementation and the (pre-)commercial deployment.

Organizer:

JINLING HU, China Information and Communication Technology Group Connected and Intelligent Technologies Co., Ltd, China

Moderator:

SIS03 EXTENDED AND DEFRAGMENTED OPERATIONAL DESIGN DOMAINS FOR HIGHER AUTOMATION

Monday, 16 October 2023 | 14:00-15:30 | <Room · TBD>

The major challenge for the broad deployment of Connected Automated Driving (CAD) remains to make automated vehicles run in a reliable and safe manner in all conditions. Today, there are a number of challenges requiring take-over by the driver.

A major contribution to tackle the related R&I challenges comes from the European research project Hi-Drive. A particular focus is given on the extension of the Operational Design Domain (ODD) of the Automated Driving Functions (ADFs).

For this purpose, key technological enablers are defined, implemented and tested in passenger cars and trucks on public roads across Europe including four application domains, namely: Connectivity and digital infrastructure, high precision localization, cybersecurity and Machine Learning techniques. It is considered that support for continuous ODD will give rise to a gradual and managed transition from Conditional Automation (SAE L3) to a point approaching High Automation.

This requires a comprehensive research and evaluation methodology that will be presented in this special session. Together with the methodology, tools and databases for managing huge amount of data taking into consideration the extraction and generation of edge cases for testing will be also presented. Methods and data from the large-scale European pilot trial L3Pilot that included piloting recordings and research questions assessment based on seven countries will accelerate testing and validation of Hi-Drive CAD functions.

A Code of Practice for the development of ADFs has been issued but limited to passenger cars and Europe; this needs to be extended to other regions and vehicle types. Contributions by project partners will also focus on implemented enabling technologies, methodological approaches necessary within a project of this scope and beyond, as well as on the crucial importance of a user-centered approach.

Live discussion among panel members and audience will follow after focused presentations by key experts and stakeholders.

Organizer:

PHILIPPE STEHLIK, EICT GmbH, Germany

Moderator:

SIS04 INTELLIGENT HIGHWAY TECHNOLOGY AND OPERATION SERVICE

Monday, 16 October 2023 | 14:00-15:30 | <Room · TBD>

It is a professional conference in the field of intelligent transportation, aimed at exploring the development trends, technological innovations, and practical applications of intelligent highway toll technology and operational services. Industry experts and scholars are invited to give keynote speeches on the intelligent development trends, technological innovations, and practical applications of highway toll technology and operational services, sharing the latest research results and practical experience. The forum covers multiple fields and topics, with the aim of promoting the intelligent development of highway toll technology and operational services and fostering industry cooperation and innovation.

Organizer:

WANG GANG, Highway Monitoring and Emergency Response Center, China

Moderator:

SIS05 GREEN TRANSPORT AND GREEN ENERGY

Monday, 16 October 2023 | 16:00-17:30 | <Room · TBD>

Technology has promoted the rapid development of intelligent transport, providing flexible, safe, comfortable and convenient travel services for human beings. Green energy provides a clean, eco-friendly, healthy and sustainable living environment for human development; Energize green transport with green energy, so that more green energy can be transported, and make our world more environmentally friendly. Share a peaceful, healthy and intelligent future life. We will discuss the following topics: How to integrate transportation infrastructure and electric vehicle charging? How to integrate optical storage and charging technology with parking lot and charging station? What kind of charging facilities are needed for the highway? How to coordinate the layout of urban charging piles with urban traffic? Impact of energy policy on transportation. etc. We're looking forward to more experts paying attention to these topics and making suggestions for development together.

Organizer:

JINBIN ZHAO, Shanghai Electric Power University, China

Moderator:

CHUN HE, Xuchang KETOP Testing Research Institute Co.,Ltd, China

Speakers:

YONGDONG LIU, China Electricity Council, China YANHUI XIA, SUNGROW CO.,LTD., China QIAN ZHANG, Chongqing university, China XIAOPENG MU, TELD New Energy Co., Ltd, China



SIS06 AUTOMATIC DRIVING TEST TECHNOLOGY AND DEMONSTRATION AREA CONSTRUCTION

Monday, 16 October 2023 | 16:00-17:30 | <Room · TBD>

Automated driving has become China's new calling card to showcase the country's technological strength, innovation capability and industry support level. In 2022, China's autonomous driving industry ushered in intensive policy support and the first legislative breakthrough. The macro policy guidance from the Ministry of Transportation and other central ministries and commissions, as well as the management and implementation rules of more than 40 provincial and municipal local governments, provide clearer policy support and legal protection for autonomous driving technology innovation and industrial synergy, especially for key issues such as vehicle requirements, operator qualifications, road applicability, personnel requirements, safety assurance and supervision and management, promoting the healthy and rapid development of autonomous driving-related industries. The Ministry of Transport also carried out demonstration construction of automatic driving landing application and industrialization in Beijing, Suzhou and other cities. This Special Interest Sessions will invite relevant government agencies and enterprises from Beijing, Suzhou, Lanzhou and other places to introduce the latest construction and technology application of the demonstration area, and will also discuss the advanced technology of automatic driving test and automatic driving information security test.

Organizer:

JISHENG ZHANG, RIOH R&D Center of Transport Industry of Autonomous Driving, China

Moderator:

JISHENG ZHANG, RIOH R&D Center of Transport Industry of Autonomous Driving, China

Speakers:

JISHENG ZHANG, RIOH R&D Center of Transport Industry of Autonomous Driving, China NING SUN, Beijing Connected and Autonomous Vehicles Technology Co.,Ltd, China ZHUANGWEI LU, Suzhou Transportation Bureau, China FENG WANG, Gansu Intelligent Transportation and Intelligent Connected Vehicle Comprehensive Test and Application Demonstration Base, China

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SIS07 GLOBAL V2X DEMONSTRATION AND OPERATION SERVICE PROVIDERS: PRESENT AND FUTURE

Monday, 16 October 2023 | 16:00-17:30 | <Room · TBD>

The session is jointly organized by Vanguard Investment, Wuhan University of Technology, and Ismartways. It will focus on the theme of "Current and Future Commercialization of V2X Demonstration Operators Worldwide", inviting well-known leaders of demonstration zones both domestically and internationally to explore the planning, construction, and operation of demonstration zones from an international perspective.

Organizer:

LIU HAONAN, Hubei Intelligent Transportation Integrated Technology Innovation Platform, China

Moderator:

ZHANG HUI, Wuhan University of Technology, China

Speakers:

JIM MISNER, Qualcomm, United States JASON, Omniair, United States WANG JIALI, Pioneer (Suzhou) Digital Industry Investment Co., China WALTER ESPONIA, iSmart Ways USA Signed, United States



SIS08 VISUALIZING SMART MOBILITIES INTELLIGENT TRANSPORTATION SYSTEM IN THE NEW CAPITAL CITY

Monday, 16 October 2023 | 16:00-17:30 | <Room · TBD>

This session will explore the latest developments of intelligent transportation system infrastructure in Nusantara, the future capital city of Indonesia. The session will cover various subtopics about the intelligent transportation system, the principles of Nusantara's mobility development, the multi-utility tunnel infrastructure, the intelligent transportation command center, and the wide-range implementation of the IoT and electric vehicle ecosystem in Nusantara. Furthermore, the subtopics also would like to discuss the pioneering achievement of the development of safe and proper urban air mobility.

The session will also take a focused look at the main components of the intelligent transportation system planned, the Advanced Public Transportation System, Advanced Traffic Management System, Advanced Parking Management System, Autonomous Driving System, Incident Management System, Commercial Vehicle Operation System. Electronic Payment System, and Advanced Traveller Information System. Furthermore, the development would be done with the planning and implementation of the electric vehicle ecosystem and the use of IoT and 5G connectivity. With this scope being in the master plan, Nusantara aims to introduce the vision of smart mobility to the world. Thus, fostering an impactful and mutually beneficial collaboration.

This session will shows a thorough review of the most recent data on the creation of intelligent and digital transport infrastructure, as well as how these developments are being put into practice in Indonesia's new capital city of Nusantara. We will talk about how these technologies can be utilized to increase transportation effectiveness, security, and sustainability as well as the opportunities and challenges of developing a genuinely smart mobility system.

Organizer:

BAMBANG SUSANTONO, Otorita Ibu Kota Nusantara (Nusantara National Capital Authority), Indonesia

Moderator:

TBD, Otorita Ibu Kota Nusantara (Nusantara National Capital Authority), Indonesia

Speakers:

MOHAMMED ALI BERAWI, Otorita Ibu Kota Nusantara (Nusantara National Capital Authority), Indonesia IR. RESDIANSYAH ST., MT., PH.D, Otorita Ibu Kota Nusantara (Nusantara National Capital Authority), Indonesia WILLIAM P SABANDAR, Intelligent Transport Systems Indonesia, Indonesia TBD, Otorita Ibu Kota Nusantara (Nusantara National Capital Authority), Indonesia



SIS09 ADVANCING INTELLIGENT AND SUSTAINABLE URBAN TRANSPORT IN DEVELOPING COUNTRIES

Tuesday, 17 October 2023 | 11:00-12:30 | <Room · TBD>

The world is undergoing the largest wave of urban growth in its history, and by 2030, over 60 percent of the population will live in cities. This trend is largely driven by the developing country economies, which initially relied on low-wage labor and capital investment in resource-intensive industries. However, as developing countries face challenges related to socioeconomic development and environmental issues, it is crucial to discuss key areas such as decoupling economic and sustainable development, urban transport demand growth and decarbonization, and opportunities and challenges for intelligent transport techniques on greener transition.

Rapid urbanization and population growth have put immense pressure on urban transport systems in developing countries. Therefore, there is a need for efficient, affordable, and sustainable transport solutions. To address this need, a conference will explore the latest developments in intelligent transport techniques and their potential to improve urban mobility while reducing congestion, pollution, and greenhouse gas emissions. The conference will feature keynote speeches from leading experts in the field of intelligent and sustainable transport, and panel discussions will focus on topics such as the role of public-private partnerships in advancing ITS implementation, the use of big data and artificial intelligence to optimize traffic flow, the integration of electric vehicles into urban transport networks, autonomous vehicle and share mobility, and the development of smart city infrastructure to support sustainable mobility.

The event aims to provide insights and lessons learned that are in line with future sustainable and urban transport development trends, including those related to intelligent technologies. It will benefit from aspects of politics, academia, and industry and will also include voices from developed countries and regions to provide valuable insights for identifying sustainable urban development by combining developing countries' needs with advanced urban transport development concepts.

Also, through integrated efforts of municipal governments at all levels and with other municipal systems and planning practices, the activity aims to help municipalities achieve development plan development, regardless of their previous experience with similar processes. The event will identify key players and roles in development, conduct analysis at each stage of plan design and implementation through real-world examples, and provide case studies and recommendations for success.

Ultimately, the event aims to provide lessons learned and policy insights for achieving sustainable development and green, lowcarbon growth through the exchange of perspectives from government representatives, academia, international agencies, and other participants, including those working in the field of urban transport and intelligent technologies.

Organizer:

CHEN YANYAN, Beijing University of Technology, China

Moderator:

HAO MINGYANG, Beijing University of Technology, China

Speakers:

JAMES WOODCOCK, University of Cambridge School of Clinical Medicine, United Kingdom ANNA WELLENSTEIN, The World Bank Group, United States HE KEBIN, Tsinghua University, China C. MICHAEL WALTON, University of Texas at Austin, United States

SIS10 LATEST PROGRESS OF ENGINEERING APPLICATION OF V2X NETWORKING TECHNOLOGY

Tuesday, 17 October 2023 | 11:00-12:30 | <Room · TBD>

1. Innovation in traffic flow monitoring and management using V2X technology and exploration of next-generation traffic management system in this region.

2. How vehicle manufacturers/collaborative intelligent driving solution providers use V2X pilot zone project environment to realize engineering verification of key technologies and outlook for V2X enabling intelligent driving.

3. How V2X system service providers realize engineering application of V2X technology in V2X pilot zone project construction.

Organizer:

YANGLEI, China-Europe Alumni Automotive Industry Association CAAA, China

Moderator:

ZHOU PIN, Executive Vice Chairman of CEIBS Alumni Auto Association, China

Speakers:

GE YUMING, China Academy of Information and Communications Technology, China YANGXIAOGUANG, Tongji University, China HU ANG, The University of Tokyo, China FUTAKAWA(LAST) ICHIJO(FIRST), Nissan Mobility Service Co., Ltd, China

SIS11 NATIONAL ITS ACTIVITIES IN JAPAN - FUTURE TRANSPORT SOCIETY WITH DX

Tuesday, 17 October 2023 | 11:00-12:30 | <Room · TBD>

This session will introduce one-stop introductions on various ITS activities conducted by Japanese Government including Digital Agency (as a moderator), National Police Agency (NPA), Ministry of Internal Affairs and Communications (MIC), Ministry of Economy, Trade and Industry (METI), Ministry of Land, Infrastructure, Transport and Tourism (MLIT) and Cabinet Office. From the 27th ITS World Congress 2019 Singapore till the 29th Congress 2022 Los Angeles, the sessions were held under the name of "SIP-adus" that introduced overall activities in Japan on automated driving for universal services (adus). Due to the end of the 2nd period of "SIP-adus" of 5 year-program in FY2022, and the establishment of a new "Digital Agency" in 2022, Japan started a new progress on ITS with a new plan "Future Transport Society with DX" which was successor of Governmental "Public-Private Concept and Roadmap on ITS". This session will give you the latest policies, regulations, technologies, plans and activities of Japanese governmental ITS.

Organizer:

TAKEHIKO BARADA, ITS Japan, Japan

Moderator:

Speakers:

HISAAKI IKEUCHI, National Police Agency, Japan TADANORI MASHIKO, Ministry of Internal Affairs and Communicatons, Japan TAKERU ITO, Ministry of Economy, Trade and Industry, Japan SHIGEKI WAGA, Ministry of Land, Infrastructure, Transport and Touorism, Japan

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SIS12 DEVELOPMENT OF TRAFFIC ACTIVE CONTROL UNDER SMART HIGHWAY

Tuesday, 17 October 2023 | 11:00-12:30 | <Room · TBD>

With the development of new technologies, smart highway traffic management will lead to the transformation to active control, which has greatly attracted more attention in the intelligent transportation field. This special interest section invites scholars and experts, from the academic and industrial of several countries, to discuss the recent development of application scenarios and requirements, research achievement, potential prospect, etc. Specifically, this session focuses on topics of separated line between passenger and freight transportation, multi-stage speed limit control, etc., and discusses the development tendency of active traffic control through promoting smart highway.

Organizer:

JIAN GAO, Research Institute of Highway Ministry of Transport, China

Moderator:

Speakers: JIAN GAO, Research Institute of Highway Ministry of Transport, China

SIS13 NOVEL ELECTRIC MICROMOBILITY AND MOBILITY AS A SERVICE

Tuesday, 17 October 2023 | 14:00-15:30 | <Room · TBD>

Often when discussing infrastructure considerations for electric vehicles, the focus is on charging technologies for buses, cars, and trucks, but what about the requirements for smaller vehicles? How can they support Mobility as a Service?

This session will focus on the needs of micromobility vehicles such as e-bikes, e-scooters, e-cargo bikes, and e-tuk tuks. These vehicles can vary considerably in capability, size, weight, capacity, and speed. The panel will discuss how these vehicles can meet different use cases, particularly for small traders, women and families, who are often neglected in discussions on mobility. The differing needs for leisure, commuting and freight trips will also be considered.

Including micromobility in transportation, Smart City, Vision Zero, and other municipal planning initiatives can help ensure that the benefits and needs of all forms of mobility are given equal opportunity to realize maximum potential. These vehicles can play a vital part in the shift to low carbon economies. The right technology and infrastructure can help enable these vehicles; our panellists will discuss if there is a need for policy, standardisation and regulation. Exploring areas such as data sharing, apps, charging, battery swapping, safety, and accessibility.

Our Panelists have global experience and provide real life experiences in what is happening in Asia, Africa, the Americas, and Europe in both the private and public sectors. This reflects that each region has differing needs and that a solution in one region might not be suitable for all without adaptation.

Organizer:

JOHN PADDINGTON, ERTICO, Belgium

Moderator:

JOHN PADDINGTON, ERTICO, Belgium

Speakers:

RALF WILLENBROCK, T-Systems, Germany LISA SPELLMAN, SAE International, United States SU SONG, WRI, China EMEA SPEAKER, TBC, TBC

SIS14 CURRENT AND FUTURE SPECTRUM STRATEGY FOR COOPERATIVE AUTOMATED VEHICLE

Tuesday, 17 October 2023 | 14:00-15:30 | <Room·TBD>

In recent years, R&D and demonstrations of the Cooperative Automated Vehicle (CAV) have been actively conducted in order to realize more advanced driving safety support and automated driving. As the future introduction and spread of CAV progresses, international coordination and international harmonization of radio spectrum are expected to become even more important. In this session, the administrations that handle radio spectrum in each country and region will share their efforts and future policies toward the realization of CAV, and exchange opinions on current and future issues.

*The speaker from Europe need to speak remotely or via video due to budget constraints that make it difficult to travel to China.

Organizer:

YOSHIKI AZUMA, Ministry of Internal Affairs and Communications, Japan

Moderator:

TAKESHI YAMAMOTO, ITS Info-communication Forum, Japan

Speakers:

YOSHIKI AZUMA, Ministry of Internal Affairs and Communications, Japan BIAO MA, Ministry of Industry and Information Technology, China VALERIO SCANDIUZZI, European Commission DG Connect, Belgium TOSHIHIKO WATANABE, The Association of Radio Industries and Businesses, Japan



SIS15 HOW TO PROTECT USERS AS TECHNOLOGY ADVANCES

Tuesday, 17 October 2023 | 14:00-15:30 | <Room·TBD>

Cybersecurity concerns continues to plague the industry. As vehicle connectivity increases and more electrical vehicles are introduced into the transportation ecosystem the opportunities for hacking increase. The session will focus on the vulnerabilities that need to be considered and potential solutions will be discussed.

Organizer:

STEVE DELLENBACK, Southwest Research Institute, United States

Moderator:

SIS16 ICT-ENABLED THE DEVELOPMENT OF ITS

Tuesday, 17 October 2023 | 14:00-15:30 | <Room · TBD>

The global technological revolution and industrial change are flourishing, the information and communication technologies (ICT) such as 5G, C-V2X, artificial intelligence, and edge computing are evolving rapidly and iteratively, positively affecting and changing the daily lives of users and the production methods of related enterprises. At the same time, the integration of ICT with the vehicle, energy and transportation sectors has accelerated, with the development of digital, intelligent and connected vehicles and transportation becoming the trend in the industry. Information exchange and data sharing based on the structure of pedestrian-vehicle-road-cloud supports the realization of complex environment awareness, intelligent decision-making, collaborative control and other functions, creating a safer, more efficient, comfortable and energy-efficient transport environment, and improving comprehensive traffic management and emergency response capabilities. This special interest meeting is planned to invite cross-industry and academic experts in ICT, ITS (Intelligent Transportation System), and ICV (Intelligent Connected Vehicle) to explore the enabling role of the next-generation ICT for ITS from the perspective of practical application needs such as traffic optimization and traffic management capacity enhancement. The conference will also provide an overview of the critical challenges faced by cross-industry integration and innovation, jointly envisioning future development proposals and feasible implementation paths.

