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**Time:** October 16-20, 2023

**Address:** Suzhou International Expo Center

**Website:**  
[https:// www.itsworldcongress2023.com](https://www.itsworldcongress2023.com)

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General Information Email: [info@itswc2023.com](mailto:info@itswc2023.com)  
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Moderators/Speakers Team Email: [speaker@itswc2023.com](mailto:speaker@itswc2023.com)

# 29<sup>th</sup> ITS WORLD CONGRESS

Driving Towards Intelligent Society —Quality Life

Suzhou International Expo Center

# SUZHOU CHINA

2023.10.16 — 10.20



## Supported by:

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

## Hosted by:

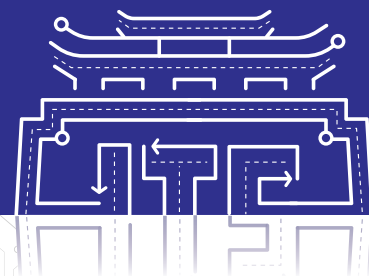
Suzhou Municipal People's Government  
Jiangsu Provincial Department of Transport  
Research Institute of Highway Ministry of Transport of P. R. China

## 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



# 29<sup>th</sup> ITS World Congress About the MaaS Platform



**App Name: ITS Mobility**

**This APP will provide one-stop transportation and information services for the 29<sup>th</sup> ITS World Congress.**

## Main Services:

### 【Mobility Services】

This service provides comprehensive transportation solutions tailored to the congress's needs, encompassing traffic information retrieval, route planning and guidance, and integrated travel services. These offerings encompass various modes of transportation such as public transit, bicycles, autonomous driving, taxi services, ride-sharing platforms, connected vehicles, Robotaxis, congress shuttle buses, and cutting-edge transportation technologies for future demonstrations and immersive experiences.

### 【Congress Services】

This service offers comprehensive assistance and coordination for obtaining congress information, including programs, exhibitor details, technical visits, demonstrations, and press announcements, among others. Also, this service assists users in personalizing their congress itineraries and offers appropriate travel recommendations.

## Key Features:

**One-stop Services  
for Mobility and  
Congress Informa-  
tion**

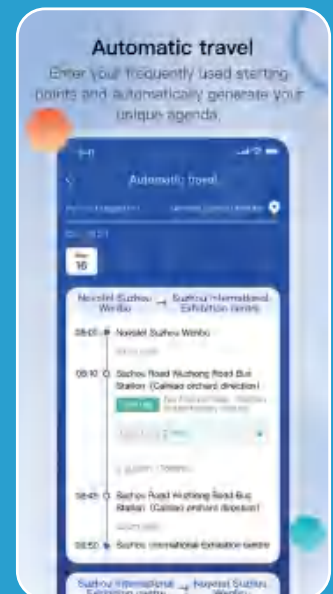
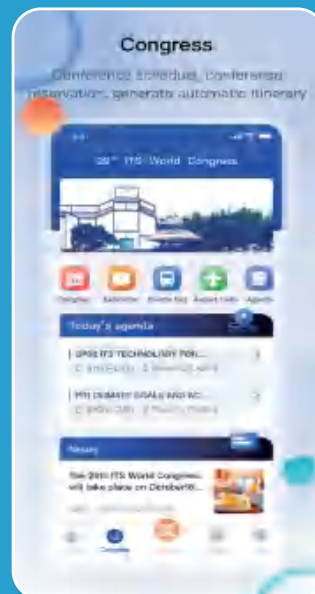
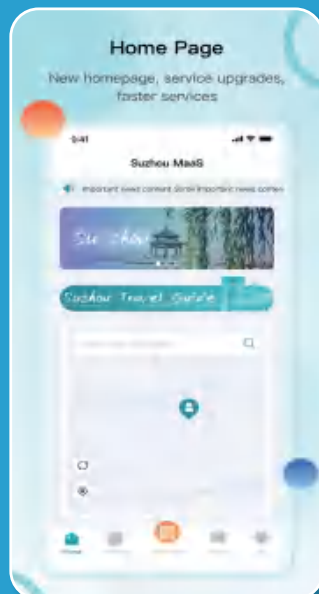
**Options  
available  
for self-guided  
exploration within  
the immediate  
vicinity of the main  
venue**

**Session  
schedules for  
your optimal  
scheduling**

**Providing a  
comprehensive  
guided tour show-  
casing potential  
transportation  
alternatives.**



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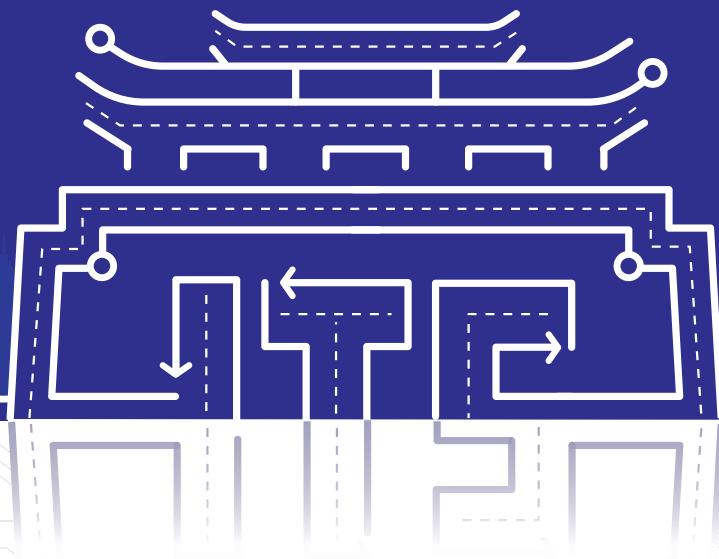
# 第29届智能交通世界大会

## 29<sup>th</sup> ITS WORLD CONGRESS

### 智能交通 美好生活

Driving Towards Intelligent Society —Quality Life

2023 10.16 — 10.20







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.

## 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 22,500 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.



|              |                                          |                |                              |
|--------------|------------------------------------------|----------------|------------------------------|
| <b>03-04</b> | <b>WELCOMES</b>                          | <b>146-155</b> | <b>TECHNICAL TOURS</b>       |
| <b>06</b>    | <b>ABOUT THE ORGANISERS</b>              | <b>156-165</b> | <b>DEMONSTRATIONS</b>        |
| <b>07</b>    | <b>WORLD CONGRESS BOARD OF DIRECTORS</b> | <b>166</b>     | <b>SOCIAL EVENTS</b>         |
| <b>08</b>    | <b>INTERNATIONAL PROGRAMME COMMITTEE</b> | <b>167-168</b> | <b>EXHIBITORS LIST</b>       |
| <b>10</b>    | <b>PROGRAMME AT A GLANCE</b>             | <b>169-170</b> | <b>EXHIBITION FLOOR PLAN</b> |
| <b>11</b>    | <b>PROGRAMME</b>                         | <b>171-174</b> | <b>EXPLORE SUZHOU</b>        |
|              | 12-13 HIGH-LEVEL POLICY ROUND TABLE      | <b>175</b>     | <b>GENERAL GUIDELINES</b>    |
|              | 14 CONGRESS FORMAT                       | <b>176</b>     | <b>CONTACT INFO</b>          |
|              | 15-19 SESSIONS AT A GLANCE               |                |                              |
|              | 20-22 FLOOR PLAN OF HALL A               |                |                              |
|              | 23-25 PLENARY SESSIONS                   |                |                              |
|              | 26-37 EXECUTIVE SESSIONS                 |                |                              |
|              | 38-85 SPECIAL INTEREST SESSIONS          |                |                              |
|              | 86-105 SCIENTIFIC SESSIONS               |                |                              |
|              | 106-141 TECHNICAL SESSIONS               |                |                              |
|              | 142-144 INTERACTIVE SESSIONS             |                |                              |



## 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.





### Suzhou Municipal People's Government

Renowned as the Paradise on the earth, Suzhou is a city of the double-sided embroidery with the combination of the classical and the modern. As one of the key central cities in China's Yangtze River Delta, Suzhou enjoys a remarkable geographical location, solid industry foundation, close international cooperation, and superb innovation environment. Suzhou is a modern city with vitality, charm and attraction.

In recent years, focusing on the goal of building a "Transportation Modernization Demonstration City" and "Transportation Power Demonstration Pilot Zone", we took the chance of preparing the 29th ITS World Congress, launched the construction of a group of demonstration projects of Taicang Smart Port, Suzhou-Taizhou Smart Expressway, and Smart Channel of Beijing-Hangzhou Canal Suzhou Section, completed the construction of transport command center and other leading intelligent transport brands nationwide, and successfully built the city as the first pilot zone of internet of vehicles in Jiangsu Province and the first demonstration zone of digital transport. Suzhou was approved by Ministry of Transport as the first group of intelligent transport application pilot cities, and it has become one of the representative cities that have the rapid development of intelligent transport in China.

Please visit [www.suzhou.gov.cn](http://www.suzhou.gov.cn) for more information

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### Jiangsu Provincial Department of Transport

Jiangsu Provincial Department of Transport is a governmental body of the People's Government of Jiangsu Province. It undertakes the task of implementing the transportation policies established by the central government as well as executing the directives and strategies sanctioned by the Provincial Party Committee. In addition, it guarantees compliance with transportation policies, legislation, and regulations established by the governing authorities, facilitates the coordination and development of a comprehensive transportation system strategy for the province, oversees the implementation of significant national and provincial transport infrastructure initiatives, takes on regulatory duties for the road and water transport sectors within the province, offers guidance for comprehensive enforcement of administrative laws in the transportation sector, and ensures effective monitoring and management of production safety in the transportation industry. Moreover, it assumes the responsibility of overseeing the province's railway sector, among various other obligations.

Over the past few years, Jiangsu Provincial Department of Transport has been dedicating to advancing the establishment of a pilot transportation power and a demonstration zone for transportation modernization. The ultimate objective is to meet the people's ever-growing needs for a better life. This effort includes the accelerated development of a modern comprehensive transportation system that is safe, convenient, efficient, and environmentally friendly, aiming to expand the range of diversified and high-quality transportation services, foster innovation-driven and integrated development, and strengthen a green, safe, open, and cooperative model of progress. By doing so, it will effectively enhance and guarantee the progress of the innovative pursuit of Chinese-style modernization in Jiangsu, thus ushering in a transformative era characterized by robustness, wealth, visual attractiveness, and superiority in Jiangsu.

Please visit [jtyst.jiangsu.gov.cn](http://jtyst.jiangsu.gov.cn) for more information.

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### Research Institute of Highway Ministry of Transport of People's Republic of China

The Research Institute of Highway Ministry of Transport is a large-scale comprehensive highway transportation research institution directly under the Ministry of Transport, mainly engaged in scientific research and development of technical materials and equipment in the fields of road engineering, bridge engineering, transportation engineering, intelligent transportation, automotive application engineering, road transportation and logistics, highway ecology and environmental protection engineering, etc. Its main responsibilities are to serve major national strategic tasks, serve the scientific development of transportation. The service industry has made technological progress, and government departments have fulfilled their duties and responsibilities.

Please visit [new.rioh.cn](http://new.rioh.cn) for more information.

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**Carol Schweiger**, Schweiger Consulting, LLC

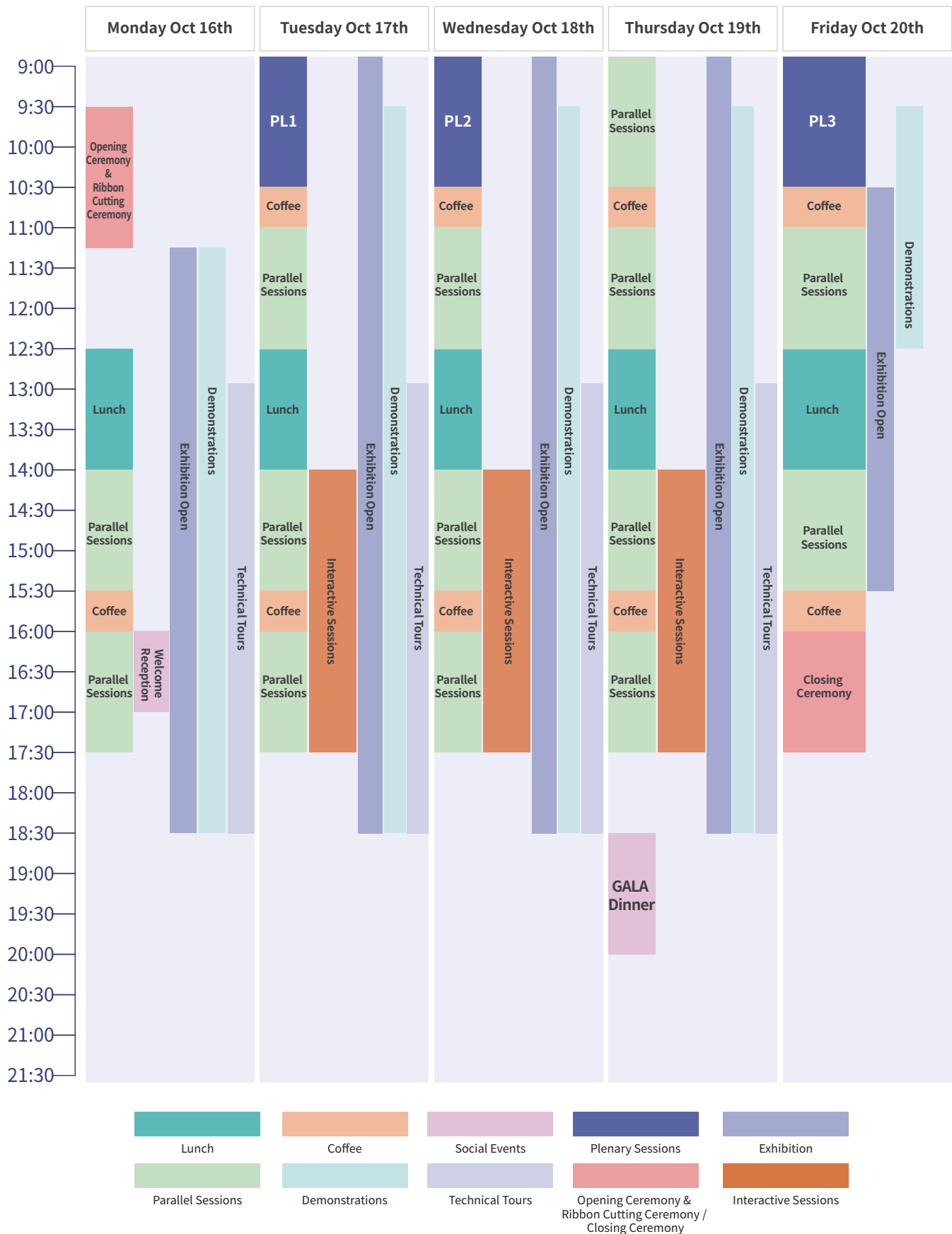
**Mario Toscano**, Drive Engineering

**Janneke van der Zee**, ITS-STI Canada





## PROGRAMME AT A GLANCE







## PROGRAMME

## Ministerial Round Table

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. Participation is by invitation only.

### 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.



Mayoral Round Table

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.

Participation is by invitation only.

**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.



## 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**



**Connected, Cooperative and  
Automated Mobility**



**Intelligent and Digital  
Transport Infrastructure**



**Integrated Transport  
Systems**



**Advanced Technology for  
Improved Services**



**Smart Cities and  
Future Transport**



**Pricing and Travel  
Demand Management**



**Policy, Standards and  
Harmonization**

SESSIONS AT A GLANCE

|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|-----------------------------------|----------------------------------------------------------|--|-------------------|------------------------------------------------------------------------|-------|-----------------------------------------------------------------------------------|-------|-----------------------------------------------------------------------|-------|------------------------------------------------------------------------------|-------|--------------------------------------------------------------------------------|--------|---------------------------------------------|--------|-----------------------------------|--------|-----------------------|---------------------|------------------------------------------------------------|---------|-----------------------------------------------------------------------------------------------------------|--|--|------|-----------------------------------------------------------------------------------------------------------|--|
| 16<br>10 <sup>th</sup> Oct<br>Mon | Opening Ceremony<br>Closing Ceremony<br>Plenary Sessions |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       | Executive Sessions                                                             |        | Special Interest Sessions                   |        |                                   |        |                       | Scientific Sessions |                                                            |         | Technical Sessions                                                                                        |  |  |      | Interactive Session                                                                                       |  |
|                                   | Jinji Lake Hall<br>(Level 3, Hall B)                     |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       | Room 1                                                                         | Room 2 | Room 3                                      | Room 4 | Room 5                            | Room 6 | Room 7                | Room 8              | Room 9                                                     | Room 10 | Room 11                                                                                                   |  |  |      |                                                                                                           |  |
| 09:30-11:15                       | Opening Ceremony &<br>Ribbon Cutting Ceremony            |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
| 12:30-14:00                       | Lunch                                                    |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
| 14:00-15:30                       |                                                          |  | ES01              | Imagine the Future: The Vision of Intelligent Mobility and Future City | SIS01 | Navigating the Future: The Role of Electromobility and EV Charging Infrastructure | SIS02 | C-V2X Empowering Safe and Connected Mobility                          | SIS03 | Technology and Practice of Digital Twin in Transportation                    | SIS04 | Intelligent Highway Technology and Operation Service                           | SP01   | Climate Goals and Action Plans in Transport | SP02   | ITS Technology for Traffic Safety | TS01   | Mobility as a Service | TS02                | V2X Communication Technologies and Cooperative Systems (1) | TS03    | Cloud Computing, Edge Computing, Artificial Intelligence, Digital Twins, Blockchain in Transportation (1) |  |  |      |                                                                                                           |  |
| 15:30-16:00                       |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
| 16:00-17:30                       |                                                          |  | ES02              | Active Modes and ITS                                                   | SIS05 | Green Transport and Green Energy                                                  | SIS06 | Automatic Driving Test Technology and Demonstration Area Construction | SIS07 | Global V2X Demonstration and Operation Service Providers: Present and Future | SIS51 | Data Sharing to Improve Safety and Mobility in Connected Transportation System |        |                                             |        |                                   |        |                       | TS04                | Climate Goals and Action Plans in Transport                | TS05    | V2X Communication Technologies and Cooperative Systems (2)                                                |  |  | TS06 | Cloud Computing, Edge Computing, Artificial Intelligence, Digital Twins, Blockchain in Transportation (2) |  |
| 16:00-17:00                       |                                                          |  | Welcome Reception |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
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|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
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|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
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|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
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|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
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|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
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|                                   |                                                          |  |                   |                                                                        |       |                                                                                   |       |                                                                       |       |                                                                              |       |                                                                                |        |                                             |        |                                   |        |                       |                     |                                                            |         |                                                                                                           |  |  |      |                                                                                                           |  |
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# SESSIONS AT A GLANCE

17  
10 Oct Tue

|                     |                                                             |                       |                                                               |                                                                                                    |                                                                                                                      |                                                                                                                             |                                                                                               |                                                          |                                                                                            |                                                                                        |                                                                                         |                                                                                                         |                                                                                                                                       |
|---------------------|-------------------------------------------------------------|-----------------------|---------------------------------------------------------------|----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------|--------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| 17<br>10 oct<br>Tue | Opening Ceremony<br>Closing Ceremony<br>Plenary Sessions    | Executive<br>Sessions | Special Interest<br>Sessions                                  |                                                                                                    |                                                                                                                      |                                                                                                                             |                                                                                               | Scientific<br>Sessions                                   |                                                                                            | Technical<br>Sessions                                                                  |                                                                                         |                                                                                                         | Interactive<br>Session                                                                                                                |
|                     | Jinji Lake Hall<br>(Level 3, Hall B)                        | Room 1                | Room 2                                                        | Room 3                                                                                             | Room 4                                                                                                               | Room 5                                                                                                                      | Room 6                                                                                        | Room 7                                                   | Room 8                                                                                     | Room 9                                                                                 | Room 10                                                                                 | Room 11                                                                                                 |                                                                                                                                       |
| 09:00-10:30         | PL 1 Sustainable<br>and Intelligent<br>Integrated Transport |                       |                                                               |                                                                                                    |                                                                                                                      |                                                                                                                             |                                                                                               |                                                          |                                                                                            |                                                                                        |                                                                                         |                                                                                                         |                                                                                                                                       |
| 10:30-11:00         | Coffee Break                                                |                       |                                                               |                                                                                                    |                                                                                                                      |                                                                                                                             |                                                                                               |                                                          |                                                                                            |                                                                                        |                                                                                         |                                                                                                         |                                                                                                                                       |
| 11:00-12:30         |                                                             | ES03                  | Intelligent<br>Infrastructure,<br>Moving to a<br>Larger Scale | SIS09<br>Big Data and AI<br>Empowering<br>Sustainable<br>Development of<br>Urban<br>Transportation | SIS10<br>Latest<br>Progress of<br>Engineering<br>Application of<br>V2X<br>Networking<br>Technology                   | SIS11<br>National ITS<br>Activities in<br>Japan -<br>Future<br>Transport<br>Society with<br>DX                              | SIS12<br>Development<br>of Traffic<br>Active<br>Management<br>under<br>Intelligent<br>Highway | SP05<br>Energy, Noise<br>and<br>Environmental<br>Impacts | SP06<br>Multimodal<br>Travel<br>Information<br>and Planning<br>Services &<br>Bike Sharing  | TS08<br>V2X<br>Communica-<br>tion<br>Technologies<br>and<br>Cooperative<br>Systems (3) | TS09<br>Artificial<br>Intelligence &<br>Crowdsourc-<br>ing and Big<br>Data<br>Analytics |                                                                                                         |                                                                                                                                       |
| 12:30-14:00         |                                                             | Lunch                 |                                                               |                                                                                                    |                                                                                                                      |                                                                                                                             |                                                                                               |                                                          |                                                                                            |                                                                                        |                                                                                         |                                                                                                         |                                                                                                                                       |
| 14:00-15:30         |                                                             | ES04                  | The Global<br>Development<br>of Intelligent<br>Automobiles    | SIS13<br>Novel electric<br>Micromobility<br>and Mobility<br>as a Service                           | SIS14<br>Current and<br>Future<br>Spectrum<br>Strategy for<br>Cooperative<br>Automated<br>Vehicle                    | SIS46<br>In Cabin<br>Challenges:<br>Requirement<br>to<br>Homologation                                                       | SIS16<br>ICT-enabled<br>the<br>Development<br>of ITS                                          | SP07<br>Electromobili-<br>ty & Mobility<br>as a Service  | SP08<br>Multimodal<br>Journey<br>Planner &<br>Intelligent<br>Supply Chain<br>and Logistics | TS10<br>Energy, Noise<br>and<br>Environmental<br>Impacts                               | TS11<br>V2X<br>Communica-<br>tion<br>Technologies<br>and<br>Cooperative<br>Systems (4)  | TS12<br>Availability,<br>Quality And<br>Visualization Of<br>Data & New<br>Type Detectors<br>And Sensors | IS01<br>14:00-17:00<br>Sustainable and<br>Transformational<br>Development of<br>Transport & Policy,<br>Standards and<br>Harmonization |
| 15:30-16:00         |                                                             | Coffee Break          |                                                               |                                                                                                    |                                                                                                                      |                                                                                                                             |                                                                                               |                                                          |                                                                                            |                                                                                        |                                                                                         |                                                                                                         |                                                                                                                                       |
| 16:00-17:30         |                                                             | ES05                  | Decarboniza-<br>tion in Public<br>Transport                   | SIS17<br>Energy-based<br>Green ITS<br>Services for<br>Smart City<br>Mobility                       | SIS08<br>Visualizing<br>Smart<br>Mobilities<br>Intelligent<br>Transportation<br>System in the<br>New Capital<br>City | SIS19<br>Using<br>Transportation<br>Big Data<br>Intelligence to<br>Serve Ground<br>Transportation<br>Economy<br>Development | SIS20<br>Sustainable<br>and Digital<br>Development<br>of Multimodal<br>Transport<br>Systems   |                                                          |                                                                                            | TS13<br>Electromobili-<br>ty and EV<br>Charging<br>Infrastructure                      | TS14<br>Simulation<br>and Modelling                                                     | TS15<br>Innovative<br>Use of ETC<br>Infrastructure<br>for Other<br>Applications                         |                                                                                                                                       |

