Final Program

Everyone's Mobility by ITS

The 16th
ITS Asia-Pacific Forum
FUKUOKA 2018

May 8-10, 2018
Fukuoka International Congress Center



May 8-10, 2018



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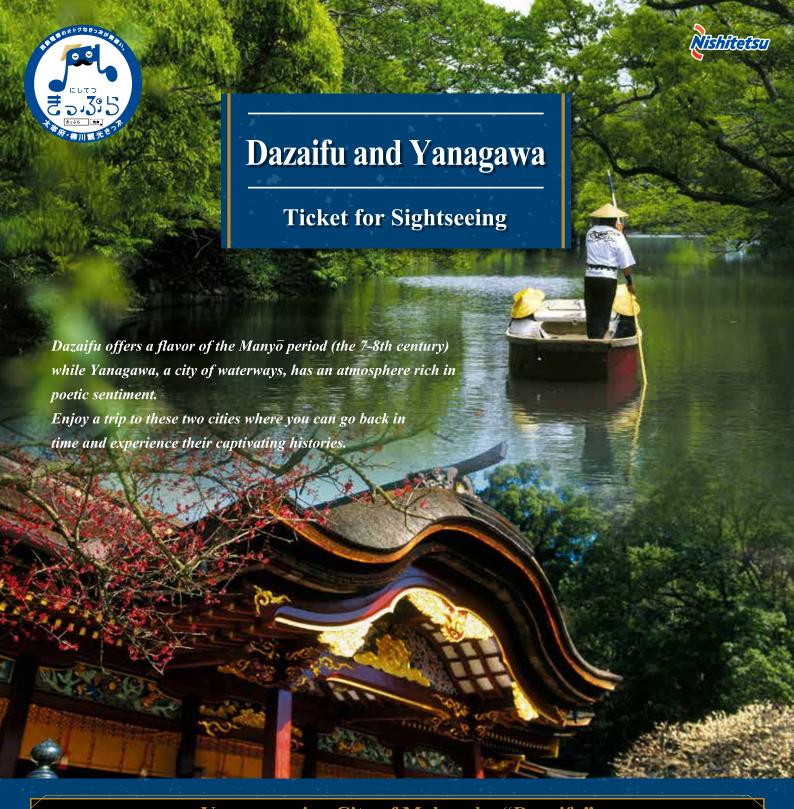
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Fukuoka (Tenjin) · Yakuin



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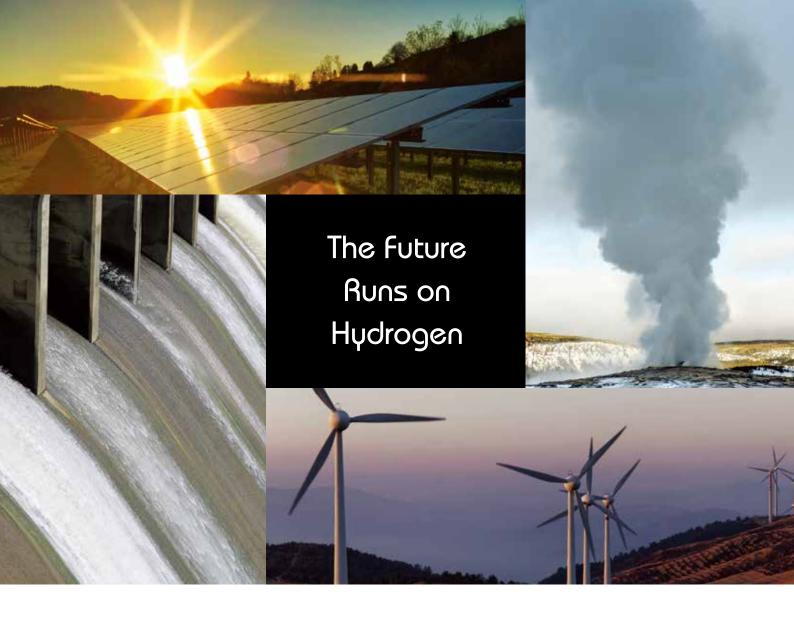
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Adult \±∠,

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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

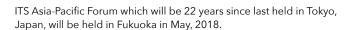
ITS Asia-Pacific Secretary General

Welcome Messages



The 16th
ITS Asia-Pacific Forum
FUKUOKA 2018
Executive Committee
Executive Chair

Kazuki Nakao Senior adviser Nishi-Nippon Railroad Co.,Ltd.



Public transport system network and a network of expressways are developed and its services that use community-based and advanced ITS/IOT fully are implemented and developed in Fukuoka, Kyushu area.

Preparations to hold this Forum are steadily progressed to show societal implementation of next generation ITS technology of each area in Fukuoka mainly by local ITS related group working together with Industry, Academia, and Government cooperating with national ITS promotion group.

We are convinced that it is the most suitable place for business and international exchange as Fukuoka has the function of the gateway city from Asia and high accessibility from Asia-Pacific region and Japan

Having obtained opportunity to hold the 16th ITS Asia-Pacific Forum 2018 in Fukuoka, is a great opportunity to show the drastically evolving Japanese advanced ITS related technology to Asia and the

I wish it becomes the significant forum for all of you and this will be my message.

See you in Fukuoka in May, 2018!





ITS Asia-Pacific
Secretary General

Hajime Amano

It's my great pleasure, on behalf of ITS Asia Pacific Board of Directors, to welcome you all to the 16th ITS Asia Pacific Forum in Fukuoka.

Since we started international collaboration on research, development and deployment of Intelligent Transport Systems about 20 years ago, members of ITS Asia Pacific have made significant progress in technological development and its implementation to solve transportation problems. In addition, we have

to provide faster, safer, and more reliable transportation network with ITS as foundation for solving fundamental challenges of our society; aging population, global warming, and natural disasters.

We identified three major areas of development and deployment for the coming decades: applications of big data in transportation, connected and automated driving systems and smart cities to overcome societal challenges. Those were the main topics at the ITS World Congress Montreal 2017 and they are carried on to the ITS World Congresses Copenhagen 2018.

Involvement of general public is also getting more and more important. We are already living in information network society, where well informed individuals will play active rolesto recognize and solve social challenges and to balance benefits for individuals and public interests. We need proper understanding on our challenges and technologies by the general public for our integrated systems to work.

The ITS community should now engage diverse stakeholders with broader perspectives. ITS Asia Pacific Forum in Fukuoka is where we find the right experts with supporting facts and experiences on a variety of issues, such as policies, technologies, institutional issues, and human factors. I'm looking forward to seeing you and sharing ideas and experiences with you in Fukuoka.

Hajin Som

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 Senior adviser, Nishi-Nippon Railroad Co.,Ltd.

Executive Vice Chair



Iwao Nihashi Chairman, Toyota Motor Kyushu,inc

Executive Vice Chair



Hiroto Yasuura
Trustee and
Executive Vice President,
Kyushu University

Executive Vice Chair



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

Host City



Soichiro Takashima Mayor of Fukuoka city

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 RESERCH 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

Program At a Glance

				DAY '	1 / May 8				
	Main Hall	Room411/412	Room413	Room414	Room409	Room410			
9:20	Opening Ceremo	ony							
10:30	PL01 Impact on society by new era of								
12:00	mobility								
13:30	HL01 Government Panel - Automated driving								
14:00	for the realization	HS01	SIS01	TS01	TS02	TS03		Exhibition	
14.00	of Society5.0	ITS for handicapped persons and	Intelligent infrastructure for	Automated Vehicle	Safe Driving (1)	Traffic Management		EXHIBITION	Technical Visits
15:30		vulnerable road users	new mobility	Venicle		Wanagement	Ideathon		
16:00	ES01	HS02	SIS02	TS04	TS05	TS06	Ideatnon		Automated Driving Demo/
10.00	ITS Asia-Pacific	Infrastructure	The prospective	Autonomous	Safe Driving (2)	Traffic State			Demonstration
17:30	Updates I	Technologies for Autonomous Driving Implementation	of connected motorcycle	Driving & Vehicle		Estimation			
19:00	Gala dinner (Charged)								

	DAY 2 / May 9									
	Main Hall	Room411/412	Room413	Room414	Room409	Room410				
9:00	PL02 ITS, Contributing to			TS07 Connected Car	TS08 Driver Assistance	TS09 Traffic Risk and				
10:30	the solution of the social challenges					Congestion Management	Ideathon			
11:00	HL02	SIS03		TS10	TS11	TS12	ideathon			
11.00	Smart card, a gigantic infrastructure of	Innovation for better mobility		Sensing	Driver Monitoring	Smart Parking			Technical	
12:30	society							Exhibition	Visits	
14:00	HS03	SIS04		TS13	TS14	TS15			Automated	
14.00	Automated driving for community	Smart and safe city realized by utilization		ITS Asia-Pacific	Image Analysis	Safety Mechanism	Smart City			Driving Demo/
15:30	transportation	of traffic data	Workshop				Ideathon		Demonstration	
16:00	ES02	SIS07	SIS06	TS16	TS17	TS18	lueathon			
10.00	ITS Asia-Pacific Updates II		Travel Time Estimation	Behaviour Analysis	Electronic Toll Collection					
17:30	Opuates II	1113	Cooperative ITS and Automated Driving by ISO/TC204	Estimation		Conection				

17:30 ▶ 19:30 PS Poster Session at Lunch Area

	DAY 3 / May 10									
	Main Hall	Room411/412	Room411/413	Room414	Room409	Room410				
0.00	HL03	HS04	SIS05	TS19	TS20	TS21			Automated Driving Demo/	
9:00	ITS discussed from the view of Internet		Mobility Challenges in Low		Bus and Passenger Management	Next-Generation Urban Transport				
10:30	industry		Car-Dependency Communities	(1)		System				
11:00	SIS08	HS05	SIS09	TS22	TS23	TS24	Ideathon	Exhibition		
11.00	The key to MaaS	Construction of the traffic data	ITS deployment opportunities from	Big Data and	Application	Infrastructure				
12:30	success	unification platform	the viewpoint of financing, policy and technology	nt of (2)					Demonstration	
13:00	Closing Ceremor	ny								

DAY 4 / May 11

8:00 ▶ 18:00 Post Congress Tour (Charged)

PL Plenary Sessions ES Executive Sessions

SIS
Special Interest Sessions

HL Host High Level Panels

HS Host Selected Sessions

TS
Technical Sessions

PS Poster Session

Partners









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Sessions

Session Format

Plenary Sessions (PL)

Top level officials and industry leaders from across the globe will present insightful speeches on ITS policies, initiatives and international development trends.

Executive Sessions (ES)

Representatives from ITS Asia-Pacific member countries/areas as well as the emerging economies will share their views on technical, economic, and societal aspects of ITS achievements and the latest topics in their countries/areas.

Special Interest Sessions (SIS)

Organized at the request of organizations or individuals involved in developing and deploying ITS, the sessions are designed as open fora and workshop for experts from government, industry and academia to hold discussions and debates on specific topics.

Host High Level Panels (HL)

High level speakers from the various fields are invited by the tireless coordination by the Executive Committee of the ITSAP Forum Fukuoka 2018.

Host Selected Sessions (HS)

Through the same process as the Special Interest Sessions, these sessions are especially designed as open for for the experts to cast a spotlight on the projects and activities initiated in Fukuoka and Kyusyu region.

Technical Sessions (TS)

Sessions are composed of presentations of the papers by international experts on various ITS-related topics encompassing all technical, economic, organizational and societal aspects of ITS.

Poster Session (PS)

A session provides a space for oral presentations and interactive discussion between audience and authors. Bevarage and light meal are provided.

| PL01 - Impact on society by new era of mobility

May 8 10:30-12:00 ▶ Main Hall

Progress of mobility is always underway by combining rapidly enhancing information & communication technologies. There is an anticipation that more than 250 million connected vehicles are scattering worldwide in the future. In addition, innovative mobility services by utilizing state-of-the-art ICT such as IoT, 5G and cloud technologies are changing the concept of mobility. In this session, how new era of mobility evolves a society and our life will be discussed.

Keynote



Hiroshi Ogawa Gorvernor, Fukuoka, Japan

Speaker

Keiji Yamamoto

Managing Officer, Toyota Motor Corporation, Japan



May. 1987 Joined Toyota Motor Corporation (TMC)

Jan. 2005 General Manager, Strategic Planning & Administration Department, Electronics Engineering Division 1

Apr.2007 General Manager, Electronics Engineering Division 1

Jan. 2008 Seconded to Toyota Info Technology Center Co., Ltd. Jun. 2011 Project General Manager, Electronics Engineering Field, TMC

Jan.2012 General Manager, Electronics Development Division 1

Apr.2016 Executive General Manager Chief Officer, Connected Company

Apr.2017 Managing Officer Executive Vice President, Connected Company

Speaker

Russell Shields

Chair, Ygomi LLC., the United States



Russell Shields is Chair of Ygomi LLC. Businesses that Mr. Shields has founded and/or led include Shields Enterprises International, Cellular Business Systems, Inc. (later Convergys), Navigation Technologies (later Navteq, now HERE), and the current Ygomi companies - SEI, Connexis, and

Mr. Shields is a Board Member of the ITS World Congress and Co-Chair of the ITU Collaboration on ITS Communications Standards. He is also a member of the National Space-Based Positioning, Navigation and Timing Advisory Board, a Presidential advisory committee.

Mr. Shields is an SAE Fellow and recipient of the SAE-Delco Electronics ITS Award. He was inducted into the inaugural class of ITS America's Hall of Fame and named the first U.S. member of the ITS World Congress Hall of Fame.

In 2008, Mr. Shields received the University of Chicago Booth School of Business Distinguished Alumni Award in Entrepreneurship. In 2013, the Hotchkiss School awarded Mr. Shields its Alumni Award.

Speaker

Veni Shone

President of LTE Product Line, Huawei Technologies Co., Ltd., China



Mr. Veni Shone, President of Huawei LTE Product Line, is responsible for end-to-end management and worldwide operation of LTE, Wireless Home Broadband and V2X product solutions and solutions based on LTE technology such as CloT, Litra etc., covering planning & R&D, marketing & sales, as well as delivery.

Mr. Veni Shone has served the company for nearly 20 years and is with rich experience in global telecom industry, especially wireless domain. Prior to the current position, Mr. Veni Shone was the president of TDD product line, CEO of Huawei Brazil (regional level), Vice President of Huawei Central & Eastern and Nordic Europe Region. He also worked as GSM/UMTS Sales Director for North Africa and Mid-East Region. Mr. Veni Shone worked in wireless R&D department on GSM/GPRS/UMTS during his early career at Huawei, and later on he headed Huawei global GSM/UMTS sales division.

Speaker

Noni Purnomo

President Director, Blue Bird Group Holding, Indonesia



Noni Purnomo holds an Industrial Engineering degree and an MBA in Finance and Marketing. She is a Business Woman, Philanthropist, and mother of 3 daughters. In 2015 she was listed in "Power Women in Asia" by Forbes. Noni is currently the President Director of Blue Bird Group Holding, and manages the group's business portfolio, which includes passenger land transportation (taxis, rental car & limousine, and charter bus), logistics, heavy equipment trading, property, and IT supporting services. Noni is passionate about entrepreneurship. Recently she launched her personal Express Service company, NEX, which has been growing very rapidly for the last one-and-a-half years. Noni also serves as a Board of Advisor of IPMI (Institut Pengembangan Manajemen Indonesia), Intelligent Transport System Indonesia Chairperson and Indonesian Transport Society Board of Presidium. She recently appointed as board member of the Australia Indonesia Institute by the Australian Minister of Foreign Affairs.

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

May 9 9:00-10:30 ▶ Main Hall

Asia-pacific is the fastest growing region as the industrial center of the world.

At the same time, the serious transport challenges such as traffic accidents, traffic jam and air pollution are shared among us. Moreover, the following social challenges are becoming serious, such as population structure change like declining birthrate and aging, rapid urbanization, and invigorating local municipalities. Towards realizing a society where mobility helps resolve the social challenges in addition to resolve the transport challenges, various actions utilizing ITS technologies and policies to promote the actions will be discussed with the examples.