Organizer:

GE YUMING, China Academy of Information and Communications Technology, China

Moderator:

GE YUMING, China Academy of Information and Communications Technology, China

Speakers:

MAXIME FLAMENT, 5GAA, Germany TIAN DAXIN, Beihang University, China JINLING HU, China Information and Communication Technology Intelligent and Connected, China WANG JIN, Zhongzhixing Technology Co., Ltd, China

SIS17 ENERGY-BASED GREEN ITS SERVICES FOR SMART CITY MOBILITY

Tuesday, 17 October 2023 | 16:00-17:30 | <Room · TBD>

The London Declaration, "ISO's Climate Commitment", which has been approved by ISO members in 2021, representing 165 countries from around the world, reads: "ISO hereby commits to work with its members, stakeholders and partners to ensure that ISO International Standards and publications accelerate the successful achievement of the Paris Agreement, the United Nations Sustainable Development Goals and the United Nations Call for Action on Adaptation and Resilience."

Methodology and standardization need to be discussed to promote eco and/or green mobility services for both city operators and peoples living in the city for managing carbon-free and energy related mobility. In ISO/TC204, the new SWG17.2 is developing a series of international standards which define energy-based green ITS services providing urban transport management and smart city mobility applications on nomadic & mobile devices by means of not only measuring energy consumption and CO2 emissions but also providing information to users on energy capacity in transportation sectors in the smart city.

Organizer:

YOUNG-JUN MOON, Korea Advanced Institute of Science & Technology (KAIST), Korea

Moderator:

PETER SCHMITTING, ERTICO, Belgium

Speakers:

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SIS18 CONNECTED, COOPERATIVE AND AUTOMATED MOBILITY

Tuesday, 17 October 2023 | 16:00-17:30 | <Room · TBD>

In the last decade, artificial intelligence has achieved a series of breakthroughs in deep learning, computer vision and natural language understanding, which makes the pillar of the rapid development of autonomous driving. Autonomous driving needs to "drive" towards commercialization. How to provide industry customers with a robust and healthy auto-ecosystem? We need a synergistic leap from the advantages of "vehicle-road-cloud-map" to a new "human-vehicle-road-network-cloud-map" ecosystem. This seminar will share the technical strengths and great ideas from industry leading enterprises and bring new points of how to build a synergistic autonomous driving ecosystem.

Organizer:

RUBY FENG, AI Industry Technology Innovation Strategic Alliance (AITISA)), China

Moderator:

SHIPENG LI, AI Industry Technology Innovation Strategic Alliance (AITISA)), China

Speakers:

HAIFENG WANG, Baidu, China WEIQIANG CHEN, Hisense, China KAI YU, Horizon Robotics, China BO ZHANG, DIDI, China

SIS19 USING TRANSPORTATION BIG DATA INTELLIGENCE TO SERVE GROUND TRANSPORTATION ECONOMY DEVELOPMENT

Tuesday, 17 October 2023 | 16:00-17:30 | <Room·TBD>

Transportation big data has been widely collected, gathered, governed and applied in various traffic management and services. With the interconnection and application of massive data related to transportation as the core, data resources gradually integrate into industrial innovation, which forms new economic forms, such as corridor economy, hub economy, digital economy, etc. Compared with other transportation production factors, data resources have the capabilities of replicability, shareability, unlimited growth and supply, breaking the constraint of limited supply of natural resources on growth, providing the foundation and possibility for sustainable growth and development, and becoming the key production factor and important resource for the development of digital economy.

In practice, many enterprises and manufacturers have carried out the construction and application research of transportation big data, but there still exist big gaps between the construction effect and degree, and the future trend needs more attention, understanding and participation from various ITS industry professionals and stakeholders.

This session invites participants to discuss how transportation big data can be applied to the field of transportation economy, and what transportation economy stakeholders can do to promote and ensure its healthy adoption. The session will first emphasize the unique technical characteristics of transportation big data in the context of transportation, as well as some best practices in the transportation industry in using big data. Then, it will reveal various needs brought by transportation big data for transportation and economic development, such as standardization, labor force development and policy making. Finally, panel members will identify other necessary activities to meet the growing demand of using transportation big data to improve the intelligence of transportation economic support systems by studying the progress and plans of work in standardization, industry initiatives and government programs.

Organizer:

YUE QIAN, Department of ITS, Research Institute of Highway, P.R. China, China

Moderator:
SIS20 SUSTAINABLE AND DIGITAL DEVELOPMENT OF MULTIMODAL TRANSPORT SYSTEMS

Tuesday, 17 October 2023 | 16:00-17:30 | <Room·TBD>

For a long time, roads, railways, waterways, air and other modes of transport have developed relatively independently. The connectivity and resilience of various transport modes are not strong, and the layout and structure of the multimodal transport network need to be optimized. The multimodal transport service quality now is difficult to meet the diversified travel needs, and the collaborative service efficiency of various transport modes is low. The overall efficiency of the multimodal transport system needs to be improved urgently. It is of great significance to construct a convenient, sustainable, intelligent and advanced modern multimodal transport system.

This session proposes to discuss the challenges and opportunities of sustainability and digitalization in multimodal transport systems. The content covers multimodal transport network modeling and design, multimodal transport network management, new energy and low-carbon transformation, transportation digital innovation, etc. The goal of the session is to provide participants with insights into the latest developments and trends in sustainable and digital multimodal transport, and to encourage discussion and collaboration among stakeholders in the field. The session will cover topics such as:

- Sustainable and digital infrastructure development
- Energy-efficient transportation modes
- Sustainable logistics and supply chain management
- Digitalization of multimodal transport services and operations
- Data-driven decision making for sustainable multimodal transport systems

Organizer:

JUN CHEN, Southeast University, China

Moderator:

ZHIYUAN LIU, Southeast University, China

SIS21 CHALLENGES AND INNOVATIVE SOLUTIONS FROM CHINA AND EUROPE – IN PARTICULAR SUZHOU/SHANGHAI AND BERLIN

Wednesday, 18 October 2023 | 11:00-12:30 | <Room · TBD>

Two world leading metropole regions from China and Europe – in particular Suzhou / Shanghai and Berlin – have teamed up in this session to discuss their individual approaches to addressing the challenges they face in their mobility planning and management and in fostering innovative and sustainable mobility solutions for their citizens.

Start-ups and innovative companies from the selected cities will provide insights into their particular situations, explaining their Intelligent Transport Systems' contributions to supporting the cities to offering smart and sustainable mobility, thus supporting the improvement of the citizens' and the public's quality of life.

The goal of the session is to present an original and singular insight into the variety of innovative solutions from three world leading metropolitan regions, showcasing projects and highlights in game changing mobility solutions that foster an incremental drive towards intelligent societies.

4 panelists (one representative and one entrepreneur from each region) will discuss the challenges, perspectives and visions that guide their future-oriented urban mobility plans.

This session will be organized as a panel discussion format including panelist introduction and initial statements followed by an insightful discussion between the speakers on their approaches to current and upcoming challenges, their lessons learned, their visions and steps towards realizing them. Similarities and differences between the different regions will be discussed and ways to learn from each other identified. Questions from the audience will be allowed to bring the audience perspective into the discussion as well. Each speaker will wrap-up the discussion with a final statement to summarize their main ideas. Participants are invited to get in touch with the panel participants to continue their discussions with the representatives of the three metropoles even after the congress.

In the Q & A session, participants will have the chance to ask their questions and get in touch with the panelists from the three metropoles. The moderator will pay attention to reserve sufficient time for questions and answers and will also invite the audience to think about questions during the moderation. Perspectives from other cities and / or regions are welcome. The aim is to learn from each other and take inspiration - also the speakers are happy to take inspiration from the audience. The discussion shall serve as starting point for a longer in-depth discussion between those individual players who like to continue their discussions and exchanges afterwards.

Organizer:

WOLFGANG TREINEN, Berlin Partner for Business and Technology, Germany

Moderator:

WOLFGANG TREINEN, Berlin Partner for Business and Technology, Germany

Speakers:

SANDRA SCHULZE, Berlin Partner for Business and Technology, Germany SCOFIELD LIANG, The Drivery, Germany and China XIAOJING WANG, Research Institute of Highway Ministry of Transport, China N.N., N.N., Germany or China

SIS22 PROMOTING C-V2X APPLICATION WORLDWIDE: LEARNING FROM CHINA'S SUCCESS

Wednesday, 18 October 2023 | 11:00-12:30 | <Room · TBD>

Connectivity is one of the key to a successful ITS world. Among all the connectivity methods, C-V2X is a cellular-based vehicleto-everything technology that enables the communication between vehicles, infrastructure, pedestrians, and other road users, providing safe, efficient, and convenient services for intelligent transportation systems (ITS). C-V2X has been specified by 3GPP since 2017, and China is a leader and promoter of C-V2X technology, achieving remarkable results in policy, standardization, industry, and applications. For example, China has issued the dedicated spectrum for C-V2X direct communication, published numerous C-V2X technical standards and testing specifications, established a national unified C-V2X frequency resource management platform, and promoted C-V2X demonstration projects and commercial deployment in several cities and areas as well as launched lots of vehicle models in the market that the end consumers can experience. China will also be the first to establish V2X as part of NCAP.

The purpose of this session is to provide on one hand an update of the most recent C-V2X development in different regions regarding the regulation, spectrum, products, certifications, market deployment, and applications, especially from auto OEMs'/ Tier1s' perspective. This session aims to invite relevant experts from regions such as China, Japan, Korea, the United States, and Europe to discuss how to leverage China's successful experience in C-V2X to accelerate the application of C-V2X worldwide. In leveraging the experience from China, the session will address the issues met during the C-V2X development and come up with a common and agreed way forward as well as the actions to pave the way for a better future of the C-V2X development, to improve road safety, traffic efficiency, and to a safe, green, sustainability and better society.

Organizer:

WOLFGANG TREINEN, Berlin Partner for Business and Technology, Germany

Moderator: YAN LI, Qualcomm Inc., China

SIS23 ROAD INFRASTRUCTURE SUPPORT FOR AUTOMATED DRIVING

Wednesday, 18 October 2023 | 11:00-12:30 | <Room · TBD>

In order to realize automated driving, it is important not only for technological progress on the vehicle side but also for support from the road infrastructure side. Many countries around the world are developing cooperative road-vehicle technology, conducting various filed operational tests, and developing systems with support from road infrastructure in mind. In such a situation, the role of road administrators is becoming more important. In this session, speakers introduced the "support for automated driving from road infrastructure" in each country and we will aim to deepen discussions on the following items. Public and private sector roles in technology development How cooperation between road and vehicles should be coordinated from the perspective of vehicle and road management Directions for cooperation and institutional support toward the realization of a road-vehicle cooperative system Road structures (dedicated lanes) to support autonomous driving

Organizer:

YUICHI SATO, ITS Policy and Program Office Ministry of Land, Infrastructure, Transport and Tourism Japan, Japan

Moderator:

HIRONAO KAWASHIMA, Mobility Culture Research Center, Keio University, Japan

Speakers:

TBD, TBD, China TBD, TBD, United States TBD, TBD, One country in EU YUICHI SATO, ITS Policy and Program Office Ministry of Land, Infrastructure, Transport and Tourism Japan, Japan

SIS24 INSURTECH AND ITS: TRANSPORTATION RISK ASSESSMENT AND MANAGEMENT SOLUTIONS TRAMS (TRAMS)

Wednesday, 18 October 2023 | 11:00-12:30 | <Room · TBD>

The collaboration between the two digital ecosystems of ITS and Fintech (thru insurtech) will surely open up many new opportunities to propel development of future transportation system, as well as addressing some of the most burdensome legacy challenges for today's transportation system.

Whereas insurance has always been a critical market instrument for implementation of transportation regulations and stimulation of good behaviors for road safety, today, the advancement of insurtech has enabled new possibilities on how the risk & safety related big data resources and intelligence of insurance companies can be applied to improve design and management of modern transformation system, particularly for risk assessments and mitigation, and to advance developments of future transportation system (e.g. autonomous vehicle). However, new emerging bottlenecks such as data security and privacy will require collective efforts to address.

At the same time, legacy challenges still loom at large for transportation-insurance, such as accessibility and affordability for auto insurance, especially in emerging economies. Regulators and commercial champions have been exploring multisource datamodeling from ITS ecosystem to tackle these issues. Lessons from these endeavors can be instrumental for regulators to address some of today's most imminent problems.

The proposed SIS aims to form an interdisciplinary dialogue among experts from different sectors to explore how the two digital ecosystems can collaborate together for shaping a more affordable, intelligent, sustainable and derisked future transportation system, and what are the imminent chokepoints that two sides need to address for creating the enabling collaborative environment. It will take special interest in how emerging economies like China is utilizing ITS data to improve insurance risk management and applying insurtech to its transportation system design and risk mitigation while dealing with emerging challenges on data privacy and securities, and how developed economies like US is using multisource ITS big-data to improve insurance accessibility for auto-owners of all income level.

List of Speaker/Panelist (Tentative):

Stefan Schulz (Germany), Munich Re, Head, Motor Consulting Unit, Stefan.schulz@munichre.com

Shi Yifei (China), China Banking and Insurance Information Technology Management Co. Ltd. (CBIT), General Manager, Business Unit 3 (Transportation & Mobility Services), bu3@cbit.com.cn

Yu Zhi (China), Guangdong ITS Center at Sun Yat-Sen University, Professor, caiming@mail.sysu.edu.cn

Carey Anne Nadeau (USA), Loop Insurance, Co-CEO, careyanne@loopinsure.co

Tiger Fang (Indonesia), Kargo Technologies, CEO, tiger@kargo.tech

We also plan to work with our partner ITS-China to invite panelists from OEMs and Fintech Co.

Organizer:

WILL SHAW, Innovation Center for Energy and Transportation, United States

Moderator:

FENG AN, Innovation Center for Energy and Transportation, United States

Speakers:

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SIS25 SAFETY MEASURES FOR MIXED TRAFFIC IN ASIA PACIFIC REGION

Wednesday, 18 October 2023 | 14:00-15:30 | <Room · TBD>

It has the most variation in traffic flow at Asia Pacific Region because there are so many mobility stakeholders such as tricycle, bike, motorcycle, e-kickboard beside 4 wheelers.

Even pedestrian is one of the players when safety measure should be considered.

The situation could be different from those of regions with organize traffic flow where vehicles run inside lanes. However, when we think about bike even for those organize traffic flow regions, it needs to consider further more safety aspects.

With the session, speakers will address concerns and troubles that they have and discuss solutions or services based on the finding through the session.

Organizer:

NOBUYUKI OZAKI, Nagoya University, Japan

Moderator:

NOBUYUKI OZAKI, Nagoya University, Japan

Speakers:

SHUNSUKE SAGARA, Toyota Motor Corporation, Japan SHOICHIRO MIHARA, Toyota Motor Corporation, Japan CHIN KIAN KEONG, ITS Singapore, Singapore NOBUYUKI OZAKI, Nagoya University, Japan



SIS26 C-V2X DEPLOYMENT: A PREREQUISITE FOR ROAD SAFETY IN THE US

Wednesday, 18 October 2023 | 14:00-15:30 | <Room · TBD>

The 5G Automotive Association (5GAA) proposes a special interest session that looks at the critical role that C-V2X deployment plays within the process of improving road safety in the United States.

The evidence is clear. C-V2X technology will transform traffic safety across the World, but the US in particular stands to reap the benefits of this. Today's C-V2X safety services, such as traffic signal pre-emption and road hazard information, are saving lives. With the regulatory conditions ripe for commercial deployment (assumption of the FCC order/waivers granted) the industry and infrastructure owners and operators are preparing for widespread deployment that will allow the American people to reap the benefits of this technology. It is this that we want the special interest session to focus on; the readiness of industry to deploy these solutions.

Moderator and speakers are still to be confirmed.

Organizer:

MR DAVID ERTL, 5GAA, Belgium

Moderator:

Speakers:

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SIS27 DIGITAL INFRASTRUCTURE PRACTICE FOR SERVING AUTONOMOUS DRIVING SCENARIOS

Wednesday, 18 October 2023 | 14:00-15:30 | <Room · TBD>

With the accelerating evolution of electrification, networking and intelligence of technologies, autonomous driving, which integrates the Internet of Things, cloud computing, big data, artificial intelligence and other innovative technologies, has emerged in response to the needs of times and become a strategic importance for the development of global emerging industries.

The transformation of the automobile industry has posed great challenges to the construction of traditional transportation infrastructure. Digital infrastructure has become the core of the construction of "cloud terminal" full-stack autonomous driving scenario. In order to deepen the collaborative development of "vehicle-road-cloud" and implement empowerment of infrastructure on the automatic driving upgrade, Suzhou Intelligent Network Technology Development Co., Ltd. has created a digital infrastructure integration service provider integrating scene construction, data service, commercial operation and industrial development, which coordinates the management of urban intelligent network, intelligent comprehensive rod and distributed edge cloud infrastructure, so as to realize unified planning, construction, operation and maintenance, and build an integrated physical space, Internet of things space and digital space of urban infrastructure. On the one hand, digital infrastructure construction serves the safe operation and efficient management of autonomous driving; on the other hand, it will boost urban transportation management and smart city construction, reduce costs, raise efficiency of urban public system and consolidate the foundation for the development of digital economy.

Organizer:

ZHANG LI, Suzhou Intelligent Connected Vehicle Technology Company Limited, China

Moderator:

Speakers:

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SIS28 USING AI TO IMPROVE TRAFFIC DETECTION

Wednesday, 18 October 2023 | 14:00-15:30 | <Room · TBD>

As the cost of edge computing drops and the capability of Machine Learning algorithms improves a new generation of traffic sensors are being developed. This session will focus on the capabilities that are available as well as the technical challenges to cost effectively implement highly reliable systems.

Organizer:

STEVE DELLENBACK, Southwest Research Institute, United States

Moderator:

SIS29 STRATEGY OF PRACTICAL IMPLEMENTATION OF V2X SYSTEMS FOR TRAFFIC ACCIDENT AVOIDANCE

Wednesday, 18 October 2023 | 16:00-17:30 | <Room · TBD>

In many countries, the prevention of road traffic accidents, especially serious accidents, is an important issue for road users. This session aims to introduce the development and deployment of V2X systems and discuss the technical and political aspects of V2X systems for road accident avoidance.