Exhibition 09:00-18:30      Demonstrations 09:30-18:30      Technical Tours 13:00-18:30

|                     |                                                                       |              |                                                                                                    |        |                                                                                                    |             |                                                                        |        |                                                                          |                     |                                                                                    |         |                                                       |      |                                                                                                                                  |                     |                                                           |      |                                                                 |                                                                                   |                                                 |
|---------------------|-----------------------------------------------------------------------|--------------|----------------------------------------------------------------------------------------------------|--------|----------------------------------------------------------------------------------------------------|-------------|------------------------------------------------------------------------|--------|--------------------------------------------------------------------------|---------------------|------------------------------------------------------------------------------------|---------|-------------------------------------------------------|------|----------------------------------------------------------------------------------------------------------------------------------|---------------------|-----------------------------------------------------------|------|-----------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------|
| 18<br>10 Oct<br>Wed | Opening Ceremony<br>Closing Ceremony<br>Plenary Sessions              |              | Executive Sessions                                                                                 |        | Special Interest Sessions                                                                          |             |                                                                        |        |                                                                          | Scientific Sessions |                                                                                    |         | Technical Sessions                                    |      |                                                                                                                                  | Interactive Session |                                                           |      |                                                                 |                                                                                   |                                                 |
|                     | Jinji Lake Hall<br>(Level 3, Hall B)                                  |              | Room 1                                                                                             | Room 2 | Room 3                                                                                             | Room 4      | Room 5                                                                 | Room 6 | Room 7                                                                   | Room 8              | Room 9                                                                             | Room 10 | Room 11                                               |      |                                                                                                                                  |                     |                                                           |      |                                                                 |                                                                                   |                                                 |
| 09:00-10:30         | PL2 Future Mobility<br>and Transport Industry<br>Driven by Innovation |              |                                                                                                    |        |                                                                                                    |             |                                                                        |        |                                                                          |                     |                                                                                    |         |                                                       |      |                                                                                                                                  |                     |                                                           |      |                                                                 |                                                                                   |                                                 |
| 10:30-11:00         | Coffee Break                                                          |              |                                                                                                    |        |                                                                                                    |             |                                                                        |        |                                                                          |                     |                                                                                    |         |                                                       |      |                                                                                                                                  |                     |                                                           |      |                                                                 |                                                                                   |                                                 |
| 11:00-12:30         |                                                                       | ES06         | Using Artificial Intelligence (AI) to Improve Operations and Security of Our Transportation System | SIS21  | Challenges and Innovative Solutions from China and Europe in Particular Suzhou/Shanghai and Berlin | SIS22       | Promoting C-V2X Application Worldwide: Learning from China's Success   | SIS23  | Road Infrastructure Support for Automated Driving                        | SIS24               | Insurtech and ITS: Transportation Risk Assessment and Management Solutions (TRAMS) | SP11    | Sensors and Perception Methods for Automated Vehicles | SP12 | ITS in Airport Ground Operations & Waterway Transport Applications and 5G Solution                                               | TS16                | Mobility for Ageing Population                            | TS17 | Pilots, Trials and Tests of Intelligent and Autonomous Vehicles | TS18                                                                              | Transport Infrastructure Predictive Maintenance |
| 12:30-14:00         |                                                                       | Lunch        |                                                                                                    |        |                                                                                                    |             |                                                                        |        |                                                                          |                     |                                                                                    |         |                                                       |      |                                                                                                                                  |                     |                                                           |      |                                                                 |                                                                                   |                                                 |
| 14:00-15:30         |                                                                       | ES07         | Sustainable Development of Intelligent Port and Freight                                            | SIS25  | Safety Measures for Mixed Traffic in Asia Pacific Region                                           | SIS26       | Accelerating Global C-V2X Deployment for Safer and Smarter Mobility    | SIS27  | Digital Infrastructure Practice for Serving Autonomous Driving Scenarios | SIS28               | The Application of Digital Twins in the Intelligent Transportation                 | SP13    | New Advances in V2V, V2I and V2X Technology           | SP14 | Cloud Computing, Edge Computing, AI, Digital Twins, Blockchain in Transportation & Cybersecurity and Data Security for Transport | TS19                | Next Generation Human Machine Interface and Human Factors | TS20 | ITS Policy and Strategy & Standardization                       | IS02<br>14:00-17:00<br>Connected, Cooperative and Automated Mobility & Smart City |                                                 |
| 15:30-16:00         |                                                                       | Coffee Break |                                                                                                    |        |                                                                                                    |             |                                                                        |        |                                                                          |                     |                                                                                    |         |                                                       |      |                                                                                                                                  |                     |                                                           |      |                                                                 |                                                                                   |                                                 |
| 16:00-17:30         |                                                                       | ES08         | Utilising the Third Dimension for New Mobility Services                                            | SIS29  | Strategy of Practical Implementation of V2X Systems for Traffic Accident Avoidance                 | SIS30       | Perception and Evaluation Technology of Intelligent Connected Vehicles | SIS32  | Sensor Data Sharing in ITS - Status and Outlook                          | SP15                | V2X Communication Technologies and Cooperative Systems                             | SP16    | Real-time Information, Intelligent Traffic Management | TS24 | ITS Technology for Traffic Safety (I)                                                                                            |                     |                                                           |      |                                                                 |                                                                                   |                                                 |
| Exhibition          |                                                                       |              |                                                                                                    |        |                                                                                                    |             |                                                                        |        |                                                                          |                     |                                                                                    |         |                                                       |      | Technical Tours                                                                                                                  |                     |                                                           |      |                                                                 |                                                                                   |                                                 |
| 09:00-18:30         |                                                                       |              | Demonstrations                                                                                     |        |                                                                                                    | 09:30-18:30 |                                                                        |        | 13:00-18:30                                                              |                     |                                                                                    |         |                                                       |      |                                                                                                                                  |                     |                                                           |      |                                                                 |                                                                                   |                                                 |

# SESSIONS AT A GLANCE

10

19

Oct

Thu

| Opening Ceremony<br>Closing Ceremony<br>Plenary Sessions                                |  | Executive Sessions                                                                                                   | Special Interest Sessions                                                                                                           |                                                                                       |                                                                                                           |                                                                                        |                                                                         | Scientific Sessions                                                               |                                                                   |                                                 | Technical Sessions                                                                  |                                                                                                        |  | Interactive Session |
|-----------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|-------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------|-------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|--|---------------------|
| Jinji Lake Hall<br>(Level 3, Hall B)                                                    |  | Room 1                                                                                                               | Room 2                                                                                                                              | Room 3                                                                                | Room 4                                                                                                    | Room 5                                                                                 | Room 6                                                                  | Room 7                                                                            | Room 8                                                            | Room 9                                          | Room 10                                                                             | Room 11                                                                                                |  |                     |
|                                                                                         |  |                                                                                                                      | SIS33<br>Current Status of V2X in US and Europe                                                                                     | SIS34<br>China Vehicle&city Integration Development Conference                        | SIS35<br>Roadside Infrastructure Supported Location-based Services for Urban Connected Automated Mobility | SIS36<br>Intelligent Connected Urban Transport and Smart Governance                    | SP17<br>Simulation and Modelling                                        | SP18<br>Future Rail Experience                                                    | TS25<br>Sensors and Perception Methods for Automated Vehicles (1) | TS26<br>Data Collection and Fusion Technologies | TS27<br>ITS Technology for Traffic Safety (2)                                       |                                                                                                        |  |                     |
| Coffee Break                                                                            |  |                                                                                                                      |                                                                                                                                     |                                                                                       |                                                                                                           |                                                                                        |                                                                         |                                                                                   |                                                                   |                                                 |                                                                                     |                                                                                                        |  |                     |
|                                                                                         |  |                                                                                                                      | SIS37<br>The Best Practice from Excellent Projects of Smart Transportation Innovation Competition in the Yangtze River Delta        | SIS38<br>Managing Mixed Traffic with Connected Vehicles: Challenges and Opportunities | SIS39<br>Global Policy and Standardization for Cybersecurity Issues                                       |                                                                                        | SP19<br>Impact, Cost-benefit and Risk Assessment for Automated Vehicles | SP20<br>Predictive Network Management, Influencing Traveler Behavior, Co-creation | TS28<br>Sensors and Perception Methods for Automated Vehicles (2) | TS30<br>ITS Technology for Traffic Safety (3)   |                                                                                     |                                                                                                        |  |                     |
| Lunch                                                                                   |  |                                                                                                                      |                                                                                                                                     |                                                                                       |                                                                                                           |                                                                                        |                                                                         |                                                                                   |                                                                   |                                                 |                                                                                     |                                                                                                        |  |                     |
|                                                                                         |  | ES09<br>Transport Equity – Planning a Diverse Workforce that Advances Future Mobility Needs for All                  |                                                                                                                                     | SIS42<br>Urban Connected Automated Shuttle Systems and Services                       | SIS43<br>Intelligent Roadway Infrastructure and Traffic Safety                                            | SIS44<br>Mobility on Demand: The Rise of Disruptive Technologies, Models, and Services | SP21<br>Pilots, Trials and Tests of Intelligent and Autonomous Vehicles |                                                                                   | TS31<br>New Advances in V2V, V2I and V2X Technology               | TS33<br>Smart Parking&bicycle Sharing           |                                                                                     | IS03<br>14:00-17:00<br>Intelligent and Digital Transport Infrastructure & Integrated Transport Systems |  |                     |
| Coffee Break                                                                            |  |                                                                                                                      |                                                                                                                                     |                                                                                       |                                                                                                           |                                                                                        |                                                                         |                                                                                   |                                                                   |                                                 |                                                                                     |                                                                                                        |  |                     |
|                                                                                         |  | ES10<br>Transportation Innovation and Personalized Service- The Intersection of Equity, Accessibility and Technology | SIS45<br>The Application Development of Specific Scenario, Policy and Regulation Prospects of Surface Autonomous Driving Technology |                                                                                       | SIS47<br>Developing Highway Systems for Connected & Autonomous Vehicles: Achieving Global Consensus       | SIS48<br>Global Commercialization Policy and Strategy for ITS                          | SP23<br>Next Generation Traffic Management                              | SP24<br>Data Analytics for Traffic Monitoring and Management                      | TS34<br>Railway Applications and 5G Solution                      | TS35<br>Next Generation Traffic Management      | TS36<br>Future Metropolitan Transport & Disruptive Innovations in Digital Transport |                                                                                                        |  |                     |
| Gala Dinner                                                                             |  |                                                                                                                      |                                                                                                                                     |                                                                                       |                                                                                                           |                                                                                        |                                                                         |                                                                                   |                                                                   |                                                 |                                                                                     |                                                                                                        |  |                     |
| Exhibition 09:00-18:30      Demonstrations 09:30-18:30      Technical Tours 13:00-18:30 |  |                                                                                                                      |                                                                                                                                     |                                                                                       |                                                                                                           |                                                                                        |                                                                         |                                                                                   |                                                                   |                                                 |                                                                                     |                                                                                                        |  |                     |

09:00-10:30

10:30-11:00

11:00-12:30

12:30-14:00

14:00-15:30

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18:30-20:00

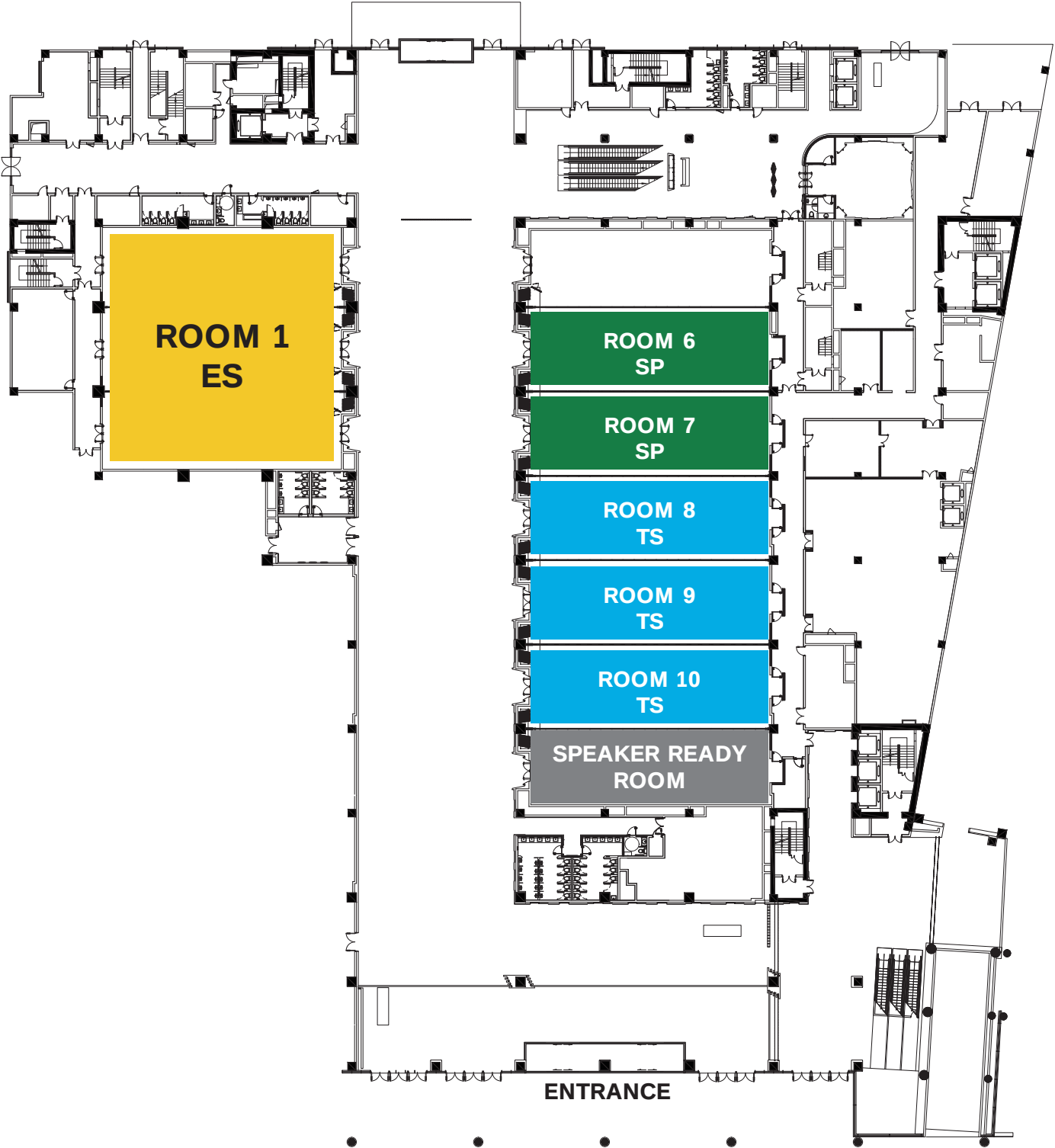


SESSIONS AT A GLANCE

| Opening Ceremony<br>Closing Ceremony<br>Plenary Sessions                 |      | Executive<br>Sessions                                 |                                                                                                                             | Special Interest<br>Sessions                                                                                   |        |        |                                                        | Scientific<br>Sessions |                                                                             |                                                                            | Technical<br>Sessions                                               |         |  | Interactive<br>Session |
|--------------------------------------------------------------------------|------|-------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|--------|--------|--------------------------------------------------------|------------------------|-----------------------------------------------------------------------------|----------------------------------------------------------------------------|---------------------------------------------------------------------|---------|--|------------------------|
| Jinji Lake Hall<br>(Level 3, Hall B)                                     |      | Room 1                                                | Room 2                                                                                                                      | Room 3                                                                                                         | Room 4 | Room 5 | Room 6                                                 | Room 7                 | Room 8                                                                      | Room 9                                                                     | Room 10                                                             | Room 11 |  |                        |
| PL3 Digitization<br>Reshapes the Future of<br>Transportation and Society |      |                                                       |                                                                                                                             |                                                                                                                |        |        |                                                        |                        |                                                                             |                                                                            |                                                                     |         |  |                        |
| Coffee Break                                                             |      |                                                       |                                                                                                                             |                                                                                                                |        |        |                                                        |                        |                                                                             |                                                                            |                                                                     |         |  |                        |
|                                                                          | ES11 | Going Further<br>with Uniform<br>Ticketing in<br>MaaS | SIS49                                                                                                                       | SIS50                                                                                                          |        |        | SP25                                                   | TS37                   | TS38                                                                        | TS39                                                                       | TS40                                                                |         |  |                        |
|                                                                          |      |                                                       | How Can<br>Intelligent<br>Connected<br>Vehicles<br>Achieve<br>Commercial<br>Application of<br>Vehicle-road<br>Coordination? | Exploration and<br>Practice:<br>Innovation of<br>Smart<br>Transportation<br>to Drive Digital<br>Transformation |        |        | Intelligent<br>Emergency<br>and Incident<br>Management | Platooning             | Multimodal<br>Journey<br>Planner &<br>Smart and<br>Green Vehicle<br>Routing | ITS<br>Infrastructure<br>for<br>Automated<br>Vehicles                      | Data<br>Analytics for<br>Traffic<br>Monitoring<br>and<br>Management |         |  |                        |
| Lunch                                                                    |      |                                                       |                                                                                                                             |                                                                                                                |        |        |                                                        |                        |                                                                             |                                                                            |                                                                     |         |  |                        |
|                                                                          | ES12 | Digital<br>Infrastructure                             | SIS53                                                                                                                       | SIS54                                                                                                          |        |        | TS42                                                   |                        |                                                                             | TS45                                                                       |                                                                     |         |  |                        |
|                                                                          |      |                                                       | Smart Parking<br>Assists the<br>Construction<br>of Smart<br>Cities                                                          | How<br>Microsimulation<br>Can Help to<br>Foresee and<br>Optimize the<br>Impact of CAV<br>on Urban Traffic      |        |        | Technologies<br>for Travel<br>Demand<br>Management     |                        |                                                                             | Policy and<br>Regulation for<br>Connected<br>and<br>Autonomous<br>Vehicles |                                                                     |         |  |                        |
| Coffee Break                                                             |      |                                                       |                                                                                                                             |                                                                                                                |        |        |                                                        |                        |                                                                             |                                                                            |                                                                     |         |  |                        |
| Closing Ceremony                                                         |      |                                                       |                                                                                                                             |                                                                                                                |        |        |                                                        |                        |                                                                             |                                                                            |                                                                     |         |  |                        |

Exhibition - - - - - Demonstrations  
09:00-15:30                      09:30-12:30

Level 1, Hall A

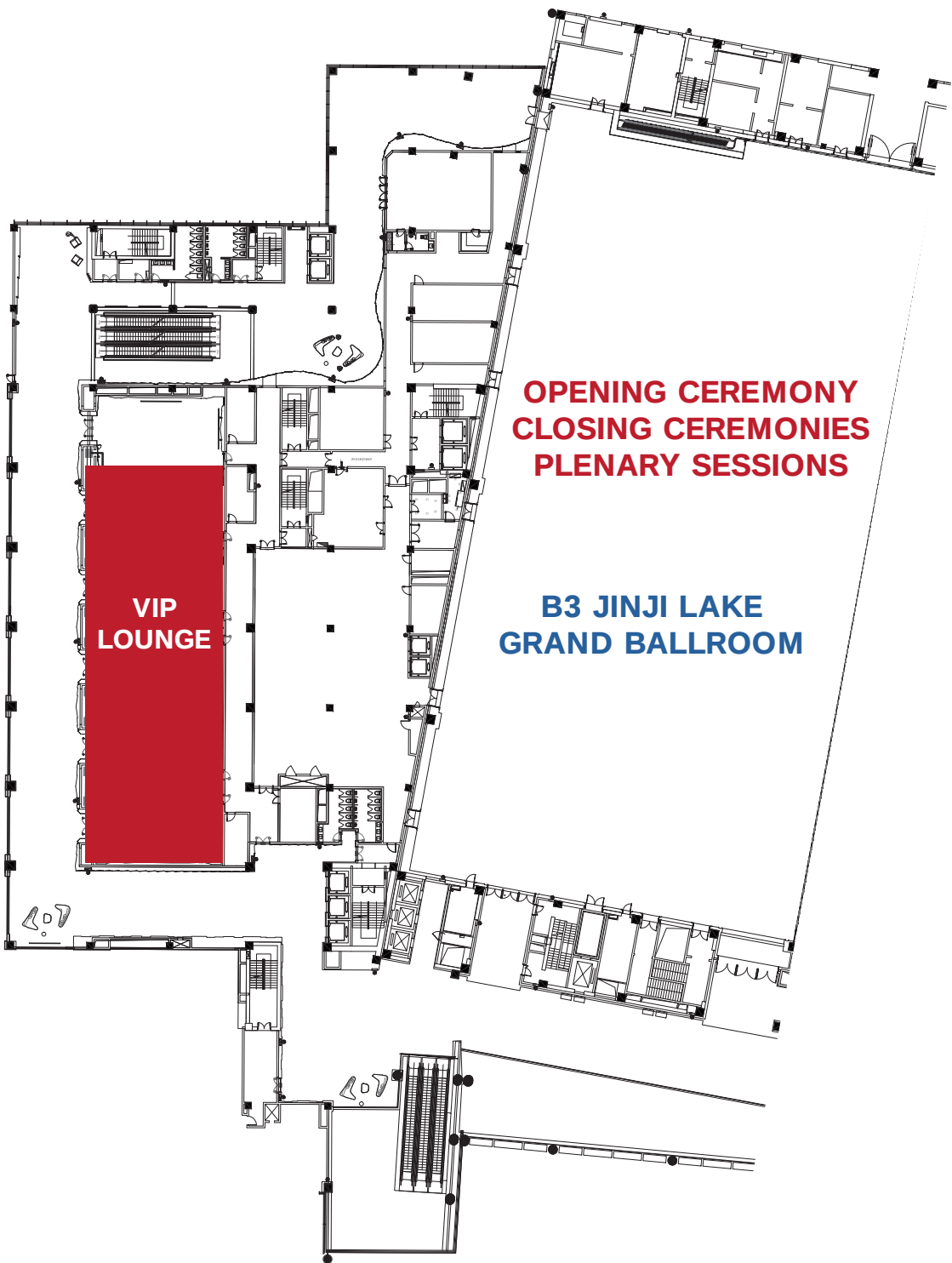


Level 2, Hall A





Level 3, Hall A



# PLENARY SESSIONS

## OPENING CEREMONY & RIBBON CUTTING CEREMONY

**Monday, 16 October 2023 | 09:30 - 11:15 | < Room: Level 3, Jinji Lake Hall >**

In keeping with tradition, the Opening Ceremony will start with the official welcome by the organisers, Suzhou Municipal People's Government, Jiangsu Provincial Department of transport, Research Institute of Highway Ministry of Transport of People's Republic of China, and co-hosts representing Asia-Pacific, Americas and Europe. Celebrations at the opening ceremony include the presentation of the 'Hall of Fame - Lifetime Achievement' award, entertainment that encapsulates the charms of the host city Suzhou, and the Ribbon Cutting Ceremony.

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## CLOSING CEREMONY

**Friday, 20 October 2023 | 16:00 - 17:30 | < Room: Level 3, Jinji Lake Hall >**

The Closing Ceremony will summarise key moments that made the 29th ITS World Congress unique. It will include among others, official closing keynote speeches from the organisers, Suzhou Municipal People's Government, Jiangsu Provincial Department of transport, Research Institute of Highway Ministry of Transport of People's Republic of China, best paper awards, presentations and invitations by the 30th ITS World Congress (Dubai 2024), the 31st World Congress (Atlanta 2025) and 32nd World Congress (Gangneung 2026) and Passing of the Globe Ceremony.

## PL1 SUSTAINABLE AND INTELLIGENT INTEGRATED TRANSPORT

**Tuesday, 17 October 2023 | 09:00-10:30 | < Room: Level 3, Jinji Lake Hall >**

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?

### **Moderator**

MR. PAN LIU, Executive Deputy Secretary, Southeast University, China

### **Hall of Fame Ceremony**

### **Speakers**

MR. MENGYONG WENG, Chairman, China Highway & Transportation Society/Formal Vice Minister of Transport, China

MS. ROSALINDE VAN DER VLIES, Director of Clean Planet, DG RTD, European Commission, Belgium

MS. TILLY CHANG, Executive Director, San Francisco County Transportation Authority, United States

MR. JINQUAN ZHANG, President, Research Institute of Highway Ministry of Transport, China

## PL2 FUTURE MOBILITY AND TRANSPORT INDUSTRY DRIVEN BY INNOVATION

**Wednesday, 18 October 2023 | 09:00-10:30 | < Room: Level 3, Jinji Lake Hall >**

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?

### **Moderator**

MR. XIAOJING WANG, Chairman of China ITS Industry Alliance, China

### **Hall of Fame Ceremony**

### **Speakers**

MR. KEQIANG LI, Academician/Professor, The Chinese Academy of Engineering/Tsinghua University, China

DR. JÜRGEN UNSER, President of Audi China, Audi, Germany

MR. CHENWEI YAN, Senior Vice President, Qualcomm, United States

MR. NAOHIKO OGIHARA, Director-General of the Radio Department, Telecommunications Bureau, Ministry of Internal Affairs and Communications, Japan



## PL3 DIGITIZATION RESHAPES THE FUTURE OF TRANSPORTATION AND SOCIETY

**Friday, 20 October 2023 | 09:00-10:30 | < Room: Level 3, Jinji Lake Hall >**

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 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 AIIB 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?

### **Moderator**

MR. BIN LI, Vice President, Research Institute of Highway Ministry of Transport, China

### **Speakers**

MR. HEPING SHI, Chairman, Jiangsu Provincial Comprehensive Transportation Society/Former Vice Governor of Jiangsu Provincial Government, China

DR. ANGELOS AMDITIS, ERTICO-ITS Europe Chairman, ICCS, Greece

MR. CHRISTIAN HAAS, Chief Executive Officer, UMove, United States

MR. DENNIS WALSH, Chief Engineer Engineering & Technology, Department of Transport and Main Roads, Queensland, Australia

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

**Monday, 16 October 2023 | 14:00-15:30 | <Room: 1 (A108-A110) >**

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.

**Moderator:**

MR. MIKE RUDGE, Director, ITS New Zealand, New Zealand

**Speakers:**

MR. BOB ZHANG, CTO/CEO, DiDi Chuxing/DiDi Autonomous, China

MR. ROBERT SYKORA, Director for Europe, Ohmio, Luxembourg

MR. SHIN YAMAMOTO, Dept. General Manager, Toyota Motor Cooperation, Japan

MR. FRED KALT, President, ITS Singapore, Singapore

## ES02 ACTIVE MODES AND ITS

**Monday, 16 October 2023 | 16:00-17:30 | <Room: 1 (A108-A110) >**

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.

**Moderator:**

DR. NOBUYUKI OZAKI, Professor, Nagoya University, Japan

**Speakers:**

MS. LISA SPELLMAN, Founding Director, VRU Safety Consortium, SAE, United States

MS. YOLANDA YOU, Head of Research & Advanced Engineering, Continental Corporation, China

MR. GONZALO ALCARAZ, Deputy Director General, International Road Federation (IRF), Switzerland

DR. RESDIANSYAH, Ph.D., Chief Urban Mobility, Nusantara National Capital City Authority/Vice President ITS Indonesia, Indonesia



## ES03 INTELLIGENT INFRASTRUCTURE, MOVING TO A LARGER SCALE

**Tuesday, 17 October 2023 | 11:00-12:30 | <Room: 1 (A108-A110) >**

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.

**Moderator:**

MR. CHRISTIAN HAAS, Chief Executive Officer, UMoVity, United States

**Speakers:**

MS. FULING SUN, Chief Expert, Zhongzi Huake Traffic Construction Technology Co.LTD, China

DR. MENG LU, Vice President, IEEE, The Netherlands

MR. LIN WANG, Director, National Center of ITS Engineering & Technology, Research Institute of Highway,MOT, China

TBD

## ES04 THE GLOBAL DEVELOPMENT OF INTELLIGENT AUTOMOBILES

**Tuesday, 17 October 2023 | 14:00-15:30 | <Room: 1 (A108-A110) >**

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.

**Moderator:**

TS. MOHD SHARULNIZAM SARIP, Chief Technology Officer, MARII /Deputy President, ITS Malaysia, Malaysia

**Speakers:**

PROF. JIANQIANG WANG, Professor/Dean of School of Vehicle and Mobility, Tsinghua University, China

MR. MICHAEL HOFMANN, Executive Vice President/ Head of Audi China R&D, Audi China, Germany

MR. TIM LEINMUELLER, Senior Manager, Denso, Germany

MS. SUE BAI, Chief Engineer, Chief Data Business, Honda, United States

DR. CHARLES KARL, Chief Technology Leader/ Discipline Leader: Transport Systems, Mobility Futures, NTRO, Australia

## ES05 DECARBONIZATION IN PUBLIC TRANSPORT

**Tuesday, 17 October 2023 | 16:00-17:30 | <Room: 1 (A108-A110) >**

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).