Keynote



Yoshiaki Takeuchi

 $Director-General\ of\ the\ Radio\ Department,\ Ministry\ of\ Internal\ Affairs\ and\ Communications,\ Japan$

Speaker

Hiroto Yasuura

Trustee and Executive Vice President, Kyushu University, Japan



Prof. Yasuura graduated Graduate School of Engineering of Kyoto University in 1978.

He served associate professor of Kyoto University and became Professor of Interdisciplinary Graduate School of Engineering Sciences of Kyushu University in 1991. Since 2008, he has been a Trustee and Executive Vice President of Kyushu University.

He is also serving as a Vice President of the Institute of Electronics, Information and Communication Engineers (IEICE),

an Associate Member of Science Council of Japan and the director of Fukuoka Asia Urban Research Center. His major is Computer Science and Electronics.

Speaker_

Jui-Lin Liou

Deputy Director, Taipei City Traffic Engineering Office, Taipei City Government, Chinese-Taipei



Mr. Jui-Lin Liou is Deputy Director of Taipei City Traffic Engineering Office, Taipei City Government.

He has served 25 years in the Department of Transportation, overseeing the development, management and maintenance of traffic control system, parking lots and systems, and other policy settings.

Before the current post, he was Deputy Director of Taipei City Traffic Engineering Office, Specialist, Chief Secretary of Taipei City Parking Management and Development Office.

Mr. Liou has a Master's Degree from the Department of Civil Engineering at National Taiwan University.

Speaker

Chong Kheng Chua

Deputy Chief Executive, Land Transport Authority, Singapore



Mr Chua has close to 30 years of experience in urban land transport infrastructure development and management in Singapore. He was amongst

the pioneers involved in the Mass Rapid Transit (MRT) System projects in Singapore.

Mr Chua is currently the Deputy Chief Executive (Infrastructure & Development) of LTA, overseeing the planning, design and implementation of all road and rail projects, as well as traffic and road operations management. He holds this appointment since 2012.

Besides his portfolio at LTA, Mr Chua is also concurrently a Director of LTA's subsidiaries, namely the MSI (Global) Pte Ltd, MSI (Shanghai)

Besides his portfolio at LTA, Mr Chua is also concurrently a Director of LTA's subsidiaries, namely the MSI (Global) Pte Ltd, MSI (Shanghai) Engineering Consultancy Pte Ltd, TransitLink Pte Ltd and SGHSR Co Ltd. He also holds the concurrent appointments of Vice Chairman and Dean of the Singapore Rail Academy.

Mr Chua is a Fellow of the Institution of Engineering Technology (UK), Institution of Engineers (Singapore) and the Academy of Engineering Singapore. He is also an Honorary Fellow of the ASEAN Federation of Engineering Organisations. He was conferred the Republic of Singapore Public Administration (Gold) medal in 2015 and the Public Service Star Medal in 2016.

Speaker

Dennis Walsh

General Manager, Department of Transport and Main Roads, Queensland Government, Australia



Dennis is the General Manager of Land Transport Safety and is responsible for overseeing the delivery of a range of services providing safety and resilience of the Queensland Transport system in road and rail operations. This includes program management of \$0.5B Infrastructure Program, management of the policy agenda and delivery of the community engagement and communication program.

Dennis is a Registered Professional Engineer, a member of Engineers Australia and a graduate of the Australian Institute of company directors.

Dennis has worked across traffic and transport planning, road safety, road operations and Intelligent Transport Systems (ITS). He has contributed to a range of national groups, and is the Queensland Director on the ANCAP Board. Dennis is a board member and the Vice President of ITS Australia. He is current chair of the Austroads National Co-operative ITS and Autonomous Vehicle Steering Committee and industry reference group.

Speaker

James Leather

Chief of Transport Sector, Sustainable Transport and Climate Change Department, Asian Dvelopment Bank



JAMIE LEATHER is the Chief of the Transport Sector Group at the Asian Development Bank. Mr. Leather has 30 years of experience in transport, and over 25 years of experience working internationally, primarily covering the Asian region. Mr. Leather leads ADBs transport sector operations and oversees the strategic direction of ADB's knowledge, technical and financial support to its developing member countries and partners. Mr. Leather obtained his master of science in transport planning and engineering from the Institute of Transport Studies, Leeds University (UK) and a bachelor of arts in human geography also from Leeds University.

ES01 - ITS Asia-Pacific Updates I

May 8 16:00-17:30 ▶ Main Hall

ITS Asia-Pacific was firstly signed in 1999 to seek for solution with ITS against the road and transport challenges that the Asia-Pacific region were facing. Since then, the member ITS organizations have developed and deployed ITS in collaboration with the public agencies and partners in and outside the region. As the economies emerge, the transport challenges have got more complicated and the ITS domain is growing at the unprecedented speed. In this session, the ITS Asia-Pacific members and friends will present the experience the future vision to improve the "Everyone's Mobility by ITS" in the countries and areas.

Moderator: Taro Ishi, Waseda University, Japan
Speakers: 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

IES02 - ITS Asia-Pacific Updates II

May 9 16:00-17:30 ▶ Main Hall

ITS Asia-Pacific was firstly signed in 1999 to seek for solution with ITS against the road and transport challenges that the Asia-Pacific region were facing. Since then, the member ITS organizations have developed and deployed ITS in collaboration with the public agencies and partners in and outside the region. As the economies emerge, the transport challenges have got more complicated and the ITS domain is growing at the unprecedented speed. In this session, the ITS Asia-Pacific members and friends will present the experience the future vision to improve the "Everyone's Mobility by ITS" in the countries and areas.

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

Hong Kong

Speakers: 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

hilippines

Sorawit Narupiti Associate Professor, Civil Engineering (Transportation), Faculty of Engineering,

Chulalongkorn University, Thailand

ITS Asia-Pacific Workshop



May 9 14:00-15:30 ▶ Room413

This will be the 4th opportunity for ITS AP community to get together to pick up a specific theme and exchange the views in depth from the experts' perspectives. This time theme we propose is, "How the integration of public transport information across the transport modes have influenced the people's life and behavior?

Moderator: Shigetoshi Tamoto Senior Vice President, ITS Japan, Japan

Keynote: Masakatsu Ura Sales director, Nishitetsu information system Co., Ltd, Japan

Speakers: 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

SIS01 - Intelligent infrastructure for new mobility

May 8 14:00-15:30 ▶ Room413

Intelligent and Connected vehicles are so popularly discussed and demo-shown worldwide, although the market expectation has a big gap from the different players. Anyway, there is no doubt that the world is moving to the intelligent society. The new technical trend will definitely bring the innovation of the traditional infrastructure technologies. With the fast technical development of High Precision Map, New Communication Technology, New-energy Vehicle Charging Facilities, the traditional infrastructure will become more intelligent for the new mobility. As to the traditional physical layer, the innovation of the new materials and the new structure designs will certainly bring the world more intelligent infrastructure.

Organizer: Weiyun Jiao Vice Secretary-General, China ITS Industry Alliance, China

Moderator: Nan LIANG CTO of mobility, Plug and Play, China
Speakers: Masakatsu Shirota Director Engineering, Qualcomm, Japan
Andrew Mehaffey Director in New South Wales, HMI, Australia

Young-Jun MOON Chief Director, Dept. of National Transport Technology R&D, KOTI, Korea

Ning HE Chief Scientist, Genvict, China

SIS02 - The prospective of connected motorcycle

May 8 16:00-17:30 ▶ Room413

Higher percentage of motorcycle usage is a special transport features for Southeast Asian Countries. It also has caused the most traffic accident injuries and deaths. Vision zero has been the CV and AV goal in the future. However, very less research and studies have ever worked on adopting CV and AV technologies on motorcycle to improve its safety. This session will especially discuss about how to introduce CV and AV technologies on motorcycle, motorcycle driving behaviour, suitable technologies for sersoring motorcycle and the future development for connected motorcycle.

Organizer & Moderator: Chien-Pang Liu MOTC, Chinese-Taipei

Speakers: Ming-Whei Feng VP & General Director / Smart System Institute Institute for Information Industry,

Chinese-Taipei

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

The Philippines

Tomoya Kitani Associate Professor, College of Informatics, Academic Institute, Shizuoka

University, Japan

Leong Lee Vien Associated Professor, University Sains Malaysia, Malaysia

SIS03 - Innovation for better mobility

May 9 11:00-12:30 ▶ Room411/412

The innovation such as car-sharing, ride-to-go bicycles and driverlesscar/ plane are booming around the world in recent years. With the increasing big data from the mobility, people could create more and enjoy more convenient and low cost transport in the future. What are the bottle-neck issues during the innovation? What's the key factor/technology in the innovation? What future could we expect for the future mobility? A inspiring imagination and fruitful discussion will be filled with this session.

Organizer: Weiyun Jiao Vice Secretary-General, China ITS Industry Alliance, China

Moderator: Jianqiang WANG Professor, Tsuinghua University, China

Speakers: Richard Harris International Director of ITS UK, United Kingdom

Mohit Sindhwani Head of Innovation & Technology, Quantum Inventions Pte Ltd, Singapore

Jinling HU Chief Engineer, Datangnetwork, China

Norio Yamaguchi Director, CPS BusinessPromotion Office, SoftBank Corp., Japan

Majid Sarvi Professor in Transport for Smart Cities, the University of Melbourne, Australia

I SIS04 - Smart and safe city realized by utilization of traffic data

May 9 14:00-15:30 ▶ Room411/412

In order to present useful solution and facilities, apparatus inflecting effectively about traffic control and traffic monitoring, a profit of the vehicle information, public and private sectors cooperate to share the information and discuss the solution of problem and the action of each country acting for spread promotion (practical use).

For example, One of representative company in Japan is operating a service in Thailand selling traffic data and other information collected from a network of wireless sensors installed along roadways. To gather information, This representative company will install sensors on traffic signals and pedestrian overpasses in order to count cars and determinate traffic congestion. The centrally collected data will be sold to other companies that provide traffic information to drivers via car-navigation systems and smartphones. The sensors will be also used to collect marketable atmospheric and climate information such as rain volume and carbon-dioxide levels. Such kind of information may be sold to the services that provide severe weather alerts. This wireless sensor systems are cheaper to operate than comparable systems built from detectors embedded in roads and connected with wires. The representative company will be one of speakers in this session.

Moderator: Toshihiko Shimamura Director Strategic-Product Planning Division, Tripodworks Co., Ltd., Japan

Speakers: Hiroaki Tsumori New Technology & Products Development Manager, Murata Electronics Americas

Ir.Bambang Subiyanto Chief Lembaga Ilmu Pengetahuan Indonesia (LIPI), Indonesia

Sorawit Narupiti Associate Professor of Civil Engineering (Transportation) Faculty of Engineering,

Chulalongkorn University, Thailand

SIS05 - Mobility Challenges in Low Car-Dependency Communities

May 10 9:00-10:30 ▶ Room413

Digital technologies are disrupting travel patterns, changing the transport landscape and offering an opportunity to redesign the way we commute and how transport services are provided. With the rise of sharing models, mobility-as-a-service, advanced transport analytics and autonomous vehicles, cities are mobilising efforts to further enhance commuting experience and ensuring that their transportation system continues to be technically and operationally efficient and effective. This session will discuss the challenges faced and the innovative solutions deployed to embrace new mobility concepts.

Organizer & Moderator: Justin Dauwels Associate Professor, Nanyang Technological University, Singapore

Speakers : Erwin De Gelder Research scientist, TNO, Netherlands

Andreas Hauser Director Digital Service, TuV Sud, Singapore

Tomas Smetana CTO, Schaeffler, Germany

Rong Su Asst. Professor, Nanyang Technological University, Singapore

Grace Ong Director, Transportation Technology,LTA, Singapore Eley Querner Vice President Digital Service, TÜV SÜD, Singapore

ISIS06 - International standardization on Cooperative ITS and Automated Driving by ISO/TC204

May 9 16:00-17:30 ▶ Room413

Intelligent Transport Systems (ITS) is expected to be introduced at an early stage to solve various problems of modern society due to urbanization and aging. In order to smoothly introduce and promote the ITS, it is necessary to standardize the interface of the system to be introduced and ensure interoperability.

International standardization of ITS is being promoted in cooperation with ISO / TC204 (ITS), standardization bodies such as ISO / TC 22 (automobile), SAE and ETSI. In recent years, standardization towards the early introduction of cooperative systems and automatic driving systems has become active. In addition to Europe and the United States, Japan, China, South Korea, Australia, etc. are actively participating in the activities of ISO / TC 204 from Asia-Pacific.

In this session, key people of ITS standardization activities in Japan and the leaders of ITS standardization in China and South Korea will report on the current situation of ISO / TC 204 becoming active, to raise interest in international standardization and improve the momentum of standardization promotion in cooperation with the Asia-Pacific region countries.

Moderator: Haruo Ozaki ISO/TC204 HoD of Japan / Toyo University, Japan

Speakers: Masanori Misumi ISO/TC204/WG14 Convenor / Mazda Motor Corporation, Japan

Jun Shibata ISO/TC204/WG3 Convenor / Japan Digital Road Map Association, Japan

Satoshi Ueda ISO/TC204/WG18 Expert / ITS Technology Enhancement Association (ITS-TEA), Japan Weiyun Jiao ISO/TC204 HoD of China / Research Institute of Highway, Ministry of Transport, China ISO/TC204 HoD of Korea / Korea Research Institute for Human Settlements, Korea

SIS07 - Cyber security in ITS

May 9 16:00-17:30 ▶ Room411/412

The availability and reliability of ITS depend on the security of the overall ITS system.

With the growing emphasis on cyber security, this session will discuss the cyber security risks in the transportation sector, analyse the challenges in mitigating such risks,

and further discuss possible mitigation and protection measures. These require greater consideration of the potential threats on road infrastructure, processes and the possible consequences. Speakers will also discuss the severity of the risk, how risks could be mitigated and how organizations may protect themselves against these threats.

Organizer & Moderator : Andrew Chow President, ITS Singapore, Singapore

Speakers :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, Singapore

SIS08 - The key to MaaS success

May 10 11:00-12:30 ▶ Main Hall

Mobility as a service has been build and operate in many cities after faster spreading of its concept. The contents of MaaS are varied depending on the land use, modal split, transport systems and travel behaviour of the places. For example, MaaS service in EUROPEAN city is quite varied from Asian and American cities. In AMERICA, MaaS&T is proposed in order for emergence purpose. This session will invite MaaS providers from different regions to share their MaaS contents, the key to success and the risks of failure MaaS.

Organizer & Moderator : Muhan Wang Director, MOTC, Chinese-Taipei

Speakers : 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

Yi-Chang Chiou Metropia Inc., the University of Arizona, the United States

ISIS09 - ITS deployment opportunities from the viewpoint of financing, policy and technology

May 10 11:00-12:30 ▶ Room411/413

Asia Pacific region, especially South East and South Asia, is one of the promising and emerging economic areas and it will grow rapidly with larger number of population at urban cities. ASEAN community will grow rapidly as if it looks like one economic region. In order to grow as sustainable development, various aspects should be considered. One of them is transport. As we know about huge traffic jam in various cities, we need to mitigate as possible because this is the tremendous loss in economy.

Although, the orthodox solutions are to improve the capacity of people and good movements by constructing road and railway infrastructure, we would discuss how to improve efficiency of mobility by deploying ICT and ITS technology. Basically we would discuss based on the existing infrastructure, but we could extend ours to refer to some improvements to infrastructure.

Each city has its own characteristics using various types of mobility and historical background so that the solution will basically differ city to city. Also some cases might be cross boarder issues to be solved. It would be good to have common core approaches to solve and validate to a certain area so that these could become the horizontal expansion in the region. Therefore, we need to view from the technology, policy, and funding scheme point. This session focuses discussions from the international institution points of view, how they look the region from these three viewpoints. By expressing each institutional standing point and introducing its ongoing and planning phase projects, the measurements to improve mobility in this area will be discussed from the points of technology, policy, and finding.