Organizer:

HIROYA TOMIOKA, National Police Agency, Japan

Moderator:

KENYA SATO, Doshisha University, Japan

Speakers:

NAOTO SHIMADA, National Police Agency, Japan MASAFUMI KOBAYASHI, UTMS Society of Japan, Japan TAKASHI KIMURA, UTMS Society of Japan, Japan ANDREW MEHAFFEY, HMI Technologies Pty Ltd, Australia



SIS30 PERCEPTION AND EVALUATION TECHNOLOGY OF INTELLIGENT CONNECTED VEHICLES

Wednesday, 18 October 2023 | 16:00-17:30 | <Room · TBD>

The Intelligent traffic system (ITS) integrates advanced technologies such as onboard perception, roadside perception, vehicle infrastructure cooperative perception. As the core of ITS, advanced perception technology enables vehicles to analyze and understand the internal and external traffic environment information more accurately, and provides reliable information input for the decision-making module, which is the necessary basis for the intelligent connected vehicles. The complex and uncertain traffic scenarios put forward higher requirements for the cooperative vehicle-infrastructure system(CVIS), so it is necessary to test and evaluate the performance, reliability and safety of perception under many traffic scenarios. This session will revolve around the advanced perception and evaluation technology of ITS, and focus on single-modality traffic object detection and tracking, whicle infrastructure cooperative perception, and the test and evaluation technology of different perception system.

Organizer:

XIN BI, Tongji University, China

Moderator: XIN BI, Tongji University, China

Speakers:

XIAOCONG LIAN, Tsinghua University, China JUNSHENG FU, Zenseact, Sweden JIANYONG CAO, Shanghai Motor Vehicle Inspection Certification & Tech innovation Center Co., LTD, China QIANG YANG, Beijing Saimo Technology Co., LTD, China

SIS31 MULTIMODAL SENSING TECHNOLOGY FOR EXPRESSWAY TRAFFIC AND ROAD ENVIRONMENT

Wednesday, 18 October 2023 | 16:00-17:30 | <Room · TBD>

In recent years, with the rapid development of artificial intelligence and multimodal information fusion technology, the requirement for the intelligent level of all-time-space detection on highway traffic and road environment are also increasing. Due to the complex road condition and changeable environment of the expressway, there are many limitations on the type and scope of measurement targets for achieving exact vehicle positioning, accurate traffic event identifying, and real-time monitoring of environmental events by exploiting a single information source, which brings great challenges to the requirements of high-precision environmental perception of the expressway. Therefore, it is still a recognized problem to develop a traffic and environmental sensing system with strong adaptability and robustness.

A multimodal highway traffic and environmental monitoring system could be developed by combining the distributed optical fiber, millimeter wave radar, visible light, infrared thermal imaging and other sensing technologies and implementing multisource heterogeneous data fusion. It will significantly improve the ability to perceive and predict traffic situation and traffic events in complex road environments, and promote the development of intelligent highways.

Organizer:

MAONING WANG, Sichuan University, China

Moderator:

Speakers:

JIANWEI ZHANG, National Key Laboratory of Fundamental Science on Synthetic Vision, China PENG SHEN, Sichuan Expressway Construction and Development Group Co., Ltd, China MAONING WANG, Sichuan University, China ZHONG OU, University of Electronic Science and Technology, China



SIS32 SENSOR DATA SHARING IN ITS - STATUS AND OUTLOOK

Wednesday, 18 October 2023 | 16:00-17:30 | <Room · TBD>

Modern transport systems are increasingly equipped with all types of sensors in order to perceive their environment by detecting unoccupied regions, road users and other safety-relevant objects. Collective Perception allows traffic participants and infrastructure to exchange sensor information via V2X communication and therefore substantially enhance their environmental perception. After several years of intense research and standardization efforts, specifications of Collective Perception are being accomplished in the US, China, and Europe. In this session, the key concepts of sensor data sharing are introduced generically, before the leaders of the standardization efforts carried out by SAE (USA), C-SAE (China), and ETSI (EU) highlight the main distinctive features of their regions' implementation. Finally, future development directions and potential deployment scenarios are discussed, rounding up the session.

Organizer:

FLORIAN SCHIEGG, Robert Bosch GmbH, Germany

Moderator:

Speakers:

DAN VASSILOVSKI, Qualcomm Inc., United States WANG YIZHI, Nebula Link, China KATHRIN HAGEMANN, IAV GmbH, Germany FLORIAN SCHIEGG, Robert Bosch GmbH, Germany



SIS33 CURRENT STATUS OF V2X IN EUROPE, US AND CHINA

Thursday, 19 October 2023 | 09:00-10:30 | <Room · TBD>

This session provides an industrial viewpoint of international cooperation on deployed and actual operational V2X systems, as well as their future extensions, following the directions of each government. Everybody would be recognizing the importance of ITS deployment in the US and Europe, towards "Traffic Fatality Zero" and "Sustainable Cities" but unfortunately, there are still unfixed matters in the US, including 5.9GHz. Furthermore, there are an increasing number of cases where technical theory for business is leading, but the top priority for V2X is to prevent accidents and reduce traffic fatalities. To put forward the current V2X deployment and its extensions, there will be several points to be solved as soon as possible among stakeholders. And they are as follows: • Normally, OEMs are in a competitive relationship, but cooperation is required in the ITS field, especially V2X. Different vehicle and infrastructure OEMs will not be able to realize actual V2X unless industry stakeholders use the established same standards and rules with government, and congestion elimination. • After confirming the above two points, stakeholders, including OEMs, will be able to put forward their own product plans in the future for realizing "safety" and contributing "climate crisis". This time, we will also introduce the V2X that VW is working on here in China, apart from Europe. Indeed, we would like to have a discussion from a global point of view.

Organizer:

KEVIN (KUNIHIKO) ANEGAWA, TOYOTA Motor Corporation, Japan

Moderator:

PAUL SPAANDERMAN, CEO of InnoMo, Vice Chair of ETSI ITS TC, Monaco

Speakers:

JOHN KENNEY, Director and Sr. Principal Researcher, Toyota Motor North America, InfoTech Labs, United States SUE BAI, Chief Engineer, Honda, United States XI LI, CARIAD, China NIELS PETER SKOV ANDERSEN, General Manager, C2CCC, Denmark

SIS34 SERVING THE TESTING AND OPERATION OF AUTONOMOUS VEHICLE

Thursday, 19 October 2023 | 09:00-10:30 | <Room · TBD>

Focus on self-driving car industry access related policies and systems, discuss the latest trend of self-driving virtual simulation, and explore how to build a digital parallel world of car-road cloud network integrated road traffic system. Big data is used to improve the ability of intelligent driving management and the level of traffic management to promote the landing of self-driving travel applications.

Organizer:

YU ZHIQIANG, Intelligent Connected Technology of CAERI Co., Ltd., China

Moderator:

SIS35 ROADSIDE INFRASTRUCTURE SUPPORTED LOCATION-BASED SERVICES FOR URBAN CONNECTED AUTOMATED MOBILITY

Thursday, 19 October 2023 | 09:00-10:30 | <Room · TBD>

Methodology and standardization need to be discussed to provide roadside infrastructure supported location-based services with connected automated mobility including personal mobility, micro-electric mobility, urban automated shuttle, to be applicable in the specific urban roadway sections, such as signalized and/or unsignalized intersections, roundabout, weaving area, ramp metering zone, etc. The related issues which are under developed upon roadside infrastructure supported location based services for urban connected automated mobility in ISO/TC204 WG17, Nomadic & Mobile Devices for ITS Services. are presented in this workshop.

Organizer:

YOUNG-JUN MOON, Korea Advanced Institute of Science & Technology (KAIST), Korea

Moderator:

YOUJUN CHOI, Korea Automotive Technology Institute (KATECH), Korea

SIS36 FORUM ON INTELLIGENT CONNECTED URBAN TRANSPORT AND SMART GOVERNANCE

Thursday, 19 October 2023 | 09:00-10:30 | <Room · TBD>

All of the pathways to autonomous mobility identify a critical transition phase where different vehicles and mobility services coexist on the same road network, especially in urban areas. The challenge that will arise during this phase revolves around the sector's ability to design a physical and digital network with intelligent technologies to support the residents and provide them with a safe, effective and efficiently integrated management systems of transport, logistics, public transportation, bicycle traffic and parking, etc.

Designed to support an interactive dialogue with transport officials and state authorities, agency executives, this session will be jointly hosted by the China Highway & Transportation Society (CHTS) and International Road Federation (IRF Global), as well as to inherit the intellect of the two organizations' cooperation experience during ITS World Congress. This forum will be further strengthened by input from Baidu, a major private stakeholder concerning China's connected mobility network practice, with a strategic review of deployment scenarios, engineering measures, and business models that are being developed by the sectors to assist this transition process, and ensure that public benefits from the intelligent connected urban transport and its smart governance are maximized.

Organizer:

XIUQIN DUAN, China Highway & Transportation Society, China

Moderator:

NINA GUAN, China Highway & Transportation Society (CHTS), China

Speakers:

SHIDONG CHENG, Institute of Comprehensive Transportation, National Development and Reform Commission (NDRC), PRC, China

BILL SOWELL, International Road Federation (IRF Global), United States

YUREN NIE, Baidu, China

ANGELOS AMDITIS, Institute of Communication and Computer Systems (ICCS), ERTICO, Greece

SIS37 LEVERAGING CAV TO IMPROVE FUEL ECONOMY

Thursday, 19 October 2023 | 11:00-12:30 | <Room · TBD>

Extensive research has been performed to demonstrate that CAV technology can improve the safety of driving. Another benefit of the technology is that it can be leveraged to improve fuel economy and reduce emissions if the technology is tuned to both address safety and more efficient operation of the vehicle. The U.S. Department of Energy has recently funded several programs that have demonstrated significant improvements in both fuel economy and reduced emissions. This session will focus on how the industry can utilize telematics data and CAV technology to improve sustainability.

Organizer:

STEVE DELLENBACK, Southwest Research Institute, United States

Moderator:

SIS38 MANAGING MIXED TRAFFIC WITH CONNECTED AND AUTOMATED VEHICLES: CHALLENGES AND OPPORTUNITIES

Thursday, 19 October 2023 | 11:00-12:30 | <Room · TBD>

With the emergence of connected and automated vehicles (CAVs), transportation agencies can collect, analyze, use, and disseminate multi-source data, enabling more informed decision-making processes for traffic management. Moreover, CAVs have opened up new opportunities for more flexible and real-time management and control measures to enhance system performance. However, the mixed traffic flow of CAVs and human-driven vehicles (HDVs) will exist on the road for a long time, and the related traffic control problems remain challenges. To maximize the benefits of CAVs, innovative traffic control strategies are needed. This special session aims to bring together researchers, practitioners, and industry experts to discuss traffic control strategies for mixed traffic with CAVs. The special session will provide a forum for experts to discuss innovative traffic control strategies, real-time monitoring and management systems, intelligent intersection control, cooperative driving and platooning, cybersecurity and privacy concerns, and policy and regulatory considerations related to CAVs in traffic control.

Organizer:

MA WANJING, Tongji University, China

Moderator:

SU ZICHENG, Tongji University, China

Speakers:

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SIS39 GLOBAL POLICY AND STANDARDIZATION FOR CYBERSECURITY ISSUES

Thursday, 19 October 2023 | 11:00-12:30 | <Room · TBD>

The V2X (including C-V2X) ensures the entire mobility safety on the connectivity between vehicles and everything including any moving subjects, i.e. vulnerable road users (VRU) in the roadways and roadsides, and allows for connections with numerous entities while its security is maintained by the use of public key identification (PKI). In order to preserve privacy, each vehicle is equipped with multiple pseudonym certificates to be utilized in V2X for making the system relatively more resilient against outsider attacks. So that it should be necessary to figure a way out to get the potential solutions ensuring that vehicles operate securely by exchanging the safety information with nearby V2X devices, and utilizing pseudonym certificate in V2X makes the system relatively more resilient against outsider attacks worldwide.

This session deals with a cybersecurity issue which is now widely discussed in the ITS markets, how to provide global policy and standardization in order to cover the entire mobility ecosystem to be compliant with and successfully implemented in vehicles, the infrastructure, and the all moving subjects including VRU.

Organizer:

EUISEOK KIM, Autocrypt Co. Ltd., Korea

Moderator:

YOUNG-JUN MOON, Korea Advanced Institute of Science & Technology (KAIST), Korea

SIS40 TRANSPORTATION 5.0: THE DAO TO SAFE, SECURE, AND SUSTAINABLE ITS FOR DEECO AND DESOC

Thursday, 19 October 2023 | 11:00-12:30 | <Room · TBD>

In this special session, we will explore the future of intelligent transportation systems (ITS) with a focus on society-centered approaches, also known as Transportation 5.0. The session aims to present a comprehensive argument for why a society-centered ITS is an inevitable course for future development, discussing the latest advancements in the cyber-physical-social system (CPSS) architecture and parallel system methodologies. The conference session will highlight cornerstone technologies that are shaping the future of ITS, including Knowledge Automation, Social Perception and Prescription, Software-defined Integrated Communication and Computing, Parallel Intelligent Techniques, Scenario Engineering, and Parallel Blockchain. Participants will gain insights into these technologies and understand their role in creating a more efficient, sustainable, and inclusive transportation system. In the final segment of the session, we will present our vision and expectations for the future of society-centered intelligent transportation systems, opening the floor for a thought-provoking discussion on the opportunities and challenges that lie ahead.

Organizer:

FEIYUE WANG, Institute of Automation, Chinese Academy of Sciences, China

Moderator: BIN LI, RIOH, China

Speakers:

FEIYUE WANG, Institute of Automation, Chinese Academy of Sciences, China HONGHAI LI, Research and Development Center of Transport Industry of Autonomous Driving Technology, RIOH High and Technology Group, China BIN YU, Beihang University, China LI LI, Tsinghua University, China



SIS41 HOW SHOULD AN ADS REACT IN ATYPICAL SITUATIONS

Thursday, 19 October 2023 | 14:00-15:30 | <Room · TBD>

As industry continues to work on rolling our higher levels of automation in vehicles, various Standard Development Organizations (SDOs) are competing to publish relevant Automated Driving System (ADS) standards. Several of these standards involve how an ADS reacts to atypical situations. Concepts like emergency fallback, minimal risk maneuver, and failure mitigation are under active discussion. This session will focus on different approaches to how an ADS can/should react safely when it experiences various atypical situations such as out of Operational Design Domain (ODD), sensor failure, degraded operation, etc.

Organizer:

STEVE DELLENBACK, Southwest Research Institute, United States

Moderator:

SIS42 URBAN CONNECTED AUTOMATED SHUTTLE SYSTEMS AND SERVICES

Thursday, 19 October 2023 | 14:00-15:30 | <Room · TBD>

This session demonstrates the worldwide programs of on going programs in the cities with connected automated shuttle bus for utilizing first and/or last mile connectivity between different type of zones as a public or shared transport. Recently there are more than 50 cities in the world which have adopted a kind of automated driving shuttle to be tested as a new urban mobility to upgrade their conventional public transport systems. The potential feasibility of the connected automated shuttle bus would be discussed in this session with comparisons of different cases in the world in terms of connected and automated functions, mobility purposes, infrastructure cooperation, policies with regulation and legislation, etc.

Organizer:

YOUNG-JUN MOON, Korea Advanced Institute of Science & Technology (KAIST), Korea

Moderator: DEAN ZABRIESZACH, HMI Technology, Inc., Australia

SIS43 INTELLIGENT ROADWAY INFRASTRUCTURE AND TRAFFIC SAFETY

Thursday, 19 October 2023 | 14:00-15:30 | <Room · TBD>

This session is dedicated to studying the impacts of intelligent roadway infrastructure on traffic safety. The purpose is to showcase new concepts and strategies, new technology and technology implementation to improve traffic safety while making the roadway and related infrastructure smarter. The session will help guide the research communities, the industry, the governments and the communities to work together to advance the goals of vision zero and social equity in traffic safety.

Organizer:

ZHONGYIN GUO, Tongji University, China, China

Moderator:

ZHONGREN WANG, California DOT, United States

SIS44 MOBILITY ON DEMAND: THE RISE OF DISRUPTIVE TECHNOLOGIES, MODELS, AND SERVICES

Thursday, 19 October 2023 | 14:00-15:30 | <Room · TBD>

In response to fast-changing traffic needs, future city transport systems will have to introduce new mobility services and promote innovation, active transport infrastructure, effectiveness, safety, and accessibility. This session will explore the rise of mobility on demand, including technologies, models, and services such as on-demand transport, ride-sharing, intelligent controls, automated and connected driving, big-data analysis and prediction, artificial intelligence, computer science, and digital twins. Of particular interest are the impacts of emerging technologies on cities, in terms of monitoring, efficiency, safety, reliability, resource consumption, and the environment. Researches in the following areas of transportation are also welcome to be presented: multimodal and intermodal transportation, intelligent transportation systems, traffic and demand management, real-time operations, railways, traffic behavior analysis, resource and infrastructure management, pedestrians, and soft modes. This session will discuss how these technologies are reshaping the transportation landscape, and the generated ideas may further help cities reach goals of smart, safe, equitable, and sustainable transportation.

Organizer:

PEIXIN SHI, School of Rail Transportation, Soochow University, China

Moderator:

SIS45 TRANSIT AUTOMATION - MOVING FROM THE LAB TO DEPLOYMENT

Thursday, 19 October 2023 | 16:00-17:30 | <Room · TBD>

Over the recent years a number of efforts have been undertaken to demonstrate the benefits of using automation in the transit industry. Many of these demonstrations have focused on automated shuttles and the results have been successful but full scale deployments are lagging. Full size transit busses in congested urban areas are a natural application of automation, while some demonstrations have been performed there is little effort to deploy in this environment. This session will focus on discussing the technology and political challenges that must be overcome to more widely utilize automation in day-to-day transit operations.

Organizer:

STEVE DELLENBACK, Southwest Research Institute, United States

Moderator:

SIS46 IN CABIN CHALLENGES: FROM REQUIREMENT TO HOMOLOGATION

Thursday, 19 October 2023 | 16:00-17:30 | <Room · TBD>

Every occupant is just a passenger and is never required to be involved in driving. There is no one responsible in charge, and all the occupants are passengers. They are free from driving and vehicle control responsibilities. All occupants are free to perform other tasks of their interests, including relaxing during their commute. What should be the appropriate position of the camera for the in-cabin of a higher level of autonomous driving?

The absence of a vehicle in-charge requires a robust solution to ensure the security and safety of all occupants. Furthermore, the vehicle itself requires protection from any malicious behavior by the occupants. The safety of each occupant implies their physical protection. On the other hand, the security of occupants indicates their information protection. Moreover, the safety of a vehicle is meant for protection from its misuse, damage, and exploitation.

Stakeholders from both industries in the converging mobility eco-system face challenges, which cannot be solved by a single company or by a closed circle of a few companies. Close cooperation across a variety of disciplines and a diversity of stakeholders is needed to align technology evolution paths, to jointly evolve value networks and markets, and to build trust in autonomous systems. In particular, standards related activities help to reduce complexity and thus reduce risks and cost, facilitate economies of scale, enable interoperable building blocks of the end-to-end system, and ensure compliance with regulatory requirements.