### **Moderator**

MR. ANDREW MEHAFFEY, Director NSW, Ohmio, Australia

### **Speakers**

MR. ZHENNING DONG, Vice President, Autonavi, China

MR. YONGWEI ZHANG, Vice President/Secretary-General, China EV100, China

MR. MATTHIAS PFRIEM, Senior Product Manager, PTV Group, Germany

MR. YU YU ZHANG, Ph.D., Professor, CEE, University of Southern Florida, United States

MR. KEN KOIBUCHI, Chief Project Leader, Software Development Center, Toyota Motor Corporation, Japan

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

**Wednesday, 18 October 2023 | 11:00-12:30 | <Room: 1 (A108-A110) >**

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.

### **Moderator**

DR. YONGYAO YANG, Chief Scientist/Professor, Zhejiang SUPCON Information Co. Ltd., China

### **Speakers**

MR. XIANGBIN WU, Principal Research Scientist/Director, Intel Labs/Intelligent Edge System Lab of Intel Labs China, China

MR. LIN TAO, Chairman, Shenzhen Urban Transport Planning Center Co., Ltd, China

MR. LEI ZHANG, Vice President, Alibaba Cloud, China

MR. LUCA PAONE, Principal Product Manager for Mobility Network Management Solutions, PTV Group, Italy



## ES07 SUSTAINABLE DEVELOPMENT OF INTELLIGENT PORT AND FREIGHT

**Wednesday, 18 October 2023 | 14:00-15:30 | <Room: 1 (A108-A110) >**

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?

**Moderator:**

MR. WEIFENG WANG, Professor, College of Civil and Transportation Engineering, Hohai University, China

**Speakers:**

MR. XIAOBO LIU, Dean of School of Transportation and Logistics, Southwest Jiao Tong University, China

MR. LARS ANKE, Asia Chief Representative, HHLA Hamburger Hafen und Logistik AG, Germany

MR. WEIHUA LIU, Professor/ Head of Department, Tianjin University, China

MR. RUIBING TAN, Deputy General Manager, Jiangsu Port Group Co., Ltd., China

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

**Wednesday, 18 October 2023 | 16:00-17:30 | <Room: 1 (A108-A110) >**

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.

**Moderator:**

DR. MENG LU, Vice President, IEEE, The Netherlands

**Speakers:**

MR. DELI ZHAO, Founder & President, XPENG AEROHT, China

MR. RALF WILLENBROCK, Product Manager Logistics, Connected Mobility, T-Systems International, Germany

MS. SUZANNE MURTHA, Global Lead for Connected and Automated Technology, AECOM, United States

MS. LISA SPELLMAN, Founding Director, VRU Safety Consortium, SAE, United States

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

**Thursday, 19 October 2023 | 14:00-15:30 | <Room: 1 (A108-A110) >**

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.

### **Moderator**

MR. XIAOJING WANG, Chairman, China ITS Industry Alliance, China

### **Speakers**

MS. MENGKE CHEN, Associate General Manager, Tencent, China

DR. ROBERT KAHLENBERG, Senior Vice President, BMW, China

MR. YUSEN CHEN, Principal Scientist, Zhejiang Communication Investment Group Co.Ltd., China

MR. JAMES BULLEN, Product Manager Lead (MaaS), Transport for West Midlands, United Kingdom

PROF./DR./TECH./IR. DANANG PARIKESIT, MSc (Eng), Transport Planning Expert, Center for Transportation and Logistics Universitas Gajah Mada, Indonesia

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

**Thursday, 19 October 2023 | 16:00-17:30 | <Room: 1 (A108-A110) >**

AI, 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 operational 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.

**Moderator:**

MR. HAJIME AMANO, Representative Director, Mobility Innovation Alliance Japan, Japan

**Speakers:**

MR. CHUNLEI MENG, CEO, Beijing GOTECH ITS Technology Co., Ltd., China

PROF. YANYAN CHEN, Professor/Dean of College of Metropolitan Transportation, Beijing University of Technology, China

MR. ZHIGANG XU, Vice Dean of School of Information Engineering/Chang'an Scholar Distinguished Professor, Chang'an University, China

MS. SUZANNE MURTHA, Global Lead for Connected and Automated Technology, AECOM, United States

DR. YC CHANG, Managing Director, Far Eastern Electronic Toll Collection Co., Ltd. (FETC) / Former President & Current Chair of Board of Supervisor, ITS Taiwan, Chinese Taipei



## ES11 GOING FURTHER WITH UNIFORM TICKETING IN MAAS

**Friday, 20 October 2023 | 11:00-12:30 | <Room: 1 (A108-A110) >**

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.

**Moderator:**

MR. JOHN PADDINGTON, Senior Manager, Innovation & Deployment, ERTICO-ITS Europe, Belgium

**Speakers:**

MR. FANG HE, Associate Professor, Tsinghua University, China

MR. MARK COLLINS, Head of Future Transport, Transport for West Midlands, United Kingdom

MR. MOUSA MOHAMED AL RAEISY, Director, Technology Strategy & Governance Department, Road Transport Authority, United Arab Emirates

MR. MIKE RUDGE, Director, ITS New Zealand, New Zealand

## ES12 DIGITAL INFRASTRUCTURE

**Friday, 20 October 2023 | 14:00-15:30 | <Room: 1 (A108-A110) >**

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, for 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.

**Moderator:**

MR. TIM LEINMUELLER, Senior Manager, Denso, Germany

**Speakers:**

MR. XIAOJING WANG, Chairman, China ITS Industry Alliance, China

MR. WEIDONG YANG, Chairman of the Board, China Design Group, China

MR. CHRISTOPH SCHROTH, VP Digital Product Strategy, BMW Group, Germany

MR. DATUK ISMAIL MD SALLEH, President, ITS Malaysia, Malaysia

MR. SUKU PHULL, Technical expert, Traffic and Technology Division, Department for Transport, United Kingdom

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

**Monday, 16 October 2023 | 14:00-15:30 | <Room: 2 (A214-A215) >**

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:**

RONGSHENG CHEN, Beijing Jiaotong University, China

**Speakers:**

JUNICHI HIROSE, Highway Industry Development Organization, Japan

JUNSHENG FU, Zenseact, Sweden

LONG PAN, Beijing Jiaotong University, China

RUIQING GUO, NIO Co.,Ltd, China

JOHN PADDINGTON, ERTICO, Belgium

## SIS02 C-V2X EMPOWERING SAFE AND CONNECTED MOBILITY

**Monday, 16 October 2023 | 14:00-15:30 | <Room: 3 (A212-A213) >**

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:**

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

**Speakers:**

MAXIME FLAMENT, 5GAA, Germany

SHANZHI CHEN, China Information and Communication Technology Group Co., Ltd., China

KONGJIAN QIN, CATARC, China

YAN LI, Qualcomm, China

MATHIAS REIMANN, BOSCH, Germany

BHARGAVI SRINIVASAN, Spirent, France



## SIS03 TECHNOLOGY AND PRACTICE OF DIGITAL TWIN IN TRANSPORTATION

**Monday, 16 October 2023 | 14:00-15:30 | <Room: 4 (A210-A211) >**

The digital twin (DT) is an emerging technology that builds on the convergence of computer science, mathematics and engineering, and increasingly being applied in the field of transportation recent years. Based on the related research and practice findings, conclusions, and recommendations, this session will present and discuss the current application and technological development of transportation DT, including the roles of data-driven learning and computational modeling in achieving robust and reliable digital twins from the aspect of methodologies, the value of transportation DT, key challenges and opportunities in the research, development, and application of DT development and application advancements from the perspective of progress.

**Organizer:**

HONGXU YANG, BWTON Technology Co, Ltd, China

**Moderator:**

HAODE LIU, China Academy of Transportation Sciences, China

**Speakers:**

JINYUAN CHOI, BWTON Technology Co., Ltd, Republic of Korea

JINLONG LI, Beijing Urban Construction Design & Development Group Co., Ltd, China

QIYUAN LIU, Shanghai Jida Transportation Technology Co., Ltd, China

KUIFENG SU, Shenzhen Tencent Computer System Co., Ltd, China

HUI ZHAO, Beijing Municipal Engineering Design Institute Co., Ltd, China

## SIS04 INTELLIGENT HIGHWAY TECHNOLOGY AND OPERATION SERVICE

**Monday, 16 October 2023 | 14:00-15:30 | <Room: 5 (A203-A204) >**

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:**

GANG WANG, Highway Monitoring and Emergency Response Center, China

**Moderator:**

XU LIU, Highway Monitoring and Emergency Response Center, Ministry of Transport of the P.R.C, China

**Speakers:**

DER HORNG LEE, Zhejiang University, Singapore

BIN LI, Guangdong E-Serve CO., China

HONG ZHOU, JiangSu Communications Holding Digital Transportation Research Institute Co.,Ltd., China

TBD

## SIS05 GREEN TRANSPORT AND GREEN ENERGY

**Monday, 16 October 2023 | 16:00-17:30 | <Room: 2 (A214-A215) >**

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

HUIYU MIAO, State Grid Jiangsu Electric Power Research Institute, China

## SIS06 AUTOMATIC DRIVING TEST TECHNOLOGY AND DEMONSTRATION AREA CONSTRUCTION

**Monday, 16 October 2023 | 16:00-17:30 | <Room: 3 (A212-A213) >**

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, Research Institute of Highway R&D Center of Transport Industry of Autonomous Driving, China

**Moderator:**

JISHENG ZHANG, Research Institute of Highway R&D Center of Transport Industry of Autonomous Driving, China

**Speakers:**

NING SUN, Beijing Connected and Autonomous Vehicles Technology Co., Ltd, China

JINQUAN HOU, Gansu Intelligent Transportation and Intelligent Connected Vehicle Comprehensive Test and Application Demonstration Base, China

SHUXUN NING, Heilongjiang Provincial Department of Transportation, China

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

XIAONAN QU, DiDi Chuxing Ridesharing Business Group, China

PENG HE, Baidu Intelligent Transportation Business Unit, China

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

**Monday, 16 October 2023 | 16:00-17:30 | <Room: 4 (A210-A211) >**

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:**

HAONAN LIU, Hubei ITS Technology Innovation Platform, China

**Moderator:**

HUI ZHANG, Wuhan University of Technology, China

**Speakers:**

JIALI WANG, Pioneer (Suzhou) Digital Industry Investment Co., China

WALTER ESPONIA, iSmart Ways USA Signed, United States

DONGZHE SU, ASTRI, China

SHUO YANG, Liuzhou Dongke Smart City Investment and Development Co., China



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

**Tuesday, 17 October 2023 | 16:00-17:30 | <Room: 3 (A212-A213) >**

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 show 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 M.ENG.SC, 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 BIG DATA AND AI EMPOWERING SUSTAINABLE DEVELOPMENT OF URBAN TRANSPORTATION

**Tuesday, 17 October 2023 | 11:00-12:30 | <Room: 2 (A214-A215) >**

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 socio-economic 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, low-carbon 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:**

YANYAN CHEN, Beijing University of Technology, China

### **Moderator:**

YANYAN CHEN, Beijing University of Technology, China

### **Speakers:**

YANG JIANG, China Sustainable Transportation Center, China.

HUI ZHAO, Beijing General Municipal Engineering Design & Research Institute Co., Ltd, China

WEINAN HE, Beijing Transport Institute, China

LAN WU, China Design Group, China

SHAHD M.K.OMAR, Beijing University Of Technology, Palestine

## SIS10 LATEST PROGRESS OF ENGINEERING APPLICATION OF V2X NETWORKING TECHNOLOGY

**Tuesday, 17 October 2023 | 11:00-12:30 | <Room: 3 (A212-A213) >**

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:**

LEI YANG, China-Europe Alumni Automotive Industry Association CAAA, China

**Moderator:**

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

**Speakers:**

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

XIAOGUANG YANG, Tongji University, China

ANG HU, The University of Tokyo, China

ICHIJO FUTAKAWA, 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: 4 (A210-A211) >**

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:**

TAKEHIKO BARADA, ITS Japan, Japan

**Speakers:**

HISAAKI IKEUCHI, National Police Agency, Japan

TAKANORI MASHIKO, Ministry of Internal Affairs and Communications, Japan

YUTA KYOTO, Ministry of Economy, Trade and Industry, Japan

MASAMITSU WAGA, Road Bureau, Ministry of Land, Infrastructure, Transport and Tourism, Japan

KENICHI HAYASHI, Road Transport Bureau, Ministry of Land, Infrastructure, Transport and Tourism, Japan

HARUO ISHIDA, Cabinet Office, Japan

KENTARO ASAYAMA, Digital Agency, Japan

## SIS12 DEVELOPMENT OF TRAFFIC ACTIVE MANAGEMENT UNDER INTELLIGENT HIGHWAY

**Tuesday, 17 October 2023 | 11:00-12:30 | <Room: 5 (A203-A204) >**

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

**Organizer:**

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

**Moderator:**

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

**Speakers:**

YI HE, Wuhan University of Technology, China

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

WEIXING HONG, Nanjing Zhixing Information Technology CO., Ltd, China

JIANSHAN ZHOU, Beihang University, China



## SIS13 NOVEL ELECTRIC MICROMOBILITY AND MOBILITY AS A SERVICE

**Tuesday, 17 October 2023 | 14:00-15:30 | <Room: 2 (A214-A215) >**

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

SONG SU, WRI, China

JAMES BULLEN, Transport for West Midlands, United Kingdom

GELI LATSA, ICCS, Greece

## SIS14 CURRENT AND FUTURE SPECTRUM STRATEGY FOR COOPERATIVE AUTOMATED VEHICLE

**Tuesday, 17 October 2023 | 14:00-15:30 | <Room: 3 (A212-A213) >**

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.

**Organizer:**

HIROFUMI KAKEGAWA, Ministry of Internal Affairs and Communications, Japan

**Moderator:**

TAKESHI YAMAMOTO, ITS Info-communication Forum, Japan

**Speakers:**

HIROFUMI KAKEGAWA, Ministry of Internal Affairs and Communications, Japan

NIELS PETER SKOV ANDERSEN, CAR 2 CAR Communication Consortium, Denmark

RAM SHALLOM, Autotalks Ltd., Israel

SUZANNE MURTHA, AECOM, United States

## SIS16 ICT-ENABLED THE DEVELOPMENT OF ITS

**Tuesday, 17 October 2023 | 14:00-15:30 | <Room: 5 (A203-A204) >**

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:**

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

**Moderator:**

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

**Speakers:**

MAXIME FLAMENT, 5GAA, Germany

DAXIN TIAN, Beihang University, China

JINLING HU, China Information and Communication Technology Intelligent and Connected, China

JIN WANG, Zhongzhixing, China

BINGYAN YU, China Academy of Information and Communications Technology, China

JOHN KENNEY, Toyota Motor North America InfoTech Labs, United States

## SIS17 ENERGY-BASED GREEN ITS SERVICES FOR SMART CITY MOBILITY

**Tuesday, 17 October 2023 | 16:00-17:30 | <Room: 2 (A214-A215) >**

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 CO<sub>2</sub> 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), Republic of Korea

**Moderator:**

RALF WILLENBROCK, ERTICO Supervisory Board, Germany

**Speakers:**

RALF WILLENBROCK, ERTICO Supervisory Board, Germany

ZHIJUN CHEN, Wuhan University of Technology, China

SEUNGHYEOK BAEK, KERI, Republic of Korea

YOUNG-JUN MOON, KAIST, Republic of Korea

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

**Tuesday, 17 October 2023 | 16:00-17:30 | <Room: 4 (A210-A211) >**

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:**

JUNYI ZHANG, Southeast University, China

### **Speakers:**

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

ZHONGHUA CHI, Yunnan Communications Investment & Construction Group Co.,Ltd, China

MINGLEI DUAN, Yunnan Highway Network Toll Management Co.,Ltd, China

JUNYI ZHANG, Southeast University, China

JIANCHENG WENG, Beijing University of Technology, China

JUNHUA CHEN, School of Traffic and Transportation, Beijing Jiaotong University, China



## SIS20 SUSTAINABLE AND DIGITAL DEVELOPMENT OF MULTIMODAL TRANSPORT SYSTEMS

**Tuesday, 17 October 2023 | 16:00-17:30 | <Room: 5 (A203-A204) >**

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

**Speakers:**

HELAI HUANG, Central South University, China

FENG XIAO, Southwestern University of Finance and Economics, China

XIQUN CHEN, Zhejiang University, China

ZHENG CHANG, Ph.D, Research Institute of Highway Ministry of Transport, 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: 2 (A214-A215) >**

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 metropolises 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 metropolises. 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, China ITS Industry Alliance, China

TBD

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

**Wednesday, 18 October 2023 | 11:00-12:30 | <Room: 3 (A212-A213) >**

Connectivity is one of the key to a successful ITS world. Among all the connectivity methods, C-V2X is a cellular-based vehicle-to-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:**

YAN LI, Qualcomm Inc., China

**Moderator:**

YAN LI, Qualcomm Inc., China

**Speakers:**

TIM LEINMUELLER, Denso, Germany

TONY QIU, iSmartWays Inc, United States

YING ZHANG, GWM, China

HAKSEONG KIM, LG Electronics, Republic of Korea

YIZHI WANG, Nebula, China

## SIS23 ROAD INFRASTRUCTURE SUPPORT FOR AUTOMATED DRIVING

**Wednesday, 18 October 2023 | 11:00-12:30 | <Room: 4 (A210-A211) >**

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 field 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:**

MIYAKE MASANORI, 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:**

DONGZHU WANG, National ITS Research Center, Research Institute of Highway, MOT, China

SUKU PHULL, Traffic and Technology Division, Department for Transport, United Kingdom

TBD

MIYAKE MASANORI, 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: 5 (A203-A204) >**

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 data-modeling 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.

**Organizer:**

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

**Moderator:**

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

**Speakers:**

STEFAN SCHULZ , Munich Re, Head, Motor Consulting Unit, Germany

YIFEI SHI, China Banking and Insurance Information Technology Management Co. Ltd. (CBIT), General Manager, Business Unit 3 (Transportation & Mobility Services) , China

ZHI YU , Guangdong ITS Center at Sun Yat-Sen University, Professor, China

CAREY ANNE NADEAU, Loop Insurance, Co-CEO, United States

TIGER FANG, Kargo Technologies, CEO, Indonesia

## SIS25 SAFETY MEASURES FOR MIXED TRAFFIC IN ASIA PACIFIC REGION

**Wednesday, 18 October 2023 | 14:00-15:30 | <Room: 2 (A214-A215) >**

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:**

MAKOTO TAMURA, Toyota Motor Corporation, Japan

SHOICHIRO MIHARA, Toyota Motor Corporation, Japan

TONGKARN KAEWCHALERMTONG, ITS Thailand/ Chulachomklao Royal Military Academy, Thailand

NOBUYUKI OZAKI, Nagoya University, Japan



## SIS26 ACCELERATING GLOBAL C-V2X DEPLOYMENT FOR SAFER AND SMARTER MOBILITY

**Wednesday, 18 October 2023 | 14:00-15:30 | <Room: 3 (A212-A213) >**

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.

**Organizer:**

DAVID ERTL, 5GAA, Germany

**Moderator:**

MAXIME FLAMENT, 5GAA, Germany

**Speakers:**

YUMING GE, CAICT, China

XIN ZANG, Bosch, China

ZHAOLI LI, CATT (tbc), China

TBD

## SIS27 DIGITAL INFRASTRUCTURE PRACTICE FOR SERVING AUTONOMOUS DRIVING SCENARIOS

**Wednesday, 18 October 2023 | 14:00-15:30 | <Room: 4 (A210-A211) >**

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 road 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:**

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

**Moderator:**

NA LI, Sungent Digital Technology Co., Ltd, China

**Speakers:**

ZONGCHENG WANG, Suzhou Intelligent Connected Vehicle Technology Development Co., Ltd, China

DONGYAO JIA, Xi'an Jiaotong-Liverpool University, China

MINGCHUN LIU, Higer Bus Company Limited, China

HONGBEN LIU, College of Transportation Engineering, Tongji University, China

GUANGTAO ZHOU, China Unicom Smart Connection Technology Limited, China

SIS28 THE APPLICATION OF DIGITAL TWINS IN THE INTELLIGENT TRANSPORTATION

Wednesday, 18 October 2023 | 14:00-15:30 | <Room: 5 (A203-A204) >

The research on the application of digital twins in the field of intelligent transportation can provide effective solutions to many transportation problems. For example, by deploying sensors and cameras in cities to collect traffic data, real-time monitoring of traffic flow and updating models to alleviate congestion can be realized. In addition, by simulating traffic accidents, the vulnerability of the transportation system can be assessed and the factors that may lead to accidents can be identified, thus providing transportation planners with suggestions to improve the design of the road network and enhance the safety of the transportation system. Meanwhile, through the digital twin model, different traffic flows, routes and rules can be simulated to test the reliability and sustainability of the transportation system. In addition, by simulating various road conditions and traffic scenarios, the safety and robustness of self-driving cars can be evaluated, among others. Experts in the industry will be invited to share their insights from three aspects: basic software, industry applications and cutting-edge development, providing attendees with a wealth of information and in-depth insights. Please look forward to this event!

Organizer:

JSTI GROUP, China

Moderator:

JIAN LI, JSTI GROUP, China

Speakers:

HAI LANG HUANG, JSTI GROUP, China

ZHIBIN LI, JSTI GROUP, China

YANQING HU, JSTI GROUP, China

TBD

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

**Wednesday, 18 October 2023 | 16:00-17:30 | <Room: 2 (A214-A215) >**

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, National Police Agency, Japan

**Moderator:**

KENYA SATO, Doshisha University, Doshisha University, Japan

**Speakers:**

NAOTO SHIMADA, National Police Agency, Japan

MASAFUMI KOBAYASHI, UTMS Society of Japan, Japan

YUICHI TAKAYANAGI, 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: 3 (A212-A213) >**

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, multimodal fusion traffic object detection and tracking, vehicle 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

## SIS32 SENSOR DATA SHARING IN ITS - STATUS AND OUTLOOK

**Wednesday, 18 October 2023 | 16:00-17:30 | <Room: 5 (A203-A204) >**

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:**

TBD

**Speakers:**

DAN VASSILOVSKI, Qualcomm Inc., United States

YIZHI WANG, Nebula Link, China

KATHRIN HAGEMANN, IAV GmbH, Germany

FLORIAN SCHIEGG, Robert Bosch GmbH, Germany

HUI GUO, QUALCOMM CHINA, INC., China



## SIS33 CURRENT STATUS OF V2X IN US AND EUROPE

**Thursday, 19 October 2023 | 09:00-10:30 | <Room: 2 (A214-A215) >**

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 support. • 5.9GHz band for ITS in the world is very important for realizing safety, contributing to environmental improvement, 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."

**Organizer:**

KEVIN (KUNIIHIKO) 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

LI XI, CARIAD, China

NIELS PETER SKOV ANDERSEN, General Manager, C2CCC, Denmark

## SIS34 CHINA VEHICLE&CITY INTEGRATION DEVELOPMENT SESSION

**Thursday, 19 October 2023 | 09:00-10:30 | <Room: 3 (A212-A213) >**

Currently, the Intelligent Connected Vehicle industry is developing rapidly. However, the development of roadside infrastructure still faces constraints from various aspects such as policies and standards, which making it difficult to test and verify the infrastructure of smart cities and intelligent vehicles.

This session aims to explore the development path of dual smart cities based on the China Vehicle City Integration Certification Index from three dimensions: urban transportation infrastructure coverage level, intelligent level, and empowerment level, in order to promote the large-scale construction and application of smart city transportation infrastructure.

**Organizer:**

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

**Moderator:**

QIANG ZHANG, Intelligent Connected Technology of CAERI Co., Ltd., China

**Speakers:**

QIN XIA, Intelligent Connected Technology of CAERI Co., Ltd., China

XIANG REN, Intelligent Connected Technology of CAERI Co., Ltd., China

TBD

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

**Thursday, 19 October 2023 | 09:00-10:30 | <Room: 4 (A210-A211) >**

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), Republic of Korea

**Moderator:**

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

**Speakers:**

YOUNG-JUN MOON, KAIST, Republic of Korea

MOHAMMED HIKMET, HMI Technology, New Zealand

KI-HUN JANG, ITS Korea, Republic of Korea

JIAN WAN, China Design Group, China

## SIS36 INTELLIGENT CONNECTED URBAN TRANSPORT AND SMART GOVERNANCE

**Thursday, 19 October 2023 | 09:00-10:30 | <Room: 5 (A203-A204) >**

All of the pathways to autonomous mobility identify a critical transition phase where different vehicles and mobility services co-exist 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:**

GONZALO ALCARAZ, International Road Federation (IRF), Switzerland

**Speakers:**

XIAOJING WANG, China ITS Industry Alliance, China

HAJIME AMANO, Mobility Innovation Alliance Japan and ITS Japan, Japan

QINGHUA SHI, Baidu, China

ZHIYUAN LIU, Southeast University, China

RONG LI, Zhijia Technology, China

JUNWEI BAO, Innovusion, China

## SIS37 THE BEST PRACTICE FROM EXCELLENT PROJECTS OF SMART TRANSPORTATION INNOVATION COMPETITION IN THE YANGTZE RIVER DELTA

**Thursday, 19 October 2023 | 11:00-12:30 | <Room: 2 (A214-A215) >**

This session will be combined with the latest innovation in the field of smart transportation practice and exploration, based on the outstanding achievements from The Innovation Competition in the Yangtze river delta of the 29th ITS World Congress, and integrate some key smart transportation practice cases, such as port safety supervision based on AI and Big data, smart construction based on BIM and GIS, which will drive the development of the digital transformation for our industry.