Organizer & Moderator : Nobuyuki Ozaki
Speakers
Senior Fellow TOSHIBA Infrastructure Systems & Solutions Corporation, Japan
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, World Bank

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

IHL01 - Government Panel - Automated driving for the realization of Society5.0

May 8 13:30-15:30 ▶ Main hall

Around the world, initiation to use networks and the Internet of Things (IoT) in manufacturing fields are now coming out. In Japan, the use of such networking will not be limited to manufacturing. Instead, it will be extended to various other fields in order to promote economic growth, the formation of a healthy and long-living society, and social transformation. Officials from the central governments in Japan will share each vision of the future, which is characterized by the sophisticated integration of cyberspace with physical space ("the real world") and work to enhance it, while further pursuing a series of measures aimed at its realization, under the concept of "Society 5.0". Specifically, traffic jam decrease by intelligent transport system and the automated driving and improvement of the distribution efficiency are realized. In addition, there is the spread of next-generation battery and electric cars, and action for the problem solution for the solar light, the wind-generated electricity that is an unstable power supply fluctuation.

Keynote: Masaji Matsuyama Minister of State for Science and Technology, IT Policy, Japan

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

Speakers: 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 Depertment, 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

HL02 - Smart card, a gigantic infrastructure of society

May 9 11:00-12:30 ▶ Main hall

Today, Smart Card which is prepaid e-money card for mobility and shopping has become a popular and easily recognized means of electric payment and cashless payment in the world. Or rather, they have been changed independently by each country.

We will exchange the information on the best practice in each country and discuss the possibility how Smart Card will make Smart City evolution. Expected speakers will include the operators of e-card. In this session, we will exchange the experiences and views on how the electric settlement card will change the people's life, including the insight from the innovator of the Japanese smash hit Smart Card "Suica"

Speakers: 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

Nobuhiko Simizu Director, Senior Exective Officer, General Manager of the Bus Business Division

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

Senior Vice President, Managing Director, Head of IoT Business Department and Connected Naoki Tani

Car Business Office, Corporate Sales and Marketing Division, NTT DOCOMO, INC., Japan

I HL03 - ITS discussed from the view of Internet industry

May 10 9:00-10:30 ▶ Main hall

Two major tides, Electric car and Connected car, are rapidly changing a concept of the conventional automotive industry. It is expected that more than 80% of all cars will be shipped in 2021 will be connected car. In 2030, 255 million connected cars would be on the road. Public transportation, such as buses and trains, will be also transformed to connected car, thanks to the Internet technologies. In this session, world's leading authorities on the Internet technologies, such as IoT (Internet of Things), AI and Cyber Security, will debate how those technologies make our car life safe and secure, easier and more enjoyable. A senior representative of ITS AP Fukuoka, will moderate this debate. From the view of Internet technologies, the benefits, subjects and expectation of next-generation ITS will be discussed.

Moderator: Hiroshi Fujiwara Chairman, President & Chief Executive Officer, BroadBand Tower, Inc., Japan Speakers: Ram Shallom Vice President, Business Development and Marketing APAC Autotalks, Israel

> Yuta Iguchi Partner - Million Steps, Via Representative in Japan

I HS01 - ITS for handicapped persons and vulnerable road users

May 8 14:00-15:30 ▶ Room411/412

Through the discussion regarding advanced ITS service in each country for handicapped persons and vulnerable road users, we would like to understand the relevance of human rights for transportation in building a more inclusive society.

Moderator: Tomonori Yako Senior Executive Officer, Uhuru Corporation, Japan

Speakers: Ken Kamura President, Come Luck Laboratory, Japan

Toshiya Kakiuchi President and CEO, Mirairo Inc., Japan

Daisuke Azuma Professor, Faculty of Engineering, Kurume Institute of Technology, Japan

HS02 - Infrastructure Technologies for Autonomous Driving Implementation

May 8 16:00-17:30 ▶ Room411/412

Panelists will be from overseas map makers and positioning device related companies. Each companies to give presentation of their business and explain about their high precision spatial map data, latest positioning devices and platform expansions. And to discuss what to expect from governments and markets, possibilities of cooperation between each map makers and potential of ASIAN markets.

Moderator: Satoru Nakajo Ph.D., Chief Project Manager,Infrastructure Business Group Leader / Mitsubishi Research

Institute, Inc., Japan

Speakers: Tsutomu Nakajima President, Dynamic Map Platform Co., Ltd., Japan

Moon J.Lee 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

May 9 14:00-15:30 ▶ 3F Main hall

In current Japan, it is becoming harder to maintain community transportation in suburb cities, because of aging of the total population, depopulation in suburb areas, and also driver shortage. We discuss an approach of introducing automated driving cars to solve the problem. As that kind of transportation system works in limited areas or routes like buses, the required automated driving technology is in level four, which gives the system high feasibility. Social experiments will also be discussed, which are needed to disseminate the system by building sustainable business models.

Moderator: Naoya Ohta Director, Center for Research on Adoption of Next Gen Transportation Systems, Gunma

University, Japan

Speakers: 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

I HS04 - Regional ITS

May 10 9:00-10:30 ▶ Room411/412

Mentioning some regional ITS projects in Japan, we will debate problems facing each region and issues that ITS could settle. In various viewpoints such as town development, environment, the welfare, the disaster prevention, natural disaster reduction depending on the local characteristic and needs in each area of our country, the problems of the field of traffic, movement are lead to the solution by planning the utilization of the IT technology there, and the action to aim at the activation of life improvement and the economy of area inhabitants is performed in each place. Among the actions in the area, we share the problem that an area faces based on the way of the new mobility during the period of local creation and an introduction example of the advanced transportation system and find a clue of the solution and the argument to promote spread of ITS promotion will be done.

Organizer: Makoto Otsuki Senior Vice President, ITS Japan, Japan

Moderator: Itsuki Yoshida Associate Professor, Fukushima University, Japan Associate Professor, Fukushima University, Japan

Yasuhiko Kumagai Professor, Kochi University of Technology, Japan Hitoshi Morita Professor, Nagasaki Prefectural University, Japan

Jun Matsumoto Michinori Holdings, Inc., Japan

I HS05 - Construction of the traffic data unification platform

May 10 11:00-12:30 ▶ Room411/412

140 transportation companies in Kyushu and its regional area agreed to share and exchange real-time running conditions and information. We will introduce services based on the exchanging data and talk about the process of how the companies agreed to open and share their operating data.

Moderator: Hisashi Ooi Associate Professor, Faculty of Economics System Department, Oita University, Japan Speakers: Fumihiko Nomura Director, Planning Division, Fukuoka National Highways Office, Ministry of Land,

Infurastructure, Transport and Tourism (MLIT), Japan

Yoshinori Mikura Manger, General Management Division Expressway Operation Department, Kyusyu

Branch, Wsest Nippon Expressway Co., Ltd., Japan

Akihiko Tanaka Offcer, Kyushu Bus Assosiation (KBA). (Manager [Bus Transportation Systems], Bus

Business Division Nishi-Nippon Railroad Co.,Ltd.), Japan

TS01 - Automated Vehicle

May 8 14:00-15:30 ▶ Room414

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)

May 8 14:00-15:30 ▶ Room409

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 Techonology, 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 RIKA CO., LTD., Japan), Manabu Shimodaira, Katsutoshi Inagaki (PIONEER CORPORATION, Japan) and Kimihiko Nakano (The University of Tokyo, Japan)

| TS03 - Traffic Management

May 8 14:00-15:30 ▶ Room410

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

Pin-Chun Liu and Cheng-Hsiu Tsou (CECI Engineering Consultants, Inc., Chinese-Taipei)

29: Development of the Agent-based Unied 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

May 8 16:00-17:30 ▶ Room414

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: Implimentation of Mutual Concessions of Autonomous Cars Using Deep Q-Network

Ichitaro Ogawa, Soichiro Yokoyama, Tomohisha Yamashita, Hidenori Kawamura (Hokkaido University, Japan), Akira Sakatoku, Tadashi Yanagihara, Tomohiko Ogishi and Hideaki Tanaka (KDDI Research Inc., Japan)

| TS05 - Safe Driving (2)

May 8 16:00-17:30 ▶ Room409

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

May 8 16:00-17:30 ▶ Room410

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. Shoaib 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)

TS07 - Connected Car

May 9 9:00-10:30 ▶ Room414

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)

ITS08 - Driver Assistance

May 9 9:00-10:30 ▶ Room409

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, Muneo 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, Muneo 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, Muneo 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)

| TS09 - Traffic Risk and Congestion Management

May 9 9:00-10:30 ▶ Room410

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

May 9 11:00-12:30 ▶ Room414

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 Muneo 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 Muneo Yamada (Meijo University, Japan)

144: Initial Evaluation of Acoutic 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)

TS11 - Driver Monitoring

May 9 11:00-12:30 ▶ Room409

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)

TS12 - Smart Parking

May 9 11:00-12:30 ▶ Room410

Moderator: Hiroshi Kawasaki (Kyushu University, Japan)

143: Development and application of smart city an evidence of use eTag with smart parking service

Hao Weo 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 (Sunsky 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)

| TS13 - Image analysis

May 9 14:00-15:30 ▶ Room414

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 12V 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

May 9 14:00-15:30 ▶ Room409

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 Toyama, Japan)

TS15 - Smart City

May 9 14:00-15:30 ▶ Room410

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

85: An Empirical Study on CO2 Reduction Effect Measurement of Ultra-Compact Electric Vehicle Using IoT Device

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, Yasuhiko Iwasaki, Kazuhiko Mizushima (Vehicle Information and Communication System Center, Japan) and Hisatomo Hanabusa (i-Transport Lab., Japan)

96: Smart Roadside Safety in Taipei, Taiwan

Hi Huang, Cy Chen, Tc Yeh and Jl 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)

ITS16 - Travel Time Estimation

May 9 16:00-17:30 ▶ Room414

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 (Muroran Institute of Technology, Japan)

146: An Adaptive Approach for Predicting Bus Travel Time over Unstable Intervals

As Mansur and Tsunenori Mine (Kyushu University, Japan)

28: Developing an intelligent travel time prediction system - an exploratory approach

Wei-Fang Niu and Ming-Chorng Hwang (China Engineering Consultants, Inc., Chinese-Taipei)

TS17 - Behaviour analysis

May 9 16:00-17:30 ▶ Room409

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 (Datarget Innovation, Chinese-Taipei), Ta-Wei Shen (Trivect 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 (Trivect 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

May 9 16:00-17:30 ▶ Room410

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 (CECI 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)

TS19 - Big Data and Machine Learning (1)

May 10 9:00-10:30 ▶ Room414

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)

39: Approach Deep Learning Method for Online Traffic Congestion Prediction Model with Freeway Big Data Analysis

Shiang-Jeng Wang, Cheng-Hsiu Tsou and Chi-Li Lin (CECI Engineering Consultants, Inc., Chinese-Taipei)

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

68: Predicting Intermodal Journey Transit Time Using Big Data Analytics through the Implementation of Machine Learning Alogarithm 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)

ITS20 - Bus Passenger Management

May 10 9:00-10:30 ▶ Room409

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)

TS21 - Next-Generation Urban Transport System

May 10 9:00-10:30 ▶ Room410

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)

May 10 11:00-12:30 ▶ Room414

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 Ta-Wei Shen (Trivect Consultants INC., Chinese-Taipei)

113: Clustering of trum 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)

| TS23 - Application

May 10 11:00-12:30 ▶ Room409

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), Sachiyo 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

May 10 11:00-12:30 ▶ Room410

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

98: Enhanced Security System for Electric Vehicle Charging Infrastructure Using the SCMS Certification Scheme

Sanggyoo 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 Kouno, 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)

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, Yasuhiko 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 Tsai (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 fotraffic accident avoidance system at intersection

Yutaro Aizawa, Toshikuni Miyazaki and Ryuji Kohno (Yokohama National University, Japan)

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, Eiichi 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 (Solace Corporation, Japan), Queenie Tse (Solace Corporation, Hong Kong), Sumeet Puri and Phil Scanlon (Solace 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), Hafsah 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)

Technical Visits

This tour visits the following places:

Traffic Management Center, Fukuoka Prefectural Police Fukuoka city Chubu Water Treatment Center Hydrogen Station Nishitetsu Tenjin Expressway Bus Terminal

①May 8th 12:50~15:20 ②May 9th 09:30~12:00 ③May 9th 12:50~15:20 ④May 10th 09:30~12:00



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 vehicles, 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 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.



Supported by

Center for Research on Adoption of NextGen Transportation Systems

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

Fukuoka Prefecture SB Drive Corp. Advanced Smart Mobility Co., Ltd. Nishi-Nippon Railroad Co., Ltd.

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)



Supported by

JTEKT Corporation

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.

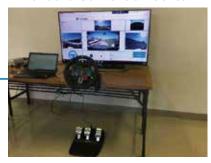
mobility service Nishitetsu Sclool



Autonomous Car(Level 4)



Fukuoka Convention Center



Remoto Monitoring and Operation Booth

Supported by

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

Automated Driving Demo

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.



Supported by

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[List of demonstration]

1. Slalom

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.

Demonstration

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



Demonstration Vehicle

Sponsored by

Toyota Motor Corporation

Demonstration

Al 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 "Al 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.





docomo Al Bus Download site

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.



Demonstration Vehicle Honda「ACCORD Hybrid」

Sponsored by

Honda Motor Co., Ltd.

Authentication service using "Transportation IC card"

All Full conference attendees will receive "nimoca card" (Transportaion 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.

(Caution)

Since this IC card assigns an arbitrary number according to the type of lunch that you chose, you can not identify an individual with the IC card number. Please use it at ease during and after the conference period. This card can be used as a regular "nimoca card" even after the end of the exhibition. However, it can not be used as a commuter ticket by writing the commuter pass information. Also, we will not accept deposits from everyone, so we will not refund the deposit 500 yen even if you return it as cancellation.



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

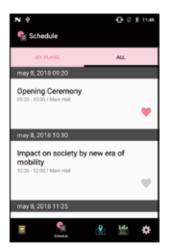
Download the application



For iOS



For Android





Sponsored by

JORUDAN Co., Ltd.



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.

JPY10,000

Stage Program

19:00 Opening Address • Toast (Professor Yasuura, Executive Vice Chair of the Executive Committee)

19:15 Japanese Drum Performance (Japan Marvelous Drummers)/Dinner time

19:45 Chindon (Street Musicians) Performance

21:00 End of Event

Free Shuttle Bus (Depature Time) (Fukuoka International Congress Center)
17:00
17:30
18:00
18:30
19:00



Post Congress Tours May 11







Kitakyushu Course

JPY15,000

%Including tax (8%).

**Lunch and transportation are included in the tour.

[8:00-18:00]

 $\frac{\mathsf{Hakata}}{\mathsf{Station}} \to \mathsf{TOYOTA}\,\mathsf{MOTOR}\,\mathsf{KYUSHU,INC.} \to \frac{\mathsf{JICA}\,\mathsf{Kyushu}\,\mathsf{Caf\'e}}{(\mathsf{Lunch})} \to \mathsf{Zenrin}\,\mathsf{Company}, \mathsf{Limited} \to \mathsf{YASKAWA}\,\mathsf{Electric}\,\mathsf{Corporation.} \to \frac{\mathsf{Hakata}}{\mathsf{Station}}$

Ideathon

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.

May 7

Day 1 Orientation, Seminar and Lecture

•Venue : FUKUOKA CITY SCIENCE MUSEUM

·Public participation: None (Authorized Only)

May 8

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

May 9

Day 3 Ideathon II

•Venue : Fukuoka International Congress Center (4F)

·Public participation: None (Authorized Only)

May 10

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)

Ideathon Sponsors









Co-operation Exhibition

This exhibition will show you the worldview of the Everyone's Mobility by ITS, the concept of the congress this time.

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, Al. 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 autonomic wheel chair with an Al engine.

Co-operation Exhibition 3

KDDI and KDDI Research, Inc.