The tech market is shifting to Vehicle, Tier1s and OEMs must scale their in-cabin teams to keep up with the technical and human factors demands of regulations, standards and consumers expectations of comfort and convenience. This technology demands highly skilled perception, optics, and human factors developers and engineers.

The focus will be more oriented to cockpit, UX, in-cabin teams. It is in their best interest to scale, it's the only way to keep up with the demands of an entirely new set of technology. The in-cabin technology includes lower range radar, new noise considerations, VCELS instead of lidar, facial recognition, human factors understanding, privacy, emotional detection, much of this is new for auto and they're going to put more people, more budget, more resource on it. If you are looking for a new role, this industry is a great place to look.

A broad, open, cross-industry dialogue is needed to exchange views, to debate and to agree upon common challenges and coordinated activities needed.

Organizer:

HADJ HAMMA TADJINE, IAV GmbH, Deutschland

Moderator:

HADJ HAMMA TADJINE, IAV GmbH, Deutschland

Speakers:

HADJ HAMMA TADJINE, IAV GmbH, Vice Chair Standards IEEE ITS, Germany DR. MENG LU, VP Standards Activities, IEEE Intelligent Transportation Systems Society., Niederland PATRICK LAUFER, IAV GmbH, Germany HEIKO RUTH, DXC Technology, Germany

SIS47 DEVELOPING HIGHWAY SYSTEMS FOR CONNECTED & AUTONOMOUS VEHICLES: ACHIEVING GLOBAL CONSENSUS

Thursday, 19 October 2023 | 16:00-17:30 | <Room · TBD>

All of the pathways to autonomous mobility identify a critical transition phase where different vehicles and mobility services coexist on the same road network. The challenge that will arise during this phase revolves around the sector's ability to design a physical and digital road network to ensure that vehicles with a high degree of automation are integrated smoothly in current traffic, without jeopardizing safety and efficiency.

Designed to support an interactive dialogue with government leaders and highway agency executives, this panel jointly presented by the International Road Federation (IRF Global) & the China Highway & Transportation Society (CHTS) will offer a strategic review of deployment scenarios, engineering measures, global standardization requirements and business models that are being developed by the mobility sector to assist this transition process, and ensure that public benefits from autonomous vehicles are maximized.

Organizer:

XIUQIN DUAN, China Highway & Transportation Society, China

Moderator:

TOM ANTONISSEN, International Road Federation, United States

Speakers:

XIANGMO ZHAO, Xi'an Technological University, China JAN ELLSBERGER, Huawei Technologies, Germany LIN WANG, Research Institute of Highway, Ministry of Transport of China, China MATTHEW DAUS, International Association of Transportation Regulators (IATR), United States

SIS48 GLOBAL COMMERCIALIZATION POLICY AND STRATEGY FOR ITS

Thursday, 19 October 2023 | 16:00-17:30 | <Room · TBD>

This session demonstrates a more effective way of integrated global commercialization programs for ITS fulfilled by each region including EMEA, America, and Asia-Pacific by different approach of commercialization processes such as exploring market's demand, technology transfer, commercialization, education and consulting.

How to build a global cooperative network between related countries with a mission to enable technology transfer and commercialization and provide a search engine with accurate information of ITS market supply, demand, and matching technologies is going to be discussed in this session between ITS AP, ERTICO, and ITS America, which could be expected to promote the ITS markets by local and/or regional business entities to be connected and networked globally.

Organizer:

MUN KEE CHOI, Korea Advanced Institute of Science & Technology (KAIST), Korea

Moderator:

YOUNG-JUN MOON, Korea Advanced Institute of Science & Technology (KAIST), Korea

SIS49 HOW CAN INTELLIGENT CONNECTED VEHICLES ACHIEVE COMMERCIAL APPLICATION OF VEHICLE-ROAD COORDINATION?

Friday, 20 October 2023 | 11:00-12:30 | <Room · TBD>

The session is jointly organized by TTS, Wuhan University of Technology and Ismartways. The session will focus on the hot research direction of vehicle-road coordination commercial application in the field of intelligent vehicles, inviting authoritative experts and industry elites from well-known domestic and foreign vehicle enterprises, traffic safety research institutes, government departments, national intelligent transportation operators, public security traffic management departments, and industry-leading enterprises to jointly explore the opportunities and implementation paths of vehicle-road coordination commercial application from the perspective of whole vehicle manufacturers.

Organizer:

MANDY XIA, Ismartways, China

Moderator:

HE YI, Wuhan University of Technology, China

Speakers:

TONY QIU, Ismartways, China FAN HENG, Ford, China WANG XUFEI, Dongfeng Motor Corporation, China MA JINGTAO, TTS, China



SIS50 DEFINING LEVELS OF DRIVING AUTOMATION

Friday, 20 October 2023 | 11:00-12:30 | <Room · TBD>

Since its initial release in 2014, SAE J3016 [™] Recommended Practice: Taxonomy and Definitions for Terms Related to Driving Automation Systems for On-Road Motor Vehicles, commonly referenced as the SAE Levels of Driving Automation [™], has become the mobility industry's most-cited source for driving automation. After two revisions of SAE J3016 in 2016 and 2018, SAE International partnered with ISO/TC 204 Intelligent transport systems to develop a new version of SAE J3016, also known as ISO/SAE PAS 22736. By coproducing the first jointly published standards document between the two standards development organizations, SAE and ISO intended to provide the mobility industry with more clear and concise terminology and clarify for an international audience. The updated levels of driving automation document was published in 2021. Most recently, in 2023, SAE and ISO formed a new joint working group toward another update of the hugely influential standards document.

This session invites the joint SAE/ISO working group members to introduce the work progress in the latest update and the procedure for industry professionals to contribute to this activity and other related SAE and ISO standards. Additionally, by presenting the practice of public and private-sector stakeholders in adopting and utilizing the standard, the session explores how the levels of driving automation standards contribute to the development and deployment of automated driving. It will also solicit insights from the participants on the gaps in automated driving standards and how standards development organizations and public agencies may better support the industry to address them. As part of the discussion, other automated driving standards may also be referenced in the session to offer audiences a holistic view.

Organizer:

ADRIAN GUAN, SAE International, United States

Moderator:

ADRIAN GUAN, SAE International, United States

Speakers:

>>>>> 29th ITS WORLD CONGRESS

SIS51 DATA SHARING TO IMPROVE SAFETY AND MOBILITY IN CONNECTED TRANSPORTATION SYSTEM

Friday, 20 October 2023 | 11:00-12:30 | <Room · TBD>

As our transportation system becomes more connected, the operation and user experience are enhanced through data sharing among the stakeholders. This session aims to invite leading organizations to share their vision, experience, and technical approach, as well as the lessons learned. The speakers include governments, private entities, and safety and mobility system experts from the ground transportation, and air mobility industry in various global regions.

Organizer:

SUE BAI, Honda, United States

Moderator:

SIS52 CONNECTED, COOPERATIVE ANDAUTOMATED MOBILITY: NEW ADVANCES IN V2V, V2 AND V2X TECHNOLOGY

Friday, 20 October 2023 | 11:00-12:30 | <Room · TBD>

The 5G Automotive Association (5GAA) proposes a special interest session that deals specifically with the new advances in V2V, V2I and V2X Technology.

As one of the mainstream technologies of Vehicle-to-Everything (V2X) communication, Cellular-V2X (C-V2X) provides highreliability and low-latency V2X communications. With the development of mobile cellular systems, C-V2X is evolving from Long-Term Evolution-V2X (LTE-V2X) to New Radio-V2X (NR-V2X) to support diverse V2X applications, and C-V2X is seen as an essential enabler of mobility with increasing safety and traffic efficiency and reducing energy consumption and pollution.

We therefore wish to shine a light on how best to promote Large-scale deployment from pilot to (pre-) commercial. 5GAA would like to propose to use the Special Interest Session to discuss this feature and reflect on the different stages and priorities that exist across the Asia-pacific region when it comes to LTE-V2X technologies and solutions. We propose splitting the Special Interest Session by answering two clear questions:

1. How can industry better promote and assist in the formulation of complete standards system and tests procedures accelerate the implementation of industrialization for LTE-V2X?

2.How can global collaboration assist to establish the public commitment for successful commercial deployment of LTE-V2X technology across the Asia-pacific region?

Moderator and speakers are still to be confirmed.

Organizer:

MR DAVID ERTL, 5GAA, Belgium

Moderator:

SIS53 SMART PARKING ASSISTS THE CONSTRUCTION OF SMART CITIES

Friday, 20 October 2023 | 14:00-15:30 | <Room · TBD>

The rapid development of smart parking in China has effectively promoted the development of smart cities. This forum focuses on the construction of smart parking platforms in China, the construction of urban level parking information platforms in Suzhou, the construction of parking index in Jiangsu Province, and the research results of parking information technology at the parking lot level, etc,

Organizer:

Gu Dasong, Southeast University, China

Moderator:

Gu Dasong, Southeast University, China

Speakers:

LI DUNDUN, Suzhou Genland Ipark Technology Co.,Ltd., China SUN XIAOBO, China Urban Public Transport Association, China LI MING, Jinling Institute of Technology, China ZHANG CHU, Southeast University, China

SIS54 HOW MICROSIMULATION CAN HELP TO FORESEE AND OPTIMIZE THE IMPACT OF CAV ON URBAN TRAFFIC

Friday, 20 October 2023 | 14:00-15:30 | <Room · TBD>

Microscopic simulation reflects the state of the art approach to create digital twins of specific traffic situation or in general traffic areas. It contains information about the traffic network, the control through signals etc. and the traffic participants and their behavior and interaction. In such a simulation the effect of different behaviors of automated vehicles as well as effects of their communication among each other or with a connected infrastructure can be modeled. This enables for a detailed evaluation of the impact of different technologies and strategies in various categories like traffic flow, environmental impact, road safety etc. The session brings together experts from Asia, Europe and the United Stated to share an international perspective. It combines the domains of automotive development, traffic planning as well as advanced traffic infrastructures.

Organizer:

CHANG SHEN, PTV Software Technology (Shanghai) Co., Ltd., China

Moderator:

CHANG SHEN, PTV Software Technology (Shanghai) Co., Ltd., China

Speakers:

MATTHIAS PFRIEM, PTV Planung Transport Verkehr GmbH, Germany JIA HU, Tongji University, China YOSHIAKI IRIE, Toyota Motor Corporation, Japan DUSTIN DEVOE, Econolite, United States



SIS55 CONNECTING ARTIFICIAL INTELLIGENCE TO GROUND MOBILITY

Friday, 20 October 2023 | 14:00-15:30 | <Room · TBD>

Artificial Intelligence (AI) has found itself in various Intelligent Transport Systems (ITS) applications, such as Transportation Systems Management and Operations, Commercial Vehicle and Freight Operations, Traveler Decision Support Tools, Transit Operations and Management, and Emergency Management. In addition, it empowers vehicular onboard driving experience, such as driver-vehicle interface and driving education. Not long ago, we started to see sensor-packed delivery robots on the street, whose operation and road safety impact has exceeded the robotics domain. Undoubtedly, AI has built its way to enhance and enable a growing number of ground mobility applications, yet created gaps in technical knowledge, industry practice, and public policy. Through technical conversations with policy perspectives, the session seeks resonation from participants that AI deserves and demands more attention, understanding, and participation from various ITS industry professionals and stakeholders.

The session invites participants to address how AI is being applied in the ground mobility domain and what ground mobility stakeholders could do to facilitate and ensure its healthy adoption. This session will first underscore the distinct technical characteristics of AI in the context of ground transportation, along with some of the mobility industry's best practices in embracing it. Then, it will uncover the various needs that AI has produced for ground mobility, such as in standardization, workforce development, and policymaking. Finally, by examining the work progress and plans in standardization, industry initiatives, and government programs, the panelists will identify other necessary activities to meet the increasing demand for utilizing AI in boosting intelligence in the ground mobility system.

Organizer:

ADRIAN GUAN, SAE International, United States

Moderator:

ADRIAN GUAN, SAE International, United States
SP01 CLIMATE GOALS AND ACTION PLANS IN TRANSPORT

Monday, 16 October 2023 | 14:00-15:30 | <Room · TBD>

Moderator: TBD

ID93	Research on Operating Cost of The Carbon Quota Accounting Based on The Time Division of New Energy Bus	WEI JIANHUA, Zhengzhou Tiamaes Technology Co.,Ltd, China
ID335	Assessing Progress Towards Achieving The Transport Dimension of The SDGs in China	XIAOFEI LIU, Research Institute of Highway, Ministry of Transport, China
ID438	Dynamic Calculation and Spatial-Temporal Distribution Characteristics of Vehicle Carbon Emissions	CHUNJIAO DONG, Beijing Jiaotong university, China
ID173	Modeling and Evaluating Multi-Objective Dynamic Eco-Routing System under Connected Environment	HAO YANG, McMaster University, Canada



SP02 ITS TECHNOLOGY FOR TRAFFIC SAFETY

Monday, 16 October 2023 | 14:00-15:30 | <Room · TBD>

Moderator: TBD

ID283	Crash Risk Prediction of Mixed Traffic with Connected and Automated Vehicles Using BPNN	CHANGHAO RAN, Intelligent Transportation Systems Research Center, Wuhan University of Technology, China
ID251	Simulation and Evaluation of the Lane Compression Strategy for the Upstream Section of the Tunnel Entrance -an example of Sanduling Tunnel in Wenzhou	WEI JINQIANG, Zhejiang Wenzhou Yongtaiwen Expressway Co., Ltd., China
ID321	Risk Identification and Influence Factor Analysis of Different Sections of High-Speed Tunnel Based on Multi-Source Data	YANG JIANG, Zhejiang University, China
ID427	Chain Conflict Characteristics Analyses and Evolution Pattern Identification	HAO ZHONG, Tongji Univeristy, China
ID98	Behavior Analysis of Running Vehicles at The Lane Reduction Section Owing to Roadwork Lane Restriction on An Expressway	JUNYA UEHATA, Central Nippon Highway Engineering Tokyo Co.,Ltd, Japan

SP03 MOBILITY AS A SERVICE

Monday,16 October 2023 16:00-17:30 <room·tbd></room·tbd>		
Moderator: TBD		
Paper:		
ID294	Research on The Development Path of MaaS Platforms in China	WENKAI ZHAN, Guangdong University of Technology, China
ID468	Analysis and Modeling of Residents Travel Behavior under MaaS	DAQIAN WAN, Beijing Jiaotong University, China
ID457	Customized Bus Routing Problem Considering Effects of Taxi Services at Large Passenger Transport Hubs	YUHANG GUO, Tongji University, China
ID198	Using Evolutionary Game Theory-based Framework to Model Parking Conflicts	YUWEI YANG, Southeast University, China

SP04 WATERWAY TRANSPORT APPLICATIONS AND 5G SOLUTION

Monday,	16 October 2023 16:00-17:30 <room·tbd></room·tbd>		
Moderat	Moderator: TBD		
Paper:			
ID372	Analysis of Comprehensive Testing Technology System and Testing Requirements for Intelligent Ships	YANG YUAN, Tianjin University, China	
ID472	Delay characteristics of inland waterway vessel following	XUEJIAN YAO, Southeast University, China	
ID199	A Tailored Optimization Methodology for Direct Transshipment	LIANGQI CHENG, Tsinghua University, China	
ID295	Research on Collaborative Scheduling Methods for Multi- Unmanned Intelligent Systems in Water Search and Rescue Scenarios	HANGXIONG ZHU, Guangdong University of Technology, China	
ID423	Vessel Flow Forecasting in Yangtze River Multi-Bridge Area Using Inferential Generative Model	JIE MAN, Wuhan University of Technology, China	

SP05 ENERGY, NOISE AND ENVIRONMENTAL IMPACTS

Tuesday, 17 October 2023 | 11:00-12:30 | <Room · TBD>

Moderator: TBD

ID274	Construction of NOx Emission States Identification Method of Diesel Bus Based on Judgment Matrix: A Case Study of Nanjing	ZIXIN LIU, Southeast University, China
ID399	An Ensemble Energy Consumption Predicting Model Based on K-Means-Lstm for Logistic Vehicles in a Metropolitan Suburb	ZHANG QIUYI, Beijing University of Technology, China
ID342	Towards Energy-Efficient Mobility in Connected Vehicle Environments	YASHAR FARID, InfoTech Labs,Toyota Motor North America R&D, United States

SP06 MULRIMODAL TRAVEL INFORMATION AND PLANNING SERVICES & BIKE SHARING

Tuesday, 17 October 2023 | 11:00-12:30 | <Room · TBD>

Moderator: TBD

ID117	Potential Urban-Railway-Feeder Bus Stations Mining and Economic Benefit Evaluation Based on Taxi GPS Data	YUEFEI JIN, Chang'an Unversity, China
ID462	Research and Design of Control Strategies for Multiple Transportation Modes in Urban Road Networks	JIAMING WANG, North China University of Technology, China
ID113	Optimization of Feeder Bus Routes at Urban Rail Transit Stations Based on Link Growth Probability	YU SONG, Chang'an University, China
ID322	Temporal Correlation-Based Catchment Area Radius Analysis Between Subway and Docked Shared Bikes	YINING DI, The Hong Kong Univeristy of Science and Technology, China
ID298	Last-mile Shared Mobility based on Vehicle-Road-Cloud Coordination, Concept, Technologies, and Scenarios	MENGCHI CAI, School of Vehicle and Mobility, Tsinghua University, China
ID143	Multi-Task Supply-Demand Prediction and Reliability Analysis for Docked Bike-1 Sharing Systems via Transformer-Encoder-Based Neural Processes	MENG XU, HKUST, China



SP07 ELECTROMOBILITY AND EV CHARGING INFRASTRUCTURE

Tuesday, 17 October 2023 | 14:00-15:30 | <Room·TBD>

Moderator: TBD

ID443	Modeling of Energy Consumption for Electric Buses Considering The Impacts of SOC	XUE LEI, Beijing Jiaotong University, China
ID451	Analysis on Electric Vehicles' Inter-city Charging Choice Behavior and Charging Demand	ZHAOHUI WANG, Beijing Jiaotong University, China
ID464	Spatio-Temporal Characteristics and Causative Analysis of Electric Vehicle Collisions with Pedestrians	YAN ZHUANG, Beijing Jiaotong University, China

SCIENTIFIC SESSIONS

SP08 MULTIMODAL JOURNEY PLANNER

Tuesday, 17 October 2023 | 14:00-15:30 | <Room · TBD>

Moderator: TBD

ID324	Travel Time Prediction Method with Multi-Graph Traffic Network Model	MENGYUN XU, Wuhan University of Technology, China
ID234	Optimization of Personalized Route Recommendation Model Based on User Profile	YUEXIAN CAO, Zhejiang University, China
ID370	Repositioning Strategy for Ride-Hailing Vehicles Based on Graph Neural Network and Reinforcement Learning	JIA XIN YU, South China University of Technology, China
ID255	Multi-Modal Travel Simulation and Travel Behavior Analysis: Case Study in Shanghai	YUE HU, The Key Laboratory of Road and Traffic Engineering, Ministry of Education, Tongji University, China

