Everyone’s Mobility by ITS

The 16th ITS Asia-Pacific Forum
FUKUOKA 2018

May 8-10, 2018
Fukuoka International Congress Center
About the Forum

Date: May 8-10, 2018
Venue: Fukuoka International Congress Center
Organizer: The 16th ITS Asia-Pacific Forum FUKUOKA 2018 Executive Committee

Executive Chair: Kazuki Nakao
Executive Vice Chair: Iwao Nihashi
Executive Vice Chair: Hiroto Yasuura
Executive Vice Chair: Hiroshi Fujiwara
Host City: Soichiro Takashima

Co-organized: ITS Asia-Pacific
Partner: ITS Japan

Supported:
The Strategic Headquarters for the Promotion of an Advanced Information and Telecommunications Network Society, Cabinet Secretariat
Cabinet Office, Government Of Japan
Kyushu Bureau of Telecommunications, MIC
Kyushu Bureau of Economy, Trade and Industry, METI
Kyushu Regional Development Bureau, MLIT
Fukuoka Prefecture
Fukuoka City
Japan International Cooperation Agency
KYUSHU ECONOMIC RESEARCH CENTER
The Society of Instrument and Control Engineers
Society of Automotive Engineers of Japan
Japan Trucking Association
Japan Society of Civil Engineers
The Nihon Bus Association
Fukuoka Convention & Visitors Bureau
Fukuoka Prefecture Tourist Association

Kyushu Tourism Promotion Organization
Kyushu Economic Federation
Kyushu Branch, Japan Civil Engineering Consultants Association
Japan Society of Traffic Engineers
Information Processing Society of Japan
The Japanese Society for Artificial Intelligence
Japan Federation of Hire-Taxi Associations
The Institute of Electrical Engineers of Japan
IEICE Engineering Sciences Society
IEICE Kyushu Section
The Japan Society of Mechanical Engineers
The Robotics Society of Japan
TOKYO BAR ASSOCIATION LEGAL SERVICE JOINT CETER AI DEPARTMENT
The Japanese Association Traffic Psychology
Fukuoka Association of Corporate Executives
Fukuoka Chamber of Commerce & Industry

Everyone’s Mobility by ITS

Safe and secure society
Smart mobility
Next generation mobility
Infrastructure technologies for practical ITS
Development of human resource and education
About the Venue

Fukuoka International Congress Center

**Registration open**
- May. 7th, 15:00-19:00
- May. 8th, 08:00-17:00
- May. 9th, 08:00-17:00
- May. 10th, 08:00-13:00

**Speaker Ready Room**
- May. 7th, 15:00-19:00
- May. 8th, 08:00-18:30
- May. 9th, 08:00-18:30
- May. 10th, 08:00-12:30

About the Venue

**Only access to Full Conference Registrants**

Fukuoka Sunpalace

2F
- Exhibition

3F
- Hotel Area
- Poster Session
- Drink Service
- Lunch Area
- Speaker Ready Room (Authorized-Only)
- Room 410
- Room 412
- Room 414
- Room 416

4F
- Exhibition
- Exhibition
- Exhibition

5F
- Exhibition
- Poster Session
- Drink Service

1F
- Entrance
- Exit
- OMOTENASHI (Service Counter)
- Registration Desk
- Cloak room
- Demonstration/Technical Visit Free Shuttle Bus

3F
- Exhibition
- Exhibition
- 3rd Function Stage

Access TO SUNPALACE

2F
- Exhibition
- Exhibition
Sponsors

Silver Sponsors

- BRIDGESTONE
- CISCO
- DAIHATSU
- DeNA
- IBC
- solace
- Sompo Japan Nipponkoa
- SUMITOMO ELECTRIC
- SUMITOMO RUBBER INDUSTRIES
- DUNLOP FALKEN
- YOKOHAMA
- ZENRIN

Bronze Sponsors

- AICHI STEEL CORPORATION
- Hino Motors, Ltd.
- ISUZU MOTORS SALES LTD / ISUZU MOTORS KYUSHU LTD
- JTEKT Corporation
- NTT Communications
- Tokio Marine & Nichido Fire Insurance Co., Ltd.
- Toshiba Infrastructure Systems & Solutions Corporation
- AISIN SEIKI Co., Ltd.
- INCREMENT P CORPORATION
- IT Access Co., Ltd. / ACCESS CO., LTD. / AdaCore
- Mitsubishi Fuso Truck and Bus Corporation
- QTnet, Inc.
- TomTom
- TOYOTA INDUSTRIES CORPORATION

Special Sponsors

- Kyudenko Corporation
- SAIBUGAS Co., Ltd.
- Kyushu Electric Power
- THE BANK OF FUKUOKA, LTD.
- Kyushu Railway Company
- THE NISHI-NIPPON CITY BANK, LTD.
## Program At a Glance

### DAY 1 / May 8

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:20</td>
<td>Opening Ceremony</td>
</tr>
<tr>
<td>10:30</td>
<td>PL01 Impact on society by new era of mobility</td>
</tr>
<tr>
<td>12:00</td>
<td>HL01 Government Panel - Automated driving for the realization of Society 5.0</td>
</tr>
<tr>
<td>13:30</td>
<td>HL01 ITS for hand-picked persons and vulnerable mad users</td>
</tr>
<tr>
<td>14:00</td>
<td>SIS01 Intelligent infrastructure for new mobility</td>
</tr>
<tr>
<td>15:30</td>
<td>TS01 Automated Vehicle</td>
</tr>
<tr>
<td>16:00</td>
<td>HS01 ITS Asia-Pacific Updates I</td>
</tr>
<tr>
<td>17:30</td>
<td>Gala dinner (Charged)</td>
</tr>
</tbody>
</table>

### DAY 2 / May 9

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:00</td>
<td>PL02 ITS, Contributing to the solution of the social challenges</td>
</tr>
<tr>
<td>10:30</td>
<td>HL02 Smart card, a gigantic infrastructure of society</td>
</tr>
<tr>
<td>11:00</td>
<td>TS07 Connected Car</td>
</tr>
<tr>
<td>12:30</td>
<td>HL03 Automated driving for community transportation</td>
</tr>
<tr>
<td>14:00</td>
<td>SIS03 Innovation for better mobility</td>
</tr>
<tr>
<td>15:30</td>
<td>TS08 Driver Assistance</td>
</tr>
<tr>
<td>16:00</td>
<td>ES02 ITS Asia-Pacific Updates II</td>
</tr>
<tr>
<td>17:30</td>
<td>TS09 Traffic Risk and Congestion Management</td>
</tr>
</tbody>
</table>

### DAY 3 / May 10

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:00</td>
<td>HL03 ITS discussed from the view of Internet industry</td>
</tr>
<tr>
<td>10:30</td>
<td>TS04 Mobility Challenges in Law Can Dependency Commitment</td>
</tr>
<tr>
<td>11:00</td>
<td>HL05 Regional ITS</td>
</tr>
<tr>
<td>12:30</td>
<td>TS19 Big Data and Machine Learning (1)</td>
</tr>
<tr>
<td>13:00</td>
<td>SIS08 The key to MaaS Access</td>
</tr>
<tr>
<td>14:00</td>
<td>TS20 Box and Passenger Management</td>
</tr>
<tr>
<td>15:30</td>
<td>SIS09 Construction of the traffic data unification platform</td>
</tr>
<tr>
<td>16:00</td>
<td>TS21 Next-Generation Urban Transport System</td>
</tr>
<tr>
<td>17:30</td>
<td>TS16 International standardization on Cooperative ITS and Automated Driving by ISO/TC204</td>
</tr>
</tbody>
</table>

### DAY 4 / May 11

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:00</td>
<td>HL03 ITS discussed from the view of Internet industry</td>
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<tr>
<td>10:30</td>
<td>TS01 Automated Vehicle</td>
</tr>
<tr>
<td>11:00</td>
<td>HS01 ITS for hand-picked persons and vulnerable mad users</td>
</tr>
<tr>
<td>12:00</td>
<td>TS02 Safe Driving (1)</td>
</tr>
<tr>
<td>13:00</td>
<td>TS03 Traffic Management</td>
</tr>
</tbody>
</table>

### TECHNICAL VISITS

- Automated Driving Demo/ Demonstration
Reception
Opening Ceremony

◆ Welcome Speech 1  Organizer / Host City
Kazuki Nakao
The 16th ITS Asia-Pacific Forum FUKUOKA 2018 Executive Committee Executive Chair
Soichiro Takashima
Mayor of Fukuoka city

◆ Guest Speech
Manabu Sakai
State Minister for Internal Affairs and Communications
Hiroshi Ogawa
Governor of Fukuoka Prefecture / Chairman, Association for the Promotion and Advancement of the Northen Kyushu Automotive Industry in Asia (FUKUOKA)

◆ Welcome Speech 2  ITS Asia-Pacific
Hajime Amano
ITS Asia-Pacific Secretary General
Session

| PL01 - Impact on society by new era of mobility |

Hiroshi Ogawa  
Managing Officer, Toyota Motor Corporation, Japan  
*Towards Innovative Mobility*

Keiji Yamamoto  
Managing Officer, Toyota Motor Corporation, Japan  
*Envisioning Smart Mobility Society in the Connected Future*

Russell Shields  
Chair of Ygomi LLC, United States  
*Secure Connectivity for Future Mobility*

Nori Purnomo  
President Director, Blue Bird Group Holding, Indonesia  
*Pandora in Progress - Impacts on society by new era of mobility -*

Hiroshi Ogawa  
Governor of Fukuoka Prefecture, Japan  
*Towards Innovative Mobility*

Keiji Yamamoto  
Managing Officer, Toyota Motor Corporation, Japan  
*Envisioning Smart Mobility Society in the Connected Future*

Russell Shields  
Chair of Ygomi LLC, United States  
*Secure Connectivity for Future Mobility*

Nori Purnomo  
President Director, Blue Bird Group Holding, Indonesia  
*Pandora in Progress - Impacts on society by new era of mobility -*

| PL02 - ITS, Contributing to the solution of the social challenges |

Yoshiaki Takeuchi  
Director-General of the Radio Department, Ministry of Internal Affairs and Communications, Japan  
*ITS contributing to the solution of the social challenges*