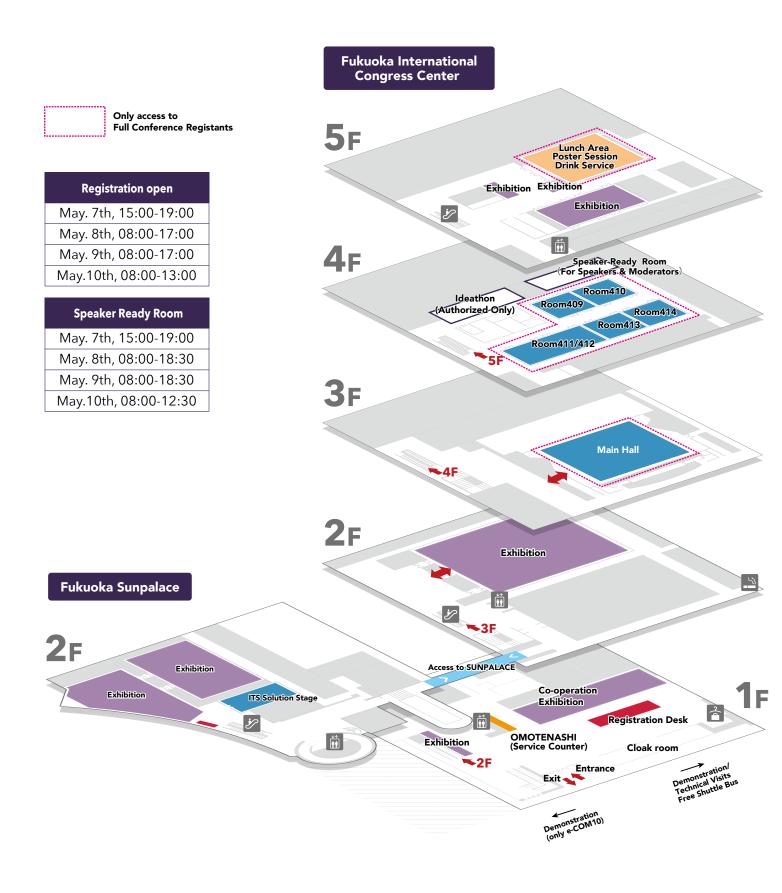
The demonstration of the remote monitoring of the car.

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

At the Nishitetsu driving school, we will also demonstrate automatic driving.

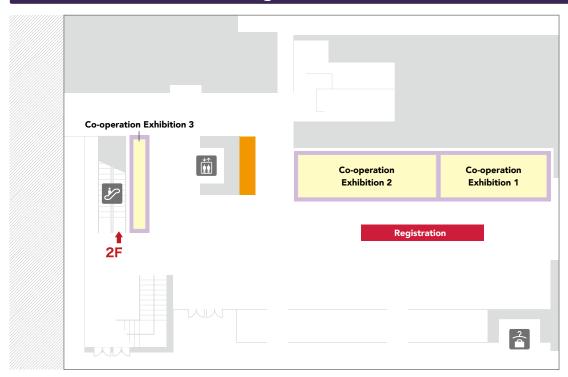
Driverless autonomous driving (level 4 self-driving) is demonstrated by monitoring driver-view video from the remote office (Fukuoka International Conference Center). Visitors can experience riding in the autonomous car with autonomous driving on a sloping road and S-shaped curve. If problems occur, 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 cleating this technology. We have a plan to achieve low latency communication using 5G and the last mile mobility service.

About the Venue

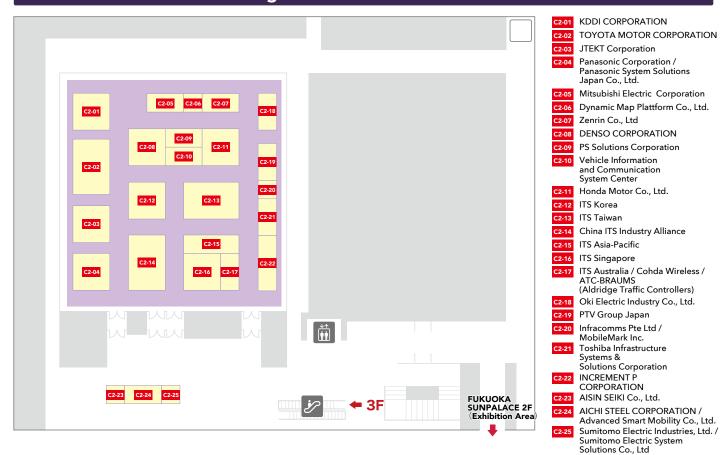


About the Venue (Exhibition Layout)

Fukuoka International Congress Center 1F

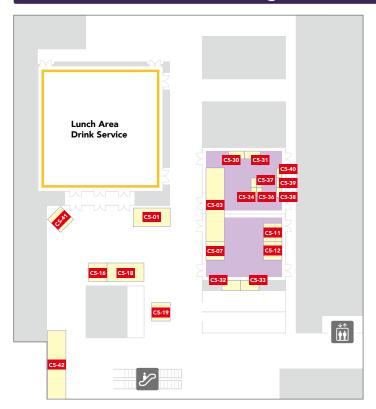


Fukuoka International Congress Center 2F



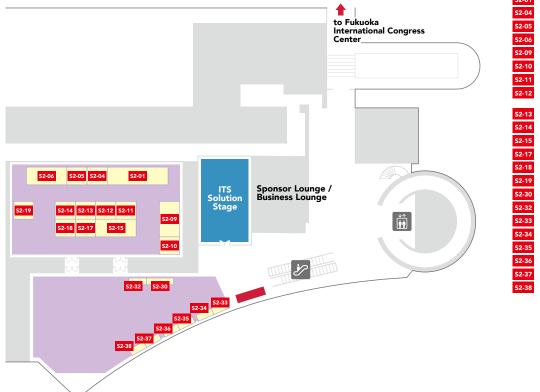
About the Venue (Exhibition Layout)

Fukuoka International Congress Center 5F



- NTT DATA CORPORATION / NTT DOCOMO, INC.
- Association for the promotion and Advancement of the Northern Kyuushu car industry(FUKUOKA) $\,$
- IT Access Co., Ltd. / ACCESS CO.LTD. / AdaCore
 - TRIART, Inc.
- C5-12 Ministry of Land , Infrastructure , Transport and Tourism Kyushu Regional Development Bureau C5-16 Business Finland
- C5-18 Nichibei Denshi Co.,Ltd.
- Aimsun Pty. Ltd. / Urban Development Engineering & Consulting Inc.
- West Nippon Expressway Engineering Chugoku Co.,Ltd.
- C5-31 West Nippon Expressway Facilities Co., Ltd.
- C5-32 ITS Info-communications-Forum
- The Fifth Generation Mobile Communications Promotion Forum
- West Nippon Expressway Engineering
- Shikoku Company Limited Fukuoka Al Community
- Fukuoka Growth Next (Alter Booth, Inc. / Skydisc, Inc.)
- Ministry of Economy, Trade and Industry
- Road & Sewerage Bureau, Fukuoka City Government
- C5-40 FUKUOKA Smart EAST
- C5-41 NIMOCA CO., LTD.
- Fukuoka Special Souvenirs by Fukuoka Convention & Visitors Bureau

FUKUOKA SUNPALACE 2F



- Nishi-Nippon Railroad Co., Ltd.
- NIPPON SIGNAL CO.,LTD
- JAPAN MAYDAY SERVICE CO., LTD
- Weathernews Inc.
- Tokai Denshi Inc.
- 52-10 FUKUYAMA CONSULTANTS CO., LTD.
- Solace Corporation
- Mitsubishi Heavy Industries Machinery Systems, Ltd.
 - Toyota Tsusho Corporation
- Murata Manufacturing Co., Ltd.
- FORUM8 Co.,Ltd.
- 52-17 T&S Ltd.
- ADVANTEST CORPORATION
- Citilabs Inc
- NEC
- QTnet, Inc.
- TomTom **IHI** Corporation
- Yazaki Energy System Corporation
- **FUJITSU LIMITED**
- Clarion Co., Ltd.
- DeNA Co., Ltd.

ITS Solution Stage

ITS Solution Stage will be held at 2nd floor in Fukuoka Sun Palace. Participating companies will speech the latest solutions related of ITS.

May 8

12:00-12:40	Widely Used Port Cloud Service. Achieve the business smartification in the container port. Seiko IT Solution Co.,Ltd
13:00-13:40	Approaching the Al/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 Liablity 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

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 G.K.
14:00-14:40	MR is mixed reality. We are new impressions to consumers in a new technology. Guest Mr.matsuzaki from Qtnet 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

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	

Nishi-Nippon Railroad Co., Ltd.

Connecting your dreams



1-11-17, Tenjin, Chuo-ku, Fukuoka, 810-8570, Japan

Mail matu@nnr.co.jp

URL http://www.nishitetsu.jp/en/

Nishitetsu Group

The group's 83 companies and one incorporated educational institution are united in the goal of acting as a driving force behind Fukuoka's development as a city, as well as actively striving to achieve further growth by expanding our global businesses. The company's philosophy is "to strive to provide services that give customers a sense of safety, comfort and expectancy. Our goal is to bring people together and carry their hopes, developing with and for the region". Based on this and our Corporate Message, "Connecting your Dreams," the guiding principle behind this philosophy, we aim to be the kind of corporate group in which each and every employee pulls out all the stops for the customer.

The group's core business is transportation services including bus and railways such as the Nishitetsu Omuta Line and the Kaizuka Line. In relation to that, we mainly run real estate, distribution, logistics, and leisure and service businesses. Our goal is to gain further inroads in regional markets in Asia, our key area for opening up business ventures, expanding our global business base along with our international logistics business.

The Nishitetsu Group runs bus services in Fukuoka. We operate 2,795 public transportation buses and 305 tourist buses. The total distance travelled per day is 392,000 kilometers which is equivalent to travelling 10 times around the Earth. We strive to make sure that our bus service efficiently serves a large area of Fukuoka prefecture and serves as a convenient mode of

transportation by introducing transit discounts among others. In 2008, we started "nimoca", a transportation IC card. Using the data obtained through passengers' nimoca card, we improve the bus schedule to make it more convenient.

Introduction to the Nishitetsu Group booth.

(Nishitetsu Bus Location System)

We obtain location information from buses and provide such information to passengers together with bus schedule data. In this exhibition, we will explain this mechanism and introduce the equipment installed at the bus stops.

(Smart Bus Stop System)

Currently, many of bus timetables and announcements at bus stops are posted on paper and are replaced manually every time the contents are updated. This is set to be replaced by the Smart Bus Stop System, which will use IoT to display the information digitally and remotely. Such improvement would not only help reduce manual work, but also make it possible to inform passengers waiting at the bus stops of real time bus status information in the event of disasters or accidents.

(Bus Data Utilization Project)

Various data obtained from buses such as operation status and number of passengers, help to improve bus schedules and route planning. Currently, the analysis of numerical values presented by the software is done manually. In this exhibition, we will demonstrate our pilot project to digitally visualize the numerical data, such as by intuitively interpreting the data in relation to a map in order to develop a more efficient operation plan.



TOYOTA MOTOR CORPORATION

TOYOTA

4-18,Koraku 1-Chome,Bunkyo-ku,Tokyo

Mail Ex_AQ44_Org@exmail.toyota.co.jp

URL http://www.toyota-global.com/

Toyota, expects to showcase its extensive work targeted toward the creation of a smart mobility society that links people, cars, and cities. The Toyota booth will present "Cooperative ITS," an important safety technology with the aim of achieving zero traffic fatalities—the ultimate aim of a future mobility society. Additional presentations include "Connected Services Using a Wireless Communicating Drive Recorder" and "Ha:mo, Next-generation Transport System, Aiming for a Traffic Society that is Environmentally Friendly and can Comfortably Move."

Specifically, Toyota will present its safety philosophy and exhibit Toyota's current cooperative ITS services

extending into the future. With the use of the "experiences zone," which is arranged to showcase virtual reality (VR), Toyota hopes to introduce active safety technologies to prevent accidents and the spread of services including the contribution of "cooperative ITS" to the automated driving.

Using a wireless communicating drive recorder, Toyota will introduce service examples that utilize collected data such as front camera images and real-time vehicle data. Toyota will also introduce the "Ha:mo" system, which allows people and the town to move comfortably by using an optimal combination of personal vehicles, such as cars and public transportation.



Smartphone Apps / Next-gen public transportation / V2X(inter-vehicle cooperation)

KDDI CORPORATION



3-10-10 lidabashi, Chiyoda-ku, Tokyo, Japan

Mail iot-info@kddi.com

URL http://www.kddi.com/

The KDDI group (KDDI and KDDI Research, Inc.,) has two exhibits.

The first is a "Demonstration of automatic driving of automobiles" and the other is "Disaster information system provided jointly by Toyota Motor Corporation and Oyo Corporation".

At this venue (Fukuoka International Conference Center), we are introducing demonstrations of each exhibition, and at the exhibition booth next to the escalator on the 1st floor, 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 Congress Center). Visitors can experience riding in the autonomous car with autonomous driving on a sloping road and S-shaped curve. If problem occurs the remote manual operation system will automatically control. Ensuring a stable mobile communication environment in order to realize an uninterrupted video communication becomes the key issue to cleating this technology. We have a plan to realize low latency communication using 5G and the last mile mobility service.

We are looking forward to seeing you at the KDDI booth.

Public transportation support / Automatic driving technology (LV 2-4) / Next-gen public transportation

Panasonic Corporation / Panasonic System Solutions Japan Co., Ltd.



10-1 Kamigohuku-machi, Hakata-ku, Fukuoka City 812-0036, Japan

Mail pssj-kyusyu-kikaku@ml.jp.panasonic.com

URL https://panasonic.com/jp/company/pssj/

Targeting ITS by Panasonic, consist of Person, Automotive and Transportation.

Panasonic have been contributing to diffuse ITS (Intelligent Transportation System) not only from automotive appliance like car navigation system and ETC OBU but also to infrastructure like ETC gate and ITS spot.

By enhancing the value driven by ITS together with customer, Panasonic will create Next generation at ITS based on development of smart city.

Not only for developing new technology but also for contributing into society, Panasonic will

target to create useful ITS life from scope of developing smart city.



Monitoring / Digital contents / V2X(inter-vehicle cooperation)

DENSO CORPORATION

DENSO Crafting the Core

1-1 Showa-cho, Kariya, Aichi 448-8661 Japan

URL https://www.denso.com/global/en/contact-us/

DENSO Corp., headquartered in Kariya, Aichi prefecture, Japan, is a leading global automotive supplier of advanced technology, systems and components in the areas of thermal, powertrain control, electronics and information and safety. Its customers include all the world's major carmakers. Worldwide, the company has more than 200 subsidiaries and affiliates in 38 countries and regions (including Japan) and employs more than 150,000 people. Consolidated global sales for the fiscal year ending March 31, 2017, totaled US\$40.4 billion. For more information, go to www.denso.com, or visit our media website at

www.denso.com/global/en/news/media-center/

V2X (inter-vehicle cooperation) / Driver support program

Hitachi, Ltd.

HITACHI Inspire the Next

6-6, Marunouchi 1-chome, Chiyoda-ku, Tokyo, 100-8280 Japan

Mail http://www.hitachi.co.jp/society-ing/

URL http://www.hitachi.com

Hitachi, Ltd. (TSE: 6501), headquartered in Tokyo, Japan, delivers innovations that answer society's challenges. Through collaborative creation, Hitachi is providing solutions to customers in a broad range of sectors, including Power / Energy, Industry / Distribution / Water, Urban Development, and Finance / Government & Public / Healthcare. For more information on Hitachi, please visit the company's website at http://www.hitachi.com.

Honda Motor Co., Ltd.

HONDA

The Power of Dreams

2-1-1, Minami-Aoyama, Minato-ku, Tokyo 107-8556, JAPAN

URL https://global.honda/

Since its establishment in 1948, Honda has remained on the leading edge by creating new value and providing products of the highest quality at a reasonable price, for worldwide customer satisfaction.

The Company has grown to become the world's largest motorcycle manufacturer and one of the leading automobile manufacturers.

Internet Research Institute, Inc.