SP09 NEXT GENERATION HUMAN MACHINE INTERFACE AND HUMAN FACTORS

Tuesday, 17 October 2023 | 16:00-17:30 | <Room · TBD>

Moderator: TBD

ID150	Cooperative Integrated Decision and Control Framework for Formation Control in Multi-lane Scenarios	ZAIHAO LIAO, Tsinghua University, China
ID179	Difference in The Attention to Road Elements Against Driver Experience	HUI XU, CCDI (Suzhou) Exploration & Design Consultant CO., Ltd, China
ID371	Traffic Risk Distribution in Different Characteristic Sections of Highway Tunnel	GUO RUI, Beijing University of Technology, China

SP10 INTELLIGENT SUPPLY CHAIN AND LOGISTICS

Tuesday, 17 October 2023 | 16:00-17:30 | <Room · TBD>

Moderator: TBD

ID128	A Case Analysis of Information Technology-Driven Chinese Express Enterprises	XIAOXIA WANG, Beijing Jiaotong University, China
ID293	Two-Level Path Planning Model for Multi-Warehouse Robots with Conflict Solution Strategies and Improved ACO	MINGYANG PEI, South China University of Technology, China
ID140	Research on Existing Problems and Solutions on Last Mile Logistics under the Context of Rural Revitalization inChina	WANG QIANG, China Academy of Transportation Sciences, China
ID385	Optimization of Delivery Routes for Takeout Under Time-Varying Road Networks	JIACI WANG, Sanya Science and Education Innovation Park, Wuhan University of Technology, Sanya 572024, PR China, China

SP11 SENSORS AND PERCEPTION METHODS FOR AUTOMATED VEHICLES

Wednesday, 18 October 2023 | 11:00-12:30 | <Room · TBD>

Moderator: TBD

ID152	LaneCL: Lane Detection Based on Continual Learning for Multiple Scenarios	XINYU ZHANG, Tsinghua University, China
ID413	Traffic Light Status Recognition Method Based on RC-DINO	ZEYU HE, Chang'an University, China
ID242	Full-Automatic Collection and Release of Pavement Performance Information	JIANTAO LI, Tsinghua University, China
ID410	Research on Operating State Reliability Monitoring of Sensing Devices	BICHENG XU, Shanghai JARI Zhaoxin Information Techbology Co., Ltd, China
ID202	Geometry Based Camera Calibration for Bev Transform Using Road Edge and Lane Marker	QIAN CHEN, SenseTime Japan, Japan

SP12 ITS IN AIRPORT GROUND OPERATIONS

Wednesday, 18 October 2023 | 11:00-12:30 | <Room · TBD>

Moderator: TBD

ID277	Airport Ferry Bus Scheduling to Minimize Operational Cost and Service Delay	JIANZE SONG, Beijing Jiaotong Unviersity, China
ID348	Research on Dynamic Optimal Scheduling of airport special vehicles in complex operating environment	YONGHONG LIU, Tech Traffic Engineering Group Co.,Ltd, China
ID253	Research on the Dynamic Dispatching Meth-od of the Transport Capacity of the Tourist Bus in Guilin	ZHANG JINCAN, Hohai University, China
ID273	Optimal Design of Tourist Routes Under The Time-Sharing Reservation Strategy	YAN HAN, Beijing Key Laboratory of Traffic Engineering, China
ID337	Joint Optimization of Electricity Buses Scheduling and Charging Using Adaptive Large Neighborhood Search	ZUONING JIA, tongji university, China

SP13 NEW ADVANCES IN V2V, V2I AND V2X TECHNOLOGY

Wednesday, 18 October 2023 | 14:00-15:30 | <Room · TBD>

Moderator: TBD

ID212	Transportation Management System for Autonomous Commercial Vehicle	HUAJIAN LI, Research Institute of Highway Ministry of Transport, China
ID172	Curb Detection and Mapping via Robust Iterative Gaussian Process Regression	DI WANG, Plus Inc, China
ID163	A Correlation Degree Calculation Approach for External and Internal Technologies in Autonomous Transportation Systems	KE HUANG, Sun Yat-sen University, China
ID206	Service Set Architecture for Autonomous Transportation System	SHUAI MA, Shanghai Jiao Tong University, China
ID278	Pedestrian-In-the-Loop Driving Risk Prediction: System Design and Real-World Implementation	ETHAN ZHANG, University of Michigan, United States

SP14 CLOUD COMPUTING, EDGE COMPUTING, ARTIFICIAL INTELLIGENCE, DIGITAL TWINS, BLOCKCHAIN IN TRANSPORTATION & CYBERSECURITY AND DATA SECURITY FOR TRANSPORT

Wednesday, 18 October 2023 | 14:00-15:30 | <Room · TBD>

Moderator: TBD

ID329	A Two-Stage Multi-Label Classification Approach for Traffic Events Identification Using Sina Microblog Texts	ZIHAO HUANG, South China University of Technology, China
ID333	Mfd Adaptive Prediction Based on Gaussian Process Under Constraints	YUKAI ZHANG, Institute of Intelligent Transportation, Zhejiang University, China
ID471	Research on The Application of Object Detection and Tracking Technology in Abnormal Event Detection on Highways	HAI ZONG, Nanjing Highway Development (Group) Co. LTD, China
ID215	Transportation Network Security and Data Information Protection	YUBING XUE, Chang'an University, China
ID407	Vehicle Trajectory Generation Based On Generation Adversarial Network	ZHONGHE HE, North China University of Technology, China

SP15 V2X COMMUNICATION TECHNOLOGIES AND COOPERATIVE SYSTEMS

Wednesday, 18 October 2023 | 16:00-17:30 | <Room · TBD>

Moderator: TBD

ID114	Multi-Objective Resource Allocation for High-density V2V Underlaying Cellular Network Integrated NOMA	SHIQIAN GUO, South China University of Technology, China
ID266	Bus Priority Signal Control Method with Vehicle-Roadside-Cloud Cooperation	YUNFEI YANG, Tsinghua University, China
ID269	Collaborative Optimization Model for Bus Speed Guidance and Signal Control on The Networked Environment	TIAN XIN, South China University of Technology, China
ID357	A Mobile Application for Road Sensing and V2X Services	JOÃO ALMEIDA, Instituto de Telecomunicações, Portugal
ID442	Decentralized Longitudinal and Lateral Cooperative Motion Control for Connected and Automated Vehicles Merging at On-ramps	SHOUCAI JING, Chang'an University, China



SP16 REAL-TIME INFORMATION, INTELLIGENT TRAFFIC MANAGEMENT

Weo	Wednesday,18 October 2023 16:00-17:30 <room·tbd></room·tbd>		
Moderator: TBD			
Paper:			
ID218	Signal Timing Estimation Using Point Detectors	XIAOQIN LUO, Wuhan Planning and Design Institute, China	
ID450	Multi-Agent Based Model-Free Adaptive Coordinated Control for Single Intersection signal timing	JI HONGHAI, North China University of Technology, China	
ID453	Delay-based Effectiveness Evaluation of Arterial Signal Coordination	YUXUAN SUN, Tongji University, China	
ID397	Design of The Complex Parking Lot Guidance System	GUANG YANG, Southeast University, China	

SCIENTIFIC SESSIONS

SP17 SIMULATION AND MODELLING

Thursday, 19 October 2023 | 09:00-10:30 | <Room · TBD>

Moderator: TBD

ID338	Capacity Analysis of Mixed Traffic Flow at a Signalized Intersection	YUEHAI HU, Tongji University, China
ID428	Genetic Neural Network-Based Fault Diagnosis for Bus Systems	XIAOTIAN FU, North China University of Technology, China
ID465	The Study of Cooperative Merging Model Based on The Assignment Model for Connected and Automated Vehicles	WEI HUANG, Nanjing Tech University, China
ID292	The Macroscopic Evolutionary Model of Autonomous Transportation System Based on The Revised Petri Nets	SHUAI MA, Shanghai Jiao Tong University, China
ID323	Modified Macroscopic Parking Dynamics Modeling with Fuzzy- Based Real-Time Pricing	ZENGYU CHEN, School of Electronics & Control Engineering, North China University of Technology, China



SCIENTIFIC SESSIONS

SP18 FUTURE RAIL EXPERIENCE

Thursday, 19 October 2023 | 09:00-10:30 | <Room · TBD>

Moderator: TBD

ID241	Research on Collaborative Compilation Method of Service Train Operation Plan and Timetable Based on Multi-granularity Space- Time Network	XHI XHAO, Beijing Jiaotong University, China
ID346	GCN-LSTM for Short-term Subway Passenger Flow Prediction	CHANGJIANG ZHENG, Hohai University, China
ID454	Urban Rail Transit Short-Term Od Flow Prediction Considering Temporal-Spatial Characteristics and Probability	YUE WANG, Beijing Jiaotong University, China
ID378	Short-Term Passenger Flow Forecast of Urban Rail Transit Based on Particle Swarm Optimization Algorithm	SONG HU, Research Institute of Highway Ministry of Transport, China
ID350	Factors Recognition and Thershold Analysis of Congestion Propagation in Urban Rail Transit System	ZHIHUA XIONG, Beijing Jiaotong University, China

SP19 IMPACT, COST-BENEFIT AND RISK ASSESSMENT FOR AUTOMATED VEHICLES

Thursday, 19 October 2023 | 11:00-12:30 | <Room · TBD>

Moderator: TBD

ID345	Highway Life-cycle Cost Analysis under the Autonomous Vehicles Scenario	KAIDI LIANG, Southeast University, China
ID133	Designing a Connected and Automated Vehicle Testing and Evaluation Platform Using Odd a Case Study in Suzhou	CHUAN SUN, Tsinghua University, China
ID84	Key Indicators of The Lateral Controllability in Hands-Free Automated Driving	LUOYI HUANG, Tongji University, China
ID130	A Lightweight Framework for Misbehavior Detection in Internet of Vehicles	YUJING GONG, South China University of Technology, China
ID315	Analysis of The Severity of Road Property Damage in Highway Accidents	SHI WENHAN, South China University of Technology, China



SP20 PREDICTIVE NETWORK MANAGEMENT, INFLUENCING TRAVELER BEHAVIOR, CITIZENS ENGAGEMENT AND CO-CREATION

Thursday, 19 October 2023 | 11:00-12:30 | <Room · TBD>

Moderator: TBD

ID182	Interpreting XGBoost for Traffic Flow Forecasting	XIAO ZHENG, The University of Melbourne, Australia
ID196	Investigation and Modelling The Red Light Violation of E-Bicycles at Urban Overlap Phase Intersections	HUIYING WEN, School of Civil Engineering & Transportation, China
ID200	Conflict prediction model for the pedestrian-bicycle interactions on the shared road	YINJIE LUO, Southeast University, China
ID459	An Improved Spatio-Temporal Network Traffic Flow Prediction Method Based on Impedance Matrix	WENHAO LI, Beijing University of Technology, China



SP21 PILOTS, TRIALS AND TESTS OF INTELLIGENT AND AUTONOMOUS VEHICLES

Thursday, 19 October 2023 | 14:00-15:30 | <Room · TBD>

Moderator: TBD

ID146	Rear-Vehicle Behavior Awareness System to Avoid Rear-End Collisions	SEYHAN UCAR, InfoTech Labs,Toyota North America R&D, United States
ID415	SceGAN: A Method for Generating Autonomous Vehicle Cut-in Scenarios on Highways Based on Deep Learning	JIAQI YUAN, Chang'an University, China
ID452	Lateral Control of Autonomous Vehicle with Data Dropout via an Enhanced Data-driven Model-free Adaptive Control Algorithm	SHIDA LIU, School of Electrical and Control Engineering, North China University of Technology, China
ID455	Path Tracking Control of Autonomous Vehicle under the Measurement Disturbance via a Novel Robust Model Free Adaptive Control Algorithm	SHIDA LIU, School of Electrical and Control Engineering, North China University of Technology, China
ID463	Comprehensive Safety Impacts Analyses of the Augmented Reality Warning and Navigation System	LING WANG, Tongji University, China

SP22 DATA ANALYTICS FOR TRAFFIC MONITORING AND MANAGEMENT (1)

Thursday, 19 October 2023 | 14:00-15:30 | <Room · TBD>

Moderator: TBD

ID312	Prediction of Urban Interrupted Traffic Flow Based on Bayesian Learning Network Considering Optimal Aggregation Time Interval	RUI XIE, Zhejiang University, China
ID151	Enhancing Road Cellular Traffic Prediction with Spatial-Temporal Joint Learning and Temporal Pattern Analysis	CHUNG-YI LIN, Chunghwa Telecom, Taiwan, China
ID225	Using License Plate Recognition Data to Gain Insight Into Urban Travel Time Distributions	XIAOQIN LUO, Wuhan Planning and Design Institute, China
ID232	Trip Purpose Prediction Based on Neural Topic Model with Multiple Source Data	QIANQIAN YE, Zhejiang University, China
ID252	Vehicle Spatial and Time Trajectory Filling Based on Dynamic Road Network	RUOJIAN LI, Zhejiang University, China

SP23 NEXT GENERATION TRAFFIC MANGEMENT

Thursday, 19 October 2023 | 16:00-17:30 | <Room·TBD>

Moderator: TBD

ID209	Full Field Deformation Measurement of Traffic Bridge with a Smartphone	WENKANG DU, Hohai university, China
ID189	Localization of Optic Fiber Cables for Traffic Monitoring Using DFOS Data	HEMANT PRASAD SHIVSAGAR, NEC Corporation, Japan
ID406	SimIFW: An integrated Simulation Platform for Intelligent Freeway	CHENGDONG LI, Chang'an University, China
ID213	Classification and Determinants of High-Speed Rail Stations Using Multi-Source Data	YIFAN YUE, Southeast University, China
ID316	Urban Expressway Lane-Reservation Effect Analysis Based on Detected Data and Simulation	MEIPING YUN, Tongji University, China

SP24 DATA ANALYTICS FOR TRAFFIC MONITORING AND MANAGEMENT (2)

Thursday, 19 October 2023 | 16:00-17:30 | <Room · TBD>

Moderator: TBD

ID375	Resilience Analysis of Multi-Modal Transportation Networks, Taking Beijing-Tianjin-Hebei Region as an Example	SHUYAN ZHENG, Beijing University of Technology, China
ID191	Analysis of Lane-changing Characteristics Based on WUT-NGSIM Data	YANG ZHAO LI, Wuhan University of Technology, China
ID153	A Simulation-based Approach to Evaluating Parking Strategies in Self-driving Parking	LI YONGCHAO, Southeast University, China
ID402	Traffic Congestion Traceability Analysis Based on Capacity Matching Degree	DE GAO, Beijing Jiaotong University, China

SP25 INTELLIGENT EMERGENCY AND INCIDENT MANAGEMENT

Friday, 20 October 2023 | 11:00-12:30 | <Room·TBD>

Moderator: TBD

ID211	Optimization Method for Emergency Vehicle Routing with Multiple Point Incidents in a Dynamic Road Network	WEN HUIYING, South China University of Technology, China
ID347	Emergency Management Research for Early Transmission Path Interdiction of Major Emerging Infectious Diseases in Urban Bus Transit Networks	HONGSHENG QI, Zhejiang University, China
ID166	Evaluation of The Operational Types of An Auxiliary Lane at Motorway Bottlenecks	JIAN XING, Nippon Expressway Research Institute Co., Ltd., Japan

TS01 MOBILITY AS A SERVICE

Monday, 16 October 2023 | 14:00-15:30 | <Room · TBD>

Moderator: TBD

ID192	Research and Application of MaaS Platform: A Case Study from Guangzhou YangChengTong SuiTongPiao(STP)Platform,China	YI KONG, Guangzhou Yangchengtong Co., Ltd, China
ID231	The Impact of MaaS on Future Car Travel	ZHONGWEN SUN, Technology Office China, BMW China Services Ltd., China
ID238	Comparative Analysis of MaaS Platform Construction and Operation Modes in Different Cities of China	XIANGLONG LIU, China Academy of Transportation Sciences, China
ID475	Framework and Business Model Development of Highway Traveler Information System Based on MaaS	KUN CHEN, Transport Planning and Research Institute, Ministry of Transport, China
ID305	Study for Finding Mobility as A Service Users in Thailand	RATCHAKORN Pakpisutkul, Chulalongkorn University, Thailand

TS02 V2X COMMUNICATION TECHNOLOGIES AND COOPERATIVE SYSTEMS (1)

Monday, 16 October 2023 | 14:00-15:30 | <Room·TBD>

Moderator: TBD

ID144	A Communication Channel Allocation Method Considering Competition at The Intersection	YINING REN, Tongji University, China
ID247	A Cooperative Control Method of Autonomous Roundabout Based on Token Ring	YUXIN NIU, Research Institute of Highway, Ministry of Transport, China
ID447	Human-like Strategy in Multi-vehicle Interactions at Signal-free Intersections	DIAN JING, Beijing Jiaotong University, China
ID422	Model Free Adaptive Traffic Control for A Intersection	HAO YIN, North China University of Technology, China

TS03 CLOUD COMPUTING, EDGE COMPUTING, ARTIFICIAL INTELLIGENCE, DIGITAL TWINS, BLOCKCHAIN IN TRANSPORTATION (1)

Monday, 16 October 2023 | 14:00-15:30 | <Room · TBD>

Moderator: TBD

ID157	Research on Cloud Control Platform of Intelligent and Networked Public Transport Based on BIM Technology	XITONG XIA, Nanjing University of Science and Technology, China
ID82	Machine learning in traffic signals prediction: two intersections in Hanover	FENG XIE, Institute of Automation and Communication, Germany
ID97	Vehicle Allocation Method for Mixed Passenger Transportation and Parcel Delivery Service in On-demand Transport	AOI KOIZUKA, KDDI Corporation, Japan
ID118	Thermal Feasibility Verification by 1D Computer Aided Engineering	YUKI IIDA, Panasonic Automotive Systems Co., Ltd., Japan
ID155	Privacy-Preserving Data Sharing for Automotive Applications	LEI CHEN, RISE Research Institutes of Sweden, Sweden

TS04 CLIMATE GOALS AND ACTION PLANS IN TRANSPORT

Monday, 16 October 2023 | 16:00-17:30 | <Room·TBD>

Moderator: TBD

ID373	Application of Photovoltaic Technology in Expressway Service Area	WANG LEI, Beijing, China Highway Engineering Consultants Corporation, Tech Traffic Engineering GR UP CO.,LTD, China
ID416	Research on the Digital Transformation Path of Transportation Industry for Carbon Peak and Carbon Neutrality	LILI ZHU, Research Institute of Highway Ministry of Transport, China
ID90	Decarbonising The Brenner Motorway: Vision, Challenges, Solutions	ILARIA DE BIASI, Autostrada del Brennero SpA, Italy
ID145	Solutionsplus – Boosting The Electrification of Public Transport by 5(6)G Enabled Carbon Credits	RALF WILLENBROCK, T-Systems International GmbH, Germany
ID103	Connected Automated Mobility in The Energy Transition Phase	MENG LU, Swarco Peek, Netherlands