Hiroto Yasuura  
Trustee and Executive Vice President, Kyushu University, Japan  
*Challenges in University Campus*

Jul-Lin Liu, Deputy Director, Taipei City Traffic Engineering Office, Taipei City Government, Chinese Taipei  
*Transportation policy in Taipei*

Yoshiaki Takeuchi  
Director-General of the Radio Department, Ministry of Internal Affairs and Communications, Japan  
*ITS contributing to the solution of the social challenges*

Hiroto Yasuura  
Trustee and Executive Vice President, Kyushu University, Japan  
*Challenges in University Campus*

Jul-Lin Liu, Deputy Director, Taipei City Traffic Engineering Office, Taipei City Government, Chinese Taipei  
*Transportation policy in Taipei*
Session

| ES01 - ITS Asia-Pacific Updates I |

Taro Ishi  
Waseda University, Japan

Dean Zabrieszach  
President, ITS Australia, Australia

William Lam  
Head of Department of Civil & Environmental, The Hong Kong Polytechnic University, Hong Kong

Umiyatun Hayati Triastuti  
Director of Research & Development Center, Ministry of Transportation, Indonesia

Siewmun Leong  
Council Member, ITS Malaysia, Malaysia

| ES02 - ITS Asia-Pacific Updates II |

Edward Chung  
Professor, Department of Electrical Engineering, Hong Kong Polytechnic University, Hong Kong

Young-Kyun Lee  
Executive Director, Center for Overseas Business, ITS Korea, Korea

Mohammed Hikmet  
President, ITS New Zealand, New Zealand

Ricardo Sigua  
Professor, Institute of Civil Engineering, University of the Philippines Diliman, The Philippines

Sorawit Narupiti  
Associate Professor, Civil Engineering (Transportation), Faculty of Engineering, Chulalongkorn University, Thailand
Session

**HL01 - Government Panel - Automated driving for the realization of Society 5.0**

- **Masaji Matsuyma**
  - Minister of State for Measures for Declining Birthrate, Minister of State for “Cool Japan” Strategy, Minister of State for the Intellectual Property Strategy, Minister of State for Science and Technology Policy, Minister of State for Space Policy, Japan

- **Koji Hachiyama**
  - Counsellor, National Strategy Office of ICT, Cabinet Secretariat, Japan

- **Toshihiro Sugi**
  - Director of Automated Driving Planning Office, National Police Agency, Japan

- **Gaku Nakazato**
  - Director, New Generation Mobile Communications Office, Land Mobile Communications Division, Radio Department, Telecommunications Bureau, Ministry of Internal Affairs and Communications, Japan

- **Naohiko Kakimi**
  - Director, Electric Vehicle, ITS and Automated Driving Promotion Office, Ministry of Economy, Trade and Industry, Japan

- **Masato Sahashi**
  - Director, International Affairs Office, Engineering Policy Division Road Transport Bureau, Ministry of Land, Infrastructure, Transport and Tourism, Japan

- **Takashi Nishio**
  - Director, ITS Policy and Program Office, Road Bureau, Ministry of Land, Infrastructure, Transport and Tourism, Japan
Session

| HL02 - Smart card, a gigantic infrastructure of society |

Akio Shiibashi  
President, JR EAST MECHATRONICS CO., LTD, Japan

NGUYEN HOANG HAI  
General Director, Urban Transport Management and Operation Center (TRAMOC), Hanoi Department Of Transport (HDOT), Vietnam

Kentaro Yasuda  
Nishi-Nippon-Railroad Co., Ltd., Japan

Naoki Tani  
NTT DOCOMO, INC., Japan

| HL03 - ITS discussed from the view of Internet industry |

Hiroshi Fujiwara  
Chairman, President & Chief Executive Officer, BroadBand Tower, Inc., Japan

Ram Shallov  
Vice President, Business Development and Marketing, APAC Autotalks, Israel

Yuta Iguchi  
Partner - Million Steps, Via Representative in Japan

ITS Asia-Pacific Workshop

Shigetoshi Tamoto, Senior Vice President ITS Japan, Japan  
Masakatsu Ura, Sales director, Nishitetsu Information System Co., Ltd., Japan  
Jianjun Li, Cennavi, China  
Eddie Lim, Sales Director, Commercial Large Enterprises, NCS Pte. Ltd., Singapore  
Dong Hwan Min, Seoul Metropolitan Government, Korea  
Mark Hsiao, Vice President, International Integrated Systems, Inc, Chinese-Taipei
Session

<table>
<thead>
<tr>
<th>SIS01 - Intelligent infrastructure for new mobility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weiyun Jiao, Vice Secretary-General, China ITS Industry Alliance, China</td>
</tr>
<tr>
<td>Masakazu Shirotta, Director Engineering, Qualcomm, Japan</td>
</tr>
<tr>
<td>Andrew Mehaffey, Director in New South Wales, HMI, Australia</td>
</tr>
<tr>
<td>Young-Jun MOON, Chief Director, Dept. of National Transport Technology R&amp;D, KOTI, Korea</td>
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<tr>
<td>Ning HE, Chief Scientist, Genvict, China</td>
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</tbody>
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<table>
<thead>
<tr>
<th>SIS02 - The prospective of connected motorcycle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chien-Pang Liu, MOTC, Chinese-Taipei</td>
</tr>
<tr>
<td>Ming-Whei Feng, VP &amp; General Director/ Smart System Institute, Institute for Information Industry, Chinese-Taipei</td>
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<tr>
<td>Ricardo Sigua, Professor, Institute of Civil Engineering, University of the Philippines Diliman, The Philippines</td>
</tr>
<tr>
<td>Tomoya Kitani, Associate Professor, College of Informatics, Academic Institute, Shizuoka University, Japan</td>
</tr>
<tr>
<td>Leong Lee Vien, Associate Professor, University Sains Malaysia, Malaysia</td>
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<th>SIS03 - Innovation for better mobility</th>
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<tr>
<td>Weiyun Jiao, Vice Secretary-General, China ITS Industry Alliance, China</td>
</tr>
<tr>
<td>Jianguang WANG, Professor, Tsinghua University, China</td>
</tr>
<tr>
<td>Richard Harris, International Director of ITS UK, United Kingdom</td>
</tr>
<tr>
<td>Mohit Sindhwani, Head of Innovation &amp; Technology, Quantum Inventions Pte Ltd, Singapore</td>
</tr>
<tr>
<td>Jinling HU, Chief Engineer, Datangnetwork, China</td>
</tr>
<tr>
<td>Norio Yamauchi, Director, CPS BusinessPromotion Office, SoftBank Corp., Japan</td>
</tr>
<tr>
<td>Majid Sarvi, Professor in Transport for Smart Cities, the University of Melbourne, Australia</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>SIS04 - Smart and safe city realized by utilization of traffic data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fumihiko Sugiyama, IoT Solution Department Director (Asis Market Development), Tripodworks Co.,Ltd., Japan</td>
</tr>
<tr>
<td>Hiroaki Tsumori, New Technology &amp; Products Development Manager, Murata Electronics Americas</td>
</tr>
<tr>
<td>Ir.Bambang Subiyanto, Chief Lembaga Ilmu Pengetahuan Indonesia(LIPI) ,Indonesia</td>
</tr>
<tr>
<td>Sorawit Narupiti, Associate Professor of Civil Engineering (Transportation) Faculty of Engineering, Chulalongkorn University, Thailand</td>
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</tbody>
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<thead>
<tr>
<th>SIS05 - Mobility Challenges in Low Car-Dependency Communities</th>
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<tbody>
<tr>
<td>Dauwels Justin, Associate Professor, Singapore</td>
</tr>
<tr>
<td>Erwin De Gelder, Research scientist,TNO, Netherlands</td>
</tr>
<tr>
<td>Grace Ong, Director,Transportation Technology,LTA, Singapore</td>
</tr>
<tr>
<td>Eley Querner, Vice President Digital Service, TUV SUD, Singapore</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>SIS06 - International standardization on Cooperative ITS and Automated Driving by ISO/TC204</th>
</tr>
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<tbody>
<tr>
<td>Haruo Ozaki, ISO/TC204 HoD of Japan / Toyo University, Japan</td>
</tr>
<tr>
<td>Masanori Misumi, ISO/TC204/WG14 Convenor / Mazda Motor Corporation, Japan</td>
</tr>
<tr>
<td>Jun Shibata, ISO/TC204/WG3 Convenor / Japan Digital Road Map Association, Japan</td>
</tr>
<tr>
<td>Satoshi Ueda, ISO/TC204/WG18 Expert / ITS Technology Enhancement Association (ITS-TEA), Japan</td>
</tr>
<tr>
<td>Weiyun Jiao, ISO/TC204 HoD of China / Research Institute of Highway, Ministry of Transport, China</td>
</tr>
<tr>
<td>Sang Keon Lee, ISO/TC204 HoD of Korea / Korea Research Institute for Human Settlements, Korea</td>
</tr>
</tbody>
</table>
Session

| SIS07  -  Cyber security in ITS |
Andrew Chow, President, ITS Singapore, Singapore
Justin Dauwels, Associate Prof, Nanyang Technological University, Singapore
Vrizlynn Thing, Head, Cyber Security Cluster, Institute for InfoComm Research, A*Star, Singapore
Chuan Wei Hoo, CTO, ST Electronics (InfoSecurity) Pte Ltd, Singapore
Vera Jin, CEO, Sopra Steria Asia, Singapore
Hidehiko Akatsuka, Director, Technology Planning & External Affairs, Denso International Asia Pte Ltd, Japan

| SIS08  -  The key to MaaS success |
Muhan Wang, Director, MOTC, Chinese-Taipei
Brian Negus, Director, ITS Australia, Strategic Advisor, Royal Automobile Club of Victoria (RACV), Australia
Mikko Koskue, Program Director, MaaS-Intelligent Vehicle and Mobility Solutions, Business Finland, Finland
Chien-pang Liu, MOTC, Chinese-Taipei

| SIS09  -  ITS deployment opportunities from the viewpoint of financing, policy and technology |
Nobuyuki Ozaki, Senior Fellow TOSHIBA Infrastructure Systems & Solutions Corporation, Japan
Changju Lee, Economic Affairs Officer Transport Policy and Development Section, Transport Division United Nations Economic and Social Commission for Asia and the Pacific The United Nations
Daniel A. Levine, Senior Officer World Bank Group Social, Urban, Rural and Resilience Global Practice Tokyo Development Learning Center (TDLC) Program
Kawahara Shuntaro, Senior Advisor, Infrastructure and Peacebuilding Department, Japan International Cooperation Agency, Japan
KI-JOON KIM, Principal Transport Specialist Sector Advisory Cluster Sustainable Development and Climate Change Development ASIAN DEVELOPMENT BANK
**HS01 - ITS for handicapped persons and vulnerable road users**