**Organizer:**

HONGXIA ZHANG, Jiangsu Provincial Comprehensive Transportation Association, China

**Moderator:**

JIARONG XI, China Design Group, China

**Speakers:**

RONG JI, China Design Group, China

DUNDUN LI, Suzhou Genland Ipark Technology Co., Ltd., China

YI HAN, COSCO SHIPPING TECHNOLOGY Co.,Ltd., China

JIARONG XI, China Design Group, China

XUSHENG ZHANG, Jiangsu Provincial Transportation Engineering Construction Bureau, China

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

**Thursday, 19 October 2023 | 11:00-12:30 | <Room: 3 (A212-A213) >**

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:**

WANJING MA, Tongji University, China

**Moderator:**

ZICHENG SU, Tongji University, China

**Speakers:**

GUANGQUAN LU, Beihang University, China

CHUNHUI YU, Tongji University, China

WEI MA, The HongKong Polytechnic University, China

HUAN YU, Hong Kong University of Science and Technology (Guangzhou), China



## SIS39 GLOBAL POLICY AND STANDARDIZATION FOR CYBERSECURITY ISSUES

**Thursday, 19 October 2023 | 11:00-12:30 | <Room: 4 (A210-A211) >**

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., Republic of Korea

**Moderator:**

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

**Speakers:**

TBD

## SIS42 URBAN CONNECTED AUTOMATED SHUTTLE SYSTEMS AND SERVICES

**Thursday, 19 October 2023 | 14:00-15:30 | <Room: 3 (A212-A213) >**

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), Republic of Korea

**Moderator:**

DEAN ZABRIESZACH, HMI Technology, Inc., Australia

**Speakers:**

KYUOK KIM, KOTI, Republic of Korea

ROBERT SYKORA, Ohmio, Luxembourg

JAEKUN HA, ITS Korea, Republic of Korea

GIULA RENZI, ICOOR c/o DISMI Univ. of Modena and Reggio Emilia, Italy

## SIS43 INTELLIGENT ROADWAY INFRASTRUCTURE AND TRAFFIC SAFETY

**Thursday, 19 October 2023 | 14:00-15:30 | <Room: 4 (A210-A211) >**

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

**Moderator:**

TBD

**Speakers:**

RONGGUI ZHOU, Development and Application of Highway Risk Assessment Technology in China, China

PETAR DAVCEV, Australia Road Research Board, Australia

JIANCHUAN CHENG, Southeast University, China

XIAOFEI WANG, South China University of Technology, China

NENGCHAO LIU, Wuhan University of Technology, China

JUNHUA WANG, Tongji University, China

XUESONG WANG, Tongji University, China

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

**Thursday, 19 October 2023 | 14:00-15:30 | <Room: 5 (A203-A204) >**

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:**

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

**Speakers:**

XIAOGUANG YANG, College of transportation engineer, Tongji University, China

YONGDONG LI, Department of Electrical Engineering, Tsinghua University, China

JINPING GUAN, School of Architecture, Harbin Institute of Technology (Shenzhen), China

HONG ZHOU, JiangSu Communications Holding Digital Transportation Research Institute Co.,Ltd., China

RIHAO GUAN, Suzhou Public Transport Group Co., Ltd, China

# SPECIAL INTEREST SESSIONS

## SIS45 THE APPLICATION DEVELOPMENT OF SPECIFIC SCENARIO, POLICY AND REGULATION PROSPECTS OF SURFACE AUTONOMOUS DRIVING TECHNOLOGY

**Thursday, 19 October 2023 | 16:00-17:30 | <Room: 2 (A214-A215) >**

Facing the application needs of digitization and intelligence in the water, land, and air transportation industry, this meeting focuses on exchanging and introducing the application achievements and typical cases of technologies such as autonomous driving, digital twins, and simulation in the development process of land and surface transportation, as well as the evolution and prospects of policies and regulations in corresponding scenarios. We are jointly committed to providing a more open, practical, and efficient solutions and service products in the field of intelligent transportation for the industry.

**Organizer:**

CHELSEA XIANG, ShaanXi ORCA Electronic Intelligent Technology Co.,Ltd (ORCAUBOAT), China

**Moderator:**

CHELSEA XIANG, ShaanXi ORCA Electronic Intelligent Technology Co.,Ltd (ORCAUBOAT), China

**Speakers:**

CHELSEA XIANG, ShaanXi ORCA Electronic Intelligent Technology Co.,Ltd (ORCAUBOAT), China

KONG JI, Shanghai West Hongqiao Navigation Industry Development Co., Ltd., China

TBD, 51WORLD, China

DIXIAO CUI, Zhijia Technology, China

## SIS46 IN CABIN CHALLENGES: FROM REQUIREMENT TO HOMOLOGATION

**Tuesday, 17 October 2023 | 14:00-15:30 | <Room: 4 (A210-A211) >**

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, Germany

### **Moderator:**

HADJ HAMMA TADJINE, IAV GmbH, Germany

### **Speakers:**

HADJ HAMMA TADJINE, IAV GmbH, Vice Chair Standards IEEE ITS, Germany

MENG LU, VP Standards Activities, IEEE Intelligent Transportation Systems Society., Netherland

PATRICK LAUFER, IAV GmbH, Germany

HEIKO RUTH, DXC Technology, Germany

BENEDIKT LAMONTAIN, University of Applied Sciences Magdeburg, Germany

BENEDIKT SCHONLAU, CEO Siliconally, Germany

MARCUS FUTTERLIEB, Harmann, Team Lead ReadyCare DMS/OMS Central Functions & System Test, Germany

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

**Thursday, 19 October 2023 | 16:00-17:30 | <Room: 4 (A210-A211) >**

All of the pathways to autonomous mobility identify a critical transition phase where different vehicles and mobility services co-exist 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:**

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

**Speakers:**

DERHORNG LEE, Zhejiang University - University of Illinois Urbana-Champaign Institute, Singapore

XINGHUA LI, China Transportation Institute at Tongji University, China

LIN WANG, Research Institute of Highway, Ministry of Transport of China, China

LEI ZHANG, Alibaba Cloud, China

SONG JIONGJIONG, AECOM Technical Services, United States



## SIS48 GLOBAL COMMERCIALIZATION POLICY AND STRATEGY FOR ITS

**Thursday, 19 October 2023 | 16:00-17:30 | <Room: 5 (A203-A204) >**

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), Republic of Korea

**Moderator:**

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

**Speakers:**

SANKGI KIM, KAIST, Republic of Korea

YONGYAO YANG, Zhejiang SUPCON Information, China

DOOGON KIM, Seoul Robotics, Republic of Korea

WEI ZHANG, TECH Traffic Engineering Group Co., LTD., China

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

**Friday, 20 October 2023 | 11:00-12:30 | <Room: 2 (A214-A215) >**

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:**

YI HE, Wuhan University of Technology, China

**Speakers:**

XUFEI WANG, Dongfeng Motor Corporation, China

JINGTAO MA, TTS, China

YAN LI, Qualcomm, China

TONY QIU, iSmartWays, China

## SIS50 EXPLORATION AND PRACTICE: INNOVATION OF SMART TRANSPORTATION TO DRIVE DIGITAL TRANSFORMATION

**Friday, 20 October 2023 | 11:00-12:30 | <Room: 3 (A212-A213) >**

This session will be based on several typical advanced applications integrated with AIoT technology, such as AIRoad, EICAD, smart Alops, Digital Twin, etc., to explore the important role of a large number of innovative applications of intelligent transportation in improving the construction and operational efficiency of the industry. These applications have been applied in multiple world-class highway projects and have contributed to improving efficiency. This session will also focus on the achievements of studying and applying digital twin innovative technologies for in-service highways, in order to improve the efficiency of highway construction and operation in further.

**Organizer:**

XUEWU DONG, China Design Group, China

**Moderator:**

JINZHANG JI, China Design Group, China

**Speakers:**

HONG ZHOU, JiangSu Communications Holding Digital Transportation Research Institute Co.,Ltd., China

BIN XIAO, Jiangsu Delauney Infomation Co., Ltd., China

SHUAI HUA, Traffic Engineering Construction Bureau of Jiangsu Province, China

SHANSHAN DING, China Design Group, China

HONGGUANG XU, Anhui Transport Consulting & Design Institute Co., Ltd., China

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

**Monday, 16 October 2023 | 16:00-17:30 | <Room: 5 (A203-A204) >**

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:**

TBD

**Speakers:**

SUZANNE MURTHA, AECOM, United States

XIAONING FU, Beijing Intelligent Transportation Development Center, China

KAZUNORI FUJIMORI, Toyota, Japan

ERIC CHEN, Amazon, China

## SIS53 SMART PARKING ASSISTS THE CONSTRUCTION OF SMART CITIES

**Friday, 20 October 2023 | 14:00-15:30 | <Room: 2 (A214-A215) >**

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:**

DASONG GU, Southeast University, China

**Moderator:**

DASONG GU, Southeast University, China

**Speakers:**

DUNDUN LI, Suzhou Genland Ipark Technology Co.Ltd, China

XIAOQIANG WANG, Jiangsu Ninebit Information Systems Co., Ltd., China

MING LI, Jinling Institute of Technology, China

CHU ZHANG, Southeast University, China

SHUDANG DIAO, Beijing Intelligent Transportation Development Center, China

DONG LIU, Beijing Baidu Netcom Science Technology Co., Ltd., 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: 3 (A212-A213) >**

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 States to share an international perspective. It combines the domains of automotive development, traffic planning as well as advanced traffic infrastructures.

**Organizer:**

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

**Moderator:**

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

**Speakers:**

MATTHIAS PFRIEM, PTV Planung Transport Verkehr GmbH, Germany

JIA HU, TONGJI UNIVERSITY, China

YOSHIKI IRIE, TOYOTA MOTOR CORPORATION, Japan

## SP01 CLIMATE GOALS AND ACTION PLANS IN TRANSPORT

Monday, 16 October 2023 | 14:00-15:30 | <Room: 6 (A106) >

Moderator: FAN ZHANG, Research Institute of Highway Ministry of Transport, China

Paper:

|              |                                                                                                        |                                                                          |
|--------------|--------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| <b>ID93</b>  | Research on Operating Cost of The Carbon Quota Accounting Based on The Time Division of New Energy Bus | SHUPEI GAO, Zhengzhou Tiamaes Technology, China                          |
| <b>ID335</b> | Assessing Progress Towards Achieving The Transport Dimension of The SDGs in China                      | XIAOFEI LIU, Research Institute of Highway, Ministry of Transport, China |
| <b>ID438</b> | Dynamic Calculation and Spatial-Temporal Distribution Characteristics of Vehicle Carbon Emissions      | JUNYUE WANG, Beijing Jiaotong university, China                          |
| <b>ID173</b> | 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: 7 (A105) >

Moderator: JIAN XING, Nippon Expressway Research Institute Co., Ltd., Japan

Paper:

|              |                                                                                                                                                       |                                                     |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|
| <b>ID283</b> | Crash Risk Prediction of Mixed Traffic with Connected and Automated Vehicles Using BPNN                                                               | CHANGHAO RAN, Wuhan University of Technology, China |
| <b>ID251</b> | Simulation and Evaluation of the Lane Compression Strategy for the Upstream Section of the Tunnel Entrance -an example of Sanduling Tunnel in Wenzhou | YUXUAN LI, Beijing University Of Technology, China  |
| <b>ID321</b> | Risk Identification and Influence Factor Analysis of Different Sections of High-Speed Tunnel Based on Multi-Source Data                               | JIANG YANG, Zhejiang University, China              |
| <b>ID371</b> | Traffic Risk Distribution in Different Characteristic Sections of Highway Tunnel                                                                      | RUI GUO, Beijing University of Technology, China    |

## SP05 ENERGY, NOISE AND ENVIRONMENTAL IMPACTS

Tuesday, 17 October 2023 | 11:00-12:30 | <Room: 6 (A106) >

Moderator: HONGDAN WANG, Research Institute of Highway Ministry of Transport, China

Paper:

|       |                                                                                                                           |                                                                                     |
|-------|---------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 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      | QIUYI ZHANG, Beijing University of Technology, China                                |
| ID342 | Towards Energy-Efficient Mobility in Connected Vehicle Environments                                                       | YASHAR ZEINYALI FARID, InfoTech Labs, Toyota Motor North America R&D, United States |

SP06 MULTIMODAL TRAVEL INFORMATION AND PLANNING SERVICES & BIKE SHARING

Tuesday, 17 October 2023 | 11:00-12:30 | <Room: 7 (A105) >

Moderator: HUI XIAO, Big Data Research and Development Center, Rihoh, Mot. China, China

Paper:

|       |                                                                                                                                               |                                                                  |
|-------|-----------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|
| ID462 | Research and Design of Control Strategies for Multiple Transportation Modes in Urban Road Networks                                            | JIAXIN WANG, North China University of Technology, China         |
| ID322 | Temporal Correlation-Based Catchment Area Radius Analysis Between Subway and Docked Shared Bikes                                              | YINING DI, 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, Tsinghua University, China                          |
| ID143 | Multi-Task Supply-Demand Prediction and Reliability Analysis for Docked Bike-1 Sharing Systems via Transformer-Encoder-Based Neural Processes | ZIYI SHI, Zhejiang University, China                             |

## SP07 ELECTROMOBILITY & MOBILITY AS A SERVICE

Tuesday, 17 October 2023 | 14:00-15:30 | <Room: 6 (A106) >

Moderator: LI ZHAO, Research Institute of Highway Ministry of Transport, China

Paper:

|              |                                                                                                               |                                                        |
|--------------|---------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|
| <b>ID443</b> | Modeling of Energy Consumption for Electric Buses Considering The Impacts of SOC                              | XUE LEI, Beijing Jiaotong University, China            |
| <b>ID451</b> | Analysis on Electric Vehicles' Inter-city Charging Choice Behavior and Charging Demand                        | ZHAOHUI WANG, Beijing Jiaotong University, China       |
| <b>ID464</b> | Spatio-Temporal Characteristics and Causative Analysis of Electric Vehicle Collisions with Pedestrians        | YAN ZHUANG, Beijing Jiaotong University, China         |
| <b>ID294</b> | Research on the development path of MaaS platforms in China                                                   | WENKAI ZHAN, Guangdong University of Technology, China |
| <b>ID151</b> | Enhancing Road Cellular Traffic Prediction with Spatial-Temporal Joint Learning and Temporal Pattern Analysis | CHUNG-YI LIN, Chunghwa Telecom, Taiwan, China          |
| <b>ID468</b> | Analysis and Modeling of Residents Travel Behavior under MaaS                                                 | DAQIAN WAN, Beijing Jiaotong University, China         |

SP08 MULTIMODAL JOURNEY PLANNER & INTELLIGENT SUPPLY CHAIN AND LOGISTICS

Tuesday, 17 October 2023 | 14:00-15:30 | <Room: 7 (A105) >

Moderator: IN-HI KIM, KAIST, Republic of Korea

Paper:

|       |                                                                                                                       |                                                                           |
|-------|-----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|
| 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                                         | QIANQIAN YE, Zhejiang University, China                                   |
| ID255 | Multi-Modal Travel Simulation and Travel Behavior Analysis: Case Study in Shanghai                                    | YUE HU, Ministry of Education, Tongji University, China                   |
| ID140 | Research on Existing Problems and Solutions on Last Mile Logistics under the Context of Rural Revitalization in China | YANHONG LI ,Science Research Institute of the Ministry of Transport,China |

## SP11 SENSORS AND PERCEPTION METHODS FOR AUTOMATED VEHICLES

Wednesday, 18 October 2023 | 11:00-12:30 | <Room: 6 (A106) >

Moderator: NORIYUKI TSUKADA, Isuzu Motors Limited, Japan

Paper:

|              |                                                                                     |                                                                          |
|--------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| <b>ID152</b> | LaneCL: Lane Detection Based on Continual Learning for Multiple Scenarios           | JIANLI LU, Tsinghua University, China                                    |
| <b>ID242</b> | Full-Automatic Collection and Release of Pavement Performance Information           | JIANTAO LI, Tsinghua University, China                                   |
| <b>ID410</b> | Research on Operating State Reliability Monitoring of Sensing Devices               | BICHENG XU, Shanghai JARI Zhaoxin Information Technology Co., Ltd, China |
| <b>ID202</b> | Geometry Based Camera Calibration for Bev Transform Using Road Edge and Lane Marker | QIRUI ZHANG, Sensetime Japan, Japan                                      |

## SP12 ITS IN AIRPORT GROUND OPERATIONS & WATERWAY TRANSPORT APPLICATIONS AND 5G SOLUTION

Wednesday, 18 October 2023 | 11:00-12:30 | <Room: 7 (A105) >

Moderator: LIN ZHANG, Beijing Jingwei Hirain Technologies Co., Inc., China

Paper:

|       |                                                                                                     |                                                               |
|-------|-----------------------------------------------------------------------------------------------------|---------------------------------------------------------------|
| ID277 | Airport Ferry Bus Scheduling to Minimize Operational Cost and Service Delay                         | JIANZE SONG, Beijing Jiaotong University, 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 Method of the Transport Capacity of the Tourist Bus in Guilin   | JINCAN ZHANG, Hohai University, China                         |
| ID273 | Optimal Design of Tourist Routes Under The Time-Sharing Reservation Strategy                        | YAN HAN, Beijing Key Laboratory of Traffic Engineering, 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                     |



## SP13 NEW ADVANCES IN V2V, V2I AND V2X TECHNOLOGY

Wednesday, 18 October 2023 | 14:00-15:30 | <Room: 6 (A106) >

Moderator: ZHIJUN CHEN, Wuhan University of Technology, China

Paper:

|       |                                                                                                                       |                                                                        |
|-------|-----------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|
| 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, Suzhou 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                           | RAJESH KUMAR MALHAN, DENSO, 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: 7 (A105) >

Moderator: JINPING GUAN, Harbin Institute of Technology (Shenzhen) and Massachusetts  
Institute of Technology, China

Paper:

|       |                                                                                                                 |                                                          |
|-------|-----------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|
| ID329 | A Two-Stage Multi-Label Classification Approach for Traffic Events Identification Using Sina Microblog Texts    | ZIHAO HUANG, South China University of Technology, China |
| ID471 | Research on The Application of Object Detection and Tracking Technology in Abnormal Event Detection on Highways | JIE WANG, Jinling Institute of Technology, China         |
| ID407 | Vehicle Trajectory Generation Based On Generation Adversarial Network                                           | SIJIA XIANG, North China University of Technology, China |

## SP15 V2X COMMUNICATION TECHNOLOGIES AND COOPERATIVE SYSTEMS

Wednesday, 18 October 2023 | 16:00-17:30 | <Room: 6 (A106) >

Moderator: GONZALO ALCARAZ, International Road Federation (IRF), Switzerland

Paper:

|       |                                                                                                                            |                                                           |
|-------|----------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|
| ID114 | Multi-Objective Resource Allocation for High-density V2V Underlying 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                   |
| ID357 | A Mobile Application for Road Sensing and V2X Services                                                                     | JOAQUIM FERREIRA, 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

Wednesday, 18 October 2023 | 16:00-17:30 | <Room: 7 (A105) >

Moderator: SADAHIRO KAWAHARA, JTEKT Corporation, Japan

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 | XIAOYAN LA, North China University of Technology, China |
| ID453 | Delay-based Effectiveness Evaluation of Arterial Signal Coordination                            | XINPENG LI, Tongji University, China                    |
| ID397 | Design of The Complex Parking Lot Guidance System                                               | GUANG YANG, Southeast University, China                 |

## SP17 SIMULATION AND MODELLING

Thursday, 19 October 2023 | 09:00-10:30 | <Room: 6 (A106) >

Moderator: KAREN CHEUNG, Managing Director, Aimsun Pte Ltd, Singapore

Paper:

**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, North China University of Technology, China

## SP18 FUTURE RAIL EXPERIENCE

Thursday, 19 October 2023 | 09:00-10:30 | <Room: 7 (A105) >

Moderator: SADAHIRO KAWAHARA, JTEKT Corporation, Japan

Paper:

|              |                                                                                                                                          |                                                                     |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| <b>ID241</b> | 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                        |
| <b>ID454</b> | Urban Rail Transit Short-Term Od Flow Prediction Considering Temporal-Spatial Characteristics and Probability                            | YUE WANG, Beijing Jiaotong University, China                        |
| <b>ID378</b> | 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 |
| <b>ID350</b> | 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: 6 (A106) >

Moderator: JIAN XING, Nippon Expressway Research Institute Co., Ltd., Japan

### Paper:

|              |                                                                                                              |                                                                             |
|--------------|--------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| <b>ID133</b> | Designing a Connected and Automated Vehicle Testing and Evaluation Platform Using Odd a Case Study in Suzhou | CHUAN SUN, Suzhou Automotive Research Institute, Tsinghua University, China |
| <b>ID84</b>  | Key Indicators of The Lateral Controllability in Hands-Free Automated Driving                                | LUOYI HUANG, Tongji University, China                                       |
| <b>ID130</b> | A Lightweight Framework for Misbehavior Detection in Internet of Vehicles                                    | YUJING GONG, South China University of Technology, China                    |
| <b>ID315</b> | Analysis of The Severity of Road Property Damage in Highway Accidents                                        | WENHAN SHI, 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: 7 (A105) >

Moderator: ANDREW MEHAFFEY, HMI Technologies Pty Ltd, Australia

Paper:

|       |                                                                                              |                                                                       |
|-------|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| ID182 | Interpreting XGBoost for Traffic Flow Forecasting                                            | XIAO ZHENG, The University of Melbourne, Australia                    |
| ID179 | Difference in The Attention to Road Elements Against Driver Experience                       | HUI XU, CCDI (Suzhou) Exploration & Design Consultant CO., Ltd, 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: 6 (A106) >

Moderator: HONGHAI LI, Research Institute of Highway Ministry of Transport, China

Paper:

|              |                                                                                                                                        |                                                                    |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| <b>ID146</b> | Rear-Vehicle Behavior Awareness System to Avoid Rear-End Collisions                                                                    | SEYHAN UCAR, InfoTech Labs,Toyota North America R&D, United States |
| <b>ID452</b> | Lateral Control of Autonomous Vehicle with Data Dropout via an Enhanced Data-driven Model-free Adaptive Control Algorithm              | YUHAO YAN, North China University of Technology, China             |
| <b>ID455</b> | Path Tracking Control of Autonomous Vehicle under the Measurement Disturbance via a Novel Robust Model Free Adaptive Control Algorithm | GUANG LIN, North China University of Technology, China             |

SP23 NEXT GENERATION TRAFFIC MANGEMENT

Thursday, 19 October 2023 | 16:00-17:30 | <Room: 6 (A106) >

Moderator: MIKE RUDGE, Rudge Consulting, New Zealand

Paper:

|       |                                                                                         |                                                 |
|-------|-----------------------------------------------------------------------------------------|-------------------------------------------------|
| 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 | SimlFW: An integrated Simulation Platform for Intelligent Freeway                       | CHENG DONG LI, Chang'an University, China       |
| ID316 | Urban Expressway Lane-Reservation Effect Analysis Based on Detected Data and Simulation | MIAO YANG, Tongji University, China             |

## SP24 DATA ANALYTICS FOR TRAFFIC MONITORING AND MANAGEMENT

Thursday, 19 October 2023 | 16:00-17:30 | <Room: 7 (A105) >

Moderator: TAKAAKI SEGI, ITS Japan, Japan

Paper:

|              |                                                                                                               |                                                         |
|--------------|---------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|
| <b>ID375</b> | Resilience Analysis of Multi-Modal Transportation Networks, Taking Beijing-Tianjin-Hebei Region as an Example | SHUYAN ZHENG, Beijing University of Technology, China   |
| <b>ID191</b> | Analysis of Lane-changing Characteristics Based on WUT-NGSIM Data                                             | YANG ZHAO LI, Wuhan University of Technology, China     |
| <b>ID225</b> | Using License Plate Recognition Data to Gain Insight into Urban Travel Time Distributions                     | XIAOQIN LUO, Wuhan Planning and Design Institute, China |
| <b>ID232</b> | Trip Purpose Prediction Based on Neural Topic Model with Multiple Source Data                                 | QIANQIAN YE, Zhejiang University, China                 |
| <b>ID252</b> | Vehicle Spatial and Time Trajectory Filling Based On Dynamic Road Network                                     | RUOJIAN LI, Zhejiang University, China                  |

SP25 INTELLIGENT EMERGENCY AND INCIDENT MANAGEMENT

Friday, 20 October 2023 | 11:00-12:30 | <Room: 6 (A106) >

Moderator: QUAN YUAN, Tsinghua University, China

Paper:

|       |                                                                                                                                            |                                                                  |
|-------|--------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|
| ID347 | Emergency Management Research for Early Transmission Path Interdiction of Major Emerging Infectious Diseases in Urban Bus Transit Networks | YUE PAN, 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 |
| ID295 | Research on collaborative scheduling methods for multi- unmanned intelligent systems in water search and rescue scenarios                  | HANGXIONG ZHU, Guangdong University of Technology, China         |

## TS01 MOBILITY AS A SERVICE

Monday, 16 October 2023 | 14:00-15:30 | <Room: 8 (A104) >

**Moderator:** JINPING GUAN, Harbin Institute of Technology (Shenzhen) and Massachusetts Institute of Technology, China

**Paper:**

|              |                                                                                                     |                                                                                                       |
|--------------|-----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| <b>ID231</b> | The Impact of MaaS on Future Car Travel                                                             | YIFAN HU , Tongji University, China                                                                   |
| <b>ID238</b> | Comparative Analysis of MaaS Platform Construction and Operation Modes in Different Cities of China | XIANGLONG LIU, China Academy of Transportation Sciences, China                                        |
| <b>ID475</b> | Framework and Business Model Development of Highway Traveler Information System Based on MaaS       | KUN CHEN, Transport Planning and Research Institute, Ministry of Transport, China                     |
| <b>ID305</b> | Study for Finding Mobility as A Service Users in Thailand                                           | RATCHAKORN Pakpisutkul, Chulalongkorn University, Thailand                                            |
| <b>ID394</b> | Maas Smart Travel                                                                                   | SORAWIT NARUPITI , TECH TRAFFIC ENGINEERING GROUP COMPANY LIMITED, China                              |
| <b>ID233</b> | Flexible Bus Optimal Dispatching Model Under Low Passenger Demand                                   | XINYAN ZHANG , The Key Laboratory of Road and Traffic Engineering of the Ministry of Education, China |
| <b>ID365</b> | The Study Of A Shared Autonomous Vehicles Travel Service Strategy                                   | MENG ZHANG , China Unicom Smart Connection Technology Limited South China Branch, China               |

## TS02 V2X COMMUNICATION TECHNOLOGIES AND COOPERATIVE SYSTEMS (1)

**Monday, 16 October 2023 | 14:00-15:30 | <Room: 9 (A103) >**

**Moderator: PAUL XIA, ITS Hong Kong, HKSAR, China**

**Paper:**

|              |                                                                                       |                                                                         |
|--------------|---------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
| <b>ID144</b> | A Communication Channel Allocation Method Considering Competition at The Intersection | YINING REN, Tongji University, China                                    |
| <b>ID247</b> | A Cooperative Control Method of Autonomous Roundabout Based on Token Ring             | YUXIN NIU , Research Institute of Highway, Ministry of Transport, China |
| <b>ID447</b> | Human-like Strategy in Multi-vehicle Interactions at Signal-free Intersections        | DIAN JING, Beijing Jiaotong University, China                           |