TS05 V2X COMMUNICATION TECHNOLOGIES AND COOPERATIVE SYSTEMS (2)

Monday, 16 October 2023 | 16:00-17:30 | <Room·TBD>

Moderator: TBD

ID176	SIP Second Term's Field Operational Test Result Traffic Signal Information Using V2N (Cloud and Other Technologies) Toward Social Implement	YUICHI TAKAYANAGI, Panasonic Connect Co.,Ltd, Japan
ID219	Construction of a Wireless Performance Evaluation Environment with Vehicle	SHIGEAKI SAKURAZAWA, Panasonic Automotive Systems, Japan
ID311	Virtual Roadside Unit (Vrsu): A Unifying Framework and Mec/Cloud Implementations in Us and China	JINGTAO MA, Traffic Technology Services, Inc., United States
ID349	Research on The Application of Network Trust System for Cooperative Vehicle Infrastructure System	XINMING MEI, Beijing GOTEC ITS Technology Co.,Ltd, China



TS06 CLOUD COMPUTING, EDGE COMPUTING, ARTIFICIAL INTELLIGENCE, DIGITAL TWINS, BLOCKCHAIN IN TRANSPORTATION (2)

Monday, 16 October 2023 | 16:00-17:30 | <Room · TBD>

Moderator: TBD

ID235	Federated Learning for Automotive Applications	CHRISTIAN PREHOFER, DENSO Automotive Germany, Germany
ID254	Transformer Fusion and Residual Learning Group Classifier Loss for Long-Tailed Traffic Sign Detection	GUANJIE ZENG, Soochow University, China
ID386	Digital twin simulation platform for Intelligent Cooperative vehicle- infrastructure Systems based on unity3D	XINGJIE YANG, Chang'an University, China
ID400	A Framework for Highway Asset Management System Based on Digital Twin	JIERUI ZHU, Research Institute of Highway Ministry of Transport, China
ID127	Digital Twin Transportation: Development Background and Future Trend	GUANGHUI ZHAO, Guizhou Institute of Transportation, Economy and Technology, China



TECHNICAL SESSIONS

TS07 SHARED MOBILITY

Tuesday, 17 October 2023 | 11:00-12:30 | <Room · TBD>

Moderator: TBD Paper: ID354 Strategy for The Development of Mobility in Public Transport Based WENKAI ZHAN, Guangdong University of on The MaaS Concept Technology, China ID394 MaaS Smart Travel WANG T, Tech Traffic Engineering Group Company Limited, China ID233 Flexible Bus Optimal Dispatching Model Under Low Passenger XINYAN ZHANG, The Key Laboratory Demand of Road and Traffic Engineering of the Ministry of Education, China ID365 The Study of a Shared Autonomous Vehicles Travel Service Strategy MENG ZHANG, China Unicom Smart Connection Technology Limited South China Branch, China

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TS08 V2X COMMUNICATION TECHNOLOGIES AND COOPERATIVE SYSTEMS (3)

Tuesday, 17 October 2023 | 11:00-12:30 | <Room · TBD>

Moderator: TBD

ID123	CPM Significance Index for Redundancy Mitigation	TIM LEINMUELLER, Denso Automotive D. Gmhh, Germany
ID259	Practice and Application of VICAD Scenarios in Suzhou	TANGTAO YANG, Beijing VanJee Technology Co., Ltd., China
ID263	Implementation and Practice of Sensor Data Sharing Application based on C-V2X in China	HUI DENG, National Engineering Research Center of Mobile Communications and Vehicular Networks, China
ID320	Proposal of V2X System Intended to Complement ADAS	NORIYUKI TSUKADA, Isuzu Motors Limited, Japan
ID217	Autonomous Vehicle Mobility Services with Building Microservice Orchestration	FUKU HIMURO, Shimizu Corporation, Japan



TECHNICAL SESSIONS

TS09 ARTIFICIAL INTELLIGENCE

Tuesday, 17 October 2023 | 11:00-12:30 | <Room · TBD>

Moderator: TBD

ID384	The Application of Artificial Intelligence Technology on Intelligent Highways	LI FANGFANG, Tech Traffic Engineering Group Co.,Ltd, China
ID177	Transportation Planning Service Model based on ChatGPT	CHONGHAO PANG, South China University of Technology (SCUT), China
ID134	Application of AI in Traffic Control Systems	SHUSAKU YOSHIDA, Metropolitan Police Department, Japan
ID88	Research on Vehicle Type Identification Systems Using Advanced Image Processing Techniques	TSUYOSHI SAITO, Nippon Expressway Toll Technology Co., Ltd., Japan

TS10 ENERGY, NOISE AND ENVIRONMENTAL IMPACTS

Tuesday, 17 October 2023 | 14:00-15:30 | <Room·TBD>

Moderator: TBD

ID86	Deep Learning Method for Traffic Noise Separation	YANG ZHONG, Guangzhou University, China
ID194	Traffic Noise Prediction and Evaluation based on Acoustic Functional Zones at Night	YANG WANG, Beijing University of Technology, China
ID249	Cooperative Optimization Timetable of Multiple Subway Trains for Maximum Usage of Regenerative Braking Energy	YAJING ZHENG, South China University of Technology, China
ID425	Unet-Based Evaluation of Road Traffic Noise Annoyance	XUEJIAN WANG, Guangzhou University, China
ID461	A Dispersion Model of Vehicle Exhaust Pollutants Near Major Roads in Shenzhen	YUXIONG JI, Tongji University, China



TS11 V2X COMMUNICATION TECHNOLOGIES AND COOPERATIVE SYSTEMS (4)

Tuesday, 17 October 2023 | 14:00-15:30 | <Room · TBD>

Moderator: TBD

ID306	Development and Prospect of Vehicle-Road Cooperation Technology in Intelligent Highway	XIYAN BAO, Jiangsu Provincial Department of Transportation, China
ID393	A Brief Discussion on The Application Practive of Vehicle-Road Collaborative V2X Technology on Expressway	ZHANG MENGWEI, Tech Traffic Engineering Group Company Limited, China
ID392	Safety Maintenance and Effectiveness Enhancement for Highway On-Ramp Merging in Autonomous Driving with V2X-Enabled Cooperative Perception	CHAO HE, Continental Holding China Co., Ltd, China
ID351	Development Overview and Future Trends of Smart Highway	WANJUN LI, Research Institute of Highway Ministry of Transport, China
ID388	Research on Highway Video Cloud Networking Test Method Based on Video Image Quality Evaluation	WEI CUI, Beijing GOTEC ITS Technology Co., Ltd., China


TS12 AVAILABILITY, QUALITY AND VISUALIZATION OF DATA

Tuesday, 17 October 2023 | 14:00-15:30 | <Room·TBD>

Moderator: TBD

ID135	Quantifying Volatility Characteristics of Passenger Flow in The Metro Stations Based on The Rolling-Window Analysis	ZHAO LIU, Nanjing Institute of Technology, China
ID262	Research and Practice of Guangzhou Transportation Data Governance and Modeling Technology for Digital Transformation	ZI ZHANG, Guangzhou Transportation Bureau, China
ID265	A Review of Traffic Signal Control Through Travel Route Analysys Using Probe Date	HIROSHI MIURA, Metropolitan Police Department, Japan
ID184	Research on Key Technologies of Intelligent Pilot Traffic Management in Complex Environment	WEI LIANGCAI, Anhui Anhui Provincial Bureau of Transport Comprehensive Law Enforcement and Supervision, China

TS13 ELECTROMOBILITY AND EV CHARGING INFRASTRUCTURE

Tuesday, 17 October 2023 | 16:00-17:30 | <Room·TBD>

Moderator: TBD

ID244	Joint Optimization of Bow-type Fast Charger Locations and Battery Capacity for Electric Buses	LIBING LIU, Tongji University School of Transportation Engineering, China
ID359	Research on Braking Control Strategy of Distributed Electric Vehicle Based on Vehicle Velocity Prediction	MEIYING LI, Chang'an University, China
ID445	International Standard for Electric Road System	JUNICHI HIROSE, Highway Industry Development Organization, Japan
ID246	Vulnerability Assesment of The Charging Process Between Vehicle and Charging Point	MIGUEL MARTINEZ MONTOYA, Applus Idiada, Spain

TECHNICAL SESSIONS

TS14 SIMULATION AND MODELLING

Tuesday, 17 October 2023 | 16:00-17:30 | <Room·TBD>

Moderator: TBD

ID168	Trajectory Optimization at Signalized Intersections Based on Polynomial Functions	WANG MENG, Beijing Jiaotong University, China
ID369	Driving Comfort Analysis for The Starting Point Area of AV Dedicated Lanes on Expressway	YANGFENG MAN, Research Institute of Highway Ministry of Transport, China
ID264	Research on Multi-entity Co-simulation of Intelligent Vehicle Based on Distributed Message-oriented Middleware	DENG RONGRONG, Research Institute of Highway Ministry of Transport, China
ID470	Performance of Mixed Autonomy Traffic Flow in Weaving Sections: A Simulation-based Evaluation of Efficiency and Safety	KAIJIE ZOU, Beijing Jiaotong University, China

TS15 INNOVATIVE USE OF ETC INFRASTRUCTURE FOR OTHER APPLICATIONS

Tuesday, 17 October 2023 | 16:00-17:30 | <Room · TBD>

Moderator: TBD

ID228	Research on The Extended Application of ETC in Non-High-Speed Toll Scenarios	XINJIAN SHI, Harbin Zhilu Technology Development Co., Ltd, China
ID301	Innovative Use of ETC Infrastructure for Other Applications	KOKI TATEO, ITS Head Quarters, Mitsubishi Heavy Industries Machinery Systems, Ltd., Japan
ID358	ETC Extended Service Application Research	XU YU SHENG, Beijing CCCC Guotong Intelligent Transportation System Technology Co., Ltd, China
ID381	Research on Intelligent Ventilation Control Technology for Highway Tunnels Based on ETC Gantry Data	ZHAOZHI TANG, Jiaoke Transport Consultants Ltd, China
ID387	Research on Rapid Warning Model of Expressway Congestion Abnormal Events Based on ETC Gantry System	CHONGKE PAN, Jiaoke Transport Consultants Ltd., China

TS16 MOBILITY FOR AGEING POPULATION

Wednesday, 18 October 2023 | 11:00-12:30 | <Room · TBD>

Moderator: TBD

ID421	Exploring the Critical Factors that Affect Green Travel Satisfaction Among Urban Elderly Population: A Case Study from Datong, China	YUQING LIU, Research Institute of Highway Ministry of Transport, China
ID431	Accuracy Evaluation of Driving Trajectory of Automated Electric Wheelchair Using DTW	XINGYANG ZHANG, Shibaura Institute of Technology, Japan
ID142	A Radar Detecting Pedestrians with Wide Vertical Coverage	HIDEAKI SHIRANAGA, Sumitomo Electric Industries, Ltd., Japan

TECHNICAL SESSIONS

TS17 PILOTS, TRIALS AND TESTS OF INTELLIGENT AND AUTONOMOUS VEHICLES

Wednesday, 18 October 2023 | 11:00-12:30 | <Room · TBD>

Moderator: TBD

ID91	The Brenner Motorway as a Living Lab for Testing CCAM	ILARIA DE BIASI, Autostrada del Brennero SpA, Italy
ID318	Implementation and Validation of Misbehavior Detection for V2X Systems	SEUNGYOUNG PARK, AUTOCRYPT, Co., Ltd. / Kangwon National University, Korea
ID404	The Use of Cooperative Driving Technology with Human Drivers	DAMIAN HORTON, Eloy, United Kingdom
D297	Interlaboratory Comparison for The Execution of Euro NCAP ADAS Tests	ALVARO ESQUER, Applus+ IDIADA, Spain



TS18 TRANSPORT INFRASTRUCTURE PREDICTIVE MAINTENANCE

Wednesday, 18 October 2023 | 11:00-12:30 | <Room · TBD>

Moderator: TBD

ID175	Digital Operation and Maintenance System of Highway Infrastructure	QIAN GAO, Tongji University, China
ID261	Signal Intelligence Maintenance Status and Future Prospects of Urban Rail Transit	LUDAN LEI, Beijing Subway, China
ID353	Industry References on Key Technologies for Digitization of Highway Electromechanical Facilities	HENGYU LI, Research Institute of Highway Ministry of Transport, China
ID267	Study on Thermal Insulation Design and Heating Performance of Highway Toll Booth in Cold Region	JUN WANG, Harbin Transportation Research Institute Transportation Engineering Co.LTD, China

TS19 NEXT GENERATION HUMAN MACHINE INTERFACE AND HUMAN FACTORS

Wednesday, 18 October 2023 | 14:00-15:30 | <Room · TBD>

Moderator: TBD

ID281	Study on Contactless UI Operated Gesture Recognition in Omnidirectional Cameras	KOTA OGAWA, Systems Engineering and Science, Shibaura Institute of Technology, Japan
ID436	Research on The Technical System Framework of Job Suitability Monitoring for Bus and Trolleybus Drivers	HANSONG WANG, China Academy of Transportation Sciences, China
ID131	Behavior Analysis of Running Vehicles at The Lane Reduction Section Owing to Roadwork Lane Restriction on An Expressway	JUNYA UEHATA, Central Nippon Highway Engineering Tokyo Co.,Ltd, Japan
ID174	Machine Embodied Interactive Intelligence	JIALUN YIN, Tsinghua University, China
ID328	A Feasibility Study of Distribution System Utilizing a Smart Speaker for Expressway Traffic Information	KAZUYA HIROTA, Keio University, Japan



TS20 ITS POLICY AND STRATEGY & STANDARDIZATION

Wednesday, 18 October 2023 | 14:00-15:30 | <Room · TBD>

Moderator: TBD

ID275	Malaysian Its Journey - Policies Challenges	AHMAD ZULHELMI AB HAMID, Malaysian Communications And Multimedia Commission (MCMC), Malaysia
ID374	Recent Developments of ITS in China	RU LI, China ITS Industry Alliance, China
ID169	Research on the Architecture of Cooperative Intelligent Transportation System in China	FAN ZHANG, RIOH High Science and Technology Group, China
ID120	Failsafe Operation: Considerations for Homologation Procedure	CARLOS LUJAN, IDIADA Automotive, Spain
ID334	Standardization Evaluation and Index System Construction of National Highway Network Operation	LEIHONG DONG, Highway Monitoring & Emergency Response Center, Ministry of Transport of the P.R.C, China
ID149	A Patented Invention, Synergistic Traffic Intersection & Dual-Modes Proximate Crossover Zone	VALIANT YUK YUEN LEUNG, Synergistic Traffic, Australia
ID331	A Review of Standardization Approaches for Vehicle Data Specifications	FLORIAN PINZEL, DENSO Automotive Germany GmbH, Germany

TS21 INTELLIGENT EMERGENCY AND INCIDENT MANAGEMENT

Wednesday, 18 October 2023 | 14:00-15:30 | <Room · TBD>

Moderator: TBD

ID112	The Research on Algorithm for Roads Closure Removal Based on Big Data Analysis of Traffic Trajectory	YINUO HUANG, Toyota Motor Engineering & Manufacturing(China) Co., Ltd. Beijing Branch Beijing Innovation Center, China
ID216	Configuration and Responsibilities of Safety Inspector for Autonomous	HUAJIAN LI, Research Institute of Highway Ministry of Transport, China
ID430	Integration of Indoor and Outdoor Navigation for First Responders Among Moving Obstacles	ZHIYONG WANG, South China university of technology, China
ID382	Early Warning and Control Technology for Severe Weather on Highways	YUANYUAN HA, Jiaoke Transport Consultants Ltd, China

TS22 HIGH PRECISION MAPS AND POSITIONING TECHNOLOGIES FOR AUTOMATED VEHICLES

Wednesday, 18 October 2023 | 16:00-17:30 | <Room · TBD>

Moderator: TBD

ID193	Lane Detection Method of HD Map Based on LaneATT	HUILIN ZHENG, Beijing VanJee Technology Co.,Ltd. Suzhou R&D Insitute, China
ID288	An Object Detection Network Based on Roadside Point Cloud	YU MIAO, Suzhou, Jiangsu, China, Beijing VanJee Technology Co., Ltd. Suzhou R&D Institute, China
ID395	Analysis and Design of Key Technologies for Intelligent Navigation of Ships	DAN ZHOU, Water Transport Research Institute of the Ministry of Transport, China
ID429	Application and Reflection of High Precision Map of Highway	YONGWANG ZHANG, Jiaoke Transport Consultants Ltd, China



TS23 NEW TYPE DETECTORS AND SENSORS

Wednesday, 18 October 2023 | 16:00-17:30 | <Room · TBD>

Moderator: TBD

ID258	Audit Box: Vehicle Assessment and Jamming Attacks Detection in CCAM Environments	MANEL RODRÍGUEZ RECASENS, Applus IDIADA, Spain
ID138	A Multi-path Pipeline Based Trust Routing for Bulk Data Transfer in Wireless Sensor Networks	XIAOHUAN LIU, China Academy of Railway Sciences, China
ID396	Research on Vehicle Detection Technology Based on Millimeter Wave Radar	QIAN WANG, Jiaoke Transport Consultants Ltd., China
ID437	Slow Pedestrian Detection in Urban Traffic Based on The Fusion of Camera and LiDAR	XIYU LI, North China University of Technology, China

TS24 ITS TECHNOLOGY FOR TRAFFIC SAFETY (1)

Wednesday,	18	October	2023	16:00-17:30	<room tbd="" ·=""></room>
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Moderator: TBD

ID165	Event Detection by Image Processing of CCTV Camera Images	HIROYUKI KAMEOKA, Central Nippon Expressway Company Limited, Japan
ID167	An Analysis of The Effectiveness of Countermeasures to Prevent Wrong-Way Driving on Expressways	HIROAKI SAKAMOTO, Nippon Expressway Research Institute Co., Ltd. (NEXCO-RI), Japan
ID408	Create a Safe, Efficient and Comfortable Passage in the Guangdong- Hong Kong-Macao Greater Bay Area	HUO JIE, JIAOKE Transport Consultants LTD., China
ID411	A Centralized Management Software for Traffic Enforcement Subsystems	AHMET ŞAHAN, Aselsan, Turkey



TS25 SENSORS AND PERCEPTION METHODS FOR AUTOMATED VEHICLES (1)

Thursday, 19 October 2023 | 09:00-10:30 | <Room · TBD>

Moderator: TBD

ID296	Infrastructure-Based Automated Driving System for Mobility Scooter	SHELL YAMAUCHI, Shibaura Institute of Technology, Japan
ID230	A Lane Detetion Based on Machine Vision for Lane Departure Warning System	LANDA GAO, Institute of Highway Science, Ministry of Transport, China
ID239	An Improved Method Based on Fusion of Image and Lidar for 3D Vehicle Detection in Foggy Environment	SHAOKANG NIU, Chang'an University, China
ID248	CareFusion: You Can Never be too Careful in Lidar and Camera Fusion	QING LIAO, South China University of Technology, China
ID256	Estimation of Object Detection Uncertainty by Cross-Matching Through Occupancy Grid Map	MINGLIANG MING YANG, School of Vehicle and Mobility, Tsinghua University, China



