



EAI International Conference on

***INTELLIGENT TRANSPORT SYSTEMS –  
FROM RESEARCH AND DEVELOPMENT TO  
THE MARKET UPTAKE***

***INTSYS 2017***

29<sup>TH</sup> NOVEMBER – 1<sup>ST</sup> DECEMBER 2017 | HYVINKAA, FINLAND



## Welcome Message

It is my pleasure to welcome you all to INTSYS 2017 – “Intelligent Transport Systems – From research and development to the market uptake” held in Hyvinkää, Finland from 29 to 30 November 2017. INTSYS 2017 is a co-located scientific event of the SmartCity 360° Summit that will be held in the same city from 29 November to 1 December 2017.

Intelligent Transport Systems (ITS) are vital to increase efficiency, safety, mobility and tackle Europe's growing carbon emission and traffic congestion problems. They can make transport safer, more efficient and more sustainable by applying information and communication technologies to all and across modes of transport. Moreover, the integration of existing technologies can create new services.

The full potential of ITS can only be achieved if deployed worldwide. Research has a major role to play in developing and deploying key ITS technologies, and contributing to standardisation, interoperability between transport modes and countries, and cross-border continuity of services.

On the other hand, ITS deployment also faces some barriers, only some of which are technological. Deployment costs, funding restrictions that hamper facilitating investments, privacy and liability concerns, uncertain demand, and lack of legislation have limited the rollout of ITS implementation in a number of cases.

Limited communication or too ‘technical’ communication on the benefits of new technologies to policy makers who make decisions about whether to invest in new technology development can also be an obstacle for faster deployment of ITS. Policy makers, at all levels, need a clear description of the benefits of new technologies including cost-benefit analyses that would enable them to compare traditional solutions with the new ones.

Lack of or insufficient cooperation between research and industrial sectors is another aspect, which is slowing down the uptake of research results by a market. Not always research results are likely to be deployable in the short or even medium term, but this is not always understood by business actors who wants to see results from their investments in ITS quickly.

The objective of the conference is to twofold:

- to enable researchers in ITS to share their achievements and findings in different areas of Intelligent Transport Systems.
- to bring together the relevant ITS stakeholders and to address the following questions:
  - What role has research and end users in developing ITS solutions?
  - How to maximise the use of research outcomes by industry?

INTSYS 2017 could happen thanks to the commitment of the team of the ERAciate project (Enhancing Research and innovAtion dimension of the University of Zilina in intelligent transport systems, <http://www.erachair.uniza.sk>) which is funded

from the European Union's Seventh Framework Programme under grant agreement 621386.

In organizing INTSYS 2017, I was delighted to work with a dedicated team whose efforts ensured a strong two-day programme. I am grateful to the TPC Chair Dr. Ghadir Pourhashem and the TPC Co-Chair, Dr Giuseppe Lugano from the ERA Chair project ERAdiate at the University of Zilina, Slovakia. Thanks to their efforts, INTSYS 2017 has a rich and focused technical programme with 5 keynote speeches, 3 invited talks and 29 regular papers. My sincere thanks go to Prof. Imrich Chlamtac, the Steering Committee Chair and the President of the European Alliance for Innovation and Prof. Adrian Boukalov, the Chair of the Smart City 360° Summit for their support and collaboration in making the programme of the both events appealing.

INTSYS 2017 boasts five outstanding Keynote speakers. We are fortunate to have Prof. Michael Schreckenberg from the University of Duisburg-Essen in Germany, who will talk about the role different players in the ITS value chain. Professor emeritus Dr. Lorna Uden from UK will focus on a design of an effective ITS and present a model for designing Intelligent Transport Systems for users' experiences that meets the needs and values of the different users. Mr. Martin Russ, Managing Director of AustriaTech will introduce an interesting and inspiring initiative - the Austrian Urban Mobility Labs (UML). Dr. Floridea Di Ciommo from cambiaMO in Spain will demonstrate how relevant is to combine ITS data analysis with people needs, preferences and choices: this approach allows identifying travel behavior frameworks supporting transport planners and policy makers to direct their interventions to empower people accomplishing their needs. Last, but not least, Dr. Uwe Reiter from PTV in Germany will guide the participants through tools, techniques and methods for future planning of transport systems and services.