12F Shinjuku L Tower 1-6-1 Nishishinjuku, Shinjuku-ku, Tokyo 163-1512 Japan

Mail contact_IRI@iri.co.jp

URL http://www.iri.co.jp/index-en.html

Internet Research Institute, Inc. (IRI) was incorporated in 1996 by Dr. Hiroshi Fujiwara and its shares were listed for trading as a first ticker at the Tokyo Stock Exchange on the MOTHERS part in 1999. Since its inception, IRI has constantly led the creation of a new information society in Japan as an evangelist and a practitioner of Internet. IRI deals mainly with consultation and research services and a review of market trends in the fields of IoT, cyber security and AI. Recently IRI has expanded the capability of these fields, through partnership with Technion, the prestigious institution in Haifa, Israel. Furthermore, IRI affiliates BroadBand Tower, data center/cloud services and Al/IoT solution provider.

Automatic driving technology (LV 2-4) / V2X(inter-vehicle cooperation)

Mitsubishi Electric Corporation



Tokyo Building, 2-7-3, Marunouchi, Chiyoda-ku, Tokyo 100-8310, Japan

URL http://www.mitsubishielectric.co.jp/

The Mitsubishi Electric Group operates on the corporate principle of contributing to creating a vibrant and affluent society by enhancing its technologies, services, and creative powers, as a leader in the manufacture and sales of electric and electronic equipment used in Energy and Electric Systems, Industrial Automation, Information and Communication Systems, Electronic Devices, and Home Appliances.

Expanded application of ETC / highly accurate three-dimensional map / Driver support program

NEC Corporation

Orchestrating a brighter world



7-1, Shiba 5-chome Minato-ku, Tokyo 108-8001

Mail tamago@egg.jp.nec.com

URL https://www.nec.com/

The NEC Group is currently focusing on leveraging its strengths in information and communications technology (ICT) to offer Solutions for Society capable of increasing the sophistication of infrastructure systems and services indispensable to society. Through these business activities, NEC remains committed to collaborating closely with each and every one of its stakeholders to create an "information society friendly to humans and the earth" based on value that helps ensure safety, security, efficiency, and equality, enabling people to live more abundant lives.

Oki Electric Industry Co., Ltd.



4-10-16, Shibaura, Minato-ku, Tokyo, 108-8551, Japan

Mail oki-event@oki.com

URL https://www.oki.com/en/

At OKI booth, we introduce our infrastructure cooperative ITS service "LocoMobi2.0" that enables efficient operations in relation to automobiles, as well as our sensors to identify the location of an automobile running on the road using radio wave. Contributing to safe, secure and comfortable mobility, OKI exhibits the solutions and technologies based on our experiences developing systems for road administrators.

SIGMAXYZ Inc.



Toranomon Towers Office, 9th floor, 4-1-28 Toranomon, Minato-ku, Tokyo 105-0001, Japan

Mail info@sigmaxyz.com

URL https://www.sigmaxyz.com/english/

SIGMAXYZ is a business consulting company that pursues the maximization of corporate values at outstanding speed, through a variety of projects aggregating all required elements of business, technologies, and project management from inside and outside. We also drive new value creation through matching inter-company alliances as well as investment as required, as an extension of consulting services.

Expanded application of ETC / V2X(inter-vehicle cooperation) / Other



Bridgestone Tire Japan Co., Ltd

1-12-2 Kyobashi, Chuo-ku, Tokyo 104-0031

Mail atsushi.kobayashi@bridgestone.com

URL https://www.bridgestone.co.jp

Bridgestone Tire Japan Co., Ltd. is established for domestic marketing and tire sales company in 2012 as a member of Bridgestone group with the unchanged mission of "Serving Society with Superior Quality", which is a common corporate philosophy of the Bridgestone group.

cisco.

Cisco Systems G.K.

Tokyo Midtown tower, 9-7-1 Akasaka, Minato-ku, TOKYO

Mail nokazaki@cisco.com

URL https://www.cisco.com/

Today's cars are highly computerized, with hundreds of sensors to assess everything from tire pressure to a loose gas cap. Connected Roadways is the infrastructure that the connected vehicle will drive on. It will make it possible for vehicles to connect to that infrastructure, communicate vehicle to vehicle, and more. This infrastructure will manage security, mobility, and access to real-time data.

Public transportation support / Next-gen public transportation / Advanced communication network

:DeNA

DeNA Co., Ltd.

Shibuya Hikarie, 2-21-1 Shibuya, Shibuya-ku, Tokyo 150-8510 Japan

Mail automotive_info@dena.jp

URL http://dena.com/intl/

DeNA was founded in 1999, in the pioneering days of the internet, and since then has developed a range of businesses centered on mobile platforms, including games and e-commerce. In May 2015 DeNA started its new business initiative into the automotive space, and is developing and operating services working to solve a variety of transportation issues. Using core competencies in the internet and AI, DeNA intends to drive innovation in Japan's transportation system and aims to create a world where people and things get where they need to go in safety and comfort.

Public transportation support / Smartphone Apps / Automatic driving technology (LV 2-4)



IBC Co.,Ltd.

1-8-8, Shinkawa, Chuo-ku, Tokyo 104-0033 Japan

Mail info@ibc21.co.jp

URL http://www.ibc21.co.jp/en/business/

We are the company worked in the development and sales of Network system performance monitoring tool "System Answer Series" that monitors operational status of information communication networks and predictions of failure events. We provide performance information for ITS, which requires stable operation of the network environment. In this forum, we introduce the IoT security infrastructure service "kusabi", which provides consistent security measures at all stages from design to development mass production and operation of safe and secure IoT devices.

Monitoring / Advanced communication network / Other



Solace Corporation

150-6018, Yebisu Garden Place Tower 18F, 4-20-3, Ebisu, Shibuya-ku, Tokyo

Mail info.jp@solace.com

URL http://solace.com

Solace's smart data movement technologies use open APIs and protocols to rapidly and reliably route information between applications, devices and people across clouds. Elite enterprises and high-growth startups around the world and in a wide range of industries from financial services and telecommunications to gaming and transportation use Solace to modernize legacy applications and successfully pursue analytics, hybrid cloud and Internet of Things strategies. Learn more at https://solace.com.

Digital contents / Next-gen public transportation / Advanced communication network



Sompo Japan Nipponkoa Insurance Inc.

26-1, Nishi-Shinjuku 1-chome, Shinjuku-ku, Tokyo 160-8338, Japan

Mail FSatou7@sjnk.co.jp

URL https://www.sjnk.co.jp/english/

We have various Property and Casuality insurance business in global market, and rapid progress of digital technology, we are expanding other business area by using digital technologies.

Our digital labolatries at both US and Israel is the key to develop products and services that utilize new technologies such as Al. So we will introduce our several amazing initiatives.

Other



SUMITOMO ELECTRIC INDUSTRIES, LTD.

1-1-3,Shimaya,Konohana-ku,Osaka 554-0024,Japan

Mail its-contact@info.sei.co.jp

URL http://global-sei.com/

Sumitomo Electric Group is providing a wide range products and services related to automotive, electronics, info communications, industrial materials, and environment & energy. In the ITS field, our traffic management systems and telematics systems have been used for many facilities. We will contribute to safe, comfortable and eco-friendly future smart society through providing integrated solutions which connects automotive, energy and ITS/ICT (infrastructures).

Digital contents / Next-gen public transportation / V2X(inter-vehicle cooperation)



Sumitomo Rubber Industries, Ltd. / DUNLOP TYRE KYUSYU CO., Ltd.

3-6-9 Wakinohama-cho, Chuo-ku, Kobe, Hyogo 651-0072, Japan

Mail http://www.srigroup.co.jp/contactlist.html

URL http://tyre.dunlop.co.jp/

Sumitomo Rubber Industries was founded in 1909 in the City of Kobe in Hyogo Prefecture. Utilizing various proprietary rubber technologies, our company is primarily engaged in the tire business through our two main global brands: "DUNLOP" and "FALKEN." In addition to manufacturing an extensive lineup of tires for passenger cars, trucks, buses and motorcycles, our company has also created such groundbreaking technical development concepts as "SMART TYRE CONCEPT."

Through the implementation of our innovative "SMART TYRE CONCEPT." Sumitomo Rubber Industries will continue to contribute to the development of the Mobility Society of the future by producing tires that feature "Greater Safety Performance" and "Greater Environmental Performance."



T&S Ltd.

1-12-1 dougenzaka, shibuya, tokyo

Mail info@t8s.jp

URL http;//t8s.jp

MR is mixed reality. We are new impressions to consumers in a new technology.

VR/AR technology / Digital contents

ZENRIN

ZENRIN CO., LTD.

Waterras Tower, 2-101 Kanda Awajicho, Chiyoda-ku, Tokyo 101-0063, JAPAN

Mail http://www.zenrin.co.jp/contact.html

URL http://www.zenrin.co.jp/english/index.html

With the history of more than 60 years of map creation, ZENRIN has engaged in build up of car navigation industry and having the largest market share as a map provider in Japan. Our future initiative is to structure a system to interconnect various information as solutions for accurate, real-time and cost-efficient for map ecosystem cycles to support the automated driving society.

Automatic driving technology (LV 2-4) / highly accurate three-dimensional map

Acer ITS Incorporated

23F, No. 94, Sec. 1, Xintai 5th Rd., Xizhi Dist., New Taipei City, Taiwan

Mail Kenny, Yu@acer.com: Terry, T. Chang@acerits.com: Joe, Wang@acer.com

URL http://www.acer.net/acerits/index.html

Spun off from Acer Inc., one of the world's leading ICT companies, Acer ITS Incorporated has been dedicated to the ITS-related solutions since 2004. Our mission is to promote a smarter way of transportation through the integration of our self-developed e-ticketing technology, license plate recognition, image recognition, cloud service and the mobile parking APP. Acer ITS is a company with a proven track record in assisting ofly municipalities achieve greater efficiency in the management of parking spaces and the collection of parking fees. We have launched pilot programs in Taipei, Tainan and Kaohsiung, where our smart parking solutions have increased the parking revenue and the parking turnover rate. The data acquired through our management system can also be served as reference points in transport and urban planning.

The Smart Meter integrates automatic occupancy detection, license plate recognition, and supports multiple smart cards and online payment. It is equipped with a full-function backend support and management system, which enables real-time data transmission including e-ticket and credit card transactions, license plate recognition, and system, which enables real-time data transmission including e-ticket and credit card transactions, license plate information, and parking rate.

Our solution greatly increases management efficiency, reduces human errors, increases road side parking turnover rate, boosts parking revenue and makes up for ticketing staff shortage especially in less patrolled areas.

Smartphone Apps / Transportation IC card / Expanded application of ETC

ADVANTEST CORPORATION

1-6-2, Marunouchi, Chiyoda-ku, Tokyo 100-0005

Mail info eva@advantest.com

URL https://www.advantest.com/ja/global-top

Advantest's new ultra-compact AirLogger wireless data logger products can measure voltage, strain and acceleration as well as temperature. The EVA100 measurement system delivers high-precision timing synchronization measurement of ECU signals and other sensor signals, while saving floor-space. Discover Advantest's solutions to reduce test times of automotive device and improve process efficiency.

Monitoring / Automatic driving technology (LV 2-4) / V2X(inter-vehicle cooperation)

AICHI STEEL CORPORATION / Advanced Smart Mobility Co., Ltd.

1, Wanowari, Arao-machi, Tokai-shi, Aichi-ken 476-8666, JAPAN

Mail ta-iwata@he.aichi-steel.co.jp

URL https://www.aichi-steel.co.jp/ENGLISH/index.html

Magnetic positioning system using ultra-low magnetic field is presented. The system gives precise vehicle position information even under bad weathers or the situation in which no reliable GPS signal is available. Various public road experiment results including level 4 driving are also presented. The system is expected to be effective addition to vehicle self position detection technology.

Automatic driving technology (LV 2-4) / Next-gen public transportation / V2X(inter-vehicle cooperation)

Aimsun Pty Ltd / Urban Development Engineering & Consulting Inc.

89 York Street, Sydney NSW 2000

Mail info@aimsun.com

URL https://www.aimsun.com/

Aimsun is an international team of technologists, scientists, and transportation engineers with a singular focus on solving the world's most complex mobility

Aimsun's modeling software analyses the interaction of public and private vehicles; simulates the role of artificial intelligence and machine learning; tests autonomous vehicles; or offers insights into smarter multi-modal transportation choices. Thousands of users in over 80 countries use Aimsun software and services, and UDEC is the official distributor in Japan

Monitoring / Automatic driving technology (LV 2-4) / V2X(inter-vehicle cooperation)

AISIN SEIKI Co., Ltd.

2-1, Asahi-machi, Kariya, Aichi, 448-8650 JAPAN

Mail URL http://www.aisin.com

AISIN Group is a leading manufacturer of auto parts and life / energy related products, offering a wide range of products that enrich the lives of our customers. Under the concept "fulfill the dream of the future mobility life," AISIN will present a video introducing "Hospitality service" that deliver a safe, smooth and comfortable ride from your home to your destination, and ILY-Ai, a personal mobility prototype vehicle that meets diverse user needs by switching into four different modes.

Monitoring / Automatic driving technology (LV 2-4) / Driver support program

Association for the Promotion and Advancement of the Northen Kyushu Automotive Industry in Asia(FUKUOKA)

Higashi Park 7-7, Hakata-ku, Fukuoka City, 812-8577

Mail jidousha@pref.fukuoka.lg.jp

URL http://www.pref.fukuoka.lg.jp/contents/car-project.html

Through the Northern Kyushu Automobile Industry Asia Advanced Base Promotion Project, the auto industry, academia, and the government in northern Kyushu will all collaborate as one team in striving to accomplish four fundamental goals, to unite all the forces of the regional communities, to promote the growth of the auto industry, and to create one of the leading auto manufacturing hubs in Asia.

Other

ATC-BRAUMS (Aldridge Traffic Controllers)

Unit N 12-16 South Street Rydalmere NSW 2116 Australia

Mail ajbull@atsc4.com.au

URL http://www.atsc4.com.au

Aldridge Traffic Controllers (ATC) is an international distributor for the Urban Traffic Management system SCATS (Sydney Coordinated Adaptive Traffic System). ATC manufacturers SCATS compatible traffic signal controllers for the world market. The company also provides a multitude of services related to the traffic management industry including, traffic signal design, traffic engineering, traffic management consulting services for the development of specifications and the management process for traffic control centres. ATC delivers SCATS related services including, design and installation, SCATS training, SCATS optimisation services and site configuration.

Specialty: Supplier of all motor vehicle traffic management related services

Monitoring / V2X(inter-vehicle cooperation) / Advanced communication network

Business Finland

3-5-39, Minami Azabu, Minato, Tokyo

Mail event.japan@businessfinland.fi

URL www.businessfinland.fi

Business Finland is a public organization to bridge Finnish and Japanese businesses in Intelligent vehicle & mobility service segment.

Automatic driving technology (LV 2-4) / Next-gen public transportation / V2X(inter-vehicle cooperation)

China ITS Industry Alliance

No.8 of Xi Tu Cheng Lu, Haidian District, Beijing, P.R. China, 100088

Mail yd.mu@c-its.org

URL https://www.c-its.org.cn

China ITS Industry Alliance (C-ITS) is co-founded by 45 organizations from ITS industry in 2013, including nationwide enterprises, institutes and universities. C-ITS emphasizes its efforts on standardization based on testing, extending to the fields of ITS standard formulation, ITS technical testing, ITS project, ITS research findings transformation, intellectual property transaction and protection, as well as international cooperation.

Automatic driving technology (LV 2-4) / V2X(inter-vehicle cooperation) / Other

Citilabs Inc

2005 N Street, Sacramento, CA 95811, USA

Mail Icheng@citilabs.com

URL http://www.citilabs.com/

Citilabs is a global provider of mobility analytics for businesses and government agencies. Headquartered in Sacramento, with offices around the world. Our products and services provide the backbone of operational and predictive transportation systems in over 70 countries. These systems are used by government to plan their multimodal transportation systems, by private enterprise to locate and optimize their businesses, and by universities to design and test innovative transportation solutions.