TS26 DATA COLLECTION AND FUSION TECHNOLOGIES (1)

Thursday, 19 October 2023 | 09:00-10:30 | <Room · TBD>

Moderator: TBD

ID287	u-Shaped Object Detection Network Based on Level Scale Attention	JIANCHAO LIU, Beijing VanJee Technology Co., Ltd. Suzhou R&D Institute, China
ID96	A Novel Traffic Signals Control Algorithm on Urban Roads Intersection	HUANJIONG ZHANG, ZRIT, China
ID110	Implementing Additional Measures for Smoother Traffic Using Probe Data and Simulation	KENTA TABUCHI, Okayama Prefectural Police Headquarters, Japan
ID181	Traffic Volume Prediction on Expressways Based on Kriging and Long and Short Term Memory Neural Networks	YINGRUI ZHANG, Sandong University of Technology, China



TS27 ITS TECHNOLOGY FOR TRAFFIC SAFETY (2)

Thursday, 19 October 2023 | 09:00-10:30 | <Room · TBD>

Moderator: TBD

Paper:

ID367	Reseach on Ventilator Wind Rate Regulationg System of Highway Tunnel Based on Linear Active Disturbance Rejction Control	LIUYUAN XIANG, Beijing GOTEC ITS Technology Co., Ltd, China
ID434	Research on A New Mode of Expressway Service Status Perception Based on Energy Self-Consistent Conditions	QIAN REN, Beijing GoTec ITS Technology Co., Ltd., China
ID220	Tunnel Monitoring System based on Lidar and Video Fusion	XUERUI DAI, Beijing Wanji Technology Co, China
ID366	The Assessment of Smart Expressway Information Release Credibility Based on Analytical Hierarchy Process (AHP) and Fuzzy Synthetic Evaluation	CHENYANG LYU, Beijing GOTEC ITS Technology Co.,Ltd, China

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TS28 SENSORS AND PERCEPTION METHODS FOR AUTOMATED VEHICLES (2)

Thursday, 19 October 2023 | 11:00-12:30 | <Room · TBD>

Moderator: TBD

ID383	Research on Video Visibility Detection Technology and Application in Henan Zhuxin Expressway	LI ZHANG, Beijing GOTEC ITS Technology Co., Ltd., China
ID280	Estimation of Driver Arousal Level Using Camera and Millimeter- wave RAa and Millimeter-wave Radar	KATSUKI KUBO, Shibaura Institute of Technology, Japan
ID300	Simultaneous of Clustering and Tracking by Time-Series Optimization Filter for Point Cloud of Lidar	SHUNCONG SHEN, Shibaura Institute of Technology, Japan
ID440	Comparative Study of The State-Of-The-Art Convolutional Neural Network Based Lane Detection Methods for Autonomous Driving	KARINA ARDELLIA ARFIAN, Institut Teknologi Bandung, Indonesia
ID376	Object Recognition by Infrastructure-based Pont Cloud using Machine Learning	TOSHIO ITO, Hyper Digital Twins Co., Ltd., Japan



TS29 DATA COLLECTION AND FUSION TECHNOLOGIES (2)

Thursday, 19 October 2023 | 11:00-12:30 | <Room · TBD>

Moderator: TBD

ID141	Understanding Traffic Conditions in Road Networks Using Object Detection Data from Drive Recorders	HIDENORI GOTO, Oriental Consultants Co., Ltd., Japan
ID137	Dynamic OD Estimation Based on Mobile Phone Probe Vehicle	DONGJIE LIU, Qingdao Transportation Public Service Center, China
ID188	A Method for Making Trajectory Datasets Using Roadside LiDAR	ZIYANG ZHANG, Beijing VanJee Technology Co.,Ltd. Suzhou R&D Insitute, China
ID214	Multi-sensor Fusion Perception Based on LiDAR and Camera	LE FU, Beijing Wanji Technology Co., China

TS30 ITS TECHNOLOGY FOR TRAFFIC SAFETY (3)

Thursday, 19 October 2023 | 11:00-12:30 | <Room · TBD>

Moderator: TBD

ID272	Systematic Evaluation of Lane Change Risk for Multi-vehicle types on Freeways using High-resolution Data	HUIYING WEN, South China University of Technology, China
ID417	The Discussion of Construction Solutions for Smart Tunnel in the New Era	LIYANG LU, Research Institute of Highway Ministry of Transport, China
ID360	Research and Application of Key Technologies for Active Safety Management Based on Intelligent Road Studs	YAOCHUAN GAO, Tech Traffic Engineering Group Co.,Ltd, China
ID125	Impact of Maneuvering Angle in Vehicle Lane Changes on Highway Traffic Safety and Operation	YANLI JIAO, Hebei Provincial Communications Planning, Design and Research Institute Co., Ltd., China

TS31 NEW ADVANCES IN V2V, V2I AND V2X TECHNOLOGY

Thursday, 19 October 2023 | 14:00-15:30 | <Room · TBD>

Moderator: TBD

ID139	Field Operational Test for Verifying Effectiveness of Merging Support Information Provision System	TOSHIMASA NAKAGAWA, National Institute for Land and Infrastructure Management, Japan
ID122	A Holistic View on Predictive-QoS in Vehicular Networks	TIM LEINMUELLER, Denso Automotive D. GMHH, Germany
ID313	The Global Expansion and Development Of ITS & V2X	ZHAO ZHAI, Vanjee Technology, China
ID325	Exclusive and Controlled 5G Network for Development of Connected and Automated Vehicle Technologies	PAUL SALVATI, Idiada Automotive Technology, Spain

TS32 DATA COLLECTION AND FUSION TECHNOLOGIES (3)

Thursday, 19 October 2023 | 14:00-15:30 | <Room · TBD>

Moderator: TBD

Research on the Reusability of Data Throughout the Construction Period of Digitized Highway Infrastructure	SHUYUN NIU, Research Institute of Highway Ministry of Transport, China
The Testing System of ETC Roadside Device Based on Mobile Detection Vehicle	SHUKAI CAO, Beijing Zhongjiao Guotong Zhineng Jiaotong Xitong Jishu Youxian Gongsi, China
A Method to Correct The Camera External Parameters for Pavement Detection	KAIXING ZHANG, RoadMainT Co.,Ltd, China
Enhancing Object Detection Performance and Speed with YOLOv3: A Novel Single-Scale Detection Approach and Tree-Structured Residual Module	JIAHAI ZHAO, Highway Science Research Institute of the Ministry of Transporthaidian, China
	Research on the Reusability of Data Throughout the Construction Period of Digitized Highway Infrastructure The Testing System of ETC Roadside Device Based on Mobile Detection Vehicle A Method to Correct The Camera External Parameters for Pavement Detection Enhancing Object Detection Performance and Speed with YOLOv3: A Novel Single-Scale Detection Approach and Tree-Structured Residual Module



TECHNICAL SESSIONS

TS33 SMART PARKING

Thursday, 19 October 2023 | 14:00-15:30 | <Room · TBD>

Moderator: TBD

ID94	Some Thoughts on ETC Intelligent Parking Construction	SONG JIE, Highway Monitor&Response Center,Ministry of Transport of the P.R.C, China
ID102	Standardized Specifications for Double-Connected Truck Parking Reservation System with DSRC on Expressways	NAOTO UENO, NEXCO Research Institure, Japan
ID303	Dynamic Allocation Model for Shared Parking Spaces in a Region	ZHENG SHUO, Dalian Jiaotong University, China
ID432	Smart Parking in Public Service Utilities – a holistic design approach of Automated Parking System (APS) in hospital	PETER KWONG FUNG, Yeefung Technology Limited, China



TS34 RAILWAY APPLICATIONS AND 5G SOLUTION

Thursday, 19 October 2023 | 16:00-17:30 | <Room · TBD>

Moderator: TBD

ID185	Research and Implementation of Bim-Based HBAS Technology in The Urban Rail Industry	WEI GUO, Suzhou Rail Transit Branch Company, China
ID268	Communication Based Train Protection System to Enhance The Operational Safety for Taiwan Railways	HUI-SHENG FENG, Taiwan Railways Administration, Taiwan, China
ID307	Application of Intelligent Railway Transport on 5G and C-V2X Network	CHEN HUANG-CHIH, Compal Electronics Incorporation, Taiwan, China
ID424	Reducing Queuing and Crowding in Urban Rail Transit Systems: A Novel Departure Time Booking Strategy	ZHIYONG LIU, Beijing Jiaotong University, China
ID160	Exploration on The Preparation of Whole Life Cycle Design Standards in Rail Transit Industry	JIABIN ZHU, Suzhou Rail Transit Construction Co., Ltd, China



TS35 NEXT GENERATION TRAFFIC MANAGEMENT

Thursday, 19 October 2023 | 16:00-17:30 | <Room · TBD>

Moderator: TBD

ID109	Opitimising Signal Control at Continuous-Flow Intersections Considering Traffic Progression	YINING HU, University of New South Wales (UNSW), Australia
ID226	Coordinated Optimization Setting of Speed Limit Section of Long Tunnel Group in Mountainous Expressway Based on Driving Behavior Characteristics	SUN LING, National ITS Research Center, China
ID236	A Scalable Data-Driven Predictive Traffic Management Solution	LUCA PAONE, PTV GROUP, Italy
ID412	Data Dictionary for Highway Electromechanical Equipment in China: Integrating WSR Method and Conceptual Information Model	XI-YAO LI, Research Institute of Highway Ministry of Transport, China
ID284	Application Case of Intelligent Traffic Signal-Control on Fragile Roads in Kaohsiung City	JUI-CHUN CHI, CECI Engineering Consultants, Inc., Taiwan, China

TS36 FUTURE METROPOLITAN TRANSPORT & DISRUPTIVE INNOVATIONS IN DIGITAL TRANSPORT

Thursday, 19 October 2023 | 16:00-17:30 | <Room · TBD>

Moderator: TBD

ID237	Experiences Building An Environment Friendly ITS in The City of Huainan	ELMAR BROCKFELD, German Aerospace Center, Germany
ID164	Development and Management of Urban Air Mobility in China	ZHANWEI CUI, China Academy of Transportation Sciences, China
ID186	PRT and The Future City with Sustainable Mobility	JIAXIANG WANG, Futurepolis (Suzhou Industrial Park) Planning and Architecture L.L.C., China
ID289	Magnetic Force Characteristics of Combined Layout YBaCuO Arrays for HTS Maglev Systems	YEYING BAO, Suzhou Railway and Aviation Development Center, China
ID126	Installation of Light Emitting Pedestrian Crossing Studs Related to Traffic Signal Operation at Main Intersections in Tokyo	YUYA KOBAYASHI, Metropolitan Police Department, Japan
ID276	Global Synergistic Dual-Modes Sustainable Traffic System	VALIANT YUK YUEN LEUNG, Synergistic Traffic, Australia
ID162	Research on The New Generation Intelligent Rail Transit Operation and Control Management System	JIABIN ZHU, Suzhou Rail Transit Construction Co., Ltd, China

TS37 PLATOONING

Friday, 20 October 2023 | 11:00-12:30 | <Room · TBD>

Moderator: TBD

ID148	A Hybrid Control Methodology for Vehicle Platooning Based on Linearized Decoupled Control Law	HUATAO JIANG, sirun, China
ID449	Application of Arithmetic Optimizer Algorithm to Manage Platooning of Future Transportation Systems	LANDA GAO, Research Institute of Highway, Ministry of Transport, China
ID116	Platooning Regulatory Framework	CARLOS LUJAN, Applus IDIADA, Spain
ID222	Design of Control Algorithms for Vehicle Infrastructure Cooperative Truck Platoon and Simulation Verification	SUN LING, National ITS Research Center, China

TS38 MULTIMODAL JOURNEY PLANNER & SMART AND GREEN VEHICLE ROUTING

Friday, 20 October 2023 | 11:00-12:30 | <Room · TBD>

Moderator: TBD

Paper:

ID101	Extension of Line-line Spatial Relationship Considering Line Direction –A case Study of Bus Transfer	DONGDONG ZHENG, Zhengzhou Tiamaes Technology Co.,ltd, China
ID161	Algorithm for Visualization of Traffic Congestion State Using Integrated Probe Data Developed for The VICS Experimental Service	SHINYA ADACHI, Vehicle Information and Communication System Center, Japan
ID180	Prediction of Travel Delay during Traffic Incidents	TECK TENG HOU, ST Engineering, Singapore
ID229	Research and Design of Non-Stop Overrun Detection Management System	XINJIAN SHI, Harbin Zhilu Technology Development Co., Ltd, China
ID257	Fast Matrix Queries and Application to Routing Optimization Problems	JEAN-SEBASTIEN GONSETTE, AISIN Europe, Belgium
ID310	Study on the Layout and Parking Area Optimization of Road Transport Channels for Dangerous Goods in Suzhou	ZHANG GUOQIANG, Suzhou Transportation Bureau, China

>>>>> 29th ITS WORLD CONGRESS

TS39 ITS INFRASTRUCTURE FOR AUTOMATED VEHICLES

Friday, 20 October 2023 | 11:00-12:30 | <Room · TBD>

Moderator: TBD

ID260	SSP: Small Object Detection from Sparse Point Clouds of Roadside LiDAR for Vehicle-to-infrastructure Cooperating System	HAO LIANG, Vanjee Technology, China
ID308	Smart Road and Edge Infrastructure Enabling Cooperative Intelligent Transport Systems	LING LIU, Intel, China
ID469	Preparing CAV Infrastructure in Building the Cooperative and Automated Transportation Ecosystem	KEN YANG, AECOM, United States
ID476	Increasing The Odd Attribute Value Awareness of Automated Driving Systems with Infrastructure Support	JAAP VREESWIJK, MAP traffic management, Netherlands
ID448	International Standard for Automated Mobility	JUNICHI HIROSE, Highway Industry Development Organization, Japan

TS40 DATA ANALYTICS FOR TRAFFIC MONITORING AND MANAGEMENT (1)

Friday, 20 October 2023 | 11:00-12:30 | <Room · TBD>

Moderator: TBD

ID159	Large-Scale Microscopic Traffic Simulation Based on License Plate Recognition Data and OpenStreetMap	WENBIN YAO, Zhejiang University, China
ID171	A Traffic Incident Detection Method Based on YOLOv5 + DeepSORT for Freeway	XIANHUI ZONG, Nanjing University of Science and Technology, China
ID243	A Meta-Learning Model for Estimating Mixed Traffic Flow of Signalized Intersections using Cellular Probe Data	KENG-PIN CHEN, Telecommunication Laboratories, Chunghwa Telecom Co., Ltd., Taiwan, China
ID271	Improvement in Corridor Level Traffic Volume Predictions by Integrating the Signal and Phase Timing Data	OSCAR CROWLEY, DENSO International America Inc., United States
ID314	Multi-Objective Tracking Algorithm for Urban Traffic Via Adaptive Multi-Level Approach	XIJIA GUAN, VanJee Technology Co.,Ltd, China



TECHNICAL SESSIONS

TS41 BICYCLE SHARING

Friday, 20 October 2023 | 14:00-15:30 | <Room · TBD>

Moderator: TBD

ID195	Location Selection of Bicycle Sharing Delivery Points Based on Rebalancing Supply and Demand	HANQIANG QIAN, Beijing University of Technology, China
ID403	Impact of Weather Conditions on Bicycle Sharing: A Comparison Study with The Real-Time Data in Shanghai And Washington, D.C.	DING LIU, Shanghai Maritime University, China
ID474	Demand Analysis of Urban Shared Bicycles	XIAOQIANG ZHANG, Chang'an University, China

TS42 TECHNOLOGIES FOR TRAVEL DEMAND MANAGEMENT

Friday, 20 October 2023 | 14:00-15:30 | <Room · TBD>

Moderator: TBD

ID224	Development of a Nowcast Activity-based Simulation Framework to Evaluate Travel Behavior Changes in Citywide	HISATOMO HANABUSA, i-Transport Lab. Co., Ltd., Japan
ID203	Congestion Judgment Method at Entrances and Exits of Large-scale Parking Lots Based on Average Vehicle Delay	QIANYI HU, Southeast University, China
ID221	Analysis on Railway Station Choice Behavior Affected by Urban Transport Accessibility in A City with Multiple Stations	KANGYU LIANG, School of Traffic and Transportation, Beijing Jiaotong University, China
ID433	Identification of Urban Residents' Travel Activity Pattern A Case Study of Hangzhou City	SIJIE ZHU, Zhejiang University, China



TS43 CROWDSOURCING AND BIG DATA ANALYTICS

Friday, 20 October 2023 | 14:00-15:30 | <Room · TBD>

Moderator: TBD

ID466	Research on Space-Time and Network Characteristics of Intercity Passenger Flow During the Spring Festival Transportation	HAIPENG WANG, Research Institute of Highway, Ministry of Transport, China, China
ID156	Safety-affecting factors analysis of National Trunk Highway System based on the interpretable machine learning framework	HONGGE ZHU, VanJee Technology Co,Ltd, China
ID401	Optimization of Speed Limits on Highways	ZHENJIANG LI, School of Transport & Communications, Shanghai Maritime University, China

TS44 TOLLING, FARE PAYMENT AND USER CHARGING

Friday, 20 October 2023 | 14:00-15:30 | <Room · TBD>

Moderator: TBD

ID291	Research on ESAM Remote Distribution System for Traffic Card	SIYANG LI, Beijing University of Technology, Beijing Key Laboratory of Traffic Engineering, China
ID89	Expressway Toll Calculation by Graphillion	HIROYOSHI IIJIMA, Nippon Expressway Toll Technology Co., Ltd., Japan
ID270	Global LiDAR-Based Vehicle Classification A Comprehensive Discussion	YUEYANG CHEN, VanJee Technology Co.,Ltd, China
ID426	A Study on The Technology for Improving The Transaction Success Rate of RSU in Highway Network Toll Collection Based on Maximum Likelihood Matching Method-v2	ZHAOBIN LI, Jiaoke Transports Consultants Ltd., China
ID279	Based on Analysis of Global Vehicle Classification Criteria to Achieve Accurate Toll Collection with LiDAR	JINGYI XU, VanJee Technology Co.,Ltd, China

TS45 POLICY AND REGULATION FOR CONNECTED AND AUTONOMOUS VEHICLES

Friday, 20 October 2023 | 14:00-15:30 | <Room · TBD>

Moderator: TBD

ID467	Research on the Framework of Cooperative Automated Driving System Based on Game Theory	XIAOHAN YANG, Jiaoke Transport Consultants Ltd., China
ID336	Research on the Implementation of Ethics Based on Driver Choice Behavior in Automated Driving	KAITO KUSAKARI, Shibaura Institute of Technology, Japan
ID121	Automated Driving Challenges and Approaches: Platooning Use- Case	CARLOS LUJAN, IDIADA Automotive, Spain
ID170	Development Status and Policy Suggestions of Vehicle-Road Collaborative Automatic Driving in China	GENG RUI, Highway Science Research Institute of the Ministry of Transport, China
ID115	Type Approval Approach for Automated Driving Vehicles: Beyond the Traditional Homologation Methodology	CARLOS LUJAN, Applus IDIADA, Spain