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

**Monday, 16 October 2023 | 14:00-15:30 | <Room: 10 (A102) >**

**Moderator: JOHN PADDINGTON, ERTICO - ITS Europe, Belgium**

**Paper:**

|              |                                                                                                                 |                                                                 |
|--------------|-----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|
| <b>ID157</b> | Research on Cloud Control Platform of Intelligent and Networked Public Transport Based on BIM Technology        | XITONG XIA, Nanjing University of Science and Technology, China |
| <b>ID82</b>  | Machine learning in traffic signals prediction: two intersections in Hanover                                    | FENG XIE, Institute of Automation and Communication, Germany    |
| <b>ID97</b>  | Vehicle Allocation Method for Mixed Passenger Transportation and Parcel Delivery Service in On-demand Transport | AOI KOIZUKA, KDDI Corporation, Japan                            |
| <b>ID118</b> | Thermal Feasibility Verification by 1D Computer Aided Engineering                                               | YUKI LIDA , Panasonic Automotive Systems Co., Ltd., Japan       |
| <b>ID155</b> | 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: 8 (A104) >**

**Moderator: JUNSHENG FU, Technical Expert in in Localization and Road Estimation at Zenseact, Sweden**

**Paper:**

|              |                                                                                                              |                                                                                                                     |
|--------------|--------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>ID373</b> | Application of Photovoltaic Technology in Expressway Service Area                                            | WANG LEI, Beijing, China Highway Engineering Consultants Corporation, Tech Traffic Engineering GR UP CO.,LTD, China |
| <b>ID416</b> | 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                                                |
| <b>ID90</b>  | Decarbonising The Brenner Motorway: Vision, Challenges, Solutions                                            | ILARIA DE BIASI, Autostrada del Brennero SpA, Italy                                                                 |
| <b>ID145</b> | Solutionsplus – Boosting The Electrification of Public Transport by 5(6)G Enabled Carbon Credits             | LI WAN , China-Link Invest (Li Wan SRL), Belgium                                                                    |
| <b>ID103</b> | Sustainable Mobility For Flourishing Communities                                                             | MENG LU, Swarco Peek, Netherlands                                                                                   |



## TS05 V2X COMMUNICATION TECHNOLOGIES AND COOPERATIVE SYSTEMS (2)

Monday, 16 October 2023 | 16:00-17:30 | <Room: 9 (A103) >

Moderator: CHARLES KARL, Transport Futures, Australia

Paper:

|              |                                                                                                                                             |                                                           |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|
| <b>ID176</b> | 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       |
| <b>ID219</b> | Construction of a Wireless Performance Evaluation Environment with Vehicle                                                                  | SHIGEAKI SAKURAZAWA, Panasonic Automotive Systems, Japan  |
| <b>ID349</b> | Research on The Application of Network Trust System for Cooperative Vehicle Infrastructure System                                           | XINMING MEI, Beijing GOTECH 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: 10 (A102) >

Moderator: HADJ HAMMA TADJINE, IAV, Germany

Paper:

|       |                                                                                                              |                                                                        |
|-------|--------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|
| ID235 | Federated Learning for Automotive Applications                                                               | FLORIAN PINZEL , DENSO Automotive Deutschland GmbH, Germany            |
| 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 |

## TS08 V2X COMMUNICATION TECHNOLOGIES AND COOPERATIVE SYSTEMS (3)

Tuesday, 17 October 2023 | 11:00-12:30 | <Room: 9 (A103) >

Moderator: FRED KALT, Yunex Traffic, Singapore

Paper:

|              |                                                                                        |                                                                                                       |
|--------------|----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| <b>ID123</b> | CPM Significance Index for Redundancy Mitigation                                       | TIM LEINMUELLER, Denso Automotive D. Gmhh, Germany                                                    |
| <b>ID259</b> | Practice and Application of VICAD Scenarios in Suzhou                                  | DENGJIANG WANG, Beijing VanJee Technology Co., Ltd., China                                            |
| <b>ID263</b> | 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 |
| <b>ID320</b> | Proposal of V2X System Intended to Complement ADAS                                     | NORIYUKI TSUKADA, Isuzu Motors Limited, Japan                                                         |
| <b>ID217</b> | Autonomous Vehicle Mobility Services with Building Microservice Orchestration          | FUKU HIMURO, Shimizu Corporation, Japan                                                               |

## TS09 ARTIFICIAL INTELLIGENCE & CROWDSOURCING AND BIG DATA ANALYTICS

**Tuesday, 17 October 2023 | 11:00-12:30 | <Room: 10 (A102) >**

**Moderator: XIANG WANG, Soochow University, China**

**Paper:**

|              |                                                                                                                          |                                                                            |
|--------------|--------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|
| <b>ID466</b> | 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 |
| <b>ID156</b> | Safety-Affecting Factors Analysis Of National Trunk Highway System Based On The Interpretable Machine Learning Framework | QIANG ZHAO, VanJee Technology Co.,Ltd, China                               |
| <b>ID88</b>  | Research on Vehicle Type Identification Systems Using Advanced Image Processing Techniques                               | KENTA YAMAMOTO , Nippon Expressway Toll Technology Co., Ltd., Japan        |
| <b>ID112</b> | The Research on Algorithm for Roads Closure Removal Based on Big Data Analysis of Traffic Trajectory                     | YINUO HUANG, Toyota, China                                                 |

## TS10 ENERGY, NOISE AND ENVIRONMENTAL IMPACTS

**Tuesday, 17 October 2023 | 14:00-15:30 | <Room: 8 (A104) >**

**Moderator: HONGDAN WANG, Research Institute of Highway Ministry of Transport, China**

**Paper:**

|              |                                                                                     |                                                                               |
|--------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|
| <b>ID86</b>  | Deep Learning Method for Traffic Noise Separation                                   | MINMIN YUAN , Research institute of highway ministry of transport, PRC, China |
| <b>ID194</b> | Traffic Noise Prediction and Evaluation based on Acoustic Functional Zones at Night | WENHAO ZHANG , Beijing University of Technology, China                        |
| <b>ID425</b> | Unet-Based Evaluation of Road Traffic Noise Annoyance                               | XUEJIAN WANG, Guangzhou University, China                                     |
| <b>ID461</b> | A Dispersion Model of Vehicle Exhaust Pollutants Near Major Roads in Shenzhen       | QIUJIAN DONG, Shenzhen Urban Transport Planning Center Co., Ltd, China        |

TS11 V2X COMMUNICATION TECHNOLOGIES AND COOPERATIVE SYSTEMS (4)

Tuesday, 17 October 2023 | 14:00-15:30 | <Room: 9 (A103) >

Moderator: HENDRA TJIOE, Head of Sales, Yunex Traffic, Singapore

Paper:

|       |                                                                                                                                            |                                                                       |
|-------|--------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| ID392 | Safety Maintenance and Effectiveness Enhancement for Highway On-Ramp Merging in Autonomous Driving with V2X-Enabled Cooperative Perception | FENG WEN , 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 & NEW TYPE DETECTORS AND SENSORS

Tuesday, 17 October 2023 | 14:00-15:30 | <Room: 10 (A102) >

Moderator: HUI DENG, CICT Connected and Intelligent Technologies Co., Ltd, China

Paper:

|              |                                                                                                                     |                                                         |
|--------------|---------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|
| <b>ID135</b> | Quantifying Volatility Characteristics of Passenger Flow in The Metro Stations Based on The Rolling-Window Analysis | ZHAO LIU, Nanjing Institute of Technology, China        |
| <b>ID243</b> | A Meta-Learning Model For Estimating Mixed Traffic Flow Of Signalized Intersections Using Cellular Probe Data       | CHUNG-YI LIN , chunghwa telecom, Taiwan, China          |
| <b>ID258</b> | Audit Box: Vehicle Assessment And Jamming Attacks Detection In Ccam Environments                                    | MANEL RODRÍGUEZ RECASENS , Applus IDIADA, Spain         |
| <b>ID138</b> | A Multi-Path Pipeline Based Trust Routing For Bulk Data Transfer In Wireless Sensor Networks                        | XIAOHUAN LIU , CHINA ACADEMY OF RAILWAY SCIENCES, China |

TS13 ELECTROMOBILITY AND EV CHARGING INFRASTRUCTURE

Tuesday, 17 October 2023 | 16:00-17:30 | <Room: 8 (A104) >

Moderator: JOHN PADDINGTON, ERTICO - ITS Europe, Belgium

Paper:

|       |                                                                                                           |                                                                           |
|-------|-----------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|
| 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                             |



## TS14 SIMULATION AND MODELLING

**Tuesday, 17 October 2023 | 16:00-17:30 | <Room: 9 (A103) >**

**Moderator: ALAN QUEK, Regional Head, Business Development Southeast Asia, Aimsun Pte Ltd, Singapore**

**Paper:**

|              |                                                                                                                        |                                                                          |
|--------------|------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| <b>ID168</b> | Trajectory Optimization at Signalized Intersections Based on Polynomial Functions                                      | WANG MENG, Beijing Jiaotong University, China                            |
| <b>ID264</b> | Research on Multi-entity Co-simulation of Intelligent Vehicle Based on Distributed Message-oriented Middleware         | LIPING PENG , Research Institute of Highway Ministry of Transport, China |
| <b>ID470</b> | Performance of Mixed Autonomy Traffic Flow in Weaving Sections: A Simulation-based Evaluation of Efficiency and Safety | DAQIAN WAN , Beijing Jiaotong University, China                          |

## TS15 INNOVATIVE USE OF ETC INFRASTRUCTURE FOR OTHER APPLICATIONS

Tuesday, 17 October 2023 | 16:00-17:30 | <Room: 10 (A102) >

Moderator: TAKEHIKO BARADA, ITS Japan, Japan

Paper:

|              |                                                                                                            |                                                                                                |
|--------------|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| <b>ID301</b> | Innovative Use of ETC Infrastructure for Other Applications                                                | KOKI TATEO, ITS Head Quarters, Mitsubishi Heavy Industries Machinery Systems, Ltd., Japan      |
| <b>ID358</b> | ETC Extended Service Application Research                                                                  | XU YU SHENG, Beijing CCCC Guotong Intelligent Transportation System Technology Co., Ltd, China |
| <b>ID381</b> | Research on Intelligent Ventilation Control Technology for Highway Tunnels Based on ETC Gantry Data        | ZHAOZHI TANG, Jiaoke Transport Consultants Ltd, China                                          |
| <b>ID89</b>  | Expressway Toll Calculation By Graphillion                                                                 | SHION SONODA , NIPPON EXPRESSWAY TOLL TECHNOLOGY CO., LTD., Japan                              |
| <b>ID279</b> | Based On Analysis Of Global Vehicle Classification Criteria To Achieve Accurate Toll Collection With Lidar | PING WANG , VanJee Technology Co, Ltd., China                                                  |

## TS16 MOBILITY FOR AGEING POPULATION

Wednesday, 18 October 2023 | 11:00-12:30 | <Room: 8 (A104) >

Moderator: TOSHIO ITO, Hyper Digital Twins Co., Ltd., Japan

Paper:

|              |                                                                                                                                      |                                                                        |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|
| <b>ID421</b> | 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 |
| <b>ID431</b> | Accuracy Evaluation of Driving Trajectory of Automated Electric Wheelchair Using DTW                                                 | XINGYANG ZHANG, Shibaura Institute of Technology, Japan                |
| <b>ID142</b> | A Radar Detecting Pedestrians with Wide Vertical Coverage                                                                            | RYOSUKE SASAKURA , Sumitomo Electric Industries, Ltd., Japan           |

## TS17 PILOTS, TRIALS AND TESTS OF INTELLIGENT AND AUTONOMOUS VEHICLES

Wednesday, 18 October 2023 | 11:00-12:30 | <Room: 9 (A103) >

Moderator: GONZALO ALCARAZ, International Road Federation (IRF), Switzerland

Paper:

|       |                                                                        |                                                                            |
|-------|------------------------------------------------------------------------|----------------------------------------------------------------------------|
| 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 , Idiada Automotive Technology S.A., Spain                   |

## TS18 TRANSPORT INFRASTRUCTURE PREDICTIVE MAINTENANCE

Wednesday, 18 October 2023 | 11:00-12:30 | <Room: 10 (A102) >

Moderator: FRED KALT, Managing Director, Yunex Traffic, Singapore

Paper:

|              |                                                                                                  |                                                                                             |
|--------------|--------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| <b>ID175</b> | Digital Operation and Maintenance System of Highway Infrastructure                               | YISHUN LI , Tongji University, China                                                        |
| <b>ID261</b> | Intelligent Operation And Maintenance Of Urban Rail Transit                                      | DANLEI LU , Beijing Subway, China                                                           |
| <b>ID353</b> | Industry References on Key Technologies for Digitization of Highway Electromechanical Facilities | HENGYU LI, Research Institute of Highway Ministry of Transport, China                       |
| <b>ID267</b> | 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: 8 (A104) >

Moderator: NAOKAZU OZAKI, ITS Japan, Japan

Paper:

|       |                                                                                                                         |                                                                                      |
|-------|-------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| ID281 | Study on Contactless UI Operated Gesture Recognition in Omnidirectional Cameras                                         | KOTA OGAWA, Systems Engineering and Science, Shibaura Institute of Technology, Japan |
| ID131 | Behavior Analysis of Running Vehicles at The Lane Reduction Section Owing to Roadwork Lane Restriction on An Expressway | HIROYUKI OMIYA , Highway Planning Inc., 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: 9 (A103) >

Moderator: WOLFGANG TREINEN, Berlin Partner for Business and Technology, Germany

Paper:

|              |                                                                                                |                                                                                                         |
|--------------|------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| <b>ID275</b> | Malaysian Its Journey - Policies Challenges                                                    | AHMAD ZULHELMI AB HAMID, Malaysian Communications And Multimedia Commission (MCMC), Malaysia            |
| <b>ID374</b> | Recent Developments of ITS in China                                                            | RU LI, China ITS Industry Alliance, China                                                               |
| <b>ID169</b> | Research on the Architecture of Cooperative Intelligent Transportation System in China         | FAN ZHANG, RIOH High Science and Technology Group, China                                                |
| <b>ID120</b> | Failsafe Operation: Considerations for Homologation Procedure                                  | CARLOS LUJAN, IDIADA Automotive, Spain                                                                  |
| <b>ID334</b> | Standardization Evaluation and Index System Construction of National Highway Network Operation | MINGYUE YAN , Highway Monitoring & Emergency Response Center, Ministry of Transport of the P.R.C, China |
| <b>ID331</b> | A Review of Standardization Approaches for Vehicle Data Specifications                         | FLORIAN PINZEL, DENSO Automotive Germany GmbH, Germany                                                  |

## TS24 ITS TECHNOLOGY FOR TRAFFIC SAFETY (1)

Wednesday, 18 October 2023 | 16:00-17:30 | <Room: 10 (A102) >

Moderator: HENDRA TJIOE, Head of Sales, Yunex Traffic, Singapore

Paper:

|              |                                                                                                 |                                                                                    |
|--------------|-------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| <b>ID165</b> | Event Detection by Image Processing of CCTV Camera Images                                       | HIROYUKI KAMEOKA, Central Nippon Expressway Company Limited, Japan                 |
| <b>ID167</b> | 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 |
| <b>ID216</b> | Configuration And Responsibilities Of Safety Inspector For Autonomous                           | HUAJIAN LI , Research Institute of Highway Ministry of Transport, China            |
| <b>ID382</b> | Early Warning and Control Technology for Severe Weather on Highways                             | YUANYUAN HA , JIAOKE TRANSPORT CONSULTANTS LTD, China                              |



## TS25 SENSORS AND PERCEPTION METHODS FOR AUTOMATED VEHICLES (1)

Thursday, 19 October 2023 | 09:00-10:30 | <Room: 8 (A104) >

Moderator: NOBUYUKI OZAKI, Nagoya University, Japan

Paper:

|              |                                                                                                     |                                                                       |
|--------------|-----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| <b>ID296</b> | Infrastructure-Based Automated Driving System for Mobility Scooter                                  | SHELL YAMAUCHI, Shibaura Institute of Technology, Japan               |
| <b>ID230</b> | A Lane Detection Based on Machine Vision for Lane Departure Warning System                          | LANDA GAO, Institute of Highway Science, Ministry of Transport, China |
| <b>ID239</b> | An Improved Method Based on Fusion of Image and Lidar for 3D Vehicle Detection in Foggy Environment | SHAOKANG NIU, Chang'an University, China                              |
| <b>ID248</b> | CareFusion: You Can Never be too Careful in Lidar and Camera Fusion                                 | ZHAO CHEN, South China University of Technology, China                |
| <b>ID256</b> | Estimation of Object Detection Uncertainty by Cross-Matching Through Occupancy Grid Map             | XINYU JIAO, Tsinghua University, China                                |
| <b>ID430</b> | Integration Of Indoor And Outdoor Navigation For First Responders Among Moving Obstacles            | ZHIYONG WANG , South China university of technology, China            |

## TS26 DATA COLLECTION AND FUSION TECHNOLOGIES

Thursday, 19 October 2023 | 09:00-10:30 | <Room: 9 (A103) >

Moderator: MASAFUMI KOBAYASHI, Sumitomo Electric Industries, Ltd., Japan

Paper:

|              |                                                                                                            |                                                                            |
|--------------|------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|
| <b>ID96</b>  | A Novel Traffic Signals Control Algorithm on Urban Roads Intersection                                      | HUANJIIONG ZHANG, ZRIT, China                                              |
| <b>ID110</b> | Implementing Additional Measures for Smoother Traffic Using Probe Data and Simulation                      | KENTA TABUCHI, Okayama Prefectural Police Headquarters, Japan              |
| <b>ID141</b> | Understanding Traffic Conditions In Road Networks Using Object Detection Data From Drive Recorders         | HIDENORI GOTO , Oriental Consultants Co., Ltd., Japan                      |
| <b>ID214</b> | Multi-Sensor Fusion Perception Based On Lidar And Camera                                                   | LE FU , Beijing Wanji Technology Co., China                                |
| <b>ID362</b> | Research On The Reusability Of Data Throughout The Construction Period Of Digitized Highway Infrastructure | SHUYUN NIU , Research Institute of Highway Ministry of Transport, China    |
| <b>ID240</b> | A Method To Correct The Camera External Parameters For Pavement Detection                                  | KAIXING ZHANG , Research Institute of Highway Ministry of Transport, China |

## TS27 ITS TECHNOLOGY FOR TRAFFIC SAFETY (2)

Thursday, 19 October 2023 | 09:00-10:30 | <Room: 10 (A102) >

**Moderator:** HENDRA TJIOE, Head of Sales, Yunex Traffic, Singapore

**Paper:**

|              |                                                                                                                                               |                                                              |
|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|
| <b>ID367</b> | Research on Ventilator Wind Rate Regulation System of Highway Tunnel Based on Linear Active Disturbance Rejection Control                     | LIUYUAN XIANG, Beijing GOTECH ITS Technology Co., Ltd, China |
| <b>ID434</b> | 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      |
| <b>ID220</b> | Tunnel Monitoring System based on Lidar and Video Fusion                                                                                      | HAO ZHOU , VanJee Technology Co, Ltd., China                 |
| <b>ID366</b> | The Assessment of Smart Expressway Information Release Credibility Based on Analytical Hierarchy Process (AHP) and Fuzzy Synthetic Evaluation | CHENYANG LYU, Beijing GOTECH ITS Technology Co.,Ltd, China   |

## TS28 SENSORS AND PERCEPTION METHODS FOR AUTOMATED VEHICLES (2)

Thursday, 19 October 2023 | 11:00-12:30 | <Room: 8 (A104) >

Moderator: NOBUYUKI OZAKI, Nagoya University, Japan

Paper:

|              |                                                                                                     |                                                          |
|--------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------|
| <b>ID383</b> | Research on Video Visibility Detection Technology and Application in Henan Zhuxin Expressway        | LI ZHANG, Beijing GOTECH ITS Technology Co., Ltd., China |
| <b>ID280</b> | Estimation of Driver Arousal Level Using Camera and Millimeter-wave RAa and Millimeter-wave Radar   | KATSUKI KUBO, Shibaura Institute of Technology, Japan    |
| <b>ID300</b> | Simultaneous of Clustering and Tracking by Time-Series Optimization Filter for Point Cloud of Lidar | SHUNCONG SHEN, Shibaura Institute of Technology, Japan   |
| <b>ID376</b> | Object Recognition by Infrastructure-based Point Cloud using Machine Learning                       | TOSHIO ITO, Hyper Digital Twins Co., Ltd., Japan         |

## TS30 ITS TECHNOLOGY FOR TRAFFIC SAFETY (3)

Thursday, 19 October 2023 | 11:00-12:30 | <Room: 10 (A102) >

**Moderator: FRED KALT, Managing Director, Yunex Traffic, Singapore**

**Paper:**

|              |                                                                                                           |                                                                                                    |
|--------------|-----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| <b>ID272</b> | Systematic Evaluation of Lane Change Risk for Multi-vehicle types on Freeways using High-resolution Data  | XINYI ZHANG , South China University of Technology, China                                          |
| <b>ID417</b> | The Discussion of Construction Solutions for Smart Tunnel in the New Era                                  | LIYANG LU, Research Institute of Highway Ministry of Transport, China                              |
| <b>ID360</b> | Research and Application of Key Technologies for Active Safety Management Based on Intelligent Road Studs | YAOCHUAN GAO, Tech Traffic Engineering Group Co.,Ltd, China                                        |
| <b>ID125</b> | Impact of Maneuvering Angle in Vehicle Lane Changes on Highway Traffic Safety and Operation               | WEI LEI , 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: 8 (A104) >

Moderator: SUKU PHULL, THA Department for Transport, United Kingdom

Paper:

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

## TS33 SMART PARKING&BICYCLE SHARING

Thursday, 19 October 2023 | 14:00-15:30 | <Room: 10 (A102) >

Moderator: CHOY HIN LEE, ITS Malaysia, Malaysia

Paper:

|              |                                                                                                                      |                                                         |
|--------------|----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|
| <b>ID195</b> | Location Selection Of Bicycle Sharing Delivery Points Based On Rebalancing Supply And Demand                         | HANQIANG QIAN , Beijing University of Technology, China |
| <b>ID102</b> | Standardized Specifications for Double-Connected Truck Parking Reservation System with DSRC on Expressways           | NAOTO UENO, NEXCO Research Institute, Japan             |
| <b>ID303</b> | Dynamic Allocation Model for Shared Parking Spaces in a Region                                                       | ZHENG SHUO, Dalian Jiaotong University, China           |
| <b>ID432</b> | 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 AND WATERWAY TRANSPORT APPLICATIONS AND 5G SOLUTION

Thursday, 19 October 2023 | 16:00-17:30 | <Room: 8 (A104) >

**Moderator:** LEI CAI, Research Institute of Highway Ministry of Transport, China

**Paper:**

|              |                                                                                                      |                                                                                  |
|--------------|------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| <b>ID268</b> | Communication Based Train Protection System to Enhance The Operational Safety for Taiwan Railways    | HUI-SHENG FENG, Taiwan Railways Administration, Taiwan, China                    |
| <b>ID307</b> | Application of Intelligent Railway Transport on 5G and C-V2X Network                                 | CHUNKUAN LU, Compal Electronics Incorporation, Taiwan, China                     |
| <b>ID424</b> | Reducing Queuing and Crowding in Urban Rail Transit Systems: A Novel Departure Time Booking Strategy | ZHIYONG LIU, Beijing Jiaotong University, China                                  |
| <b>ID160</b> | Exploration on The Preparation of Whole Life Cycle Design Standards in Rail Transit Industry         | JIABIN ZHU, Suzhou Rail Transit Construction Co., Ltd, China                     |
| <b>ID395</b> | Analysis and design of key technologies for intelligent navigation of ships                          | DAN ZHOU, Water Transport Research Institute of the Ministry of Transport, China |



## TS35 NEXT GENERATION TRAFFIC MANAGEMENT

Thursday, 19 October 2023 | 16:00-17:30 | <Room: 9 (A103) >

**Moderator:** GONZALO ALCARAZ, International Road Federation (IRF), Switzerland

**Paper:**

|              |                                                                                                                                                  |                                                                       |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| <b>ID109</b> | Optimising Signal Control at Continuous-Flow Intersections Considering Traffic Progression                                                       | YINING HU, University of New South Wales (UNSW), Australia            |
| <b>ID226</b> | 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                         |
| <b>ID236</b> | A Scalable Data-Driven Predictive Traffic Management Solution                                                                                    | LUCA PAONE, PTV GROUP, Italy                                          |
| <b>ID412</b> | 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 |
| <b>ID284</b> | Application Case of Intelligent Traffic Signal-Control on Fragile Roads in Kaohsiung City                                                        | CHIH-HUA CHANG , CECI Engineering Consultants, Inc., Taiwan, China    |
| <b>ID149</b> | A Patented Invention, Synergistic Traffic Intersection & Dual-Modes Proximate Crossover Zone                                                     | VALIANT LEUNG YUK YUEN, SYNERGISTIC TRAFFIC , Australia               |

## TS36 FUTURE METROPOLITAN TRANSPORT & DISRUPTIVE INNOVATIONS IN DIGITAL TRANSPORT

Thursday, 19 October 2023 | 16:00-17:30 | <Room: 10 (A102) >

Moderator: JOHN PADDINGTON, ERTICO-ITS Europe, Belgium

Paper:

|              |                                                                                                                             |                                                                                             |
|--------------|-----------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| <b>ID237</b> | Experiences Building An Environment Friendly ITS in The City of Huainan                                                     | ELMAR BROCKFELD, German Aerospace Center, Germany                                           |
| <b>ID186</b> | PRT and The Future City with Sustainable Mobility                                                                           | JIAXIANG WANG, Futurepolis (Suzhou Industrial Park) Planning and Architecture L.L.C., China |
| <b>ID289</b> | Magnetic Force Characteristics of Combined Layout YBaCuO Arrays for HTS Maglev Systems                                      | YEYING BAO, Suzhou Railway and Aviation Development Center, China                           |
| <b>ID126</b> | Installation of Light Emitting Pedestrian Crossing Studs Related to Traffic Signal Operation at Main Intersections in Tokyo | YUYA KOBAYASHI, Metropolitan Police Department, Japan                                       |
| <b>ID162</b> | 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: 7 (A105) >

**Moderator:** TIM LEINMÜLLER, Denso Automotive Deutschland GmbH, Germany

**Paper:**

|              |                                                                                                               |                                                                           |
|--------------|---------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|
| <b>ID148</b> | A Hybrid Control Methodology for Vehicle Platooning Based on Linearized Decoupled Control Law                 | HUATAO JIANG, sirun, China                                                |
| <b>ID449</b> | Application of Arithmetic Optimizer Algorithm to Manage Platooning of Future Transportation Systems           | LIPING PENG , Research Institute of Highway, Ministry of Transport, China |
| <b>ID116</b> | Platooning Regulatory Framework                                                                               | ORIOL FLIX , Applus IDIADA, Spain                                         |
| <b>ID222</b> | 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: 8 (A104) >

Moderator: GONGBIN QIAN, ITS Establishment, Nanjing, China

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                                                                             | CHONG CHEE CHUNG, ST Engineering Urban Solutions, Singapore               |
| 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                       |