Tomonori Yako, Senior Executive Officer, Uhuru Corporation, Japan  
Ken Kamura, President, Come Luck Laboratory, Japan  
Toshiya Kikuchi, President and CEO, Miraio Inc., Japan  
Daisuke Azuma, Professor, Faculty of Engineering, Kurume Institute of Technology, Japan

**HS02 - Infrastructure Technologies for Autonomous Driving Implementation**

Satoru Nakajo Ph.D., Chief Project Manager, Infrastructure Business Group Leader, Mitsubishi Research Institute Inc., Japan  
Tsutomu Nakajima, President, Dynamic Map Platform Co., Ltd., Japan  
Moon J. Lee, Vice President General Manager Japan/Korea, HERE Technologies, Japan  
Yasuhide Shibata, Senior General Manager, High-precision Positioning, Systems Dept., Mitsubishi Electric Corporation  
Electronic Systems Group., Japan  
Kiyohiro Yamauchi, General Manager, IoT Alliance & Sales, ZENRIN Co., Ltd., Japan

**HS03 - Automated driving for community transportation**

Naoya Ota, Director, Center for Research on Adoption of NextGen Transportation Systems, Gunma University, Japan  
Hidenori Yoshida, Head of ITS Division, National Institute for Land and Infrastructure Management, Japan  
Takekazu Inoue, The Japan Research Institute, Japan  
Toshihiro Sugi, Director of Automated Driving planning Office, National Police Agency, Japan  
David Cist, Geophy Vice President of Research and Development, Geophysical Survey Systems, Inc. the United States

**HS04 - Regional ITS**

Itsuki Yoshida, Associate Professor, Fukushima University, Japan  
Yasuhioko Kumagai, Professor, Kochi University of Technology, Japan  
Hitoshi Morita, Professor, Nagasaki Prefectural University, Japan  
Jun Matsumoto, Michinori Holdings, Inc. Japan

**HS05 - Construction of the traffic data unification platform**

Hisashi Ooi, Associate Professor, Faculty of Economics System Department, Oita University, Japan  
Fumihiko Nomura, Director, Planning Division, Fukuoka National Highways Office, Ministry of Land, Infrastructure, Transport and Tourism (MLIT), Japan  
Yoshinori Mikura, Manager, General Management Division Expressway Operation Department, Kyusyu Branch, West Nippon Expressway Co., Ltd., Japan  
Akihiko Tanaka, Officer, Kyushu Bus Association (KBA). (Manager [Bus Transportation Systems], Bus Business Division Nishi-Nippon Railroad Co., Ltd.), Japan
Session

| TS01 - Automated Vehicle |

Moderator: Yasuhiro Shiomi (Ritsumeikan University, Japan)

92: Scenario-Based Safety Assessment Framework for Automated Vehicles
Jeroen Ploeg, Erwin de Gelder (TNO, Netherlands), Martin Slavik, Eley Querner (TUV SUD Asia Pacific Pte Ltd, Singapore), Thomas Webster and Niels de Boer (Nanyang Technological University, Singapore).

36: Modeling Speed Profile of Two-way Two-lane Expressways with Probe Car Data
Makoto Kasai (Akita College, Japan), Jian Xing (Nippon Expressway Research Institute Company Limited, Japan) and Shin-Ichi Narushima (East Nippon Expressway Company Limited, Japan).

35: Evaluation of system providing real time traffic information for automated vehicles based on probe data
Kentaro Takaki, Shigeki Nishimura and Shoichi Tanada (Sumitomo Electric Industries, Japan)

60: The Effect Evaluation Method of Changing Wheel Loads for Vehicle Dynamic Performance
Mizuki Yamamoto and Toshio Ito (Shibaura Institute of Technology, Japan)

| TS02 - Safe Driving (1) |

Moderator: Kazuaki Goshi (Kyushu Sangyo University, Japan)

9: Miniaturization and Field Trials of Assistive Devices for Safe Driving at a Crossing with No Traffic Lights Using 920MHz band
Shintaro Uno (Aichi University of Technology, Japan)

58: Estimation of Driver Drowsiness Change in Automated Driving using Heart Beat Analysis
Naoki Hashimoto and Toshio Ito (Shibaura Institute of Technology, Japan)

134: Driver State Analysis of Take-over from Automated to Manual Driving
Toshio Ito and Akihiro Abe (Shibaura Institute of Technonology, Japan)

127: Evaluation of blind-spot warning during lane change
Tsutomu Kaizuka, Huang Li (The University of Tokyo, Japan), Masanori Kosugi, Mitsuhiro Kawada, Shinobu Sasaki (TOKAI RIIKA CO., LTD., Japan), Manabu Shimodaira, Katsutoshi Inagaki (PIONEER CORPORATION, Japan) and Kimihiko Nakano (The University of Tokyo, Japan)
TS03 - Traffic Management

Moderator: Koji Inoue (Kyushu University, Japan)

124: Deploying an Integrated Urban Traffic Event Information Management System in Taiwan - The Case of Kaohsiung City
Chi-Chung Tao (Tamkang University, Chinese-Taipei), Meng-Chieh Lin, Yu-Chao Chang (KingwayTek Co., Ltd., Chinese-Taipei), Chi-Hwa Chen, Tung-Ling Wu and Yu-Feng Ho (Institute of Transportation, MOTC, Chinese-Taipei)

23: Traffic Management Based on a Novel Road Traffic Prediction System for the Event of Macau Grand Prix
Ngoc Vai Chiang (Transport Bureau of Macau SAR, Macao), Lap Mou Tam (University of Macau, Macau), Kin Hou Lai (Transport Bureau of Macau SAR, Macau), Ka In Wong (Institute for the Development and Quality, Macau) and Wai Meng Si Tou (Transport Bureau of Macau SAR, Macau)

38: The Simulation Analysis of Tunnel Traffic Management for Suhua Highway Mountain Section Improvement Project

29: Development of the Agent-based Unified Simulation Environment for ITS Services
Ryo Fujii, Takahiro Ando, Kenji Hisazumi, Tsunenori Mine, Tsuneo Nakanishi and Akira Fukuda (Kyushu University, Japan)

TS04 - Autonomous Driving & Vehicle

Moderator: Ryozo Kiyohara (Kanagawa Institute of Technology, Japan)

61: Development of Autonomous Driving Set Box for Mobility Scooter
Yuichiro Nakayama and Toshio Ito (Shibaura Institute of Technology, Japan)

116: TomTom Enables Autonomous Driving with the HD Map Loop
Andy Marchant, Tomaso Grossi (TomTom, Netherlands), Bouke Douma (TomTom, Japan) and Filip Ballegeer (TomTom, Belgium)

53: Exploring the Relationship between Fleet Size and Vehicle-Kilometres Travelled in Autonomous Mobility on-Demand Systems
Farid Javanshour, Hussein Dia (Swinburne University of Technology, Australia) and Gordon Duncan (Autodesk Inc, United Kingdom)

46: Social Impact of Transportation Technical Innovation - The Case of Autonomous Vehicles -
Wei Chien-Hung and Chen Yu-Yu (National Chang Kung University, Chinese-Taipei)

110: Implementation of Mutual Concessions of Autonomous Cars Using Deep Q-Network
Ichitaro Ogawa, Soichiro Yokoyama, Tomohisa Yamashita, Hidenori Kawamura (Hokkaido University, Japan), Akira Sakatoku, Tadashi Yanagihara, Tomohiko Ogishi and Hideaki Tanaka (KDDI Research Inc., Japan)
Session

| TS05 - Safe Driving (2) |

**Moderator**: Kazunori Shidoji (Kyushu University, Japan)

**63: USE OF THE DRIVING DIAGNOSIS FUNCTIONS TO PROVIDE GUIDANCE ON SAFE DRIVING**
Jun Sakano, Hiroyuki Oishi, Tomonori Sugiyama and Yoshio Hamada (Yazaki Energy System Corporation, Japan)

**49: Use Of The Capability Of The Drive Recorder To Detect An Inter-Vehicle Distance For Effective Driver Training**
Hiroyuki Oishi, Yuuichi Kobayashi, and Takeoki Aochi (YAZAKI Energy System Corporation, Japan)

**56: Development of System for Assessing Unsafe Driving Act of Elderly Driver**
Tomoki Furukawa, Hiriofumi Mori, Hatsuo Yamasaki, Muneo Yamada and Tomoaki Nakano (Meijo University, Japan)

**94: A Study on the Foot Position to Prevent the Pedal Misapplication**
Kunitomo Aoki and Hirofumi Aoki (Nagoya University, Japan)

**48: A LoRaWAN-based Safe Driving Monitoring System**
Kazuaki Goshi, Takuya Kameoka, Haruka Nakashima, Masaki Hayashi (Kyushu Sangyo University, Japan), Yasuaki Sumida (Chikushi Jogakuen University, Japan) and Katsuya Matsunaga (Kyushu University, Japan)

| TS06 - Traffic State Estimation |

**Moderator**: Shigemi Ishida (Kyushu University, Japan)

**64: Effect of Different Road Pricing Strategies on a Multimodal Network with a Hysteretic Macroscopic Fundamental Diagram**
Seham Hemdan, Amr M. Wahaballa and Fumitaka Kurauchi (Gifu University, Japan)

**119: TRAFFIC OPTIMISATION USING COORDINATED GREEN TRAFFIC SIGNALS - Approaches, Challenges and Strategies -**
Carissa Lu Ming Ma, Simon Ho, and Germaine Tay (Land Transport Authority, Singapore)