In the INTSYS 2017 Industrial track, I am very happy to have three sound speakers, Mr. Jarkko Jaakkola from MaaS Global in Finland, Dr. Martin Nemčik from the Škoda company in the Czech Republic, Mr. Harri Paloheimo from CoReorient in Finland and Ms. Piia Karjalainen, Senior Manager, MaaS Alliance / ERTICO - ITS Europe

My sincere appreciation goes also to the committed members of the Technical Programme Committee, who carefully reviewed the papers submitted to INTSYS 2017. The twenty-nine accepted papers are organised in six thematic sessions:

- Planning for Sustainable Transport and Smart Cities
- Intelligent Rail Transport Systems
- Transport Modelling and Simulation & Big Data Application
- ITS Safety and Security
- Cooperative ITS and Autonomous Driving
- Intelligent traffic management

INTSYS 2017 has only been possible thanks to the strong collaboration of the organisational team. I thank the Web Chair Samia Ait Zaoucheova, the Publicity and Social Media Chairs Dr. Veronika Sramova and Dr. Anna Zavodska, all from the University of Zilina and Nathalie Lugano from the ERA Chair project ERAdiate at the University of Zilina. I am also grateful to the Steering Committee members Prof. Milan Dado, the ERAdiate coordinator at the University of Zilina and Assoc. Prof. Dagmar Cagáňová from the Slovak University of Technology in Bratislava, Slovakia for their support to the conference. Finally yet importantly, thanks go to the conference manager Lenka Bilská from European Alliance for Innovation for the support in organising INTSYS 2017 and Lenka Kalusova from the University of Zilina for her support during the conference.

I thank all the authors and speakers for their contributions and the attendees for their participation. I believe you will all have intellectually stimulating discussions and you will enjoy your time in Hyvinkää.



Prof. Tatiana Kovacikova  
INTSYS General Chair  
ERA Chair Holder for Intelligent Transport Systems  
University of Zilina, Slovakia





## MICHAEL SCHRECKENBERG

**Title:** Traffic research between science and application

### Abstract

Over a long period traffic research has not been in the central focus of science. The developments were mainly driven by car manufacturers. This situation is now changing rapidly. It is only since a few years that it became obvious that the natural sciences can contribute considerably to the future problems of IST. The activities comprise traffic (jam) dynamics, information systems and driver's reaction, traffic forecaste as well as self-driving and connected vehicles. In close cooperation to industry and end users, several concepts and their impact are constructed and analysed. The role of the the different players in this field has changed enormously with an open-end result.

### Bio

**Michael Schreckenberg**, born 1956 in Düsseldorf, studied theoretical physics at the University of Cologne, where he got his PhD 1985 in statistical physics, Habilitation in 1991 on neural networks. 1994 he changed to the University of Duisburg-Essen where he became in 1997 the first (German) professor for Physics of Transport and Traffic. Since more than 25 years he is working on the analysis, modelling, simulation und optimization of transport systems in large networks, especially road traffic, and the influence of human behavior on it. His current activities include self-driving vehicles, the reaction of drivers on information, individual navigation systems, Car-2-Car communication and the efficiency of road works.



## MARTIN RUSS

**Title:** The Austrian Urban Mobility Labs (UML) Initiative – Experimental environments for effective research

### Abstract

Due to the dynamic development of cities and the surrounding regions, problems in the field of transport and mobility lead to growing challenges on all levels. At the same time urban and suburban regions promise new opportunities as “hot spots” for innovations. Since research projects face limited possibilities and frameworks, they seldom reach their full potentials with regard to objectives of the mission oriented research within the Austrian Technology Research Programme “Mobility of the Future”.



Therefore, further activities are needed to:

- Create spaces of opportunity for new approaches and an open climate for innovation
- Integrate user and key actors continuously in research activities
- Embed research better in political strategies and measures
- Identify and remove implementation barriers (early on) and actively shape necessary frameworks
- Develop integrative and effective measures and cluster of projects
- Build up research infrastructure and harness it synergetically
- Establish long term “learning spaces” for the impact of RTI within mobility systems etc.

Urban Mobility Labs complement mobility related research- and innovation projects through new, local and regional structures within urban space. Experimental approaches and “real experiments” not only enhance the **practical relevance** of the projects, but improve the support of the outcome diffusion within the social practice as well as in the **transition processes**. This intervention opens the innovation process further and fills the gaps within the Austrian innovation (funding) landscape.