Public transportation support / Other

Clarion Co., Ltd.

7-2 Shintoshin, Chuo-ku, Saitama-shi, Saitama, 330-0081,

Mail URL http://www.clarion.com/

『SAFE』: Cloud service platform for commercial vehicle. 『SAFE-DR』
Cloud-based vehicle management support service using the Drive
Recorder. As a solution provider for in-vehicle information systems,
Clarion is solving problems related to transport.

Monitoring / Driver support program

Cohda Wireless

27 Greenhill Rd, Wayville, 5034, South Australia, Australia

Mail Andrea. Ash@cohdawireless.com

URL http://www.cohdawireless.com

Cohda Wireless provides innovative solutions that enable vehicles to connect with other vehicles and with Smart City infrastructure. These connections span Vehicle-to-Vehicle, Vehicle-to-Infrastructure, and Vehicle-to-Pedestrian (collectively called V2X), and allow vehicles to 'talk' to each other, Smart Cities, and vulnerable road users in order to avoid accidents, reduce congestion and be more efficient. Cohda is the technology leader in the Connected Vehicle space, with expertise spanning everything from antennas to applications and a very strong patent position.

Automatic driving technology (LV 2-4) / V2X(inter-vehicle cooperation) / Advanced communication network

Chunghwa Telecom Co.

No.21-3, Sec. 1, Xinyi Rd., Zhongzheng Dist., Taipei City 100, Taiwan

Mail http://www.cht.com.tw/

URL http://www.cht.com.tw/

*Northern Chilaman's Business Group Local and long distance services, per phone service, lossed lines, ADS, Light Fair for their optical, intelligent retaineds, multimodul-on-demand (MOD), business customer services, limited access and date communications. Described of the optical, because a destination of lossed in their services and destinations of the services and destinations of their services. "Southern Risses Reviews Group, Local and long distance services, pay phone service, launeal losses, QDS, Light Fair (or fiber optics), intelligent nationsky, MOD, business customer services, Internet access and date of their control of the services of their control optics. Intelligent nationsky, MOD, business customer services, Internet access and date of their control optics of their control optics."

* Mobile Business Group: Othobias-Service, international roaming, and value-added services including messaging, voice mail, mobile data (business, leisure, financial management, fashion news, etc.), GPRS, 3G and Mobile Vinual Private Network (MVPN).

*International Business Group: International voice service (IDD, Super e-Call), international calling cards (Business cards, Pre-paid cards, e-Call cards), tele-conferencing, video-conferencing, TWGste, IPLC, IDC, and IPVPN.

and enterprise Internet total services.

*Enterprise Business Group: Information, communication and technology total solution, information, communication and technology earmarked case or bidding, information and communication product agenc

and consulting, enterprise customer total service (including energy saving improvement, electro-optics integration service, intelligent transportation ICT service, business cloud computing backup and CRM service with sales of fixed-line, mobile or data service.

*Telecom Laboratories: Applied research and technology development including wireless communications, broadband networks, intelligent networks, optical electronics, information security, value-added and multi-media services; operational support system development, customer service information systems, internet appliances, and marketing intelligence research and analysis.

Automatic driving technology (LV 2-4) / V2X(inter-vehicle cooperation) / Advanced communication network

Dynamic Map Platform Co.,Ltd

5FI.Keikyu 2nd Building 3-25-23,Takanawa Minato-ku.Tokyo 108-0074,Japan

Mail info@dynamic-maps.co.jp

URL http://www.dynamic-maps.co.jp/en/index.html

The development of Dynamic Map is important element in realizing automated driving and safe driving support systems. To promptly meet the needs for high-precision Three-Dimensional map data , we will make committed efforts to develop map data for expressways , motorways and general roads in Japan Initiating international standardization by prototyping high precision 3D map data in U.S.A

highly accurate three-dimensional map

FORUM8 Co., Ltd.

6F 2nd Hakata Kaisei Building, 1-10-4 Hakataeki Minami, Hakata-ku, Fukuoka City 812-0016, Japan

Mail f8fuku@forum8.co.jp

URL http://www.forum8.co.jp/english/

As a software developer and a system integrator, FORUM8 business portfolios are divided into 4 main sectors: VR simulation, Civil Engineering Design, Finite Element Method Analysis, and Web-Related Service. High flexibility and customizability allow us to provide sophisticated hardware integration services for various simulators tailor-made to customer needs.

VR/AR technology / Digital contents / Automatic driving technology (LV 2-4)

Fujitsu limited

4-1-1 Kamikodanaka, Nakahara-ku, Kawasaki-shi, Kanagawa, Japan

Mail http://www.fujitsu.com/global/support/

URL http://www.fujitsu.com/global/

For monitoring road traffic, using high-accuracy image analysis technology, traffic congestions, accidents, violations, etc. are accurately detected in real time, and which events that has occurred in a wide area are instantaneously displayed on the map with SPATIOWL location information service.

Monitoring / Other

Fukuoka AI Community

1-8-1, Tenjin, Chuo-ku, Fukuoka-shi

Mail f-tokku@city.fukuoka.lg.jp

URL http://startupcafe.jp/fukuoka-ai-community/

Fukuoka Al Community" was established on December 5, 2017. We aim that improving labor productivity and creating new services of companies in Fukuoka city by applying Al.

Our activities are as follows: sharing of AI services and case examples, matching between members, and supporting demonstration experiments. In the forum, we introduce the AI use cases by community members. Fukuoka AI Community management office

Other

Fukuoka Growth Next (Alter Booth, Inc. / Skydisc, Inc.)

2-6-11 Daimyo Chuo-ku, Fukuoka-city, Fukuoka 810-0041

Mail info@growth-next.com

URL https://growth-next.com

Fukuoka Growth Next is a startup support facility leveraging public-private collaboration. It serves as a launchpad for startup companies in Fukuoka City, an up-and-coming destination for global entrepreneurs.

Fukuoka Growth Next contributes to job creation and regional economic development through its support of startup companies and the renewal efforts of established businesses.

With its unique startup support system, Fukuoka Growth Next helps companies to generate new values and advance into the global market.

Othe

FUKUOKA Smart EAST

1-8-1, Tenjin, Chuo-ku, Fukuoka 810-8620 Japan

Mail SmartEAST.HUPB@city.fukuoka.lg.jp

Creating the world's most liveable smart city.

One of the world's most liveable cities is evolving into one of its most advanced.

Fukuoka will bring together cutting-edge technology, innovative thinkers, and sustainable practices to create the largest smart city in Japan. Join us as we develop the future of smart living!

 ${\bf Public\,transportation\,support\,/\,Support\,for\,mobility\,restraint\,/\,Other}$

Fukuoka Special Souvenirs by Fukuoka Convention & Visitors Bureau

2-5-31-4F, Daimyo, Chuo-ku, Fukuoka 810-0041 Japan

Mail shimada@welcome-fukuoka.or.jp

URL https://www.welcome-fukuoka.or.jp/english/

Fukuoka Convention & Visitors Bureau provides "FUKUOKA SPECIAL SOUVENIRS". You could purchase various kinds of local specialties at reasonable prices such as Japanese Traditional Goods, Local Famous Confections, Green Tea, etc.

Please come and touch the Heart of FUKUOKA!!

Other

FUKUYAMA CONSULTANTS CO., LTD.

3-6-18 Hakata-eki, Hakata-ku, Fukuoka City

Mail ir@fukuyamaconsul.co.jp

URL https://www.fukuyamaconsul.co.jp

For the realization of smart city I will introduce the common platform of collaboration between industry, academia and government that is being advanced in Takamatsu city. In addition to introducing the overall picture of the platform, we will also introduce initiatives to analyze the usage dynamics of foreign tourists etc. by GPS logger installed in the rental cycle and lead to the development of facilities. We will also introduce the application to disaster prevention field utilizing this platform. We will also demonstrate pedestrian flow volume observation using image analysis type sensors and introduce various measures proposal initiatives.

Monitoring / Other

Hino Motors, Ltd

3-1-1, Hinodai, Hinoshi, Tokyo 191-8660, Japan

TEL 0120-106-558

URL http://www.hino-global.com

Hino Motors, Ltd., is a company focused on enriching the world for present and future generations by providing means of carrying people and goods safely and efficiently. We provide customers worldwide with products optimally suited to their needs, and we help our customers make the most of their HINO trucks and buses by providing comprehensive follow-up service in the spirit of "Total Support."

IHI Corporation

Mail yoshihisa_yamanouchi@ihi.co.jp

URL http://www.ihi.co.jp/3DLaserRadar/en/products/02.html

Test Case for Incident Simulation (TCIS)

We know that most of the players are struggling to conduct comprehensive testing to verify functionality of AD/ADAS. To comply with this increasing demand, IHI and AZAPA start new service that provides Test Case for Incident Simulation (TCIS). "TCIS" is generated from "Real" incident cases captured by IHI's 3D Laser Rader system and transformed into simulation test case by AZAPA with its model-based development . TCIS enables you to conduct functional safety verification through model based simulation testing on real traffic circumstances.

Public transportation support / Monitoring / Next-gen public transportation

INCREMENT P CORPORATION

Bunkyo Green Court 2-28-10, Honkomagome, Bunkyo-ku, Tokyo 113-0021

Mail HelloASEAN@incrementp.co.jp

URL https://www.incrementp.co.jp/english/

Digital Map of 10 ASEAN Countries.

MapFan in Southeast Asia. Our maps cover a wide range of services from car navigation systems to disaster prevention systems.

We will be showing Pavement Diagnosis Technology utilizes Digital Maps in ASEAN

Mobile/Wearable tool / Digital contents

Infracomms Pte Ltd

18 Boon Lay Way Tradehub 21 #10-163

Mail cs@infracomms.com

URL https://www.infracomms.com

Infracomms is a communication infrastructure supply chain specialist that has many years of experience in supplying and deploying copper connectivity solutions, fiber optics connectivity solution and advanced coverage for indoor and outdoor environment.

Digital contents / Next-gen public transportation / Other

ISUZU MOTORS SALES LTD/ISUZU MOTORS KYUSHU LTD

Shinagawa-ku, Tokyo Minato-Oi 6 - chome No. 26 No. 10mori Bellport A pavilion Fukuoka prefecture Fukuoka city Higashi-ku Higashihama 1 - chome No. 1085

Mail http://www.isuzu-motors-sales.co.jp/contact/index.html

URL http://www.isuzu-motors-sales.co.jp/ • http://www.isuzu-kyusyu.co.jp/

Isuzu Motor Sales / Isuzu Motors Kyushu supports the operation of customers as an automobile comprehensive service company, responds quickly to customer needs, and contributes to logistics in Japan

IT Access Co., Ltd. / ACCESS CO., LTD. / AdaCore

3-17-6, Shinyokohama, Kouhoku-ku Yokohama-shi, Kanagawa, 222-0033, Japan

Mail info@itaccess.co.jp

URL http://www.itaccess.co.jp/company/index-e.html

□Exhibited product ZiFiSense Inc. "ZETA"

'Compared to other LPWAN standards (LoRa, Sigfox, NB-IoT), ZETA, which is the standard of LPWAN (Low Power Wide Area Network) proposed by ZiFiSense, is a technology that is optimal as a communication infrastructure for IoT It has the following features.

Thas the concentry reactives.

Exhibit Product AdaCore

-SPARK is a form verification tool that can be applied to software development where functional safety such as automatic operation is important.

QGen Verifier is a tool created in Simulink and capable of statically checking models and detecting zero percent etc.

QGen CodeCoenerator generates SPARK or C code from Simulink model.

|Product Nil Cyclo.Req

Cyclo.Req is a tool that can examine the specification written in Japanese, perform the behavior inspection while displaying the ambiguity, generating the state transition diagram and the code and executing it.

Public transportation support / Support for mobility restraint / Advanced communication network

ITS Asia-Pacific

2-6-8, Shibakouen, Minatoku, Tokyo

Mail intl@its-jp.org

URL http://itsasia-pacific.com/

ITS Asia-Pacific seeks to facilitate Intelligent Transport Systems (ITS) cooperation and coordination betwee countries/areas in the Asia-Pacific region, taken to mean Asia and Oceania, irrespective of political, industrial, cultural or institutional barriers. ITS Asia-Pacific offers its members opportunities for networking and information-sharing through assistance in the coordination of the region's involvement in the World Congress on ITS, and hosting the ITS Asia-Pacific Forum. ITS Asia-Pacific plays a key facilitation and liaison role for its members within the Asia-Pacific region and with related organisations in other regions. Members are encouraged to develop ITS for application across the Asia-Pacific region and to assist each other with information to enable this.

Memorandum of Understanding Signers; ITS Australia, National ITS Center / ITS Industry Alliance. ITS Chinese-Taipei. ITS Hong Kong, ITS Indonesia. ITS Japan. ITS Korea. ITS Malaysia. ITS New Zealand. ITS Singapore. ITS Thailand

ITS Australia

22/574 Plummer Street

Mail admin@its-australia.com.au

URL https://www.its-australia.com.au

ITS Australia is the nation's largest single gathering of private companies, government agencies and academic institutions dedicated to the research, development, deployment of ITS technologies in Australia. Affiliated with peak ITS organisations globally, ITS Australia is a major contributor to the development of the industry. It promotes the development of advanced technologies to deliver safer, more efficient and environmentally sustainable transport across all public and private modes. Membership offers a range of benefits, the corporate member list at: www.its-australia.com.au

Other

ITS Info-communications Forum

Nittochi Bldg. 11F, 1-4-1 Kasumigaseki Chiyoda-ku Tokyo 100-0013 Japan

Mail its@arib.or.jp

URL https://itsforum.gr.jp/

The ITS Info-communications Forum is an association for R&D. standardizing specifications and promotion of Intelligent Transport Systems(ITS). The forum is made up of nearly one hundred member organizations from government institutions and private companies in various fields.

Automatic driving technology (LV 2-4) / Expanded application of ETC / V2X(inter-vehicle cooperation)

ITS KOREA

31, Seongho-ro, Sangrok-gu, Ansan-si, Gyeonggi-do, Korea, 15327

Mail http://www.itskorea.kr/

URL www.itskorea.kr

ITS KOREA (Intelligent Transport Society of Korea) was established to efficiently implement ITS (Intelligent Transport Systems) and to contribute to the development of ITS fields by promoting mutual cooperation between public and private sectors and conducting various research, policy consultation, technology promotion, and business activities related to ITS

Public transportation support

ITS Singapore

Mailbox No.883160, Singapore 919191

Mail secretary@itssingapore.org.sg

URL http://www.itssingapore.org.sg

ABOUT ITS SINGAPORE
The Intelligent Transportation Society (ITS) Singapore is a non-profit association with the aim to bring together the professional interests of those in public and private organizations, practitioners, academics and researchers related to ITS, and create opportunities for networking and interaction. Its missions are: To promote & support the development of the ITS Industry in the interests of Singapore * To represent Singapore and support the activities & interests of the STA P& ITS WC entities * To champion, promote & protect the interests of companies, business organizations, educational and research institutions, firms, partnerships & other entities legally organized for ITS business in Singapore * To act as the advisory, consultative & coordinating body for the ITS Industry, * To promote, organize, manage & stage seminars, conferences, exhibitions & other events relevant to the ITS Industry, * Please visit www.itssingapore.org.sg for more information.

At the ITS Asia Pacific Forum 2018, we have with us a few key partners from Singapore at the Singapore Pavilion. They are: FUR Systems Co. Ltd.

Quantum Inventions Pec Ltd.

Public transportation support / Next-gen public transportation / Other

ITS Taiwan

10F.-1, No. 95, Sec. 3, Roosevelt Rd., Taipei 10646, Taiwan

Mail secretariat@its-taiwan.org.tw

URL http://www.its-taiwan.org.tw

Intelligent Transportation Society of Taiwan (ITS Taiwan) was established in 1998. We are a Non-profit Organization (NPO) and as a bridge of communication between the industry and the government.

Exhibitors: Department of Transportation, Taipei City Government Taiwan High Speed Rail Corporation Chunghwa Telecom Acer ITS Inc.