**128: Automatic Extraction of Passing Scene through Signalized Intersection by Detecting Continuous Traffic Signal Candidates from Event Data Recorder**
Mikuni Motoi, Haruki Kawanaka (Aichi Prefectural University, Japan), Md. Shoail BHUIYAN (Suzuka University of Medical Science, Japan), and , Koji Oguri (Aichi Prefectural University, Japan)

**17: Development of a carpool app as a smart travel choice**
Chih-Lin Chung, Chia-Yi Pan, Chin-Fong Lee, Wan-Zhen Yu and Yue-Lang Cheung (Tamkang University, Chinese-Taipei)

**62: Traffic State Estimation Using Traffic Measurement from the Opposing Lane - An Error Analysis by Fluctuation of Input Data -**
Katsuya Kawai (Mitsubishi Electric Corporation, Japan), Atsushi Takenouchi (Tohoku University, Japan), Masahiko Ikawa (Mitsubishi Electric Corporation, Japan) and Masao Kuwahara (Tohoku University, Japan)
Session

**TS07 - Connected Car**

**Moderator:** Dr. Vrizlynn Thing (A*Star, Singapore)

**73: Controlling Sensing Information Dissemination for Collective Perception in VANET**
Kaito Furukawa (Shizuoka University, Japan), Mineo Takai (University of California, USA) and Susumu Ishihara (Shizuoka University, Japan)

**45: Achieving Secure Vehicle-to-vehicle Key Establishment in LTE-A Networks**
Qinglei Kong and Maode Ma (Nanyang Technological University, Singapore)

**76: Adopting V2X Technology to Improve Motorcycle Safety**
Yen-Yu Chen (Vehicle Safety Certification Center, Chinese-Taipei), Chien-Pang Liu, Mu-Han Wang (Ministry of Transportation and Communications, Chinese-Taipei), Chih-Ching Chang (China Engineering Consultants, Inc, Chinese-Taipei), Tien-Pen Hsu (National Taiwan University, Chinese-Taipei), I-Heng Meng, Chi-Sheng Lin (Institute for Information Industry, Chinese-Taipei)

**140: Comparative Analysis of the Accident Collision Features of Motorcycle and Bicycle to Propose Collision Warning Strategies Using V2X**
Tien-Pen Hsu, Wei-Lun Hsiao and Wan-Ching Ho (National Taiwan University, Chinese-Taipei)

**75: Implementing Smart Intersections by Adopting V2X Technology to Improve Safety**
Yi-Chuan Wang and Hui-Sheng Feng (Bureau of Transportation Taichung City Government, Chinese-Taipei)

**TS08 - Driver Assistance**

**Moderator:** Koji Oguri (Aichi Prefectural University, Japan)

**30: Study on Improvement in Reliability of Driver Arousal Technique with Physiological Magnetic Stimulation**
Masashi Tsukada, Shugo Takegawa, Tomoaki Nakano, Munee Yamada (Meijo University, Japan) and Kaneo Mohri (Nagoya Industrial Science Research Institute, Japan)

**31: Study on the Examination of the Driver Arousal Method by Physiological Magnetic Stimulation - Examination on the Influence of Experiment Procedure on Verification Results**
Yoshihide Hayashi, Masashi Tsukada, Tomoaki Nakano, Munee Yamada (Meijo University, Japan) and Kaneo Mohri (Nagoya Industrial Science Research Institute, Japan)

**33: Study on the Examination of the Driver Arousal Method by Physiological Magnetic Stimulation - Study on the Effect of Fatigue on Verification Results -**
Atsushi Hibi, Masashi Tsukada, Tomoaki Nakano, Munee Yamada (Meijo University, Japan) and Kaneo Mohri (Nagoya Industrial Science Research Institute, Japan)

**66: Awake from slumber during automatic driving**
Shigeyuki Yamabe (Tohoku University, Japan), Shuichi Kawaguchi, Haruhiko Nakatsuji, Rintaro Kuroda (Alpine Electronics, Inc., Japan) and Fumihiko Hasegawa (Tohoku University, Japan)
Session

| TS09 - Traffic Risk and Congestion Management |

Moderator: Greg Blocker (TransCore, USA)

10: Tensor-based Anomalous Traffic Congestion Pattern Discovery in Large-scale Urban Areas with Probe Vehicle Data
Stanislav Lykov and Yasuo Asakura (Tokyo Institute of Technology, Japan)

14: The Area Traffic Control Systems in Tainan City
Shang Yee Tung, Wei-Ming Ho, Ching-Huang Hsu, Chen-Chien Huang (IISI, Chinese-Taipei), Yang-Cheng Lin, Po-Chang Huang (Tainan City Government, Chinese-Taipei)

129: Challenge to Forecast Traffic Congestion Level using Weather Information
Hiroaki Ikeuchi (The University of Tokyo, Japan), Kiichiro Hatoyama (Nagaoka University of Technology, Japan), Ryota Kusakabe and Ikumi Kariya (The University of Tokyo, Japan).

81: Implementing Coordinated Real-time Regional Traffic Control to Solve Traffic Congestion
Yi-Chuan Wang and Hui-Sheng Feng (Bureau of Transportation Taichung City Government, Chinese-Taipei)

| TS10 - Sensing |

Moderator: Susumu Ishihara (Shizuoka University, Japan)

34: Study on Simultaneous-Walking and Simultaneous-Cycling Detection System Using the Neural Network
Takahiko Murayama, Masato Ito, Hatsuo Yamasaki, Tomoaki Nakano and Muneno Yamada (Meijo University, Japan)

32: Construction of deterrence system of simultaneous-walking and its validity
Masato Ito, Astushi Ishizuka, Takumi Yamamoto, Hatsuo Yamasaki, Tomoaki Nakano and Muneno Yamada (Meijo University, Japan)

144: Initial Evaluation of Acoustic Train Detection System
Koji Sato, Shigemi Ishida, Junpei Kajimura, Masato Uchino, Shigeaki Tagashira and Akira Fukuda (Kyushu University, Japan)

137: Design of Ultra Low Power Vehicle Detector utilizing Discrete Wavelet Transform
Kazuo Kubo, Chengyu Li, Shigemi Ishida, Shigeaki Tagashira and Akira Fukuda (Kyushu University, Japan)

141: Exploring the potential of cellular-based vehicle probing (CVP) data in application of transportation — the experience of deployment, testing and validation
Yen-Yu Chen (Vehicle Safety Certification Center, Chinese-Taipei), Chien-Pang Liu, Chung-Han Lin and Mu-Han Wang (Ministry of Transportation and Communications, Chinese-Taipei)
Session

**ITS11 - Driver Monitoring**

**Moderator**: Shintaro Ono (Honda Research Institute / The University of Tokyo, Japan)

89: Clustering for Eye-Gaze Tracking Data of Drivers supported by Drive Assist Agents
Naoto Mukai, Satoko Takashima, Namiki Yamanaka (Sugiyama Jogakuen University, Japan), Kazuhiro Fujikake, Takahiro Tanaka and Hitoshi Kanamori (Nagoya University, Japan)

152: The Development of An Intelligent Driver Behavior Monitoring System For Safety Improvement
Hooi Ling Khoo (Universiti Tunku Abdul Rahman, Malaysia)

57: The Effect of Unconscious Learning to Driver Attention
Shuji Sudo and Toshio Ito (Shibaura Institute of Technology, Japan)

70: Development and Evaluation of a Driving Monitor System for Elderly Drivers
Akifumi Tsuyuki and Tatsuru Daimon (Keio University, Japan)

77: The Application of Electronic Tag to Analyze Driving Behaviors
Yi-Chuan Wang and Hui-Sheng Feng (Bureau of Transportation Taichung City Government, Chinese-Taipei)

**ITS12 - Smart Parking**

**Moderator**: Hiroshi Kawasaki (Kyushu University, Japan)

143: Development and application of smart city an evidence of use eTag with smart parking service
Hao Woe Lin, Yi-Shan Chuang and Chia-Chi Wu (FETC, Chinese-Taipei)

102: An Industrial Perspective on 3D Mapping Car-parking Searching System: Evolutional Cases of Practical Deployment
Shao-Nung Chang (National Taiwan University of Science and Technology (NTUST), Chinese-Taipei)

115: Smart Parking Guidance Management System for Tourist Attractions of North Taiwan Area.
Sun Yu, Chen Wei Teng, Tang Hsiao Ling, and Justin Su (Sunskey International Ltd., Chinese-Taipei)

109: From Parking Service to Innovation Service: An Exploratory Case Studies of Smart Parking Management in Taiwan
Shao-Nung Chang (National Taiwan University of Science and Technology, Chinese-Taipei)

15: The Traffic Information Analysis and Monitoring Platform for EcoMobility World Festival in Kaohsiung City
Ching-Huang Hsu, Wei-Ming Ho, Han-Yun Li, Chih-Kang Wang (International Integrated System Inc. (IISI), Chinese-Taipei), Sheng-Feng Hung (Kaohsiung City Government, Intelligent Transportation Center, Chinese-Taipei)
Session

**TS13 - Image analysis**

Moderator: Masayuki Kanbara (Nara Institute of Science and Technology, Japan)

21: Design and Implementation of High accuracy People Counting System in Tramcars based on 3D vision
Ngoc Tuan Huynh, Masanobu Hasegawa, Ba-Thai-Dien (CM Engineering Vietnam, Vietnam), and Yuji Fujimura (CM Engineering Japan, Japan)

50: Study on Effect of Artificial Image Noise to the Accuracy of Convolutional Neural Network
Mohd Hafiz Hilman Mohammad Sofian and Toshio Ito (Shibaura Institute of Technology, Japan)

101: DEVELOPMENT OF I2V INFORMATION COLLECTION/DISTRIBUTION SYSTEM USING EDGE SERVER TO SUPPORT AUTONOMOUS DRIVING SYSTEM
Takeshi Suehiro, Kyoko Hosoi and Kenichi Nakura.Eiji Yamamoto, Masashi Mitsumoto, Mamiko Arai, Seiji Kozaki and Yoshiaki Tsuda (Mitsubishi Electric Corporation, Japan)