## TS39 ITS INFRASTRUCTURE FOR AUTOMATED VEHICLES

Friday, 20 October 2023 | 11:00-12:30 | <Room: 9 (A103) >

**Moderator:** JINPING GUAN, Harbin Institute of Technology (Shenzhen) and Massachusetts Institute of Technology, China

**Paper:**

|              |                                                                                                                         |                                                                                             |
|--------------|-------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| <b>ID260</b> | SSP: Small Object Detection from Sparse Point Clouds of Roadside LiDAR for Vehicle-to-infrastructure Cooperating System | JUANJUAN LI, Vanjee Technology, China                                                       |
| <b>ID308</b> | Smart Road and Edge Infrastructure Enabling Cooperative Intelligent Transport Systems                                   | LING LIU, Intel, China                                                                      |
| <b>ID469</b> | Preparing CAV Infrastructure in Building the Cooperative and Automated Transportation Ecosystem                         | JIONGJIONG SONG , AECOM, United States                                                      |
| <b>ID476</b> | Increasing The ODD Attribute Value Awareness of Automated Driving Systems with Infrastructure Support                   | HIRONAO KAWASHIMA, Mobility Culture Research Center, Keio University Keio University, Japan |
| <b>ID448</b> | International Standard for Automated Mobility                                                                           | JUNICHI HIROSE, Highway Industry Development Organization, Japan                            |

## TS40 DATA ANALYTICS FOR TRAFFIC MONITORING AND MANAGEMENT

Friday, 20 October 2023 | 11:00-12:30 | <Room: 10 (A102) >

Moderator: HANLOU DIAO, China Design Group Co.,Ltd., China

Paper:

|              |                                                                                                                                   |                                                                       |
|--------------|-----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| <b>ID159</b> | Large-Scale Microscopic Traffic Simulation Based on License Plate Recognition Data and OpenStreetMap                              | WENBIN YAO, Zhejiang University, China                                |
| <b>ID171</b> | A Traffic Incident Detection Method Based on YOLOv5 + DeepSORT for Freeway                                                        | XIANHUI ZONG, Nanjing University of Science and Technology, China     |
| <b>ID271</b> | Improvement in Corridor Level Traffic Volume Predictions by Integrating the Signal and Phase Timing Data                          | RAJESH KUMAR MALHAN , DENSO International America Inc., United States |
| <b>ID314</b> | Multi-Objective Tracking Algorithm for Urban Traffic Via Adaptive Multi-Level Approach                                            | ZHAOCI LUO , VanJee Technology Co.,Ltd, China                         |
| <b>ID227</b> | 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                                 |
| <b>ID309</b> | VIDEO DATA ANALYTICS IN TRAFFIC MONITORING AND MANAGEMENT: A CASE STUDY IN HONG KONG                                              | LUI, STEVEN YEE MING, AECOM Asia Co. Ltd., China                      |

## TS42 TECHNOLOGIES FOR TRAVEL DEMAND MANAGEMENT

Friday, 20 October 2023 | 14:00-15:30 | <Room: 6 (A106) >

Moderator: HAYASHI ITO , ITS Japan, Japan

Paper:

|              |                                                                                                                        |                                                                                        |
|--------------|------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| <b>ID154</b> | Stpa For Safety Analysis Of Autonomous Vehicles In Mixed Traffic Systems                                               | LEI CHEN, RISE Research Institutes of Sweden, Sweden                                   |
| <b>ID203</b> | Congestion Judgment Method at Entrances and Exits of Large-scale Parking Lots Based on Average Vehicle Delay           | QIANYI HU, Southeast University, China                                                 |
| <b>ID221</b> | 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 |
| <b>ID433</b> | Identification of Urban Residents' Travel Activity Pattern A Case Study of Hangzhou City                               | YINAN DONG , Zhejiang University, China                                                |

## TS45 POLICY AND REGULATION FOR CONNECTED AND AUTONOMOUS VEHICLES

Friday, 20 October 2023 | 14:00-15:30 | <Room: 9 (A103) >

Moderator: **WOLFGANG TREINEN**, Berlin Partner for Business and Technology, Germany

Paper:

|              |                                                                                                        |                                                                                  |
|--------------|--------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| <b>ID467</b> | Research on the Framework of Cooperative Automated Driving System Based on Game Theory                 | XIAOHAN YANG, Jiaoke Transport Consultants Ltd., China                           |
| <b>ID336</b> | Research on the Implementation of Ethics Based on Driver Choice Behavior in Automated Driving          | KAITO KUSAKARI, Shibaura Institute of Technology, Japan                          |
| <b>ID121</b> | Automated Driving Challenges and Approaches: Platooning Use-Case                                       | CARLOS LUJAN, IDIADA Automotive, Spain                                           |
| <b>ID170</b> | 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 |
| <b>ID115</b> | Type Approval Approach for Automated Driving Vehicles: Beyond the Traditional Homologation Methodology | CARLOS LUJAN, Applus IDIADA, Spain                                               |



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

Tuesday, 17 October 2023 | 14:00-17:00 | <Room: 11 (A202) >

### Paper:

|              |                                                                                                                      |                                                                                                                                                                             |
|--------------|----------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>ID119</b> | Typical Case of Operation and Maintenance for High-Speed Railway Core System                                         | XINJUN GAO, Signal and Communication Research Institute, China                                                                                                              |
| <b>ID439</b> | 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 |
| <b>ID385</b> | 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                                                      |
| <b>ID327</b> | Short-term traffic flow prediction and timing optimization at signalized intersections based on SG-LSTM and particle | LEI YANG, Dalian Jiaotong University, China                                                                                                                                 |
| <b>ID269</b> | Collaborative optimization model for bus speed guidance and signal control on the networked environment              | TIAN XIN, South China University of Technology, China                                                                                                                       |
| <b>ID302</b> | Research on new framework based on existing smart expressway construction guides                                     | ZHUOCHENG YANG, Beijing GOTECH ITS Technology Co.,Ltd, China                                                                                                                |
| <b>ID330</b> | Research on the improvement of measurement service guarantee capability of intelligent transportation                | XIN SHI, China Academy of Transportation Sciences, MOT, China                                                                                                               |
| <b>ID205</b> | Evaluation of measurement uncertainty of brake fluid moisture measuring instrument                                   | YIXU WANG, Research institute of highway ministry of transport, China                                                                                                       |
| <b>ID286</b> | 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: 11 (A202) >

### Paper:

|              |                                                                                                                 |                                                                                                      |
|--------------|-----------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| <b>ID207</b> | A Review of Data-Driven Lane-Changing Decision Modeling for Connected and Automated Vehicles                    | ZHENGWEN FAN, Nanjing University of Science and Technology, China                                    |
| <b>ID456</b> | Research on signal reliability of communication equipment on medium and large operating vehicles                | ZHANG YUN, Research Institute of Highway Ministry of Transport, China                                |
| <b>ID245</b> | Research on path tracking control strategy for In-Wheel Motor Driven electric vehicle with Integrated Stability | HAICHUAN ZHANG, Chang'an University, China                                                           |
| <b>ID250</b> | Multi-generational Evolutionary Approach of Autonomous Transportation System                                    | HAONAN TUO, Central South University, China                                                          |
| <b>ID409</b> | Study on the evolution mechanism of lane change decision in urban expressway diversion area                     | SUCHUAN XU, Suzhou University of Science and Technology, China                                       |
| <b>ID477</b> | 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                     |
| <b>ID299</b> | A Lateral Control Method for a 4-Wheel Steering Sightseeing Vehicle                                             | YINING XING, Tsinghua University, China                                                              |
| <b>ID158</b> | Research on Visualized Application of Inland Waterway Management Based on Multi-source 3D Fusion                | WU LV QING, Suzhou Port and Shipping Development Center, China                                       |
| <b>ID441</b> | A Soft-attention based Spatial-temporal Neural Network Model for Traffic Flow Prediction                        | RUI ZHENG, Beijing Jiatong University, China                                                         |
| <b>ID326</b> | 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 |

## IS03 INTELLIGENT AND DIGITAL TRANSPORT INFRASTRUCTURE & INTEGRATED TRANSPORT SYSTEMS

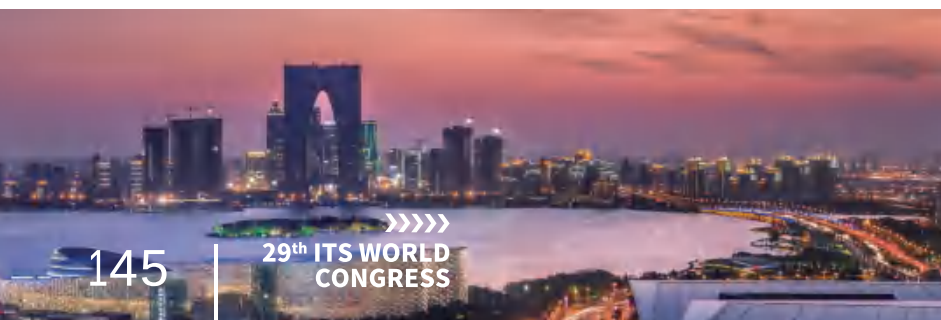
Thursday, 19 October 2023 | 14:00-17:00 | <Room: 11 (A202) >

### Paper:

|              |                                                                                                                                                     |                                                                                          |
|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| <b>ID276</b> | Global Synergistic Dual-Modes Sustainable Traffic System                                                                                            | VALIANT YUK YUEN LEUNG , Synergistic Traffic, Australia                                  |
| <b>ID478</b> | Research on the Least Square Algorithm for Correcting High Voltage Arc Edge Discharge Parameters                                                    | ZHIXIN OU, Anhui Communications Vocational & Technical College Department, China         |
| <b>ID197</b> | Research and implementation of Intelligent construction and management system for the ecological revetment of inland waterways based on 3D printing | YUQI YANG, Suzhou Port and Shipping Development Center , China                           |
| <b>ID361</b> | The Construction Situation and Development Suggestions in China of Smart Highway                                                                    | XIAOLIN CHE, Research Institute of Highway Ministry of Transport, China                  |
| <b>ID345</b> | Highway Life-cycle Cost Analysis under the Autonomous Vehicles Scenario                                                                             | KAIDI LIANG, Southeast University, Australia                                             |
| <b>ID223</b> | Mode measurement of cable based on a new subpixel edge detection operator                                                                           | KUN XIE, Hohai University, China                                                         |
| <b>ID402</b> | Traffic congestion traceability analysis based on capacity matching degree                                                                          | DE GAO, Beijing Jiaotong University, China                                               |
| <b>ID479</b> | Evaluation on Variable Lanes of Xiehe Road in Shanghai                                                                                              | XI CHEN, Shanghai Urban Construction Design & Research Institute (Group)Co., Ltd., China |
| <b>ID423</b> | Vessel Flow Forecasting in Yangtze River Multi-Bridge Area Using Inferential Generative Model                                                       | JIE MAN, Wuhan University of Technology, China                                           |
| <b>ID339</b> | Research on multimodal transport service platform based on blockchain                                                                               | GUANYA HAO, Nanjing University of Science and Technology, China                          |



Suzhou welcomes you to the  
**29<sup>th</sup> ITS WORLD CONGRESS**





The Congress meticulously crafted a selection of technical tour paths, with the aim of offering visitors an alternative lens through which they may gain a comprehensive understanding of China's intelligent transportation industry, guiding participants towards obtaining a firsthand encounter with the pioneering and sophisticated nature of China's intelligent transportation development, ultimately, showcasing how smart transportation enhances urban services by providing convenience and practicality. We have identified 9 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.



Remarks:

**The designated location for departure and arrival of all technical tours is the square of Hall C, Suzhou International Expo Center.**

Booking: Kindly proceed with a purchase while completing the registration process, or alternatively, avail yourself of the opportunity to access the personal center page on the right side of the screen to explore further purchasing options. Should the number of participants in a single technical tours route be insufficient, the organizing committee reserves the right to either cancel the visit or implement alternative arrangements as deemed suitable. In the event of any modifications, the organizing committee shall promptly notify you via email. Your understanding in this matter is greatly appreciated.

**Please arrive at the designated location at least 5 minutes before scheduled time. The shuttle service will depart on schedule.**

INTELLIGENT TRAFFIC CONTROL

SUZHOU TRANSPORTATION OPERATION COMMAND CENTER (TOCC) AND BUS CENTRALIZED SCHEDULING AND COMMAND CENTER

Suzhou Transportation Operation Command Center (TOCC) serves as the central hub for the management and coordination of Suzhou's transportation system. It functions as the highly intelligent core, accumulating an extensive array of surveillance videos and vast data pertaining to highways, waterways, ports, and public transportation, totaling over 50000. The Transportation Operations and Control Center (TOCC) implements a comprehensive system encompassing perceptual awareness and early signal detection, timely reporting while on duty, consultative protocol for ongoing problem resolution, and post-assessment measures for continuous improvement within the urban transportation domain. TOCC combines coordination and monitoring to establish a self-contained emergency response system within the realm of transportation, to achieve the quality improvement of comprehensive transportation emergency management.

The Bus Centralized Scheduling and Command Center functions as the primary information hub for managing Suzhou's bus services, incorporating two distinct platforms known as Suzhou Bus Operation Management and Bus Real-time Data Supervision. Thus, this arrangement establishes a unified center with two accompanying platforms. The center encompasses seven core functions, specifically the coordination of operation schedules, supervision of vehicles, scheduling of emergencies, real-time management of passenger flow, management of stations, analysis of operations, and dissemination of information. By implementing meticulous operational planning and scheduling, the center consistently provides accurate and effective information regarding bus services to improve the quality and attractiveness of the service for passengers.

|                                                           |                                                                                                      |                                                                |                                                                              |
|-----------------------------------------------------------|------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|------------------------------------------------------------------------------|
| Region                                                    | Suzhou                                                                                               | Description                                                    | INTELLIGENT TRAFFIC CONTROL                                                  |
| Duration of the visit(inclusive of time spent in transit) | 90 mins                                                                                              | No.of visitors (single tour)                                   | 30                                                                           |
| Visit location                                            | Suzhou Transportation Operation Command Center (TOCC), Bus Centralized Scheduling and Command Center |                                                                |                                                                              |
| Date & Time                                               | 2023-10-16                                                                                           | 13:00-14:30 (English version)<br>15:00-16:30 (Chinese version) | 2023-10-19<br>13:00-14:30 (English version)<br>15:00-16:30 (Chinese version) |



INTELLIGENT TRAFFIC CONTROL

TRAFFIC ADMINISTRATION DIVISION OF SUZHOU MUNICIPAL PUBLIC SECURITY BUREAU

It is scheduled to pay a field visit to the Department of Motor Vehicles within the traffic police detachment and the Intelligent Network and Urban Traffic Service Joint Innovation Laboratory to observe the utilization of data-driven approaches in enhancing public security traffic management, urban traffic organization, intelligent traffic signal control, and innovative traffic management services.

Over the past few years, the DMV of the Suzhou Public Security Bureau has diligently enhanced its technological, service, and police camp culture. Through the integration of motor vehicle inspection and registration processes, a streamlined assembly line approach has been implemented. Additionally, a one-stop service for motor vehicle registration model has been established, along with the creation of a smart lobby for vehicle driving management business and a self-service office. These efforts have resulted in an elevated service standard, increased operational efficiency, and the realization of an innovative traffic management service model.

The Intelligent Network and Urban Traffic Service Joint Innovation Laboratory constitutes a collaborative innovation platform established by the Road and Transport Authority of Suzhou Municipal Public Security Bureau in partnership with universities, scientific research institutions, and technology companies. Through the utilization of the collaborative laboratory, the co-constructing entities effectively combine their resources and leverage each other's strengths. Together, they undertake research endeavors focused on data-driven traffic management and intelligent traffic signal control, aiming to facilitate the mutually beneficial integration of network connectivity and traffic administration.

|                                                           |                                                                                                                                                              |                                          |                             |
|-----------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|-----------------------------|
| Region                                                    | Suzhou                                                                                                                                                       | Description                              | Intelligent traffic control |
| Duration of the visit(inclusive of time spent in transit) | 120 mins                                                                                                                                                     | No.of visitors (single tour)             | 30                          |
| Visit location                                            | DMV of the Suzhou Public Security Bureau, Intelligent Network and the Urban Traffic Service Joint Innovation Laboratory of the Suzhou Public Security Bureau |                                          |                             |
| Date & Time                                               | 2023-10-16 13:00-15:00 (English version)                                                                                                                     | 2023-10-19 13:00-15:00 (Chinese version) |                             |



INTELLIGENT HIGHWAY

CHINA’S ROUTE FOR SMART HIGHWAY TOUR

The tour includes a visit to the G2/G42 Traffic Command and Control Center located in Suzhou, specifically at the Yangchenghu Service Area. The purpose of this visit is to demonstrate the intelligent operation and management scenarios of expressways, highlighting features such as high-speed brain, collaborative cloud scheduling, intelligent capacity expansion, and intelligent service area.

The Suzhou section of the G2/G42 Expressway is renowned for its exceptional intelligence and superior quality, standing out as one of China's most advanced and impeccably constructed expressways. Through the utilization of a comprehensive data display board, active traffic management techniques, free-flow ramp toll systems, and various other applications, the advancements in intelligent motorway technology have considerably enhanced the efficiency and safety of driving experiences for the general populace.

The G2/G42 Traffic Command and Control Center in Suzhou has successfully integrated and employed nine district management systems, including the highway command control system and the event detection system. This integration has significantly enhanced the efficiency of highway monitoring, command and analysis, as well as decision-making processes.

Embracing the traditional Water Town ambiance of Jiangnan and the artistic charm of Poetic and Picturesque ink paintings, the Yangchenghu service area seamlessly incorporates the design philosophy of 'One Street, Three Gardens'. Visitors have the opportunity to appreciate the picturesque surroundings of Suzhou without necessarily venturing into the city itself. This region has been lauded as a prominent destination for highway tourism, earning the title of "China's most exquisite garden service area."

| Region                                                    | Expressway                                                                    |                               | Description                  | INTELLIGENT HIGHWAY           |
|-----------------------------------------------------------|-------------------------------------------------------------------------------|-------------------------------|------------------------------|-------------------------------|
| Duration of the visit(inclusive of time spent in transit) | 120 mins                                                                      |                               | No.of visitors (single tour) | 30                            |
| Visit location                                            | G2/G42 Traffic Command and Control Center in SUZHOU, YANGCHENGHU Service Area |                               |                              |                               |
| Date & Time                                               | 2023-10-18                                                                    | 13:00-15:00 (English version) | 2023-10-19                   | 13:00-15:00 (English version) |
|                                                           |                                                                               | 15:00-17:00 (Chinese version) |                              | 15:00-17:00 (Chinese version) |





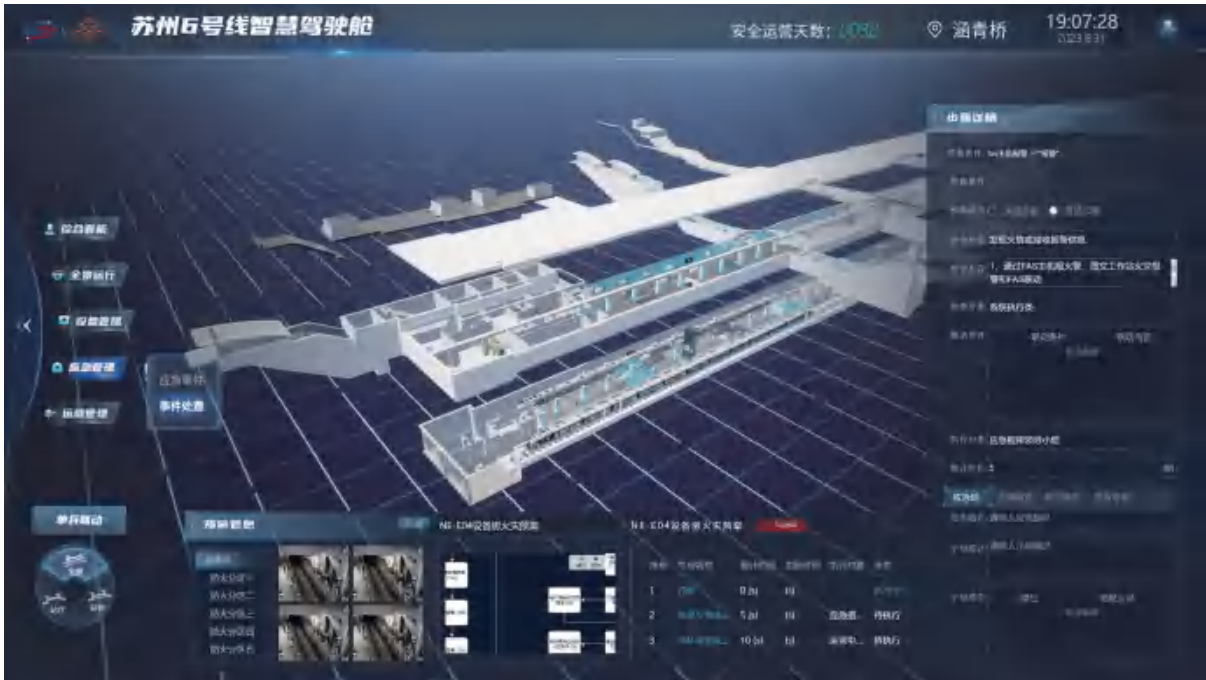
INTELLIGENT RAIL TRANSPORTATION SYSTEM

GANGTIAN ROAD STATION ON SUZHOU RAIL TRANSIT

The primary focus of the smart station will encompass showcasing the intelligent brain cockpit, panoramic operation management, emergency linkage management, standardized equipment room installation management, intelligent security screening, and energy conservation management, among others.

The Gangtian Road Station on Suzhou Rail Transit Line 6 serves as the pioneering demonstration station for the implementation of the "Digital Smart Brain for Urban Rail Transit." This initiative aims to showcase the entirety of Suzhou's distinct smart brain capabilities, emphasizing the passenger-centric, station-centric, and equipment-centric functionalities. The implementation of automatic station opening and closing, as well as maintenance possession granting and surrendering to the dispatching system, enables the unmanned management of stations during nighttime hours. This pioneering achievement in the industry not only ensures efficient operations but also facilitates the integration of monitoring, automatic inspection, and emergency linkage management. Consequently, there is a substantial reduction in the requirement for human resources.

| Region                                                    | Rail Transit                                        |                                                                | Description                  | INTELLIGENT RAIL TRANSPORTATION SYSTEM                         |
|-----------------------------------------------------------|-----------------------------------------------------|----------------------------------------------------------------|------------------------------|----------------------------------------------------------------|
| Duration of the visit(inclusive of time spent in transit) | 150 mins                                            |                                                                | No.of visitors (single tour) | 30                                                             |
| Visit location                                            | Gangtian Road Station on Suzhou Rail Transit Line 6 |                                                                |                              |                                                                |
| Date & Time                                               | 2023-10-16                                          | 13:00-15:30 (English version)<br>15:00-17:00 (Chinese version) | 2023-10-17                   | 13:00-15:30 (English version)<br>15:00-17:00 (Chinese version) |



INTELLIGENT CONNECTED VEHICLES/ SMART CULTURAL TOURISM

THE TAIHU LAKE ECOLOGICAL ISLAND AUTONOMOUS DRIVING PROJECT IN WUZHONG DISTRICT

It is scheduled to embark on a visit to Taihu Lake Ecological Island. The purpose of the visit is chiefly to showcase the practical implementation of autonomous driving technology in various scenic locations, transportation hubs, and urban road networks.

The core of the Taihu Lake Ecological Island consists of various application scenarios spanning across 84 square kilometers. There are a total of 93 designated points, encompassing a network of 200 kilometers of two-way roads specifically designed for autonomous driving. The range of autonomous vehicles available includes Minibus, Robotaxi, unmanned retail vehicles, logistics vehicles, security vehicles, sweepers, rovers, and others, forming a comprehensive series of models. The ecological island will be developed as a pioneering cultural tourism autonomous driving ecological demonstration zone in the country, incorporating the innovative "double wisdom model" that synergistically integrates smart cultural tourism and intelligent network industry.

|                                                           |                              |                                                                |                              |                                                                |
|-----------------------------------------------------------|------------------------------|----------------------------------------------------------------|------------------------------|----------------------------------------------------------------|
| Region                                                    | Wuzhong District             |                                                                | Description                  | INTELLIGENT CONNECTED VEHICLES/ SMART CULTURAL TOURISM         |
| Duration of the visit(inclusive of time spent in transit) | 150 mins                     |                                                                | No.of visitors (single tour) | 20                                                             |
| Visit location                                            | Taihu Lake Ecological Island |                                                                |                              |                                                                |
| Date & Time                                               | 2023-10-17                   | 13:00-15:30 (English version)<br>15:00-17:30 (Chinese version) | 2023-10-19                   | 13:00-15:30 (English version)<br>15:00-17:30 (Chinese version) |



INTELLIGENT CONNECTED VEHICLES/ INTELLIGENT TRAFFIC CONTROL

THE TACTICAL JOURNEY THROUGH THE INTELLIGENT URBAN MOBILITY INFRASTRUCTURE IN SUZHOU’S HIGH SPEED RAIL NEW TOWN

The exhibition of the Intelligent Urban Mobility Infrastructure in Suzhou's High-Speed Rail New Town offers a comprehensive display of the nation's cutting-edge autonomous vehicle transportation solutions. The itinerary includes notable road segments such as South Tiancheng Road, enabling passengers to partake in the exceptional experience of riding in a 'Lightweight-equipped/ADAS Car on Smart Road' featuring the world's sole roadside perception L4 networked autonomous driving system. During the journey, visitors will have the opportunity to witness the practical implementation of the cooperative vehicle infrastructure system and Autonomous Driving in the High-speed Rail New Town. These situations encompass the use of Robotaxis, Robobuses, autonomous sweepers, unmanned garbage trucks, unmanned security vehicles, unmanned cleaning ships, and several other applications. The aforementioned pathway also traverses the Intelligent Control Center within the Yangtze River Delta Intelligent Connected Vehicle Industry Demonstration Zone. This control center will serve as a showcase for the cloud-based platform at the city-level, which supports business operations pertaining to intelligent connected vehicles at the city-level.

|                                                           |                                                                                                                                                                                                                                                                                |                                                                |                              |                                                                |
|-----------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|------------------------------|----------------------------------------------------------------|
| Region                                                    | Xiangcheng District                                                                                                                                                                                                                                                            |                                                                | Description                  | INTELLIGENT CONNECTED VEHICLES/ INTELLIGENT TRAFFIC CONTROL    |
| Duration of the visit(inclusive of time spent in transit) | 150 mins                                                                                                                                                                                                                                                                       |                                                                | No.of visitors (single tour) | 20                                                             |
| Visit location                                            | Yangtze River Delta Intelligent Connected Vehicle Industry Demonstration Zone Intelligent Control Center, Suzhoubei Railway Station, South Tiancheng Road, The start-up area of Yangtze River Delta International R & D community, Suzhou International Conference Hotel, etc. |                                                                |                              |                                                                |
| Date & Time                                               | 2023-10-17                                                                                                                                                                                                                                                                     | 13:00-15:30 (English version)<br>15:00-17:30 (Chinese version) | 2023-10-18                   | 13:00-15:30 (English version)<br>15:00-17:30 (Chinese version) |



INTELLIGENT PORT/ SMART CONSTRUCTION SITE

SMART CONSTRUCTION SITE AND AUTOMATED BULK & GENERAL CARGO TERMINAL IN ZHANGJIAGANG

It is scheduled to visit the A1 section of the ZhangJinggao Yangtze River Bridge intelligent Management command center, the steel cloud factory intelligent control center, and the concrete cloud factory intelligent control center, where visitors can learn about the use of big data, the Internet of Things, cloud computing, digital twins, virtual construction, and other technologies in the bridge engineering industry.