Institute for Information Industry

Public transportation support / Monitoring / Digital contents

JAPAN MAYDAY SERVICE CO., LTD

3-21-13-5F, Akasaka, Minato-ku, Tokyo, 107-0052, Japan

Mail helpnet@helpnet.co.ip

URL http://www.helpnet.co.jp/

JAPAN MAYDAY SERVICE CO., LTD. provides HELPNET service with the aim of helping to reduce the number of traffic fatalities.

Emergency notification data received from the vehicle (location, accident conditions, vehicle information, etc.) is transmitted directly to the fire and police departments' command centers. HELPNET, fire and police department operators each see the display, and can confirm the location and conditions of the accident. Communication time can therefore be reduced significantly compared to verbal information only.

JTEKT Corporation

3-5-8, Minamisemba Chuo-ku, Osaka 542-8502, JAPAN

Mail senri_kawasaki@jtekt.co.jp

URL https://www.jtekt.co.jp/e/

JTEKT showcase technologies related to autonomous driving and steering system For autonomous driving technology, you can also experience by our demostration as technical visit, ""right move control" which minimizes the gap between the bus stop and the bus step so that passengers can get on and off smoothly with wheelchair and stroller etc. <Outline of exhibition>

- ① Technical visit (Demonstration of autonomous driving bus with right move control)
- 2 ADAS related technology (Actuator)
- ③ Steering related technology (EPS)④ Future technology exhibition (SBW etc.)

Automatic driving technology (LV 2-4) / Next-gen public transportation / Driver support program

Kyudenko Corporation

1-23-35 Nanokawa, Minamiku, Fukuoka city, 815-0081 JAPAN

URL http://www.kyudenko.co.jp/english/index.html

In 1944, Kyudenko was founded as an electric construction company for distribution lines and indoor lines.

In 1964, we expanded our business to air conditioning equipment construction work ahead of the whole country.

To the present, according to changes in the times, we are working to diversify our business into growth fields such as environmental equipment, energy efficiency improvement, information communication, renewal.

Kyushu Economic Research Center

2-1-82 Denki Building Kyosokan, Watanabe-dori, Chuo-ku, Fukuoka City, Fukuoka

Mail general@kerc.or.jp

URL http://www.kerc.or.jp/about/eng.html

Kyushu Economic Research Center was established in 1946 with the cooperation of industry-academia-government with the purpose to contribute to the nation's development. We conduct research and studies, create policies and conduct operations related to the economic industry in Kyushu, Okinawa, and Yamaguchi region.

For a long time, survey studies, research reports and publications related to the economic society

have been utilized as a "production of wisdom" for regional reconstructions. The "accumulation of wisdom" of economic resources collected from within and outside of Japan; the "exchange of wisdom" by holding lectures and seminars. We provide a variety of services and activities as a rare information hub of western Japan with the combination of 3 functions.

Public transportation support

KYUSHU ELECTRIC POWER CO., INC.

1-82, Watanabe-dori 2-chome, Chuo-ku, Fukuoka

URL http://www.kyuden.co.jp/en_investq.html

KYUSHU ELECTRIC POWER CO., INC. is a power company based on the

We are also developing overseas energy business by utilizing all of our accumulated technologies.

We hold out the brand message of "We brighten up both now and the future" and aim to become a company that can provide top energy services in Japan.

Kyushu Railway Company

3-25-21 Hakata-ekimae, Hakata-ku, Fukuoka 812-8566, Japan

Mail abe.sh@jrkyushu.co.jp

URL http://www.jrkyushu.co.jp

We have since fostered a sense of trust in the residents of Kyushu through our railway business, with its network of railways reaching across the Kyushu area. Based on this trust, we have built up a variety of businesses along our rail lines, through which we work to create a virtuous cycle promoting further use of our railways. Specifically, the Group handles transportation, real estate, retail and restaurant, and construction businesses in addition to the railway business. We actively promote the construction of robust railways and city-building through a variety of businesses.

Ministry of Land, Infrastructure, Transport and Tourism Kyushu Regional Development Bureau

2-10-7, Hakataekihigashi, Hakata-ku, Fukuoka-shi, Fukuoka, 812-0013

URL http://www.qsr.mlit.go.jp/n-michi/

ETC 2.0 users can receive a variety of services including traffic congestion avoidance support and safe driving support through realtime distribution of wide area traffic information, temporary exits at ""Michi-no-Eki" roadside stations, automatic toll collection and more. In addition, we are also working on utilizing a diverse range of detailed big data, including road traffic information, travel history, route information, and more, to determine passable routes in the event of disasters and ensure safe community

roads.

The average age of the population continues to increase in rural regions, and field operational tests of automated driving services are being held at 13 locations throughout the country starting September 2017, based in "Michi-no-Eki" roadside stations and other locations, in order to ensure the continued and safe flow of people and goods.

Automatic driving technology (LV 2-4) / Expanded application of ETC

Ministry of Economy, Trade and Industry (METI)

1-3-1 Kasumigaseki, Chiyoda-ku, Tokyo

Mail shibahara-kensuke@meti.go.jp

URL http://www.meti.go.jp/english/index.html

METI's mission is to develop Japan's economy and industry by focusing on promoting economic vitality in private companies and smoothly advancing external economic relationships, and to secure stable and efficient supply of energy and mineral resources.

Public transportation support / Automatic driving technology / Next-gen public transportation

Mitsubishi Heavy Industries Machinery Systems, Ltd.

1-1, Wadasaki-cho 1-chome, Hyogo-ku, Kobe 652-8585 Japan

URL http://www.mhims.co.jp/en/index.html

Mitsubishi Heavy Industries Machinery Systems, Ltd. has been providing ITS products and solutions for more than an half century. Our rich experiences and knowledge bring you an absolute satiscation to your transportation environment. Please vist our booth for more information including RFID tag solutions, Multi-Lane Free Flow tolling, Electronic Road Pricing and more.

Public transportation support / Monitoring / Other

Mobile Mark, Inc.

1140 W. Thorndale Ave. Itasca, IL 60143, USA

Mail info@mobilemark.com

URL https://www.mobilemark.com/

Mobile Mark, Inc. is a leading supplier of communication antennas to markets throughout the world, with a well-established track record of offering innovative designs, quality manufacturing, and reliable performance. Mobile Mark offers antennas from 138 MHz to 9 GHz. Applications include GPS, WiFi, 3G Cellular GSM/CDMA, 4G LTE, LTE-A, XLTE, ISM, UHF, and RFID.

 ${\bf Next\text{-}gen\ public\ transportation\ /\ Advanced\ communication\ network\ /\ Other}$

Murata Manufacturing Co., Ltd.

1-10-1, Higashikotari, Nagaokakyo-shi, Kyoto Prefecture 617-8555, Japan

Mail miyamoto@murata.com

URL https://www.murata.com

Murata shows the multipurpose traffic counter (MTC) prototype. Some MTCs are under field test in Indonesia and Thailand.
MTC on traffic signal or traffic sign provides various kind of information on road; real time

MTC on traffic signal or traffic sign provides various kind of information on road; real time vehicle flow and speed by each lane, some kind of environmental data like CO2/ barometric pressure.

MTC enables easy installation and low cost operation by original wireless mesh network and optimized sensing algorism.

Aggregated data by MTC is stored to cloud server for customer's easy access and is usable for smart traffic management/ vehicle flow monitoring/ navigation and so on.

Public transportation support / Monitoring / Other

Nichibei Denshi Co.Ltd.

1-3-10 Omiya Chuo-ku, Fukuoka city, Fukuoka-ken, 810-0013

URL http://www.nbdenshi.co.jp

On January 2001, we developed and introduced a system to control the performance of the limousine buses which run to and from between Narita Airport / Haneda Airport and each destination 1200 per day. And also we provided the service of delivering the time required for each bus to arrive at its destination to hotels and waiting lobbies and so on.

Furthermore, on October 2004, we developed and introduced a system to control the performance of the ramp buses within Haneda Airport area. We utilize it as a tool of giving secure instructions toward spots to allocate ramp buses by linking the spot information with the instruction from the manager.

Nimoca Co., Ltd.

Fukuoka Bldg. 7F, 1-11-17, Tenjin, Chuo-ku, Fukuoka, 810-0001, Japan

URL https://www.nimoca.jp/

Transportation IC card "nimoca" was born in May 2008. nimoca is very popular as a card that make cashless society and can be used speedily in every scene of life such as bus, train, shopping, etc. In addition, due to the nationwide mutual use service that started in March 2013, nimoca has grown into a card that can be used in all over Japan, such as traveling on business trips and shopping at travel destinations. With the diversification of smart cards, we will always strive to improve customer convenience by taking the customer's point of view and aim to make it an attractive card that you can feel like "I'm glad I' ve had nimoca.".

NIPPON SIGNAL CO.,LTD

1-5-1, Marunouchi, Chiyoda-ku, Tokyo 100-6513, Japan

Mail info@signal.co.jp

URL http://www.signal.co.jp/english/

In Japan, the transportation technology is highly developed, like Shinkansen running at the highest speed in the world, a urban railway networks with the world's highest density schedule and road transport networks

stretched all over the country from ordinary roads to expressways.

Nippon Signal develops and provides equipment and devices supporting the safety of the infrastructure

and realizing comfortable movement of people and vehicles.

We believe that road-to-vehicle cooperation is the essential for upgrading automatic operation and establishing safety.

We will realize it by combining our traffic control system, communication equipment, sensor technology and

know-how, so that we can continue to contribute to the practical realization of Automatic driving techni-

Public transportation support / V2X(inter-vehicle cooperation) / Other

NTT Communications Corporation

1-1-6 Uchisaiwai-cho, Chiyoda-ku, Tokyo 100-8019, Japan

Mail https://www.ntt.com/en/contact.html

URL https://www.ntt.com/en/index.html

NTT Communications has established a strong reputation in Asia as a network

Emphasizing rapidly expanding markets in Asia with proactive initiatives, we provide seamlessly connected services at home and abroad for Asian companies that are operating internationally as well as U.S.and European conpanies that are expanding their business in Asia.

We provides ICT solutions with a Japanese commitment to quality to help global companies execute their growth strategies.

Advanced communication network / Other

NTT DATA Corporation

Toyosu Center Building, 3-3, Toyosu 3-chome, Koto-ku, Tokyo 135-6033, Japan

Mail its2018fukuoka@kits.nttdata.co.jp

URL http://www.nttdata.com/

< Automated Driving > Through joint research and POC (Proof Of Concept) with Gunma University, NTT DATA considers convenient new functions and services for an automated driving society and provides local governments and others with optimal public transportation services. <Drone>airpalette UTM (UAS Traffic Management) is a software package that supports the management and operation of drones based on the principles of safety, security, and risk management

Automatic driving technology (LV 2-4) / Next-gen public transportation / Driver support program

NTT DOCOMO, INC.

Sanno Park Tower 2-11-1 Nagatacho, Chiyoda-ku, Tokyo 100-6150 Japan

Mail ai_bus@nttdocomo.com

URL https://www.nttdocomo.co.jp/english/

■Predicting populations of present and future
By using population statistics inferred from NTT DOCOMO's mobile network and the
spatio-temporal variable online prediction technology of corevo?, spatial-temporal influence
patterns can be learned from time-series data of population statistics and the current numbers of persons in area throughout Japan can be predicted a few hours ahead. ■AI Bus™

It is a new transportation system that combines the advantages of a taxi (demand type) and a route bus (share type).

In response to the demands from the smartphone application, Al calculates and operates the vehicles and the pick-up order which are optimal from multiple vehicles.

Public transportation support / Smartphone Apps / Next-gen public transportation

OPTIM Corporation

Shiodome Building 21F 1-2-20 Kaigan, Minato-ku, Tokyo, 105-0022 Japan

Mail info@optim.co.jp

URL https://en.optim.co.jp

Under the concept of "We make the Net as simple as breathing," OPTiM sets its mission to change the situation that certain IT literacy is still required to use the Internet as indispensable infrastructure, and to make the Net itself as the air that you do not even notice using it. Since the day of our establishment, we engage in developing products that everyone can enjoy creativity and convenience the Internet brings. We are working on AI and IoT technologies into various industries at the Fourth Industrial Revolution now.

Smartphone Apps / Mobile, Wearable tool / Digital contents

Pasona Tech, Inc.

2-6-2 Otemachi, Chiyoda-ku, Tokyo 100-8228

Mail recruit@pasonatech.co.jp

URL https://www.pasonatech.co.jp

Pasona Tech Inc. create the opportunities of self-fulfillment for each engineer toward the realization of our vision, "HUMANWARE® changes the world". We support various types of work style can select flexibly corresponding to changes of life style or life cycle by offering many career development programs to acquire the skill of new technologies. We also develop new work styles for future engineers can chose the time or place freely. Let's realize your careers and dreams with us together!

Smartphone Apps / Other

PS Solutions Corp.

Higashi Shimbashi 1-5-2, Minato-ku, Tokyo Tokyo 105-7108

Mail pssolgrp-pr@g.softbank.co.jp

URL https://en.pssol.co.jp/

As EV spreads, charging environments are required to be able to respond flexibly to various lifestyles and usage scenes. At this booth, we will exhibit its mounting technology based on the viewpoint that services will be expanded by grasping the information of the last one mile of energy as to what to use and how much energy was used.

Public transportation support / Transportation IC card / Advanced communication network

PTV GROUP

11F, 1-22-9, Dogenzaka, Shibuya, Tokyo 150-0043

Mail info.jp@ptvgroup.com

URL https://www.ptvgroup.com

PTV Group improves mobility and transport by using world-class software, data and scientific know-how gained from four decades of experience in planning and optimizing the movement of people and goods.

PTV Vision software which is one of our products is used to solve traffic problems and plan public transportation around the world. Our headquarters have been located in Karlsruhe, Germany since the company was founded in 1979. We currently have more than 700 colleagues worldwide committed to driving the high performance of our products and its selling.

Public transportation support / Next-gen public transportation / Driver support program

QTnet, Inc.

1-12-20 Tenjin, Chuo-ku, Fukuoka, 810-0001 JAPAN

Mail info@qtnet.co.jp

URL http://www.qtnet.co.jp/

QTnet is a telecommunications carrier of the Kyushu Electric Power Group, which provides information and communication services mainly in Kyushu. We provide BBIQ: FTTH service and QTmobile: mobile service for consumers, and network solution service: QTPro for local governments and enterprises.

We have newly established ""IoT/AI Product Reception Desk"" from this April. We want to become a company, which enrich the local people's lives by ICT.

Public transportation support / Monitoring

Road & Sewerage Bureau, Fukuoka City Government

1-8-1, Tenjin, Chuo-ku, Fukuoka-shi, Fukuoka 810-8620 JAPAN

Mail Survey of Under-the-Road Cavity, Fukuoka City doroiji.RSB@city.fukuoka.lg.jp Hydrogen Leader City Project, Fukuoka City gesuikeikaku.RSB@city.fukuoka.lg.jp

URL www.city.fukuoka.lg.jp/doro-gesuido/

Survey of Under-the-Road Cavity, Fukuoka City: Since 1994, we have been conducting a survey of under-the-road cavities using radar technology, etc. for the early detection and repair of cavities which may cause road collapse.

Also, promoting collaborative research with the University of Tokyo since 2015 on mechanism of cavitation occurrence and effective investigation and repair.

Hydrogen Leader City Project, Fukuoka City: We have demonstrated "Technology to build a facility to produce high purity hydrogen from sewage biogas and filling fuel cell vehicles (FCVs)" since 2014.

Other

SAIBU GAS CO.,LTD.

1-17-1, Chiyo, Hakata = ku, Fukuoka City, Japan

URL http://www.saibugas.co.jp/e/

We are delivering city gas to approximately 1.1 million customers as a lifeline necessary for our lives.

We continue to promote the gas energy business, centering on city gas, and also focus on expanding businesses other than gas energy, we are promoting diversification and toughening of our business structure.

Seiko IT Solution Co., Ltd.