147: DEVELOPMENT AND EVALUATION OF A TRAFFIC MEASUREMENT SYSTEM USING HOG FEATURE AND SUPPORT VECTOR MACHINE
Hirofumi Matsuda and Koji Makanae (Miyagi University, Japan)

145: Quantitative Evaluation of the Number and the Blur Size of Input Images in Super Resolution of On-Vehicle Fisheye Camera
Teruhisa Takano, Shintaro Ono (The University of Tokyo, Japan), Hiroshi Kawasaki (Kyushu University, Japan) and Katsushi Ikeuchi (Microsoft, USA)

**TS14 - Safety Mechanism**

Moderator: Yuji Inoue (Toyota Info Technology Center Co. Ltd., Japan)

139: Lightning Protection for Electric Railway In Indonesia - Telecommunication and Signalling System
Reynaldo Zoro, Ruslam Rachmadi Pakki (Bandung Institute of Technology, Indonesia) and Roni Komar (Indonesia Railway Company, Indonesia)

149: Making it easier for Pedestrians to Cross Roads in Singapore with Green Man +
Tan Beng Hwee Francis (Land Transport Authority of Singapore, Singapore)

11: Managing the Risks of Accidents by Platooning Small Public Transport in Shared Space
Makoto Itoh, Hikaru Takatori, Sari Yamamoto and Masayuki Kawamoto (University of Tsukuba, Japan)

83: Disaster sensor using Al-based composite material stress-luminescent particles for risk detection system of cut earth slope disruption
Kyosuke Akachi, Keiji Shibata, Kenji Matsuda, Seungwon Lee, Takahisa Ohji, Kenji Amei and Yuukou Horita (University of Tsukuba, Japan)
Session

| TS15 - Smart City |

**Moderator**: Kiichiro Hatoyama (Nagaoka University of Technology, Japan)

Hideki Kato (Toyota Transportation Research Institute, Japan), Hidekazu Suzuki (Meijo University, Japan) and Yasuhide Nishihori (Toyota Transportation Research Institute, Japan)

**13: Simulation on Social and Economic Benefits of VICS WIDE service**
Shinya Adachi, Yasuhiro Iwasaki, Kazuhiko Mizushima (Vehicle Information and Communication System Center, Japan) and Hisatomo Hanabusa (i-Transport Lab., Japan)

**96: Smart Roadside Safety in Taipei, Taiwan**
Hj Huang, Cy Chen, Tc Yeh and JI Liu (Taipei City Traffic Engineering Office, Chinese-Taipei)

**93: Big Data drives Smart City Traffic Management**
Phil Allen (TomTom, New Zealand)

**47: Smart Bus Terminal Development for Multimodality**
De-Jun Wang (Wan Da Tong Enterprise Co., Ltd, Chinese-Taipei), Ya-Wen Chen (National Taiwan University, Chinese-Taipei), Ying-Lin Wu (Wan Da Tong Enterprise Co., Ltd, Chinese-Taipei) and S. K. Jason Chang (National Taiwan University, Chinese-Taipei)

| TS16 - Travel Time Estimation |

**Moderator**: Tomio Miwa (Nagoya University, Japan)

**87: Arrival Time Estimation and Visualization based on Bus Traffic Data**
Hitomi Imai, Kei Hiroi and Nobuo Kawaguchi (Nagoya University, Japan)

**42: Travel time estimation in a road network by using traffic probe data**
Takashi Owada, Ryuichi Tani and Kenetsu Uchida (Hokkaido University, Japan)

**24: Analysis of Travel Time Reliability on Road Hierarchy in Winter Traffic Conditions using ETC2.0 Probe Data**
Tosporn Arreeras, Masaki Kanbe, Takumi Asada and Mikiharu Arimura (Murai Institute of Technology, Japan)

**146: An Adaptive Approach for Predicting Bus Travel Time over Unstable Intervals**
As Mansur and Tsenenori Mine (Kyushu University, Japan)

**28: Developing an intelligent travel time prediction system - an exploratory approach**
Wei-Fang Niu and Ming-Chong Hwang (China Engineering Consultants, Inc., Chinese-Taipei)
Session

| TS17 - Behaviour analysis |

Moderator: Itaru Kitahara (Tsukuba University, Japan)

86: Driving behavior and characteristics of eye movements during inattentive driving
Xi He and Kazunori Shidoji (Kyushu University, Japan)

88: Analysis of bike usage behavior for designing the bicycle-sharing system in Takaoka city
Yuya Umawatari, Shinya Chida, Kyosuke Akachi, Shina Takano, Keiji Shibata and Yuukou Horita (University of Toyama, Japan)

117: EFFECT OF THE MOVING-LIGHT-GUIDE SYSTEM ON CAR-FOLLOWING BEHAVIOR AT SAG
Yuuta Tabira and Yasuhiro Shiomi (Ritsumeikan University, Japan)

97: Use of Innovative Cellular-based Probes to Explore Travel Behavior and Identify Potential Terminal Locations for Freeway Bus System on Taipei and Yilan Corridor
S. K. Jason Chang (National Taiwan University, Chinese-Taipei), Chia-Hung Chueh (DataTarget Innovation, Chinese-Taipei), Ta-Wei Shen (Trivec Consultants Inc., Chinese-Taipei), Ya-Wen Chen (Advanced Public Transportation Research Center, Chinese-Taipei), Chao-Neng Chang, Chih-Yueh Chen (Institute of Transportation, MOTC, Chinese-Taipei) and Shin-Yun Tsai (Trivec Consultants Inc., Chinese-Taipei)

121: Development and Validation of Behavior Modification Program Using Gamification and GPS data
Ryota Nakashima, Yoshihiro Sato and Takuya Maruyama (Kumamoto University, Japan)

| TS18 - Electronic Toll Collection |

Moderator: Masao Kuwahara (Tohoku University, Japan)

16: Use of EPS data to explore user behavior of Taipei’s bikesharing system
Chih-Lin Chung and Shu-Yuan Li (Tamkang University, Chinese-Taipei)

155: The Integration of eTag and 4G OBU Data for Intelligent Transportation Information Platform in Taiwan
Liang-Tay Lin, Pei Liu, Chao-Fu Yeh, Pei-Ju Wu, Chi-Chuang Huang and Ho-Sheng Chang (Feng-Chia university, Chinese-Taipei)

37: A new ETC system by fusion of RFID and deep visual information
Geng Yang (Shenzhen Genvict Technologies Co., Ltd., China) Jane You (The Hong Kong Polytechnic University, Hong Kong), Tao Xiang, Ning He Shenzhen Genvict Technologies Co., Ltd., China), Zhenhua Guo (Tsinghua University Shenzhen Graduate School, China) and Qin Li (Shenzhen Genvict Technologies Co., Ltd., China)

22: Smartphone Payment for Highway Toll Collection
Wen-Jing Huang (CEC Engineering Consultants, Inc., Chinese-Taipei)

51: The Evaluation of Travel Demand Modelling Using Electronic Toll Collection Data
Dung-Ying Lin, Shu-Chiao Lin, Meng-Rung Tsai, Ke-Li Kuo, I-Ting Lin and Chien-Hung Wei (National Cheng Kung University, Chinese-Taipei)
**Session**

**TS19 - Big Data and Machine Learning (1)**

Moderator: Takuya Maruyama (Kumamoto University, Japan)

103: Classification of Road Surface Anomalies Using Ensemble Methods with Deep Convolutional Neural Network
Pitiphum Posawang, Satidchoke Phosaard, Suphakit Niwattanakul (Suranaree University of Technology, Thailand) and Wasan Pattara-Atikom (National Electronics and Computer Technology Center (NECTEC), Thailand)


26: A Study on Applying Deep Q-Learning Network to Isolated Intersection Adaptive Signal Control
Chia-Hao Wan and Ming-Chong Hwang (CHINA ENGINEERING CONSULTANTS, INC., Chinese-Taipei)

68: Predicting Intermodal Journey Transit Time Using Big Data Analytics through the Implementation of Machine Learning Algorithms and Computer Vision
Ikhlas Bahar, Muhammad Amin Bakri, Syahri Ramadhan, Farras Afif and Sutan Faizal Lubis (PT. Brilyan Trimatra Utama, Indonesia)

18: Evaluating The Safety Of Blockchain
Congcong Ye, Guoqiang Li, Hongming Cai (Shanghai Jiao Tong University, China) and Yonggen Gu (Huzhou University, China)

**TS20 - Bus Passenger Management**

Moderator: Mariko Okude (Hitachi Ltd., Japan)

153: Trial of assistive technologies on buses in Singapore to help Persons with Disabilities
Suvi Schwab and Steve Robinson (INIT Asia-Pacific Pte. Ltd., Singapore)

41: Signal-Based Speed Control for Automated Bus at Signalized Intersections
Bo Yang (The University of Tokyo, Japan), Takayuki Ando, Wataru Kugimiya, Masaya Sakamoto, Keiji Aoki (Advanced Smart Mobility Co., Ltd, Japan), Tsutomu Kaizuka and Kimihiko Nakano (The University of Tokyo, Japan)

111: Simulation and Visualization of Bus Operation with Passengers using Actual Bus Management Information
Takehiro Arai, Kei Hiroi and Nobuo Kawaguchi (Nagoya University, Japan)

78: Adopting Connected Vehicle Technology to Improve Bus Service Accessibility for Blind and Visually Impaired Passengers
Yi-Chuan Wang and Hui-Sheng Feng (Bureau of Transportation Taichung City Government, Chinese-Taipei)

90: Warning Notification for Potential Collisions for Passenger Anxiety Reduction on Autonomous Wheelchairs
Taishi Sawabe, Shouhei Ota, Masayuki Kanbara (Nara Institute of Science and Technology, Japan), Norimichi Ukita (Toyota Technological Institute, Japan), Tetsushi Ikeda (Hiroshima City University, Japan), Luis Yoichi Morales Saiki (Nagoya University, Japan), Atsushi Watanabe (SEQSENSE Inc, Japan) and Norihiro Hagita (Nara Institute of Science and Technology, Japan)
Session

| TS21  - Next-Generation Urban Transport System |

Moderator: Shoshi Mizokami (Kumamoto University, Japan)