### Bio

**Martin Russ** became Managing Director of AustriaTech in 2011. AustriaTech is the “Mobility Agency” of the Austrian Ministry of Transport, Innovation & Technology and it follows a long-term strategy towards sustainable transport- and mobility services and solutions, like Intelligent Transport Systems (ITS) and e-mobility. The federal company works in partnership with Austrian infrastructure operators, mobility service providers, and industry, as well as research facilities and public authorities. Martin Russ studied Regional and Transportation Planning at Vienna Technical University. As a consultant and transport engineer he gained broad experience in transportation and mobility planning and mobility technology. From 2005 to 2008 he was responsible for the Austrian Transport Technology Research Program at the Austrian Research Promotion Agency (FFG). Between 2008 and 2011 he was senior advisor for innovation and technology at the cabinet of the Minister of Transport and Innovation and Technology. In addition he acts a general secretary of ITS Austria (the national multimodal mobility platform), is a member of the coordinating committee of European ITS Nationals. He is a member of the Supervisory Board of ERTICO – ITS Europe.



## FLORIDEA DI CIOMMO

**Title:** Crossing ITS data analysis with people needs

### Abstract

Currently, travel behavior frameworks adopt an utility-based approach including preferences and choices. However, choice context is more and more complex. Therefore, constraints and needs have a growing impact on travel behavior.

Relevant studies have shown that:

1. Transport system is essential to fulfill human different needs in terms of safety, security, health, employment, and social stability, in particular among low-income households.
2. Failing to achieve these needs may result in physical, social, geographical, and economic social exclusion.
3. But, eliciting real needs of people is very challenging, because it can be difficult for them to express what they find necessary and important for improving their quality of life.

The reasons why specific needs might not be satisfied should be investigated by activity type (i.e. work, study, daily shopping, occasional shopping, health care, and visits to family and friends) and activity attribute levels (i.e. location, travel time to join them).

This research will adopt a fresh and innovative methodological approach by using existing smart cards data and mobility survey data oriented to identify the mobility patterns of inhabitants and their satisfaction or dissatisfaction related to their travel attributes (i.e. travel time, travel cost, parking availability, crowdedness in public transport, public transport quality of service, potential destinations, additional transport modes availability). The users' satisfaction level jointly with the identified time threshold associated with each typology of trip (i.e. including origin, destination, purpose, mode, and distance) will identify when the needs of users, are covered or not.

### Bio

**Floridea Di Ciommo**, PhD in transport and urban planning at ENPC-Paris Tech and UPM, and MSc. at Bocconi University-Milan is a lead researcher on Sustainable Mobility and Travel Behaviour. She is chair of Transport and Equity Analysis TEA Cost Action TU1209, chair of Behavioral processes committee of National Academies of Sciences, Engineering, and Medicines-Transport Research Board, and member of and a member of other two TRB Committees: Travel Behaviour and Value, and Women Issues in Transportation. She has an extensive experience in EU research projects and she regularly contributes to the EU H2020 Work Program for social and economic issues. She authored several publications on Multimodal transport around Europe (*CITY-HUBs: Sustainable and Efficient Urban Transport Interchanges*. CRC Press, *Transport Intermodal Interchanges: Socio-Economic Impacts at Lille European Metropolis, Intermodal exchange stations in the city of Madrid*. Transportation), travel behavior modeling, data analysis, accessibility, and equity in transport. She has extensively worked on the nexus between Travel behaviour, social variables and equity issues. She is co-editor of the:

1. Special Issue on *Transport and Equity Analysis of Transport Reviews* with Yoram Shiftan, professor at Technion,
2. with Karen Lucas, Karel Martens and Ariane Dupont of forthcoming Elsevier book on *Measuring transport equity*, and
3. with Yoram Shiftan and Ariane Dupont of the Special Issue on *Equity tools and Transport: bridging EU-US perspectives* for the European Transport Research Review.

She led and participated in more than 20 international, European and national projects on transport policy evaluation, urban planning, and multimodal travel behavior model.



## UWE REITER

**Title:** “The Future of Mobility – the City of Tomorrow

### Abstract

Future planning of transport systems and services will be an evolution of today’s practice, of today’s tools and techniques. Future planning will be integrated and interactive. It will be integrated through including the planning of urban spaces and land-use on one hand, transport infrastructure and services on the other hand. And it will take into considerations what impacts both urban planning and transport planning will have on transport demand and mobility itself but also what impacts it will have on economic development, on the social development, e.g. accessibility by all members of the population, availability of urban space and what impacts it will have on the environment. Future planning will be interactive: decision makers, stakeholders, the general public will be able to participate in the planning process interactively and will directly and immediately see what impacts planning decisions have on transport, economic, social and natural environment.