Furthermore, guests will be granted a comprehensive tour of the unmanned automated bulk and general cargo terminal belonging to Zhangjiagang Port Group. This tour will showcase the practical implementation of cutting-edge technologies such as 5G, big data, and artificial intelligence within the automated terminal with an intelligent control technology system established to oversee the entire production process of the dry bulk cargo terminal. This system aims to achieve complete automation and unmanned operation for all operational aspects, including unloading, horizontal transportation, storage yard management, stripping, loading, and more. The project has been honored with the second prize in the inaugural State-owned Enterprise Digital Scene Innovation Professional Competition organized by the State-owned Assets Supervision and Administration Commission of the State Council, as well as the first prize in the Innovation competition at the 29th ITS World Congress.

|                                                           |                                                                                                        |                              |                                              |
|-----------------------------------------------------------|--------------------------------------------------------------------------------------------------------|------------------------------|----------------------------------------------|
| Region                                                    | Zhangjiagang                                                                                           | Description                  | INTELLIGENT PORT/<br>SMART CONSTRUCTION SITE |
| Duration of the visit(inclusive of time spent in transit) | 450 mins                                                                                               | No.of visitors (single tour) | 30                                           |
| Visit location                                            | Zhangjiagang Port Group Automated Bulk Cargo Terminal, Smart Site of Zhangjinggao Yangtze River Bridge |                              |                                              |
| Date & Time                                               | 2023-10-21 9:30-17:00 ((English & Chinese version)                                                     |                              |                                              |





INTELLIGENT CONNECTED VEHICLES/ SMART PARKING

5G VEHICLE NETWORKING DEMONSTRATION PROJECT  
IN CHANGSHU CITY

The itinerary includes a planned visit to the central region of the Changshu Section of the Suzhou 5G vehicle networking application demonstration project, the Jingdong (JD) unmanned logistics global research and development center, and Suzhou Genland Ipark Technology Co., Ltd.

The primary objective of the Changshu segment within the Suzhou 5G Vehicle-to-Everything Urban Verification and Application Project is to establish an intelligent road ecosystem integrating advanced sensing, communication, and computing functionalities, implementing more than 50 application scenarios for vehicle-to-everything (V2X) technology. These scenarios will primarily revolve around intelligent public transportation, encompassing features such as displaying traffic light information on rear screens, detecting pedestrians in the front, and warning surrounding vehicles through "ghost sensors," and utilizing See Through technology. Additionally, it is aimed to provide signal light status notifications, introduce holographic intersections that require large screen displays, and showcase various unique demonstration applications for V2X technology.

In 2020, JD Logistics and Changshu City forged a comprehensive partnership and commenced the execution of a municipal-level intelligent delivery initiative in Changshu. The objective is to develop a comprehensive and efficient solution for urban last-mile delivery, creating a scalable and replicable commercial model for unmanned delivery operations. This endeavor played a crucial role in the establishment of the world's pioneer intelligent delivery metropolis.

Suzhou Genland Ipark Technology Co., Ltd. is regarded as a leading service provider in urban parking operations, offering a range of services including the development and management of city-wide platforms, customized solutions for diverse contexts, research and publication of parking whitepapers, analysis of parking big data, and comprehensive consultation services.

|                                                           |                                                                                |                              |                                               |
|-----------------------------------------------------------|--------------------------------------------------------------------------------|------------------------------|-----------------------------------------------|
| Region                                                    | Changshu                                                                       | Description                  | INTELLIGENT CONNECTED VEHICLES/ SMART PARKING |
| Duration of the visit(inclusive of time spent in transit) | 420 mins                                                                       | No.of visitors (single tour) | 20                                            |
| Visit location                                            | China Intelligent Vehicle Comprehensive Technology Research and Testing Center |                              |                                               |
| Date & Time                                               | 2023-10-21    9:30-16:30 ((English & Chinese version)                          |                              |                                               |



INTELLIGENT TRAFFIC CONTROL/ INTELLIGENT PORT

TAICANG CITY INTELLIGENT TRAFFIC CONTROL AND  
AUTOMATED CONTAINER TERMINAL

The center is committed to enhancing the quality of traffic safety management. Through the application of digital and intelligent techniques, it effectively consolidates the preexisting data assets of the public security traffic management agency. It encompasses a wide range of business domains, including the continuous monitoring of traffic patterns and the efficient coordination of emergency response and dispatch. The process of integration has successfully enabled the incorporation of various features, including but not limited to data fusion, display, analysis, and monitoring. These functionalities significantly contribute to domains such as traffic conditions, safety situations, command and dispatch, intelligent parking, asset management, patrol supervision, and holographic intersections.

Taicang Port Phase IV represents the pioneering implementation of a fully automated terminal project within Jiangsu Province and the wider Yangtze River basin. The location presents a panoramic view of the awe-inspiring Yangtze River estuary, the cutting-edge shore bridge operated through advanced 5G communication and unmanned horizontal transport machinery, a fleet of 28 automated rail-mounted container gantry cranes utilized for efficient yard operations, and the seamless functioning of the state-of-the-art Terminal Operating System (TOS) for the innovative wharf.

|                                                           |                                                                                                                         |                              |                                                  |
|-----------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|------------------------------|--------------------------------------------------|
| Region                                                    | Taicang                                                                                                                 | Description                  | INTELLIGENT TRAFFIC CONTROL/<br>INTELLIGENT PORT |
| Duration of the visit(inclusive of time spent in transit) | 450 mins                                                                                                                | No.of visitors (single tour) | 20                                               |
| Visit location                                            | Taicang Digital City Operations, Jiangsu Port Group Container Company<br>Taicang Phase IV Container Automation Terminal |                              |                                                  |
| Date & Time                                               | 2023-10-21 9:30-17:00 (English & Chinese version)                                                                       |                              |                                                  |





The 29th ITS World Congress has openly solicited 9 demonstrations in the innovative field of intelligent transportation from both domestic and international technology manufacturers and scientific research institutes. At the congress, there are live demonstrations conducted within a dedicated area spanning nearly 15,000 square meters, located in the southwestern vicinity of the primary venue. As a prominent highlight of the congress, the demonstrations present to the public the most technologically advanced and innovative products, equipment, solutions, or services available.

There are presently 9 demonstrations included in this congress, encompassing "New Technologies, New Products and New Scenarios" of future intelligent transportation.

## New Technologies:

New 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.

## New Products:

New products showcase the potential of cutting-edge solutions, such as unmanned flying car, autonomous cruise boat, self-driving vehicles, and automated transportation robots, in enhancing logistics transportation capabilities and elevating the standards of traffic management.

## New Scenarios:

New scenarios showcase a broader range of unmanned traffic scenarios encompassing water tourism, logistics distribution, connectivity security, road inspection, and other related domains.

## XPENG X2 ELECTRIC FLYING CAR FLIGHT DEMONSTRATION

### XPENG AEROHT

The XPENG X2 is the fifth-generation flying car independently developed and manufactured by XPENG AEROHT. It has a complete carbon fiber structure, accentuated by a cutting-edge aesthetic merged with an array of advanced features. These features include automated driving capabilities, radar-based distance measurement, obstacle detection and avoidance systems, a comprehensive parachute system, and a host of other equipment. This suite of technologies enables the X2 to deliver holistic services encompassing both driving convenience and safety protection.

The XPENG X2 is a two-seater flying car and adopts an enclosed cockpit for the first time. It does not produce any carbon dioxide emissions during flight and is a step forward in the pursuit of urban green transportation. It will be suitable for future low-altitude city flights and is perfect for short-distance city journeys such as sightseeing and medical transportation. The XPENG X2 is equipped with two driving modes: manual and autonomous. During the autonomous flight, passengers can enjoy a safe and intelligent flying experience with simple start, return and landing operations at the touch of a button.





## AUTONOMOUS VEHICLE DYNAMIC DEMONSTRATION

### SUZHOU INDUSTRIAL PARK

The presence of a wide range of autonomous vehicles showcases the extensive incorporation of intelligent connectivity into the everyday lives of individuals, thereby transforming their travel preferences and overall lifestyles through the integration of artificial intelligence and connectivity. As a result, this evolution delivers heightened levels of safety, convenience, and effectiveness.



INTELLIGENT URBAN MOBILITY SYSTEM AND DEMONSTRATION FOR SMART CITY

TSINGHUA UNIVERSITY

This project aims to improve the riding comfort and travel convenience of urban residents, and is oriented to the travel needs of smart cities. Based on the "vehicle-road-cloud integration" architecture, it develops passenger cars, shuttle buses, delivery vehicles, sweepers, sightseeing vehicles, patrol vehicles and other types of vehicles. We have developed roadside sensing units and smart travel APPs, and built a cloud digital twin system to open up data communication between smart vehicles, smart roadside, cloud control platforms, and smart mobile terminals, achieving an integrated intelligent transportation system consisting of intelligent vehicle domain, intelligent road domain, data cloud domain, and communication network domain.



## AUTOMOTIVE WIDE FOV SHORT-RANGE LIDAR ML-30S+

### ZVISION TECHNOLOGIES CO., LTD.

ZVISION Technologies have developed an automotive short-range lidar product with wide field of view (FOV) known as ML-30s+. The company leverages cutting-edge technology and effectively aligns it with current market needs to deliver automotive lidar products, characterized by superior performance, compact design, and large-scale production capabilities. These products serve as a dependable and steadfast solution for enabling autonomous driving applications, offering unparalleled 3D vision capabilities.

The ML-30s+ offers an extended horizontal FOV, enabling the detection of vehicles approaching from the adjacent lane at a distance of 1.4 meters earlier compared to a 120° angle of observation. It also effectively provides comprehensive coverage of blind zones from all angles, and the blind zone reduction offered by the 140° FOV splicing solution is twice as effective compared to the 120° solution.

The ML-30s+ offers an expansive vertical FOV, characterized by an asymmetrical design. Notably, it boasts a significant 50° FOV below the horizontal plane, which currently stands as the industry's largest among horizontally aligned devices. The vehicle demonstrates a substantial decrease in blind spots on the road surrounding its body, enabling it to effectively detect and respond to curbs, bricks, low safety guardrails, and other common road obstacles such as ground locks, stone piers, and cones. It effectively fulfills the ground sensing requirements of the vehicle for diverse urban roads, low-speed scenarios like automatic parking, and complex road conditions encountered during driving initiations.



# THE AUTONOMOUS CRUISE ORCAUBOAT "XI"

## SHAANXI ORCA ELECTRONIC INTELLIGENT TECHNOLOGY CO., LTD. (ORCAUBOAT)

The ORCAUBOAT "Xi" stands as a testament to the pioneering endeavors within our nation as it emerges as the first Level 4 autonomous cruise boat. It utilizes water surface unmanned driving technology to prioritize the advancement of intelligent water travel for tourists, aiming to foster the practical integration of smart tourism and intelligent water transportation, suitable for inland river, inland lake sightseeing excursions as well as barge and other scenarios.

The autonomous cruise ORCAUBOAT "Xi" is furnished with an intelligent interaction system, capable of providing real-time displays of ship and scenic spot information. Furthermore, it can intelligently deliver voice announcements related to the sights, offering tourists a cutting-edge technological voyage experience. It can cater to diverse customer tour preferences by offering water sightseeing experiences. A range of activities such as sightseeing, waterfront dining, corporate engagements, educational pursuits, and more, has the potential to enhance the boat's utilization rate. Simultaneously, cruise boat operators are equipped with a sophisticated management APP that enables real-time monitoring and efficient administration of the boat's operations, leading to a substantial reduction in overall boat management expenditures.

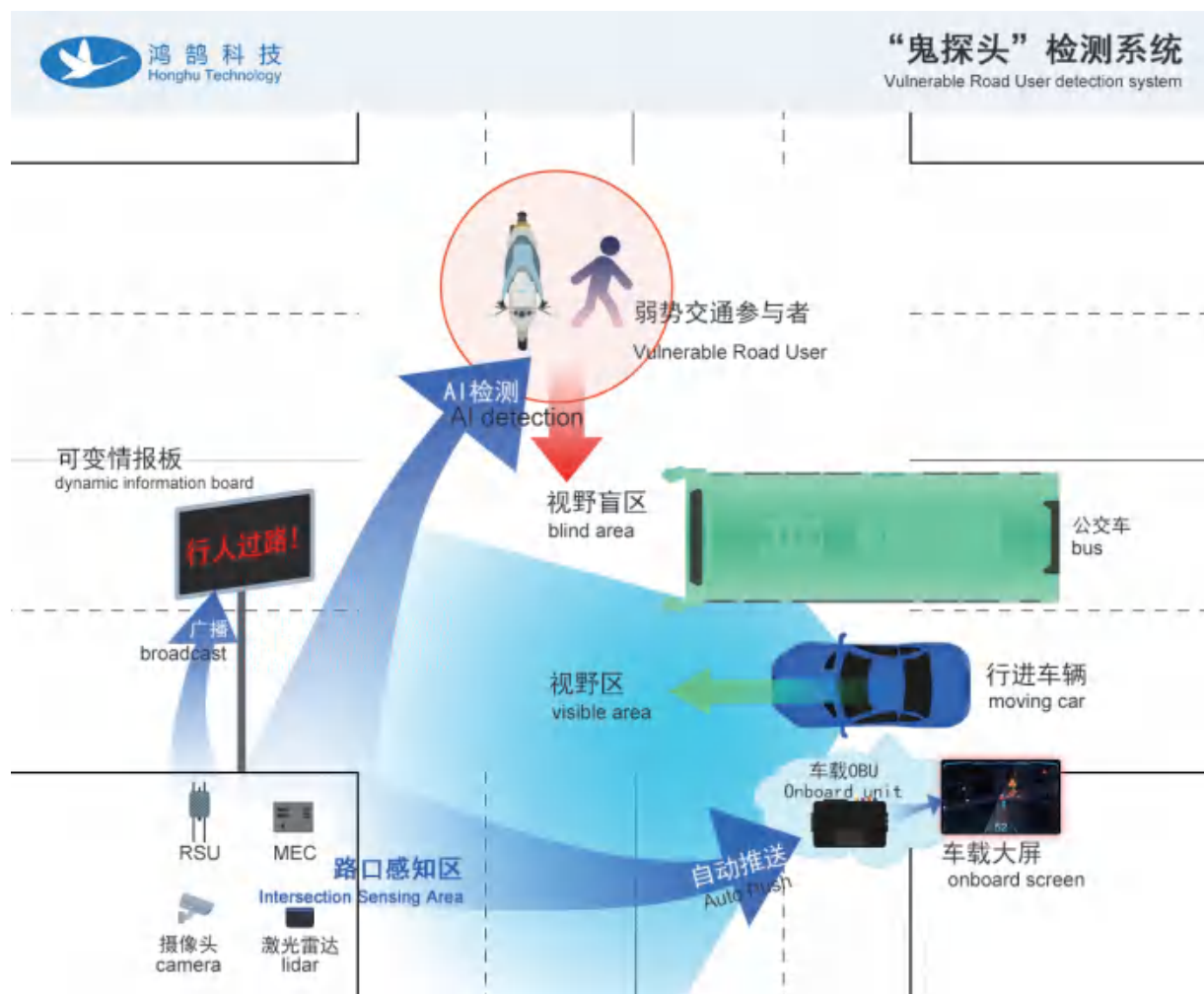


## "GHOST PROBE" DETECTION SYSTEM

### JIANGSU HONGHU ELECTRONIC TECHNOLOGY CO., LTD.

The detection system named "Ghost Probe" employs lidars and cameras to collect data on different vehicles and pedestrians traversing the roadway, and outputs the information to the edge computing device, which seamlessly incorporates and analyzes obstacle information, subsequently generates and delivers the outcomes to the roadside unit (RSU). The RSU utilizes V2X technology to provide feedback to adjacent vehicles in proximity, so as to mitigate the occurrence of inadvertent incidents caused by unattended or unidentified sensors.

Our system offers key features such as minimal latency, superior recognition accuracy, roadside acousto-optic alarm and vehicle-side alarm. When a pedestrian proceeds to cross the road, the vehicular human-computer interaction system will proactively emit an audio-visual collision alert to increase awareness among vulnerable traffic participants. Similarly, a visual display situated on the roadside will display pictorial, textual, and auditory cues to notify the driver of the presence of a pedestrian crossing the road.

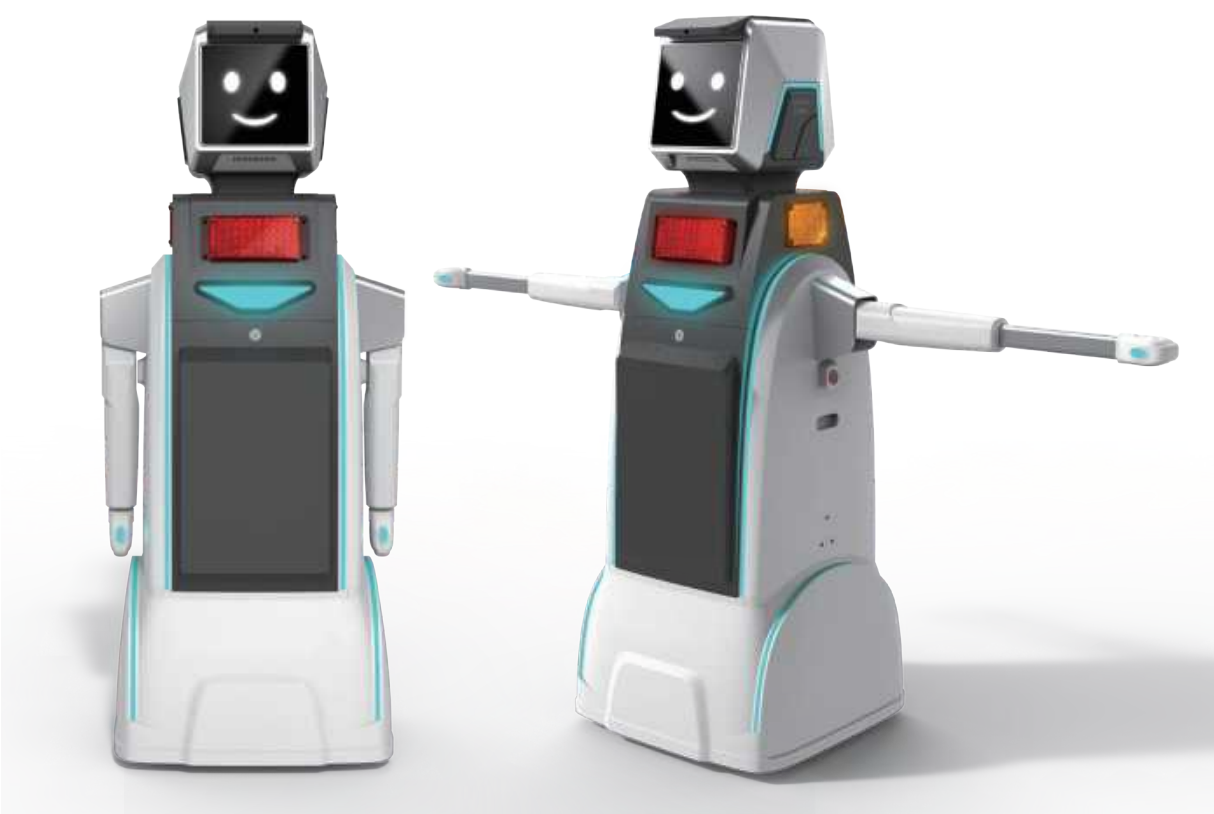


# MONOLITHIC SELF-MOVING TRAFFIC BARRIER ROBOT

## NANJING LANTAI TRAFFIC FACILITIES CO., LTD.

The showcased traffic barrier robot leverages cutting-edge technologies including multi-sensor fusion, high-precision navigation, wireless mesh AD-Hoc network, and cloud computing. This advanced robot offers a wide array of features such as face recognition, dangerous event alerting, voice interaction, autonomous mobility, arm command, and long-term video recording. The meticulously designed humanoid visual representation impeccably embodies the essence of science, technology, and futurism.

The primary applications of the product include lane containment, accident response, and emergency management at construction sites. It can also encompass the extension of services to include campus patrols and the provision of traffic safety guidance at school entrances. It is imperative to effectively execute the Ministry of Public Security's objective to "diminish and manage traffic accidents" and to collaboratively address the prevention and control measures of law enforcement institutions and schools.





## "CHENGFENG" HIGH-LEVEL DRIVER ASSISTANCE SOLUTIONS

### QCRAFT

In response to the diverse demands in automobile manufacturing industry pertaining to mass production and varying levels of pre-installation support for driving, QCraft is dedicated to becoming the premier Tier-1 provider of high-level driver assistance solutions. In collaboration with our industry's ecological partners, encompassing both upstream and downstream stakeholders, QCraft introduces "Chengfeng" High-level Driver Assistance Solutions that feature Urban+Highway NOA (Navigate on Autopilot) and are adaptive to diverse computing platform. This innovative approach not only ensure that customers in China have access to more appropriate road scenes, but also provide significant advantages related to mass production and implementation. In addition to offering a highly cost-effective solution, this product also enhances the overall driving experience for end consumers by incorporating advanced assisted driving features, which greatly resonates with their preferences and usage patterns.

The QCraft "Chengfeng" High-Level Driver Assistance Solutions, adaptable and customizable to offer flexible feature configurations to meet the needs of mass production, provides highly cost-effective driving and parking solution series that are all compatible to single Horizon Robotics Journey®5 chips:

Chengfeng Max: Equipped with 1 laser lidar, featuring Urban NOA;

Chengfeng Pro: Vision based solution, featuring Highway NOA and extendable to Urban NOA;

Chengfeng Air: Extremely cost-effective, vision based solution, and featuring Highway NOA.



## INTELLIGENT INSPECTION AND CLEANING UAV OF ROADS AND BRIDGES

**SUZHOU ZHONGFEI REMOTE SENSING TECHNOLOGY SERVICE CO., LTD.**

This inspection equipment possesses the capability to efficiently collect and assess multi-dimensional indicators of pavement performance, allowing for high-frequency, swift, and cost-effective evaluation. Moreover, it can seamlessly present the statistical information of road and bridge diseases through integration with artificial intelligence platforms, offering intuitive insights.

This cleaning apparatus constitutes a sizable six-rotor unmanned aerial vehicle (UAV) capable of integrating advanced features such as high-definition cameras, high-pressure cleaning capabilities, searchlights, throwers, and more. These components enable the equipment to operate in both manual and fully autonomous modes, offering versatility and efficiency in cleaning operations. It utilizes a self-organizing network architecture, combines digital and image transmission capabilities within its integrated communication link, and features autonomous take-off and landing capabilities. Additionally, it includes multiple mission mounting interfaces that can be utilized for expanding its functionality.



Zw1 series of Zhongfei's cleaning Unmanned Aerial Vehicles (UAVs)



## WELCOME RECEPTION

**Date and Time:** Monday, 16 October 2023, 16:00 – 17:00

**Venue:** Exhibition Hall, Suzhou International Expo Center

**Tickets:** Included in Delegate Registration

Starting at 16:00, join your colleagues at the Welcome Reception held at the exhibition hall. The Welcome Reception is an excellent opportunity to meet with peers from the industry and network with our commercial partners and exhibitors.

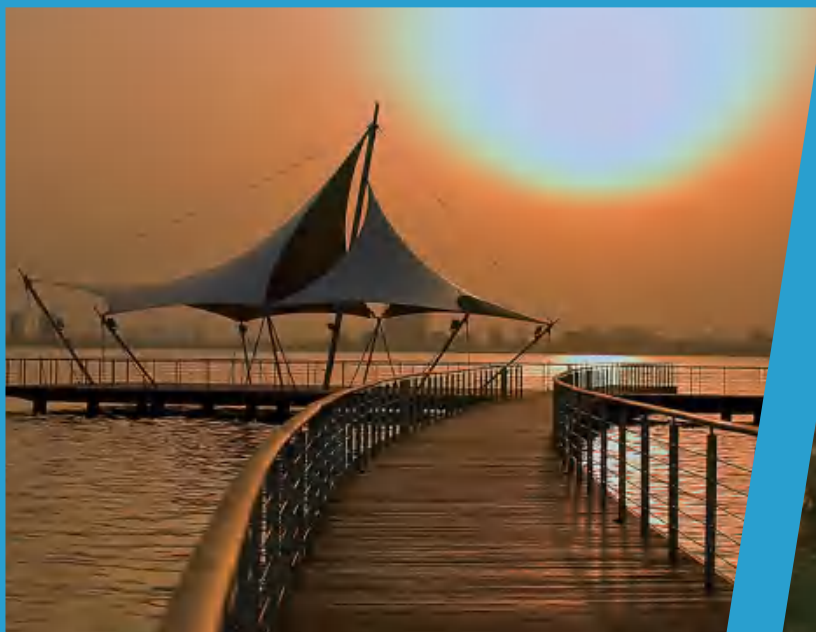
## GALA DINNER

**Date and Time:** Thursday, 19 October 2023, 18:30 – 20:00

**Venue:** Kempinski Hotel Suzhou

**Tickets:** RMB 350 per person to be purchased at the time of registration

Join us and enjoy a dinner experience at the Kempinski Grand Ballroom on the 2nd floor, the largest banquet hall in the Suzhou Park hotel circle, at the Kempinski Grand Hotel in Jinji Lake, Suzhou. The hotel is located between Jinji Lake and Dushu Lake, where you can enjoy the scenery of Shuanghu Lake and enjoy exquisite and authentic cuisine against the sunset. As the evening party unfolds, guests will enjoy good companionship, charming performances, and wonderful music, and enjoy the night.