123: Consideration of system architecture for MaaS model in Japan
Yosuke Hidaka (East Japan Railway Company, Japan)

20: Next-generation Urban Transport System “Ha:mo RIDE” in Toyota City
Akinori Nakagaki, Masaya Douyama and Naohiro Yamada (Toyota Municipal Government, Japan)

40: Mobility as a Service, Mobility on Demand: the way forward
Richard Harris (HMI Technologies, United Kingdom)

44: Toyota SAKURA Project Activities - Application of Next Generation Vehicles as Mobile Power Generators -
Mikiko Kato, Tomomi Hayashi, and Daiki Mori (Toyota Municipal Government, Japan)

| TS22  - Big Data and Machine Learning (2) |

Moderator: Ryo Kanamori (Nagoya University, Japan)

105: Integrated Zonal Fare for Urban Transit Systems based on Smart Card Big Data
Che-Hsun Huang (Trivect Consultants INC., Chinese-Taipei), S. K. Jason Chang, Ya-Wen Chen (National Taiwan University, Chinese-Taipei) and Ts-Wei Shen (Trivect Consultants INC., Chinese-Taipei)

113: Clustering of tram users spatio-temporal characteristics form smart card data
Takumasa Morita, Shoshi Mizokami (Kumamoto University, Japan) and Yoshiaki Nakamura (Kozo Keikaku Engineering Inc., Japan)

154: Destination Estimation of Passenger Trip Based on Smart Card Data
Chao-Fu Yeh and Chi-Hua Lu (Feng-Chia university, Chinese-Taipei)

67: Evaluating the Influence of Speed on Intercity Bus Accident Severity in Thailand using GPS Data
Suharit Masmek and Agachai Sumalee (The Hong Kong Polytechnic University, Hong Kong)
Session

**TS23 - Application**

**Moderator:** Kenya Satoh (Doshisha University, Japan)

**79: Estimating willingness-to-pay for autonomous pickup services for agriculture products in rural areas of Japan**
Makoto Chikaraishi (Hiroshima University, Japan), Sachio Fukuyama (The University of Tokyo, Japan), Hironori Yamane (Fukken Co., Ltd., Japan), Mitsutaka Sawa (Docon Co., Ltd., Japan) and Eiji Hato (The University of Tokyo, Japan)

**5: The Application and Solution of Speech Recognition in Mobile Ticketing**
Yu-Ting Wu, Tzu-Yuan Chiu, and Nai-Cheng Chin (Taiwan High Speed Rail Corporation, Chinese-Taipei)

**100: Development of Shared Electric Vehicles in Taiwan**
S.K. Jason Chang, Li-An Yu and Ya Wen Chen (National Taiwan University, Chinese-Taipei)

**19: Increasing Participants of Smartphone-based Travel Survey in Two Afghanistan Cities: Effects of Reward and Female Survey Conductors**
Qudratullah Zwak, Yoshihiro Sato and Takuya Maruyama (Kumamoto University, Japan)

**TS24 - Infrastructure**

**Moderator:** Takashi Oguchi (The University of Tokyo, Japan)

**98: Enhanced Security System for Electric Vehicle Charging Infrastructure Using the SCMS Certification Scheme**
Sanggyou Sim, Jaeson Yoo, Eui-Seok Kim and Seung-Hwan Ju (Penta Security Systems, Inc., South Korea)

**151: ITS R&R Experiment Field for Mobility on Roads and Tracks**
Shihpin Lin, Toshiyuki Sugimachi, Tsutomu Kaizuka, Kenji Kouo, Yoshihiro Suda and Kimihiko Nakano (The University of Tokyo, Japan)

**135: Mobile Vehicle Cloud Computing in Challenged Network Environment in Disaster Situations**
Yoshitaka Shibata, Masaki Otomo (Iwate Prefectural University, Japan), Goshi Sato (NICT Resilient ICT Research Center, Japan) and Noriki Uchida (Fukuoka Institute of Technology, Japan)

**133: Mobility Information Infrastructure by A New N-Wavelength Wireless Communication Method and IoT Road Condition Technology**
Yoshitaka Shibata, Kenta Ito (Iwate Prefectural University, Japan), Goshi Sato (NICT Resilient ICT Research Center, Japan), and Noriki Uchida (Fukuoka Institute of Technology, Japan)
Poster Session

May 9 17:30-19:30 ▶ Lunch Area

Moderator: Tsuneo Nakanishi (Fukuoka University, Japan) & Sungjoon Hong (Pacific Consultants Col. Ltd., Japan)

Traffic Management and ITS Application

1: Traffic Management at Gelora Bung Karno Stadium and Surrounding Areas during Asian Games 2018
Ahmad Munawar and Atar Koswara Rusli (Gadjah Mada University, Indonesia)

7: Urban mobility ITS application deployments in Japan
Junichi Hirose (HIDO, Japan)

12: Field Test of Traffic Information in VICS WIDE Service
Shinya Adachi, Yasuhiro Iwasaki and Toshihiro Matsumoto (Vehicle Information and Communication System Center, Japan)

80: The Study on ITS Application for Enhancing Tour Buses Safety
Shu-Fang Lai (Takming University of Science and Technology, Chinese-Taipei) and Chin-Chen Lin (Telenet International Corp., Chinese-Taipei)

Vision-based detection mechanism

72: Development of Number Count System for Oncoming Vehicle using On-vehicle Camera
Yoshito Yabuta and Takayoshi Yokta (Tottori University, Japan)

99: A lane detection method based on 3D-LiDAR
Yu-Fang Wang and Yi-Shueh Tsz (Automotive Research & Testing Center, Chinese-Taipei)

132: New Simulation Approaches for Vehicular Ad-Hoc Network Development
Sara Ouabbou and Takumi Miyoshi (Shibaura Institute of Technology, Japan)

Safety and Security

6: Plan and Implementation of Enterprise Information Security Protection Mechanism and Information
Security Management System
Chia-Nan Yen and Cheng-Hsun Weng (Taiwan High Speed Rail Corporation, Chinese-Taipei)

108: Model-based Hybrid MAC protocol for traffic accident avoidance system at intersection
Yutaro Aizawa, Toshikuni Miyazaki and Ryuji Kohno (Yokohama National University, Japan)
Poster Session

Data Collection and Utilization

25: Development of a Mobile Application to Collect Passenger Data for Regional Public Transportation
Kentaro Inenaga (Kyushu Sangyo University, Japan)

55: A Feasibility Study to utilize ETC2.0 Probe Data for Bus Vehicle Operation Management
Takayuki Hirasawa, Koichi Sakai, Yoshihiro Suda (The University of Tokyo, Japan), Okuto Yamaguchi (Tobu Business Solution Corp., Japan), Takeshi Hayaki, Etichi Tokonami (Mobile Create, Japan), Isao Fujimoto, and Mitsuteru Kawabata (System Keep Yard, Japan)

65: Digital River - Capitalizing the value of Open Data Movement for IoT, enabling connected vehicles as open platforms
Tomo Yamaguchi (Solute Corporation, Japan), Queenie Tse (Solacle Corporation, Hong Kong), Sumeet Puri and Phil Scanlon (Solute Corporation, Singapore)

150: A Comparative Study between AADT, Centrality Measures and Surveyed Traffic Volume Data
Lilian Pun-Cheng (The Hong Kong Polytechnic University, Hong Kong)

Driver behaviour and Assistant in Automated Driving

3: The Development of intelligent Connected-Driver Advisory System(C-DAS) for Energy efficiency Management - A case study of Taiwan High Speed Rail
Yi-Yiung Jen, Ming-Chang Yang and Yen-Chen Lai (Taiwan High Speed Rail Corporation, Chinese-Taipei)

52: Study on Effective Tasks for Keeping Driver’s Arousal Level High in Automated Driving
Akihiro Abe and Toshio Ito (Shibaura Institute of Technology, Japan)

59: Analysis of Driver Behaviour during Fuel-saving Driving using CAN Information
Kenichi Sato and Toshio Ito (Shibaura Institute of Technology, Japan)

148: Development and Perspectives of Automated Driving in China
Honghai Li, Jian GAO, and Sheng YIN (Research Institute of Highway Ministry of Transport, China)

Smart Mobility

4: Introduction of Taiwan High Speed Rail Smart Mobility Service
Wen-Hui Chiang (Taiwan High Speed Rail Corporation, Chinese-Taipei)

107: The Smart Mobility in Kaohsiung
Chien-Sheng Hao, Shing Ho and Chih-Ming Lin (Kaohsiung Rapid Transit Corp., Chinese-Taipei)

131: Smart Mobility for Smart Tourism
Suhono Harso Supangkat (Bandung Institute of Indonesia, Indonesia), Pratama Havidia Rahman Suhono (Ritsumeikan Asia Pacific University, Japan), Hafsa Aliya Rahma Suhono and Sri Ratna Wulan (Bandung Institute of Indonesia, Indonesia)

156: PTV’s Contribution to the Evolution of MaaS, A Case Study
Paul Speirs (PTV Group, United Kingdom)
This tour visits the following places:
Trafic Management Center, Fukuoka Prefectural Police Fukuoka city Chubu Water Treatment Center Hydrogen Station Nishitetsu Tenjin Expressway Bus Terminal


Traffic Management Center, Fukuoka Prefectural Police
Life has become convenient a way with the development of motorized society; the motor vehicles have caused many problems such as traffic accidents, traffic jams, emission gases, and noises. Among them, emission gases and noises are categorized as a pollution, and have even been recognized as such for a quarter of a century.

In this situation, the members of the Traffic Control Center have been making the utmost efforts to alleviate the problems by "making the roads effectively usable" or, in other words, "creating a safe and smooth traffic".