For the global logistics companies, We provide cloud service such as container inventory control in the container terminal, and cargo management of import/export for shipping companies.

They have been used widely in domestic and foreign countries. We have started smartification using IoT for recognition of damaged container, location management of a chassis and leading the truck in the container yard.

Monitoring / Smartphone Apps / Next gen fuel vehicles

Taiwan High Speed Rail Corporation

13F., No. 66, Jingmao 2nd Rd., Nangang District, Taipei 11568, Taiwan

Mail PAO_Corporate_MBOX@thsrc.com.tw

URL http://www.thsrc.com.tw/tw/Home/Index

Taiwan High Speed Rail Corporation (THSRC) has successfully started its 11th year of operation. With its 12 stations from Nangang to Zuoying, the entire Taiwan west corridor is now linked, making one-day commute time a dream come true.

THSRC will continue enhancing our skills and upgrading expertise to make us a leader in the Taiwan rail industry, with the ultimate goal of achieving "People's HSR, sustainable development".

Public transportation support

The Bank of Fukuoka,Ltd.

13-1,Tenjin 2chome,Chuo-ku,Fukuoka

URL https://www.fukuokabank.co.jp/

The Bank of Fukuoka hold out a brand slogan "Your best partner." We will boost customers' best choices.

We aim to become a state-of-the-art financial institution that is most familiar to customers and be most reliable.

The Fifth Generation Mobile Communications Promotion Forum (5GMF)

Nittochi Bldg. 1-4-1 Kasumigaseki, Chiyoda-ku, Tokyo 100-0013 JAPAN

Mail contacts@5gmf.jp

URL https://5gmf.jp/en/

The Fifth Generation Mobile Communications Promotion Forum (5GMF) has been conducting activities on R&D concerning 5G Mobile Communications System aimed at the early realization, and contributing to the sound development of the 5G Eco-Society.

Monitoring / V2X(inter-vehicle cooperation) / Advanced communication network

THE NISHI - NIPPON CITY BANK. LTD

1-1, Hakataku-ekimae 3-chome, Hakata-ku, Fukuoka, Japan

URL http://www.ncbank.co.jp

We have a good heart to customers and propose the best answers. We would like to be a partner of your life and be a supporter of your business.

We will continue to challenge with the aim of "Regional Finance Group of Comprehensive Power No. 1".

Tokai-denshi Inc.

247-15, Atsuhara, Fuji-shi, Shizuoka

Mail infomail@tokai-denshi.co.jp

URL http://www.tokai-denshi.com/english/index.html

Our business description: Production, Sales, and Service of Alcohol Breathalyzers for professional

- 16,600 corporate customers in the public transportation and transportation industries
- Our product, the ALC-PROII(US) is DOT certified
- We have 25 instructors of ASK, a Japanese NPO to prevent Alcohol problems

Public transportation support / Driver physical condition management / Driver support program

TOKYO BAR ASSOCIATION LEGAL SERVICE JOINT CETER AI DEPARTMENT

6F, 1-1-3, Kasumigaseki, Chiyoda, Tokyo 100-0013

Mail shigeyama@toben.or.jp

URL https://www.toben.or.jp/

Legal Liablity of Autonomous Driving Car Accidents in Japan

Other

TomTom

De Ruyterkade 154, 1011 AC Amsterdam

Mail Phil.Allen@tomtom.com

URL https://www.tomtommaps.com/

TomTom created the easy-to-use navigation device, one of the most influential inventions of all time

Since then, our software and navigation technologies have been powering over hundreds of millions of applications across the globe. From industry-leading location-based products and mapmaking technologies, to embedded automotive navigation solutions; innovative portable navigation devices and apps to advanced telematics fleet management and connected car services. We continue to shape the future, leading the way with autonomous driving, smart mobility and smarter cities. www.tomtom.com

Automatic driving technology (LV 2-4) / Next-gen public transportation / highly accurate three-dimensional map

Toshiba Infrastructure Systems & Solutions Corporation

72-34, Horikawa-cho, Saiwai-ku, Kawasaki-shi, Kanagawa

Mail https://www.webcom.toshiba.co.jp/cs/en/form e.php

URL http://www.toshiba.co.jp/cs/en/index.htm

Currently, various problems, such as rapid population growth and urbanization in emerging countries, aging infrastructure in advanced countries, and climate change due to global warming, are apparent in our surroundings and need to be solved quickly. To shiba Infrastructure Systems & Solutions Corporation aim to realize a sustainable society that is safe, secure and reliable, as well as to improve customer value through our solutions for social and industrial infrastructure, buildings and facilities.

Monitoring / Smartphone Apps / Next gen fuel vehicles

Toyota Tsusho Corporation

2-3-13, Konan, Minato-ku, Tokyo 108-8208 Japan

Mail taichi_nagakubo@toyota-tsusho.com

URL http://www.toyota-tsusho.com/english/

Toyota Tsusho was established in 1948. As the Toyota Group's sole general trading company, we gather information and promote the development of new business from a global perspective. As automotive professionals with unique capabilities and know-how, we strive to lead the Toyota Group in the challenge to develop the evolution of next-generation mobility to contribute to the development of both society and the Toyota Group.

Driver support program / Other

TRIART, Inc.

680-41 CIRD, Kawazu, Iizuka-shi, Fukuoka 820-0067

URL https://triart.co.jp

Smart CAN cable, Another proposal of intrusion prevention system (IPS) for in-vehicle networks (Lac) / Automonous cooperative control system applied with P2P and blockchain technology for smart devices.

 $Automatic \ driving \ technology \ (LV \ 2-4) \ / \ V2X (inter-vehicle \ cooperation) \ / \ Advanced \ communication \ network$

Vehicle Information and Communication System Center (VICS Center)

Nittochi Kyobashi Bldg.,8F, 2-5-7 Kyobashi, Chuo-ku, Tokyo

Mail n-miyamoto@vics.or.jp

URL http://www.vics.or.jp/en/

VICS is an innovative information and communication system, enables you to receive real-time road traffic information about congestion and regulation, This information is edited and processed by Vehicle Information and Communication System Center, and shown on the navigation screen by text or graphical form. You can receive information 24 hours a day, everyday.

Public transportation support / V2X(inter-vehicle cooperation)

Weathernews Inc

1-3 Nakase Mihama-ku Chiba-city

Mail kawahata@wni.com

URL https://global.weathernews.com/

Weathernews is weather forecast private company. We service 44 B to B market. Main market is transportation (Aviation , Road Railway)

Our Introduction detail is latest original observation technology , service for Road maintenance.

Monitoring / Other

West Nippon Expressway Engineering Chugoku Co., Ltd.

2-1 Nishikanon-machi, Nishi-ku, Hiroshima Japan 733-0037

Mail tenjikai@w-e-chugoku.co.jp

URL http://www.w-e-chugoku.co.jp/en/

West Nippon Expressway Engineering Chugoku Co., Ltd. is a member of the NEXCO-West Group, specializing in the maintenance and management of the expressways in the Chugoku Region.

[Road Surface Evaluation System using the Road Management Images] The Road Management Images are continuous still images used to grasp the situation of the road surface and the roadside. The condition of the road (road surface, etc.) and facilities (signs, etc.) can be grasped without going to the actual site. In addition, the designated viewer (License-free) is easy to operate.

Public transportation support / Expanded application of ETC / Other

West Nippon Expressway Engineering Shikoku Company Limited

3-1-1 Hanazono-cho, Takamatsu-shi, Kagawa 760-0072 Japan

Mail info.seihin@w-e-shikoku.co.jp

West Nippon Expressway Engineering Shikoku Company Limited is a group subsidiary of West Nippon Expressway Co., Ltd., which is engaged in the construction and operation of expressways, conducting inspections, maintenance and repair work in Shikoku area.

We are constantly striving to secure safety, comfort, punctuality and reliability, improve the environment, and so on, so that more people can use the

West Nippon Expressway Engineering Shikoku Co., Ltd. supports highways with human technology and creates a brilliant future for people and the region.

West Nippon Expressway Facilities Company Ltd.

1-6 Higashityujyo-cho, Ibaraki-city Osaka 567-0885 Japan

Mail product-info@w-nexco-fct.co.jp

URL http://www.w-nexco-fct.co.jp/

Overload vehicles that cause serious accidents generate deflection and rut on the road surface and

bridge.
Since these have a bad effect roads and vehicle traveling, this "Moving-vehicle weighing system" instantaneously measures the weight of the vehicle and prompts warning and exit when the overload

vehicle enters the expressway. Due to the spread of ETC, the number of vehicles passing through the tollgate at high speed is increasing, but this device can measure the exact axle load and gross weight of the high-speed running vehicle.

It instantaneously processes the information and alert the drivers by an instruction warning sign board. We can make a database of the collected information and utilize for regulation and road management.

Public transportation support / Other

Yazaki Energy System Corporation

1 Chome-7-1 Yokoi, Shimada-shi, Shizuoka, 427-0024

Mail mitsuhiro.fuiita.mf@ip.vazaki.com

URL http://www.yazaki-keiso.com/

The Road Management Images are continuous still images used to grasp the situation of the road surface and the roadside. The condition of the road (road surface, etc.) and facilities (signs, etc.) can be grasped without going to the actual site. In addition, the designated viewer (License-free) is easy to operate."

+ Hybrid-type Digital Tachograph "DTG7" DTG7 which contains a unique image recognition engine that will alert a driver when its camera finds a hazard or aberrance. It supports you for the ultimate preventive safety DTG-integrated Drive recorder.

•iQsan (telematics for foreign countries that utilized an RFID technology)

We develop telematics service in Thailand.By a system for foreign countries corresponding to the Cross

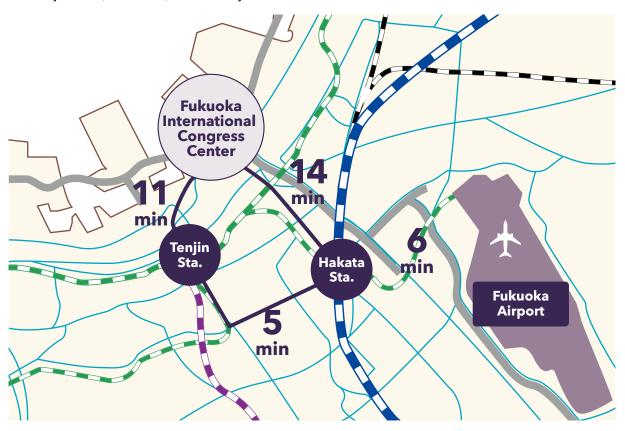
Border Logistics, the total management of a person, a car, the thing is possible by the interlocking

movement with the palette with a built-in RFID tag.

Public transportation support / Monitoring / Driver support program

Access to the Venue

Fukuoka International Congress Center 2-1 Sekijo-machi, Hakata-ku, Fukuoka City 812-0032



Bus Access Guide



Free Shuttle Bus

Free Shuttle Buses will run on May 8th only.

■ Free Shuttle Bus (Fukuoka International Congress Center — Hakata Station/ Nishitetsu Grand Hotel)

F	rom Haka Tsukus	ata Statio hi Gate	on	Gra	From Ni nd Hotel	shitetsu (Tenjin A	ırea)	Interna		ukuoka ongress	Center	From Fukuoka International Congress Center				
Interna	For Fukuoka national Congress Center			Interna	For Fu ational C	ıkuoka ongress	Center	Sta		lakata Ikushi G	ate	For Nishitetsu Grand Hotel(Tenjin Area)				
6				6				6				6				
7		30	50	7	30	50		7				7				
8	10	30	50	8	10	30	50	8				8				
9	10	30	50	9	10	30	50	9				9				
10	10	30	50	10	10	30	50	10				10				
11	10	30		11	10	30		11				11				
12	00	30		12	00	30		12	00	30		12	00	30		
13	30			13	30			13	00	30		13	00	30		
14	00	30		14	00	30		14	00	30		14	00	30		
15	00			15	00			15	00	30		15	00	30		
16				16				16	00	30		16	00	30		
17				17				17	00	30		17	00	30		
18				18				18	00			18	00			
19				19				19				19				

Free Airport Shuttle Bus

May 8 th											
From International Congress Center to Fukuoka Airport (Domestic)	From Fukuoka Airport(Domestic) to International Congress Center										
12:40	13:10										
13:25	13:55										
14:10	14:40										
14:55	15:25										
15:40	16:10										
16:25	16:55										

May 9 th											
From International Congress Center to Fukuoka Airport (Domestic)	From Fukuoka Airport(Domestic) to International Congress Center										
8:40	9:10										
9:25	9:55										
10:10	10:40										
10:55	11:25										
11:40	12:10										
12:40	13:10										
13:25	13:55										
14:10	14:40										
14:55	15:25										
15:40	16:10										
16:25	16:55										

May 10 th											
From International Congress Center to Fukuoka Airport (Domestic)	From Fukuoka Airport(Domestic) to International Congress Center										
8:40	9:10										
9:25	9:55										
10:10	10:40										
10:55	11:25										
11:40	12:10										

Access to the Venue

Public Bus

You can take a public bus by Nimoca Card. (Refer to page 45)

■ Hakata Station → Fukuoka International Congress Center Fee: JPY 230 Duration: 15 min



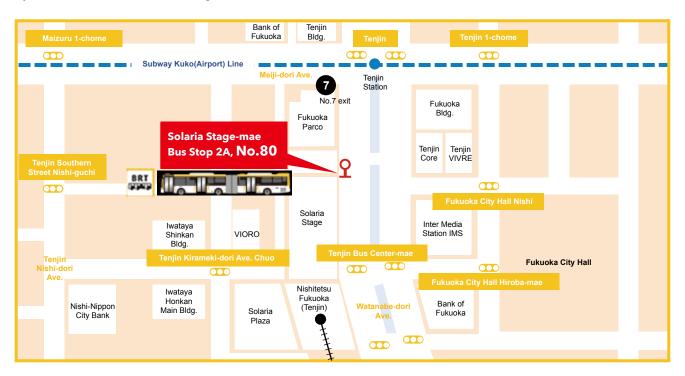
From Hakata Sta. Nishi-Nippon City Bank F (Weekday)														
For			Chuc	Futo			Chuo Futo							
Via		Fukuoka Ir / Ma		nal Congr se-mae (L		Gofuku-machi/ Kuramoto / Fukuoka International Congress Center (Rapid)								
Bus No.			8	8		BRT								
5														
6														
7	04	11	25	37		50 52 57					40			
8	04 07	11 13 18	25		40	50	00		20			50		
9	06	15		31 32					20		40			
10		10	25				00		20		40			
11	09		27					10			40			
12	09		27				00		20		40			
13	09		27				00		20		40			
14	08			33		54		10			40			
15			22		42		00		20		40			
16	02 04	17		32	42	51 52	00		20		40			
17		15	27	33	42	51 52		10		30		50		
18		12	20	35		56 58 58		10			40			
19			24	30	44 48 49			10						
20			26											
21														
22														

Access to the Venue

Public Bus

You can take a public bus by Nimoca Card. (Refer to page 45)

■Tenjin → Fukuoka International Congress Center Fee: JPY 190 Duration: 15min



From Tenjin Solaria Stage (2) (Weekday)																		
For	Chuo Futo Cruisecenter							Chuo Futo					Chuo Futo					
Via	Fukuoka International Congress Center / Marine Messe-mae/ Chuo Futo (Local)					Fukuoka International Congress Center / Marine Messe-mae (Local)						Fukuoka International Congress Center / Marine Messe-mae (Rapid)						
Bus No.	5 No. 80					80								ВІ	RT			
5																		
6							04			30	40							
7							04	18	26			56					40	40
8			20					10		30	45		00		20			40
9	00					52	01			37				10		30	40	
10						56						55	00		20		40	40
11					48							55	00		20		40	40
12						58		18				55	00			30	40	
13					48							55	00		20		40	40
14									29				00		20		40	40
15		11				50					40	55	00			30	40	
16					46							54 55	00		20		40	40
17									22			55	00		20			40
18							02			31			00			30	40	
19									27			50	00			30		
20										32								
21									22									
22																		



May 8-10, 2018