# EXHIBITORS LIST

| Booth  | EXHIBITOR                                                           |
|--------|---------------------------------------------------------------------|
| BA01   | NIO                                                                 |
| BA02   | Innovusion                                                          |
| BA03   | Suzhou Intelligent Transportation Information Technology Co., Ltd.  |
| BA04   | Suzhou Industrial Park                                              |
| BA05   | Beijing Baidu Netcom Science Technology Co., Ltd.                   |
| BA06   | VanJee Technology Co., Ltd.                                         |
| BA07   | Tesla                                                               |
| BA08   | Tianyijiaotong Technology Ltd.                                      |
| BA09   | GUANGDONG ITS ASSOCIATION                                           |
| BA10   | Shanghai Municipal Engineering Design Institute (Group) Co., Ltd.   |
| BA11-1 | CHINA DESIGN GROUP CO.,LTD.                                         |
| BA11-2 | Jiangsu Province Comprehensive Transportation Society (Association) |
| BA12   | Yunex Traffic                                                       |
| BA13   | Beijing Sinoits Tech Co., Ltd.                                      |
| BA14   | Gangneung City, Korea                                               |
| BA15   | ITS Korea                                                           |
| BA16   | Research Institute of Highway, Ministry of Transport of P. R. China |
| BB01   | Beijing LiangDao Intelligent Automotive Technology Co., Ltd.        |
| BB02   | Autotoll Limited                                                    |
| BB04   | Get around in Kunshan unobstructedly through smart transportation   |
| BB05   | Lianyungang Port Holding Group Co., Ltd.                            |
| BB06   | Hebei Jixiangtong Electronic Technology Co.                         |
| BB08   | China United Network Communications Group Corporation Limited       |
| BB10   | Beijing Nebulas Interconnection Technology Co., Ltd.                |
| BB11   | Chengdu Guimu Robot Co., Ltd.                                       |
| BC01   | PTV Planung Transport Verkehr GmbH                                  |
| BC04   | Transpeed Technology Co., Ltd.                                      |
| BC05   | NANJING DINGJI TECHNOLOGY CO.,LTD.                                  |
| BC06   | Nanjing Lantai traffic facilities Co., Ltd                          |
| BD002  | Zhejiang Tranalytic Technology Co., Ltd.                            |
| BD004  | Suzhou Branch of China Post Group Corporation Limited               |
| BD005  | JIANGSU TECHNOLOGY INNOVATION & C-V2X ACADEMY                       |
| BD006  | BYTETREE.AI                                                         |
| BD007  | EASYWAY(SZ)ELECTRONICS TECH.CO.,LTD.                                |
| BD008  | Rohde & Schwarz (China) Technology Co., Ltd.                        |
| BD009  | Xi'an Yunshi Aviation Technology Co., Ltd.                          |
| BD010  | Shanghai MAXIEYE Automotive Technology Co.,Ltd.                     |
| BD012  | Qing Yi (Shanghai) Intelligent Technology Co., Ltd.                 |
| BD013  | Coovally-AI Intelligent Traffic Detection Platform                  |
| BD015  | China Railway Siyuan Survey And Design Group Co., Ltd.              |
| BD017  | Suzhou Huachang Energy Technology Co., Ltd.                         |
| BD018  | Jiangsu Kejia Chengrui Electric Co., Ltd.                           |
| BD020  | Intertraffic                                                        |
| BD022  | Suzhou Belief Data Technology Co., Ltd.                             |

| Booth | EXHIBITOR                                                                         |
|-------|-----------------------------------------------------------------------------------|
| BD024 | Suzhou Ruisite Intelligent Manufacturing Co., Ltd.                                |
| BD025 | Shenzhen Unity-Drive Innovation Technology Co.,Ltd                                |
| CA01  | Suzhou Rail Transit Group Co., Ltd.                                               |
| CA02  | TOYOTA Motor Corporation                                                          |
| CA03  | Suzhou Xiangcheng                                                                 |
| CA04  | Z-Truck                                                                           |
| CA05  | ITS JAPAN                                                                         |
| CB01  | JSTI GROUP                                                                        |
| CB02  | Honda Motor Co.,Ltd.                                                              |
| CB03  | Panasonic Automotive Systems Co.,Ltd.                                             |
| CB04  | Chebada (Suzhou) Network Technology Co., Ltd.                                     |
| CB05  | Jiangsu Boyuxin Information Technology Co., Ltd.                                  |
| CB06  | AISIN CORPORATION                                                                 |
| CB07  | DENSO CORPORATION                                                                 |
| CB12  | Zhijia Technology                                                                 |
| CB13  | China Mobile                                                                      |
| CB14  | Nanjing City Urban Lighting Construction and Operation Group Co., Ltd.            |
| CB15  | Suzhou Seecar Information System Co., Ltd.                                        |
| CC01  | Blickfeld GmbH                                                                    |
|       | SAFESTREAM Project; Landkreis Kelheim                                             |
| CC02  | Nan Jing Intelligent Transportation Information Co., Ltd.                         |
| CC03  | Shenzhen Port Group Co., Ltd.                                                     |
| CC04  | ITS Asia-Pacific                                                                  |
| CC05  | ITS Singapore                                                                     |
| CC06  | Jiangsu ACTION Transportation Technology Co., Ltd.                                |
| CC08  | Huali iSmartWays Technology Inc.                                                  |
| CD001 | FORUM8 Co.,Ltd.                                                                   |
| CD013 | smartmicro                                                                        |
| CD014 | ComNav Technology Ltd                                                             |
| CD057 | Avalue Technology                                                                 |
| CD062 | Suzhou Safesoft Information Technology Co.,Ltd.                                   |
| CD067 | Earth View Image Inc.                                                             |
| CD072 | Router Technologies (Hangzhou) Inc.                                               |
| CD077 | Hangzhou Golong Technology Co., Ltd.                                              |
| CD079 | Vector Automotive Technology (Shanghai) Co., Ltd.                                 |
| CD080 | Wutong Chain Digital Technology Research Institute (Suzhou) Co., Ltd.             |
| CD081 | Shanghai PanQi Information Technology Co., Ltd.                                   |
| CD087 | AECOM Asia Co. Ltd.                                                               |
| CD088 | 5GAA - 5G Automotive Association e.V.                                             |
| CD089 | Jiangsu Feiliks International Logistics Inc.                                      |
| CD090 | Nanjing rui jie intelligence traffic Institute of science and technology co.,Ltd. |
| CD091 | CMST Nanjing Intelligent Logistics Technology Co., Ltd.                           |
| CD092 | Suzhou Qingyan Haoyuan Automobile Technology Co., Ltd                             |

| Booth | EXHIBITOR                                                               |
|-------|-------------------------------------------------------------------------|
| CD099 | Suzhou Lvkon Transmission S&T Co., Ltd.                                 |
| CD100 | Jiangsu Feng Rui Lanpu digital technology Co., LTD                      |
| CD101 | JIANGSU LUYUXING TRANSPORTATION TECHNOLOGY CO., LTD                     |
| CD102 | SEVEN ITS                                                               |
| CD107 | Changzhou Highway Development Center                                    |
| CD108 | Ningbo Lubao Technology Industrial Group Co., Ltd                       |
| CD111 | Roads & Transport Authority                                             |
| CD112 | Beijing Intelty Technology Co., Ltd                                     |
| CD117 | Beijing Ruixing Electronics Technology Co., Ltd.                        |
| CD118 | SuZhou Exinova Robot Technology Co., Ltd                                |
| CD119 | Suzhou Genland lpark Technology Co.,Ltd.                                |
| CD121 | Shenzhen Seewor Technology Co., Ltd                                     |
| CD123 | CHINA HIGHWAY AND TRANSPORTATION SOCIETY/World Transport Convention     |
| CD124 | Nantong Smart Communication Technology Co.,Ltd.                         |
| CD125 | Jiangsu Zhizhen Technology Co., Ltd.                                    |
| CD126 | Bvision Intelligent Technology Co., Ltd                                 |
| CD127 | Kingfar International Inc.                                              |
| CD128 | Innoviz Technologies                                                    |
| CD129 | Vehicle road cooperation technology(chengdu)co.,ltd.                    |
| CD130 | Nanjing Highway Development (Group) Co., Ltd.                           |
| CD131 | Hongyuan Shipping Co., Ltd.                                             |
| CD132 | Jiangsu Pingshan Transportation Facilities Co., Ltd                     |
| CD133 | OTN Intelligent Technology (Suzhou) Co., Ltd.                           |
| CD134 | Zhangjiagang Jincheng IoT Smart City Development and Operation Co., Ltd |
| CD135 | Hunan Xiangxu Traffic & Lighting Hi-Tech Co.,Ltd                        |
| CD136 | Nanjing Changmiao Technology Co. , Ltd.                                 |
| CD137 | Qingtao (Kunshan) Energy Development Co., Ltd.                          |
| CD138 | WuHan Zhongheng Broadran Technology Co.,Ltd                             |
| CD139 | Suzhou software testing center Co.,Ltd.                                 |
| CD140 | Jiangsu Jeacar Electronics Co., LTD                                     |
| CD141 | ZHANGJIAGANG E-PORT CO.,LTD                                             |
| CD142 | China ITS Journal                                                       |
| CD144 | South Surveying & Mapping Technology CO., LTD.                          |
| DA01  | Aerospace Times Feipeng Company Limited                                 |
| DA03  | CRRC ZHUZHOU LOCOMOTIVE CO.,LTD.                                        |
| DC01  | Zelos (Suzhou) Technology Co., Ltd.                                     |
| DC02  | Neolix Technologies Co., Ltd                                            |
| DC03  | Suzhou Haitong Robotic System Co., LTD                                  |
| DC04  | HGJ Logistics Technology Co.,Ltd                                        |
| DC05  | NANJING LES INFORMATION TECHNOLOGY CO.,LTD                              |
| DC06  | ITS Indonesia                                                           |
| DC07  | Taizhou Green and Low Carbon Smart Port                                 |
| DC08  | Suzhou Keda Technology CO.,Ltd.                                         |

| Booth | EXHIBITOR                                           |
|-------|-----------------------------------------------------|
| DC09  | Nanjing modern Multimodal Transportation Laboratory |
| DC10  | Suzhou Planning&Design Research Institute Co., Ltd  |
| DC12  | Tsinghua University                                 |
| DC13  | EASTTRANS                                           |
| DC22  | JiangSu DianKa Technology Co., Ltd                  |

| ZONE                    | DEMONSTRATOR                                                         |
|-------------------------|----------------------------------------------------------------------|
| FLYING DEMO ZONE        | XPENG AEROHT                                                         |
| AUTONOMOUS DRIVING ZONE | Suzhou Industrial Park                                               |
|                         | Tsinghua University                                                  |
|                         | ZVISION Technologies Co., Ltd.                                       |
| AUTONOMOUS CRUISE ZONE  | ShaanXi ORCA Electronic Intelligent Technology Co., Ltd. (ORCAUBOAT) |
| STATIC DEMO ZONE        | Jiangsu Honghu Electronic Technology Co., Ltd.                       |
|                         | Nanjing Lantai Traffic Facilities Co., Ltd.                          |
|                         | QCraft                                                               |
|                         | Suzhou Zhongfei Remote Sensing Technology Service Co., Ltd.          |

## Innovation Zone

The congress has set up an innovation zone in the exhibition hall on the level 1, Hall C, which is used to carry out industrial recommendation activities, promote Suzhou's industrial policies, etc. It is also convenient for participants to display and exchange, publicize and promote, and attract investment.



EXHIBITION FLOOR PLAN



Suzhou International Expo Centre  
Suzhou Jinji Lake International Convention Centre  
1st Floor





## EXHIBITION FLOOR PLAN





# GETTING TO SUZHOU



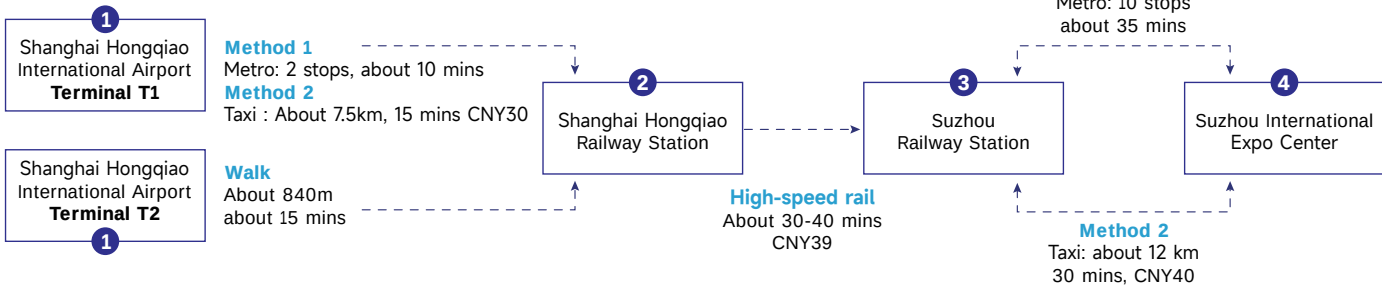
International / Domestic Cities



Shanghai Hongqiao



Suzhou



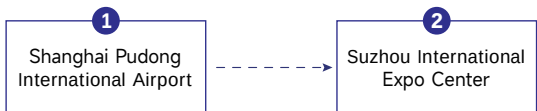
International / Domestic Cities



Shanghai Pudong



Suzhou



Walk to the second floor of Pudong Airport T2 and take the airport coach bus to Suzhou International Expo Center, about 2 hours and 10 minutes  
Shuttle schedule: 11:30/13:20/15:20/17:20 Prices:CNY100  
• There are two ways to buy tickets: in person or by following the official account "Airport Bus."



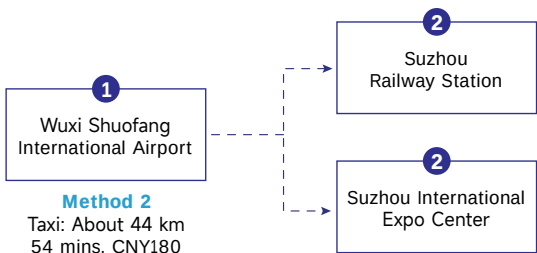
International / Domestic Cities



Wuxi Shuofang



Suzhou



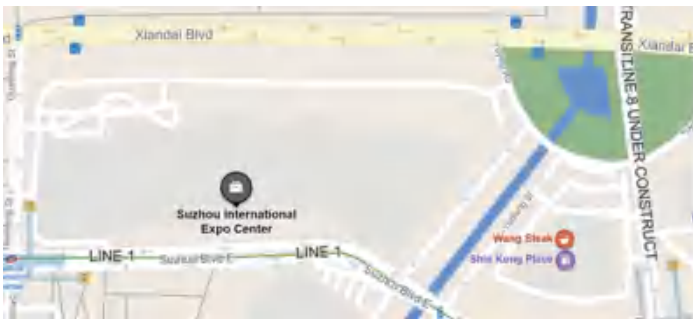
Method 1 Walk to the airport bus platform outside Gate 7 on the first floor of the terminal building, take the airport coach bus, and arrive at Suzhou Railway Station, about 45 minutes  
Shuttle schedule: 09:10/10:00/10:30/11:00/11:30/12:00/12:30/13:00/13:30/14:00/15:00/15:30/15:50/16:10/16:50/17:20/18:00/19:00/20:30 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:  
[www.itsworldcongress2023.com](http://www.itsworldcongress2023.com)





Taxi  
By Taxi to Venue



| Railway Station | Duration | Metro |
|-----------------|----------|-------|
| Suzhou North    | 30 mins  | ✓     |
| Suzhou          | 20 mins  | ✓     |
| Suzhou SIP      | 5 mins   | ✓     |



Metro  
By Metro to Venue



Take Line 1 and get off at Wenhuabolanzhongxin Station(No.3 Exit).

## Pick up service

We will arrange a shuttle bus to take you from Shanghai Pudong International Airport to Suzhou International Expo Center. At the arrival exit of the airport, a volunteer will greet you with a sign. Please check the following General Assembly pick up card.

Departure time on October 14 is 18:00.

Departure time on October 15 is 15:00.

If you unfortunately miss the shuttle bus on time, you may have to go to Suzhou on your own.

## Shuttle

### 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](http://www.itsworldcongress2023.com)



- Suzhou International Expo Center
- Venue Hotel

| No. | Hotel                        | Address                                                             | Tel             | To Venue  |
|-----|------------------------------|---------------------------------------------------------------------|-----------------|-----------|
| 1   | Novotel Suzhou SIP           | 688 Suzhou Avenue East , Suzhou                                     | 86-512-62882800 | 100meters |
| 2   | Hyatt Regency Suzhou         | No.88 Huachi Street, Suzhou Industrial Park, Suzhou                 | 86-512-62881234 | 1.1km     |
| 3   | InterContinental Suzhou      | No.288 Wangdun Road, Jinji Lakeside, Suzhou Industrial Park, Suzhou | 86-512-62858888 | 0.8km     |
| 4   | Shangri-La Yuanqu Suzhou     | No.99 Si'an Street, Suzhou Industrial Park, Suzhou                  | 86-512-62639999 | 1.1km     |
| 5   | Kempinski Hotel Suzhou       | No.1 Guobin Road, Suzhou Industrial Park, Suzhou                    | 86-512-62897888 | 8.9km     |
| 6   | Crowne Plaza Suzhou          | No.168 Xinggang Street, Jinji Lake, Suzhou Industrial Park, Suzhou  | 86-512-67616688 | 4.1km     |
| 7   | Courtyard by Marriott Suzhou | No. 188 Xinghai Street, Suzhou Industrial Park, Suzhou              | 86-512-67066666 | 4.1km     |

## REGISTRATION DESK HOURS

The Registration Desk will be situated at Suzhou International Expo Center.

### 1. For Moderators and Speakers

Registration Area: Level 1, Hall A.

The opening hours are as follows:

|                            |               |
|----------------------------|---------------|
| Sunday, 15 October 2023    | 09:00 – 20:00 |
| Monday, 16 October 2023    | 06:45 – 18:00 |
| Tuesday, 17 October 2023   | 06:45 – 18:00 |
| Wednesday, 18 October 2023 | 06:45 – 18:00 |
| Thursday, 19 October 2023  | 06:45 – 18:00 |
| Friday, 20 October 2023    | 06:45 – 14:00 |

### 2. For Session Audience

Registration Area: Level 1, Hall A.

The opening hours are as follows:

|                            |               |
|----------------------------|---------------|
| Sunday, 15 October 2023    | 09:00 – 18:00 |
| Monday, 16 October 2023    | 08:00 – 18:00 |
| Tuesday, 17 October 2023   | 08:00 – 18:00 |
| Wednesday, 18 October 2023 | 08:00 – 18:00 |
| Thursday, 19 October 2023  | 08:00 – 18:00 |
| Friday, 20 October 2023    | 08:00 – 16:00 |

### 3. For Exhibition Staff & Visitors and Demonstrators

Registration Area: Level 1, Hall B.

The opening hours are as follows:

|                            |               |
|----------------------------|---------------|
| Sunday, 15 October 2023    | 08:00 – 18:00 |
| Monday, 16 October 2023    | 08:00 – 18:00 |
| Tuesday, 17 October 2023   | 08:00 – 18:00 |
| Wednesday, 18 October 2023 | 08:00 – 18:00 |
| Thursday, 19 October 2023  | 08:00 – 18:00 |
| Friday, 20 October 2023    | 08:00 – 15:30 |

## IMPORTANT NOTE

The final programme manual has been updated as of October 9, 2023, and the programme will ultimately be based on the official website.

## Europe

### Program and Paper:



Ms. Rita Bhandari  
Ms. Delphine Soubies  
ERTICO-ITS Europe



**Email:**  
SpeakersITS@mail.ertico.com

## America

### Program and Paper:



Ms. Rachel Rettberg  
ITS America



**Email:**  
rrettberg@itsa.org

## Asia-Pacific

### Special Interest Sessions:



Ms. Ikuko Okada  
ITS Japan/ITS Asia-Pacific



**Email:**  
i-okada@its-jp.org

### Papers:



Ms. Haruko Ide  
ITS Japan/ITS Asia-Pacific



**Email:**  
h-ide@its-jp.org

## Moderators/Speakers Team



Mr. Zhao Anneng



**Email:** speaker@itswc2023.com

## General Information



Ms. Zhang Wenqi



**Email:** info@itswc2023.com

## Program



Ms. Anqi Liu



**Email:** program@itswc2023.com

## Exhibition & Sponsorship



Ms. Xu Jing



**Email:** exhibition@itswc2023.com

## Technical Support



Mr. Zhao Anneng



**Email:** info@itswc2023.com

## Registration Information



Mr. Zhao Anneng



**Email:** registration@itswc2023.com





# ACKNOWLEDGEMENTS

## Platinum Partner



## Copper Partner



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## Notebook Sponsor



## Coffee Sponsor



## Media Partner





# JSTI | JSTI GROUP Co., Ltd.

Stock Name: JSTI Stock Code: 300284

JSTI GROUP Co., Ltd.(JSTI) is an infrastructure comprehensive solution provider, which was established in 1978. JSTI is committed to clients by providing innovative and leading solutions, striving to build an international scientific and technological enterprise with high-quality and sustainable development. On January 10th, 2012, JSTI was officially listed on the Shenzhen Stock Exchange and initiated public offering of A-shares.(Stock code:300284). In May 2015, "JSTI Group Co., Ltd." was officially inaugurated. In 2016, it made strategic alliance with world's leading engineering design consulting service provider: Spain Eptisa Servicios de Ingenieria,S.L. (Eptisa) company.

JSTI has over 8500 employees and 108 subsidiaries. Until now, JSTI has set up branches in more than 20 countries around the world and is carrying out projects in more than 60 countries.

In the future, JSTI will continue to be locally based and globally focused to build a business center with data base and positive design, a management knowledge and ability precipitation as the management center, and a digitalization and industrialization as the dual boosters, as a breakthrough of the upper limit of capacity, build the industry's most influential intelligent technology platform, and promote the industry's high-quality and sustainable development.

## Scientific and Technological Innovations

JSTI insists on independent scientific and technological innovation, has applied for and been approved the establishment of two state-level scientific research platforms: "National Engineering Research Center for Advanced Road Materials" and "State Key Laboratory of Safety, Durability and Healthy Operation of Long Span Bridges". And also has been approved the establishment of 7 ministerial-level platforms and 21 provincial-level platforms, covering the fields of highway engineering, intelligent transport, traffic safety, waterway engineering, environmental protection, energy saving, and long-term performance observation of infrastructure.

## Enterprise Honors

- Innovation-oriented Enterprise**  
(the Ministry of Science and Technology of the People's Republic of China, the State-owned Assets Supervision and Administration Commission of the State Council and the All-China Federation of Trade Unions in 2011)
- National Intellectual Property Demonstration Enterprises**  
(the State Intellectual Property Office in 2017)
- National Center for Enterprise Technology**  
(the National Development and Reform Commission, the Ministry of Science and Technology, the Ministry of Finance, the General Administration of Customs and the State Administration of Taxation in 2018)
- National Model Enterprise for the Importation of Intelligence**  
(National Bureau of Foreign Experts in 2004/2009/2013/2020)
- Typical Exemplary Test and Inspection Organization**  
(Ministry of Transport in 2010)
- Jiangsu Provincial Governor Quality Award**  
(the People's Government of Jiangsu Province in 2022)  
(the first enterprise to win the honor in the transportation field of Jiangsu Province)



## Typical Projects



JSTI | JSTI GROUP Co., Ltd.

No 8 Fuchunjiang East Street, Nanjing, Jiangsu







Innovusion is the world leading provider of image-grade LiDAR for safe autonomous driving and smart transportation solutions. Our partnerships encompass pioneers in autonomous driving, smart city, smart highway, smart port, smart shipping, smart railway, smart mining and robotics. These companies choose us for our industry-leading technology and production expertise.

So, how can we help you today?

Come and explore the incredible world of LiDAR technology at Innovusion's Booth **BA02** !

## APPLICATIONS



ADAS/AD



SMART CITY



SMART HIGHWAY



ROBO



SMART PORT



SMART SHIPPING



SMART RAILWAY



SMART MINING







華設設計集團  
CHINA DESIGN GROUP



WeChat official  
account



WeChat video  
account



Tiktok qr code

Make the world more connectible  
Make the cities more livable

## TO BECOME A PROMINENT TECHNOLOGY SERVICES PROVIDER IN TRANSPORTATION DEVELOPMENT AND URBAN CONSTRUCTION

Founded in 1960, China Design Group (hereinafter referred to as CDG), formally known as Jiangsu Provincial Transportation Planning and Design Institute, has emerged as a leading full-process and became a publicly traded entity on the Shanghai Stock Exchange in 2014 (China Design Group, 603018), making it the first independently listed engineering design company in the A-share market.

With a global workforce exceeding 6,300, CDG has extensively expanded its influence in two crucial infrastructure domains: transportation and urban-rural development. Leveraging its exceptional qualifications and extensive expertise, the group prioritises cross-disciplinary and inter-industry integration and development, broadening its horizons from Jiangsu to the entire nation of China. The shift encompasses planning and design as well as full lifecycle services, venturing into emerging sectors such as intelligence, environmental protection, new energy, prefabricated construction and commercial consumption. CDG takes pride in owning numerous industry-leading and technical brands in various segmented markets, including transportation planning, all-terrain expressways, kilometre-long cross-river bridges, ultra-long underwater tunnels, waterway ports, urban expressways, urban rail transit and water conservancy affairs. Consequently, CDG stands alone as the sole engineering consulting and design group in China with comprehensive design capabilities across the entire transportation sector, encompassing roads, railways, water transport and aviation.



High-tech enterprise

AAA

AAA certified enterprise in the quality management system of China's engineering survey and design industry



Holds prestigious qualifications in various fields, including Comprehensive Class A Qualification in Consulting, Survey, Design and Urban and Rural Planning.



Received over 590 national, provincial and ministerial-level awards in consulting, survey, design and science and technology, honoured with more than ten international awards.

认真对待每一程



Scan the QR code  
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## About DiDi

DiDi is a leading mobility technology platform. It offers a wide range of app-based services across Asia Pacific, Latin America, and other global markets, including ride hailing, taxi hailing, designated driving, hitch and other forms of shared mobility as well as certain energy and vehicle services, food delivery, and intra-city freight services.

DiDi provides car owners, drivers, and delivery partners with flexible work and income opportunities. It is committed to collaborating with policymakers, the taxi industry, the automobile industry, and the communities to solve the world's transportation, environmental, and employment challenges through the use of AI technology and localized smart transportation innovations. DiDi strives to create better life experiences and greater social value, by building a safe, inclusive, and sustainable transportation and local services ecosystem for cities of the future.



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29<sup>th</sup> ITS WORLD  
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2023 10.16 — 10.20