Fukuoka city Chubu Water Treatment Center Hydrogen Station
Mitsubishi Kakoki Co., Fukuoka city, National University Corporation Kyushu University, Toyota Tsusho Corporation jointly carry out the demonstration project of the system to produce hydrogen from sewage biogas obtained from sewage sludge at the Chubu Water Treatment Center in Fukuoka city and supply hydrogen to fuel cell veh cles, commissioned research from the National Institute for Land and Infrastructure Management. Currently over 20% of sewage biogas obtained by digesting water sludge remains unused in Japan, but biogas have potential to supply enough energy to people. Through this demonstration project, they aim to build a supply chain by producing hydrogen from sewage sludge and supplying it to the hydrogen station.

Nishitetsu Tenjin Expressway Bus Terminal
A lot of people has used here as the inbound and outbound hub terminal of buses in Kyushu.
In 2015 this places has made a fresh start as "Nishitetsu Tenjin Expressway Bus Terminal". All travelers are welcomed to visit with rich hospitality mind and facility so they can spend a relaxed time.

Supported by
Fukuoka Prefectural Police

Sponsored by
Fukuoka City
Nishi-Nippon Railroad Co., Ltd.
Automated Driving Demo

Automated driving demonstration for local community (e-COM10)

In the aging society, it is difficult to support the mobility of tourists and local residents due to lack of personnel. In this demonstration, we will conduct public transportation experiences using “low speed electric community bus” aiming at social implementation of autonomous driving which are focusing “mobility in depopulated areas”, “mobility to sightseeing spots”, and “transportation of people and goods”.

What is necessary for the automatic driving technology to spread to society in the Asia-Pacific region? What kind of scene should be applied and what should be addressed to realize that? Hoping for the opportunity to think about the above, we will perform level 3 automatic driving by using public roads around the venue.
This demonstration will be carried out by Gunma University, Center for Research on Adoption of NextGen Transportation Systems, which tackles research, development and advanced human resources development for “social implementation” of the next generation mobility system.

A self-driving demonstration for safe transportation

Careless driving and reckless driving that causes traffic accidents have backgrounds of social problems such as aging drivers or staff shortages in forwarding and transportation industries.
In this demonstration we provide trial drive of autonomous technology which enables safety transportation anytime and anywhere for everyone using self-driving bus.

• We provide Level3 self-driving cruise in order to make an opportunity to consider what is necessary to spread autonomous technology in the society of Asia Pacific region, and on what occasion it is expected to be applied, and what is to work on to implement the technology.
• The demonstration is performed in limited section on the route of shuttle bus between international/domestic terminals of Fukuoka Airport.
• The demonstration is conducted by SB Drive Corp. that aims to realize new mobility services and Advanced Smart Mobility Co., Ltd. that researches and develops autonomous technology.

Please take Free Airport Shuttle Bus to join this Demonstration. It takes 30 mins. Please see the timetable on Page 71

Supported by
Center for Research on Adoption of NextGen Transportation Systems

Supported by
Fukuoka Prefecture
SB Drive Corp.
Advanced Smart Mobility Co., Ltd.
Nishi-Nippon Railroad Co., Ltd.
Automated Driving Demo

Demonstration of autonomous precision docking control

- JTEKT Corporation was established in January 2006 through the merger of Koyo Seiko Co., Ltd., a world-class bearing manufacturer, and Toyoda Machine Works, Ltd., a machine tool manufacturer excelling in world-leading technologies. Combining the most advanced technologies and the manufacturing passion of the two companies, JTEKT is now a trusted systems supplier of automotive components, bearings and machine tools, providing customers with world-class No.1 products and only one technology that result in ongoing contributions to society.
- This demonstration introduces the autonomous precision docking control strategy, which aims at minimizing the gap between the entrance of the bus and the platform. Autonomous precise docking control will contribute to smooth embarkment and disembarkment of passengers including disabled or parents with strollers.

[Contents]
- Autonomous steering maneuver in training course
- Docking control at bus stop
- (Steering and Braking)

Driverless Autonomous Driving by Remote Monitoring and Operation

Driverless autonomous driving (level 4 self-driving) is demonstrated by monitoring driver-view video from remote office (Fukuoka International Congress Center). Visitors can experience ride on the autonomous car with autonomous driving of a sloping road and S-shaped curve and remote manual operation assuming trouble of autonomous driving. Ensure of stable mobile communication environment in order to realize uninterrupted video communication becomes the key issue to realize the technology. We have a plan to realize low latency communication by 5G and last one mile mobility service.

Supported by

JTEKT Corporation

Supported by

KDDI Research, Inc., / KDDI CORPORATION / Tier IV, Inc. / AISAN Technology Co., LTD.
Demonstration

Driving technique demonstration (simulated driving) by the instructor of driving training center.

- Nishitetsu Bus training center has established in 1955 and it has accumulated know-how of safety driving through its history.
- It is rare to have a training facility by bus operator in Japan. This center has safety driving education program for each driver and the instructor of this center will demonstrate the driving technique. This driving demonstration requires the correct feel of the size of bus, handling technique and pedal control not to contact obstacles in the course.

[List of demonstration]

1. Sialom
   Drive left and right without contacting the obstacles in the course.
   It requires the correct feel of the size of bus, handling technique and pedal control
2. S-Curve
   It requires the feel of the tire position and the length of the bus (overhang).
3. Parking
   Park by driving backwards between buses. It requires the feel of the size of the bus and proper handling and high level driving technique.

Supported by
Nishi-Nippon Railroad Co., Ltd.

ITS Connect Demonstration

ITS Connect commercially launched in October 2015 in Japan. This system is utilizing a dedicated ITS frequency of 760MHz provides driver with information such as traffic signal and the presence in blind spots of pedestrians and other vehicles that cannot be detected by on-board sensors. Through the demo, participants can experience the following four scenarios at an intersection:

Vehicle-to-Infrastructure communications:
1.Red Light Caution
2.Signal Change Advisory
3.Right-Turn Collision Caution

Vehicle-to-Vehicle communications:
1.Emergency Vehicle Notification

NB. Participants may not experience all these services because of the traffic situation during the ride

Sponsored by
Toyota Motor Corporation
Demonstration

AI Bus ride

It is a free on-demand transfer service that connects facilities such as Fukuoka International Convention Center and its surrounding tourist attractions and hotels. Anyone who is a conference / exhibition registrant can ride by installing the application. Please use it as a method of transportation to and from the conference center. Let's visit the sights of the city using free time between sessions. By using the coupon obtained using this “AI bus ride”, you can gain the benefits of meals and shopping. Please experience the mobility which realizes optimum operation while automatically calculating in real time and switching the route by AI.

What is AI Bus ride?
It is a new transportation system that combines the advantages of a taxi (demand type) and a route bus (combination type). In response to a pick-up request from a smartphone application, AI calculates and operates the vehicles and the pick-up order which are optimal from multiple vehicles.

Sponsored by
NTT DOCOMO, INC.
Mirai Share Co., Ltd.

Traffic Signal Prediction System (TSPS) Demonstration

The demonstration to experience the three functions of Traffic Signal Prediction System (TSPS) which is standardly installed in Honda’s Accord Hybrid. The three functions are, Passing Support, Stopping Support, and Starting Support. This system is designed to support smooth driving and environmental countermeasures by using traffic signal information obtained from road-side infrastructure system, such as infrared beacons. When a vehicle passes through an signalized intersection, the system provides recommended speed or optimal deceleration-starting timing on the on-board display for smooth passing. Moreover, while waiting for the traffic light to turn green, the remaining red-light time is displayed to prevent a delay in resuming driving. With this support system, fuel economy enhancement and smooth driving support will be implemented by restraining unnecessary acceleration and deceleration when driving through the traffic signals.

Sponsored by
Honda Motor Co., Ltd.
What is “Ideathon”?
"Ideathon" is a coined word combining "idea" and "marathon". It is an event by group work which is done for creating new ideas. We hold international ideathon with the theme of ITS which lasts for 4 days. From the viewpoint of youth generation, students provide and share new ideas about ITS specialized services and products that combine elemental technologies and advanced technologies such as IoT fields. Each team is formed with about six students from Japan and abroad. Members of each team discuss a given theme, provide and share many ideas in brainstorm style, and brush up to create new values for services and solutions to social problems. We hold a presentation competition on the final day, and teams who proposed excellent ideas would be awarded.

Aim
The main purpose of this event is to train next generation human resources with the theme of ITS. Overseas students gather from various fields and create ideas for themes. Participants learn about economic, social and cultural differences as well as technology, and seek solutions through communication, and cultivate global minds and acquire analytic reasoning, complex problem solving, collaboration skills, and teamwork.

<table>
<thead>
<tr>
<th>May 7</th>
</tr>
</thead>
</table>
| **Day 1**  
Orientation, Seminar and Lecture  
• **Venue**: FUKUOKA CITY SCIENCE MUSEUM  
• **Public participation**: None (Authorized Only) |

<table>
<thead>
<tr>
<th>May 8</th>
</tr>
</thead>
</table>
| **Day 2**  
Ideathon I  
• **Venue**: Fukuoka International Congress Center (4F)  
• **Public participation**: None (Authorized Only)  
**Gala Dinner**  
• **Venue**: Kawabata Shopping Arcade  
• **Public participation**: Interact with GALA Dinner attendees |

<table>
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<tr>
<th>May 9</th>
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</table>
| **Day 3**  
Ideathon II  
• **Venue**: Fukuoka International Congress Center (4F)  
• **Public participation**: None (Authorized Only) |

<table>
<thead>
<tr>
<th>May 10</th>
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</thead>
</table>
| **Day 4**  
Presentation Contest  
• **Venue**: Fukuoka International Congress Center (4F)  
• **Public participation**: None (Authorized Only)  
*Ideathon Sponsors and Participants*  
**Award Ceremony**  
• **Venue**: Fukuoka International Congress Center (Main Hall)  
• **Public participation**: Allowed (Full Conference registrant) |

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**Ideathon Sponsors**

![Sponsor Logos]
Ideathon
Authentication service using "Transportation IC card"

All Full conference attendees will receive "nimoca card" (Transportation IC card) by "Nimoca Co., Ltd" at the registration counter of the conference. In the conference hall, this card can also be used as an admission pass to the session area and the lunch venue where only the conference attendee can enter and also as a lunch exchange ticket. Outside of the venue, you will have free rides of Nishitetsu bus in the Fukuoka city by using this card during the week of this conference. Please experience various services by nimoca card, such as transportation use, electronic money, digital free ticket, admission control and digital ticket certification.