TS46 DATA ANALYTICS FOR TRAFFIC MONITORING AND MANAGEMENT (2)

Friday, 20 October 2023 | 14:00-15:30 | <Room · TBD>

Moderator: TBD

ID178	Statistical Methodology for Roadway Free Flow Speed Estimation for Its Application	XUEFEN CAI, Land Transport Authority of Singapore, Singapore
ID190	Design And Implementation of a System Platform for City Scanners And City Management Robots	QIANG LIU, Guangzhou Yang Cheng Tong Co., Ltd, China
ID227	K-means++ Clustering Method Based on License Plate Recognition Data to Analysis Residents Travel Features: A Case Study of Suzhou	KEXIN WANG, Soochow University, China
ID309	Video Data Analytics in Traffic Monitoring And Management: A Case Study in Hong Kong	SEAKAY XIE, AECOM Asia Co. Ltd., China
ID364	Statistical Analysis of Service Time of Toll Plazas with Diversified Payment Methods	YU-PING ZHANG, Guangshen Expressway Expension Project Office, China

IS01 SUSTAINABLE AND TRANSFORMATIONAL DEVELOPMENT OF TRANSPORT & POLICY, STANDARDS AND HARMONIZATION

Tuesday, 17 October 2023 | 14:00-17:00 | <Room · TBD>

ID341	Incorporating spatial heterogeneity into the influence of built environment on transit mobility	LIU DING, Shanghai Maritime University, China
ID439	A Prediction Method for the Complexity Degree of Traffic Scenarios	YAN FENG, Research and Development Center of Transport Industry of Autonomous Driving Technology, RIOH High Science and Technology Group, Ministry of Transport, PRC, China
ID282	Guangzhou Eryun Group Co., LTD. New energy construction waste truck Business mode transformation strategy	XU HAIYONG, Guangzhou Eryun Group Co., LTD., China
ID327	Short-term traffic flow prediction and timing optimization at signalized intersections based on SG-LSTM and particle	LEI YANG, Dalian Jiaotong University, China
ID391	Intelligentized Design and Application of Weiqing Expressway Fangan Service Area	JIE YU, Tech Traffic Engineering Group Company Limited, China
ID147	Mobile phone calls when college students ride electric bicycles in China: application of extended planned behavior theory and extended prototype willingness model	XINYU CHEN, South China University of Technology, China
ID302	Research on new framework based on existing smart expressway construction guides	ZHUOCHENG YANG, Beijing GOTEC ITS Technology Co.,Ltd, China
ID330	Research on the improvement of measurement service guarantee capability of intelligent transportation	XIN SHI, China Academy of Transportation Sciences, MOT, China
ID205	Evaluation of measurement uncertainty of brake fluid moisture measuring instrument	YIXU WANG, Research institute of highway ministry of transport, China
ID286	Measurement and comparison of asphalt viscosity measured by dynamic shear rheometer	MIAO NA, Institute of Highway Science, China
IS02 CONNECTED, COOPERATIVE AND AUTOMATED MOBILITY & SMART CITY

Wednesday, 18 October 2023 | 14:00-17:00 | <Room · TBD>

Paper:

ID207	A Review of Data-Driven Lane-Changing Decision Modeling for Connected and Automated Vehicles	ZHENGWEN FAN, Nanjing University of Science and Technology, China	
ID456	Research on signal reliability of communication equipment on medium and large operating vehicles	ZHANG YUN, Research Institute of Highway Ministry of Transport, China	
ID245	Research on path tracking control strategy for In-Wheel Motor Driven electric vehicle with Integrated Stability	HAICHUAN ZHANG, Chang'an University, China	
ID250	Multi-generational Evolutionary Approach of Autonomous Transportation System	HAONAN TUO, Central South University, China	
ID389	Research on The Setting Method of Barrier on Highway Tunnel Entrance	ZHUANGZHUANG ZHANG, Tech Traffic Engineering GROUP CO.,LTD, China	
ID409	Study on the evolution mechanism of lane change decision in urban expressway diversion area	SUCHUAN XU, Suzhou University of Science and Technology, China	
ID414	Research on performance attenuation of high mileage NVH	SHAN LI, School of Automobile, Chang'an University , China	
ID477	Application and Comparison of Nine Point Logic Control and PID Control Algorithms in Smart Grid Decision Making	ZHIXIN OU, Anhui Communications Vocational & Technical College Department, China	
ID299	A Lateral Control Method for a 4-Wheel Steering Sightseeing Vehicle	YINING XING, Tsinghua University, China	
ID158	Research on Visualized Application of Inland Waterway Management Based on Multi-source 3D Fusion	WUQING LV, Suzhou Port and Shipping Development Center, China	
ID405	An Algorithm Based on Improved Yolov5 for Aerial Vehicle Detection	YIFEI LIU, Beijing Jiaotong University, China	
ID418	Design and Implementation of Three-Dimensional Electronic Sand Table System for Tunnel	LIAO FANGQING, Tech Traffic Engineering Group Co. , Ltd., China	
ID441	A Soft-attention based Spatial-temporal Neural Network Model for Traffic Flow Prediction	RUI ZHENG, Beijing Jiatong University, China	
ID326	Analyzing Crash Severity at Intersections: A Random Parameters with Heterogeneity-in-means approach	YIYUE LUO, Intelligent Transportation Systems Research Center, Wuhan University of Technology, China	
ID419	Design and Implementation of Construction Project Information Management System Based on Bim	YUNQIANG JIA, School of Electronics and Control Engineering, Chang'an University, China	



IS03 INTELLIGENT AND DIGITAL TRANSPORT INFRASTRUCTURE & INTEGRATED TRANSPORT SYSTEMS &

Thursday, 19 October 2023 | 14:00-17:00 | <Room · TBD>

Paper:

ID460	A Literrature Review on Abnormal Behavior Research Using Motion- Based Analysis	QIHANG LIU, North China University of Technology, China
ID478	Research on the Least Square Algorithm for Correcting High Voltage Arc Edge Discharge Parameters	ZHIXIN OU, Anhui Communications Vocational & Technical College Department, China
ID197	Research and implementation of Intelligent construction and management system for the ecological revetment of inlandHUAI WANG, Suzhou Port Development Center , Chiwaterways based on 3D printingDevelopment Center , Chi	
ID361	The Construction Situation and Development Suggestions in China of Smart Highway	XIAOLIN CHE, Research Institute of Highway Ministry of Transport, China
ID379	Application of intelligent high-speed vehicle-road collaboration system	PENG CAI, Tech Traffic Engineering Group Co.,Ltd, China
ID119	Typical Case of Operation and Maintenance for High-Speed Railway Core System	XINJUN GAO, Signal and Communication Research Institute, China
ID223	Mode measurement of cable based on a new subpixel edge detection operator	KUN XIE, Hohai University, China
ID390	Discussion on Expressway Intelligent Network Traffic Sign System	XU XIANGYU, Tech Traffic Engineering GROUP CO.,LTD, China
ID479	Evaluation on Variable Lanes of Xiehe Road in Shanghai	XI CHEN, Shanghai Urban Construction Design & Research Institute (Group)Co., Ltd., China
ID183	The Bi-Objective Mixed Capacitated Arc Routing Problem in Urban Waste Classified and Collection	TING-TING MIAO, Shanghai Maritime University, China
ID339	Research on multimodal transport service platform based on blockchain	GUANYA HAO, Nanjing University of Science and Technology, China
ID129	The Product Matrix and Strategic Choice of Chinese Express Enterprises: a Case Analysis	XIAOXIA WANG, Beijing Jiaotong University, China

EXHIBITION



Venue Layout



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Monday	Tuesday	Wednesday	Thursday	Friday	
16 October 2023	17 October 2023	18 October 2023	19 October 2023	20 October 2023	
10:30-18:30	09:00-18:30	09:00-18:30	09:00-18:30	09:00-15:30	

For more information, please visit the website: www.itsworldcongress2023.com





Meeting Area Exhibition Area

Meeting Room

Escalator

Restroom

Lift



Suzhou welcomes you to the 29th ITS WORLD CONGRESS



TECHNICAL VISITS

The strategic implementation of the technical visit routes has been a pivotal aspect of past editions of the ITS World Congresses. The comprehensive and typical route settings showcase the host city's advanced intelligent transportation construction and implementation. After a thorough initial evaluation, we have identified 15 technical visit routes for this congress. These routes will offer a comprehensive and one-of-a-kind experience of the most prominent intelligent transportation application scenarios in Suzhou and the wider Yangtze River Delta region. Outlined below are the introductory details of several routes:



Autonomous Driving:

The implementation of automatic driving in various scenarios, such as high-speed rail hub connection, smart cultural travel, and unmanned delivery, will showcase the advanced application of this technology.



Efficient Executive Oversight:

The Suzhou Transportation Operations Coordination Center (TOCC) is set to demonstrate cutting-edge utilizations of big data, artificial intelligence, and related technologies. These applications will encompass continual monitoring, emergency coordination, decision analytics, and information provision within the transportation domain.



Smart Expressway:

The section of the Shanghai-Nanjing Expressway in Suzhou aims to showcase advanced scenarios of intelligent expressway operation and management, including high-speed cognitive capabilities, collaborative cloud-based scheduling, intelligent capacity expansion, and state-of-the-art smart service areas.



Smart Ports:

The port routes, such as the Taicang Port Phase IV Terminal, will present significant initiatives like automated container terminal operations and autonomous truck transportation. Furthermore, the bulk cargo terminal of Zhangjiagang Port Group will highlight the utilization of advanced technologies such as 5G remote control, video analysis, and early warning systems. These technologies enable unmanned operations at the terminal including loading and unloading operations as well as automatic dust-proof spraying, thereby enhancing operational efficiency and safety.



Smart Rail Transit:

Suzhou Rail Transit Line 6's Gangtian Road Station will serve as a showcase for the cutting-edge developments and construction plans of Suzhou Rail Transit. It will feature advancements in areas such as automated station operations, intelligent customer service, efficient maintenance practices, and operational intelligence.

DEMONSTRATIONS



The objective of the demonstrations is to formally request exceptional dynamic display products from both domestic and international technology manufacturers as well as scientific research institutes. At the congress, there will be live demonstrations conducted within a dedicated area spanning 6,000 square meters. As a prominent highlight of the congress, the demonstrations will showcase the most advanced and innovative products, equipment, solutions, or services with a strong technical focus.

After conducting an initial evaluation, we are pleased to announce that there are presently 9 demonstrations included in this congress, encompassing the progressive aspects of future intelligent transportation such as emerging technologies, novel products, and enhanced scenarios.

Emerging Technologies:

Emerging technologies showcase advanced technologies such as laser radar, driver detection systems, cloud-based control platforms, etc., and offer intelligent technical assistance to enhance driving safety, facilitate autonomous driving, and optimize urban smart mobility.

Novel Products:

Novel products showcase the potential of cutting-edge solutions, such as intelligent logistics transportation tools and automated transportation robots, in enhancing logistics transportation capabilities and elevating the standards of traffic management.

Enhanced Scenarios:

Enhanced scenarios showcase a broader range of unmanned traffic scenarios encompassing road and bridge safety inspections, water navigation, logistics distribution, connectivity, and security.

> >>>>> 29th ITS WORLD CONGRESS



GALA DINNER

Panmen

In the southwestern corner of ancient Suzhou downtown situates the world-re-nowned Panmen Scenic Area, which features three historical landmarks. They are the Rui Guang Pagoda, the Wumen Bridge, and the Panmen (the water-and-land city gate). The Panmen is the only well-preserved gate with both water and land access to the city. Its glory can be traced in the old proverb "Admire the grandeur of the Great Wall in the north and appreciate the elegance of the Panmen in the south."

Date: 19 October, 2023 **Time:** 19:00-21:00







>>>>> 29th ITS WORLD CONGRESS

REGISTRATION INFO

Registration Rate (CNY)					
Access to Congress and Exhibition					
Registration Category	Type of pass	15 June- 31 Aug, 2023 Early Bird	1 Sep - 30 Sep, 2023	From 1 Oct, 2023	
	Full event	8,000	9,600	10,600	
Congress Delegate	One-day	4,800	5,300	5,800	
Speaker/Moderator	Full event	6,000	7,000	8,000	
Speaker/Hoderator	One-day	3,600	4,200	4,800	
Student	Full event	2,150	2,450	2,600	
(Speaker & Non-Speaker)	One-day	700	760	900	
Press	Full event	Free			
Developing Countries	Full event	6,280	6,850	7,350	
China ITS Industry Alliance Member	Full event	5,300	5,800	6,200	
Group ¹	Full event	10 delegates or more with 15% off discount or more			
Public Sector	Full event	Free(Government emplovee only)			
	Acc	ess to Exhibition O	nly		
Registration Category	Type of pass	15 June- 31 Aug, 2023 Early Bird	1 Sep - 30 Sep, 2023	From 1 Oct, 2023	
Exhibition Visitor	Full exhibition	560	560	900	
	One-day exhibition	200	200	500	
China ITS Industry Alliance Member	Full event	5,300	5,800	6,200	
Exhibition Stand Personnel/ Demonstrators ² (Inclusive of lunch)	Full exhibition	1,600			
Accompanying Person ³	Full exhibition	Free			
Add-on Selections					
Social Events	Social Events Location Rate				
Gala Dinner (Oct 19, 2023)		350			
Technical Tours	Location	Rate			
All Technical Tours (Oct 17-20.2023)		380			

All Technical Tours (Oct 17-20.2023)

NOTE: 1: To make a group registration, please contact the orgainizing committee directly, email:info@itswc2023.com.

2: Refer to additional purchases beyond complimentary quotas.

3: Accompanying person includes spouse and partner.

* Registration rate includes lunch, but does not include accommodations or supper-

Registration Information

- All rates quoted are in CNY, and inclusive of taxes.
- Developing countries are defined as non- OECD countries and eligibility is based on the registrant's country of residence.
- For registrations as Student, registrants are required to submit a scanned copy of valid Student ID (clearly reflecting the student's name and institution) to enjoy the preferential rates. If the required documents are not submitted during registration, or are deemed be invalid, the Organiser reserves the right to request for the registrant to top-up the price difference for a Congress Delegate pass. Registrations under the Student rate enjoy the same entitlements as a Full Congress Delegate.
- Registration fees must be fully paid.
- Invitation letters for visa application can be requested during online registration.
- All cancellations must be made in writing to info@itsworldcongress2023.com.Refunds for registration fees will be made in accordance to the following policy:

50% before 23:59 on September 15, 2023 (GMT + 8) After 23:59 on September 15, 2023 (GMT + 8), no refunds provided. All refunds will be made after the Congress. Any bank charges or processing fees incurred will be borne by the registrant.



REGISTRATION INFO

Payment Methods

Payments for online registration can be made by:

• Online payment (immediately confirmed)

WeChat and Alipay are advised for use by domestic users to make payments.

Users from abroad are advised to use a credit card for payment. Through the registration platform Allinpay, accepted credit cards include Visa, MasterCard, JCB, and Discover (any costs arising from the transactions are to be borne by the cardholders).

• Bank transfer (not immediately confirmed)

Applicable to domestic and overseas, organizations or individuals. The deadline and time for bank transfers is October 1, 2023, 2359 hours (GMT +8) due to the two-week maximum confirmation period.

Bank Name	BANK OF SHANGHAI,SUZHOU BRANCH
Account Name	Suzhou Zhiyuan Convention and Exhibition Co. Ltd.
Account Number	37000103003560413
SWIFT Code	BOSHCNSHSUA
Bank Address/Zip	31F SUZHOU INTERNATIONAL FORTUNE PLAZA,NO.9 WEST SUZHOU AVENUE, SUZHOU INDUSTRIAL PARK, JIANGSU ,P.R.CHINA., 215021

• Payments for on-site registration can be made by:

Cash in CNY.

In case of payment by credit card, all costs arising from the transactions are to be borne by the cardholders.

Contact

If you have any questions of registration process, please contact us:



Mr. Zhao Anneng



Email registration@itswc2023.com



TRANSPORTATION

Getting to Suzhou





Method 1 Walk to the airport bus platform outside Gate 7 on the first floor of the terminal building, take the airport coach bus,

and arrive at Suzhou Railway Station, about 45 minutes Shuttle schedule: 09:10/10:00/10:30/11:00/11:30/12:00/12:30/13:00/13:30/14:00/15:00/15:30/15:50/16:10/16:50/17:20/18:00/19:00/20:30 Prices: CNY50 Tickets: Purchase tickets in person or by following the Wuxi Passenger Transport and Bus Butler APP's official Wechat account.

For more information, please visit the website:

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29th ITS WORLD

CONGRESS

www.itsworldcongress2023.com

Getting to The Congress Centre



d Xiandai Blvd + - + + + + Kiandai E	Railway Station	Duration	Metro
	Suzhou North	30 mins	~
Suzhou International Expo Center	Suzhou	20 mins	 Image: A second s
Bit Wang Steak © Stantographing Shin Kong Place © Bit Stantographing	Suzhou SIP	5 mins	~



Metro By Metro to Venue







TRANSPORTATION

Shuttle

Arrival Information:

Dates: 14 & 15 Oct, 2023

We will arrange free shuttle buses from Shanghai Pudong International Airport and Shanghai Hongqiao International Airport to the official accommodation hotels and the venue.

Departure Information:

Dates: 20 & 21 Oct, 2023

We will arrange free shuttle buses from the official accommodation hotels and the venue to Shanghai Pudong International Airport and Shanghai Hongqiao International Airport .

Daily Information:

Dates: 16 - 20 Oct, 2023

In regard to the shuttle service between the official recommended hotel and the venue, a circular shuttle service will be arranged between part of the official accommodation hotels and the venue.

For more information, please visit the website:

www.itsworldcongress2023.com



ACCOMMODATION



5 Stars

1.InterContinental Suzhou
 2.Hyatt Regency Suzhou
 3.Shangri-La Yuanqu, Suzhou
 4.Crowne Plaza Suzhou
 5.Hilton Suzhou Hotel
 6.Renaissance Suzhou Hotel

4 Stars

7.Novotel Suzhou SIP
 8.Courtyard by Marriott Suzhou
 9.Scholars Hotel Suzhou Pingjiangfu
 10.Hampton by Hilton Suzhou Jinji Lake
 11.Suzhou Park Xinghai Scholarly Family Hotel (Jinji Lake Store)

3 Stars

12.Mercure Suzhou Jinji Lake 13.Holiday Inn Express Suzhou Industrial Park 14.BOOEIN Hotel (Suzhou Jinji Lake Expo Center) 15.Grace Select Hotel (Suzhou Jinji Lake) 16.Peace & Ease Hotel (Suzhou Jinji Lake Expo Center)

> >>>>> 29th ITS WORLD CONGRESS

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