![Image of people using a digital device]

Sponsored by
JR East Mechatronics Co., Ltd.
Nishi-Nippon Railroad Co., Ltd.
NIMOCA CO., LTD.

Hospitality application for smartphone

This application allows you to select and register events such as sessions and demonstrations that you want to participate in, so that you can assemble your schedule and receive push notifications before the event starts. You can also quickly search for transportation and time between key points such as the Fukuoka International Congress Center and the official hotels.

![Image of smartphone screens showing event schedule]

Sponsored by
JORUDAN Co., Ltd.
Gala Dinner May 8 19:00-21:00

Enjoy the bite of local specialities and the festive atmosphere in the most popular shopping avenue of Fukuoka. Join the Gala Dinner!

Venue
Kawabata Shopping Arcade
*Pre-registration required.
JPY 10,000

Stage Program
19:00 Opening Address • Toast (Professor Yasuura, Executive Vice Chair of the Executive Committee)
19:15 Japanese Drum Performance (Japan taiko Drummers) • Dinner time
19:45 Chindon (Street Musicians) Performance
21:00 End of Event

Free Shuttle Bus (Depature Time)
(Fukuoka International Congress Center)

<table>
<thead>
<tr>
<th>Time</th>
<th>Departure</th>
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<tbody>
<tr>
<td>17:00</td>
<td>17:30</td>
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<tr>
<td>18:00</td>
<td>18:30</td>
</tr>
<tr>
<td>19:00</td>
<td></td>
</tr>
</tbody>
</table>

Culture Experience Zone
- Demonstration and experience of Hakata-i-e textile weaving
- Hand-made Hakata-e pottery workshop
- Origami workshop

Ceremony Stage
You can enjoy various programs on this stage.
Each Hakata-i-e product is displayed in main entrance.

Sandwiches
Los Angeles Diner

Fried chicken wings
Kisetsu no tebasaki

Assorted salads and vegetable tempura
Cook Chulm

Rolled sushi made with spotted shad and perilla, wrapped with daikon radish
Amakusa Tenshin

Small pot of boiled chicken and fried chicken
Fukui Kuma

Canal City Bus Pool

Please show this passport.
- Free Food
- Free Drink
- Halal menu
- Vegetarian menu
- Restroom

IT'S AP Forum FUKUOKA | Repot | Confidential | 40
Gala Dinner  May 8 19:00-21:00
Post Congress Tours  May 11

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>08:00</td>
<td>Dep. Hakata Station Chikushi Gate (In front of Lawson)</td>
</tr>
<tr>
<td>09:00-10:50</td>
<td>TOYOTA MOTOR KYUSHU, INC.</td>
</tr>
<tr>
<td>11:30-12:15</td>
<td>JICA Kyushu Café [Lunch]</td>
</tr>
<tr>
<td>13:00-14:15</td>
<td>Zenrin Company, Limited</td>
</tr>
<tr>
<td>15:00-16:30</td>
<td>YASKAWA Electric Corporation.</td>
</tr>
<tr>
<td>18:00 Arr.</td>
<td>Hakata Station</td>
</tr>
</tbody>
</table>

Toyota Motor Kyushu Miyata Plant has won multiple J.D Power awards over the years, including last year (2017) they have achieved the world’s No. 1 “Platinum Award”. Enjoy the qualified technologies through this inspection.

Zenrin has been providing effective digital maps for car navigation systems and personal computer. See how the map for automatic driving is made.

YASKAWA Innovation Center is established as a facility to convey the fun and wonders of manufacturing as well as the robotics technology. In this tour we will not only visit the Yasukawa Electric Mirai-kan but also the world’s first robot manufacturing a robot.
About the Venue

Co-operation Exhibition 1

Honda Motor Co., Ltd.

Towards realizing of “enjoying the freedom of mobility”

Honda’s motorcycles have been beloved by people around the world as tools to make people’s lives colorful at will and also as comfortable and convenient transportation means. Honda produced approx. 17 million units of motorcycle in 2016.

In the exhibition, mainly big motorcycle models including Gold Wing Tour are presented from production models of Kumamoto factory of Honda Motor Co., Ltd. which is the mother factory of motorcycle production. The Gold Wing Tour undergoes the first full-model change in the last 17 years applying many advanced technologies, such as Honda’s proprietary DCT technology. We also introduce motorcycles, such as CRF1000L with V2X technology having the advanced HMI (Human Machine Interface), from the ITS field. Please try many models and enjoy our motorcycles with wonderful experience.

Co-operation Exhibition 2

TOYOTA MOTOR KYUSHU, INC., TOYOTA MOTOR CORPORATION, Sumitomo Electric Industries, Ltd., Kurume Institute of Technology

Connected to broaden mobility world

There are dramatic change around the automobile industry such as the ICT technology, IoT and big data, AI. The majority of automobiles will be connected to the network and create the new value and services in the near future. We will introduce the safe, comfortable, convenient and ecological society achieved by the car communicating with road infrastructure and pedestrians. We also introduce the new possibility of mobility by the autonomous wheel chair with an AI engine.

Co-operation Exhibition 3

KDDI and KDDI Research, Inc.

The demonstration of the remote monitoring of the car.

Here, you can see a demonstration of the remote monitoring of the car.

At the Nishitetsu driving school, we will also demonstrate automatic driving. Driverless autonomous driving (level 4 self-driving) is demonstrated by monitoring driver-view video from the remote office (Fukuoka International Conference Center). Visitors can experience riding in the autonomous car with autonomous driving on a sloping road and S-shaped curve. If problems occur, the remote manual operation system will automatically take control. Ensuring a stable mobile communication environment in order to realize an uninterrupted video communication, becomes the key issue to clearing this technology. We have a plan to achieve low latency communication using 5G and the last mile mobility service.
About the Venue (Exhibition Layout)
About the Venue (Exhibition Layout)

Exhibition 1F

Exhibition 2F
About the Venue (Exhibition Layout)

Exhibition 5F

Exhibition Sunpalace 2F
### May 8

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
</tr>
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</table>
| 12:00-12:40 | Widely Used Port Cloud Service. Achieve business smartification in the container port.  
Seiko IT Solution Co., Ltd. |
| 13:00-13:40 | Approaching the AI/IoT Era with OPTiM Robotics                                                 
OPTiM Corporation |
| 14:00-14:40 | Differentiating our new business with Digital technologies by Sompo Japan Nipponkoa          
Sompo Japan Nipponkoa Insurance Inc. |
| 15:00-15:40 | Legal Liability of Autonomous Driving Car Accidents in Japan                                  
TOKYO BAR ASSOCIATION LEGAL SERVICE JOINT CETER AI DEPARTMENT |
| 16:00-16:40 | Introduction of IoT device security solution utilizing block chain                          
IBC Co., Ltd. |

### May 9

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
</tr>
</thead>
</table>
| 10:00-10:40 | Regional Economic Vitalization with ITS focusing on Logistics Industry                        
Kyushu Economic Research Center (KERC) |
| 11:00-11:40 | DeNA’s initiatives to realize ITS-based future mobility services                             
DeNA Co., Ltd. |
| 12:00-12:40 | Solace: The proven enterprise-class data movement platform for the connected vehicle projects in the world  
Solace Corporation |
| 13:00-13:40 | Mobility Data Exchange                                                                        
Transportation Point of View  
Cisco Systems E.K. |
| 14:00-14:40 | MR is mixed reality. We are new impressions to consumers in a new technology. Guest Mr.matsuzaki from Qt.net  
T&S Ltd. |
| 15:00-15:40 | Government’s policy efforts of autonomous vehicles and the required IT infrastructure         
NTT Communications Corporation |
| 16:00-16:40 | Smart Transport in a Smart Nation                                                              
Intelligent Transportation Society (ITS) Singapore |

### May 10

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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</table>
| 10:00-10:40 | Peer-to-peer (P2P) software infrastructure technology supports car-to-car and road-to-vehicle communication  
TRIART, Inc. |
| 11:00-11:40 | |
ITS Solution stage

Other
Closing Ceremony

The 16th ITS Asia Pacific Forum Fukuoka 2018

Thank You!
## Result

### Registration

<table>
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<tr>
<th></th>
<th>Total</th>
<th>Full Conference</th>
<th>Exhibition</th>
<th>Ideathon</th>
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<tr>
<td>Registration</td>
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<td>1066</td>
<td>2358</td>
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### Sponsor

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<th>Platinum</th>
<th>Gold</th>
<th>Silver</th>
<th>Bronze</th>
<th>Special Sponsors</th>
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<td>8</td>
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### Ideathon

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<tr>
<td>1</td>
<td>S.C. Tire</td>
<td>Safety for all condition</td>
<td>Sponsor : Pasona Tech</td>
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<tr>
<td>2</td>
<td>GiPS</td>
<td>Young driver assist devices using GPS technology</td>
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<td>3</td>
<td>Team IMS</td>
<td>Intersection Monitoring System</td>
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<tr>
<td>4</td>
<td>Team AZ</td>
<td>kikansha to vehicle</td>
<td>Sponsor : Advantest</td>
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<tr>
<td>5</td>
<td>speed fire</td>
<td>lane controller at different vehicles speed</td>
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<tr>
<td>6</td>
<td>Kreator</td>
<td>Security Scanner (SS)</td>
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<tr>
<td>7</td>
<td>Distance Feeling ~lovers,family, and car</td>
<td>Automatic distance control system</td>
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<tr>
<td>8</td>
<td>Infinity</td>
<td>Blind spot detector</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>JHS</td>
<td>Facial recognition</td>
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<tr>
<td>10</td>
<td>Ultron</td>
<td>To apply the video data of drive recorder to deep learning</td>
<td>Best Award</td>
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<tr>
<td>11</td>
<td>Sakura</td>
<td>real time pedestrian detection</td>
<td>Sponsor : TOYOTA</td>
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<td>12</td>
<td>TOI-FAZ</td>
<td>The future without accidents</td>
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<tr>
<td>13</td>
<td>KLM</td>
<td>Facial Conscious Evaluation (FaCE)</td>
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