Future Transport Management will integrate all available data of transport supply, for road transport, for public transport, for non-motorised transport and all new forms of transport. Transport management will combine data and information about this supply with current demand and with forecasted demand. Numerous additional sources of data are already or will become available in short time and will allow a more precise and correct representation of current mobility. Transport management will optimise transport infrastructure and services to best meet the identified demand, provide more capacity on public transport, optimise allocation of public space to the different uses, motorised or non-motorised, e.g. through optimising traffic signals. And transport management will influence transport demand, will direct users to the best means to serve their individual mobility needs, be it at that particular time, be it by suggesting different departure times.

But finally, the most important change in the future of mobility will be the development of future demand. New means of transport will become available in short time, shared mobility, electric vehicles, autonomous vehicles, and even more, a combination of these developments. The combination of these developments will result in an absolute transformation of future mobility. In only a few years, the mobility market will not be anything that we were used to. Individual ownership of the car will be more and more replaced by shared means of transport, be it for individual use, be it for pooling trips of different users. Less and less vehicles will be needed, space in our cities that today is used for motorised vehicles parked for at least 90% of the time, will be freed for other uses. Still, these new developments that can better be called disruptive technologies need to be planned, managed, steered in the right direc-

### Bio

**Dr Uwe Reiter** graduated from the University of Karlsruhe with a Diploma in Computer Science. With respect to his ensuing scientific work at the IfV (Institute for Transport Studies), he received a PhD in Civil Engineering from the University of Karlsruhe. In 1995 he moved to the UK to work at the Imperial College for Science, Technology and Medicine (University of London) as a post-doctoral fellow first, and as Rees Jeffrey’s Lecturer in Transport and the Environment later. He set up a teaching and research programme in transport and the environment with a focus on the sustainable development of transport.

Back in Germany in 1998, he started working as senior consultant for PTV in Berlin and became head of the Berlin branch in July 1999. Since then he is leading a group of engineers and transport planners working in a series of projects in the areas of traffic engineering, transport planning, planning of public transport, transport telematics, transport management and traffic control. Initially, most of these projects were related to Berlin and the north-east of Germany. In 2006 he became the Project manager for the Transport Master Plan for the State of Qatar, worked and lived in Qatar for 18 months and successfully finalised this challenging project together with a number of other projects in the area. On his return to Germany in 2008, he was additionally awarded the responsibility for PTV’s International Consultancy and is since then coordinating projects and activities worldwide,.





## LORNA UDEN

**Title:** Design intelligent transport systems for user experience

### ABSTRACT

Intelligent Transportation Systems (ITS) is an expanding and diverse subject, with some of its constituent parts overlapping or converging. It typically involves the Internet of Things (IOT). According to Transparency Market Research, the global connected car market will reach USD 131.9 billion by 2019. The aim of an effective ITS is to make road transport, and its interfaces with other transport modes, more environmentally friendly, more efficient, safer and more secure. However, the design of effective ITS is not trivial.

The design of an effective ITS involves many different stakeholders and their different needs and values. It is important to take a holistic approach to create an effective ITS that meets the values of the different users and also a coherent user experience for them. A new approach is needed taking cross-discipline collaboration between design, technology, and business. This paper describes a model that can be used to design intelligent transport systems for users' experiences that meets the needs and values of the different users.

### BIO

Professor emeritus Dr. Lorna Uden published over 200 papers in conferences, journals, chapters of books and workshops. Her research interests include Learning Technology, Web Engineering and Technology, Human Computer Interaction, Groupware, Activity Theory, big data, innovation, E-business, Knowledge management, E-government, Semantic web, Web services, big data, service innovation, social media, Service Science, Internet of Things (IOT), intelligence science, intelligent transport systems and Problem-Based Learning (PBL). She co-authored the book, 'Technology and Problem - Based Learning', published by IGI publishers. Professor Uden travels round the world to give workshops in problem Based learning and research seminars to help students to be smart.

Professor Uden is program committee member for many international conferences and workshops. She is on the editorial board of several international journals. She is founder and editor in chief of the International Journal of Web Engineering and Technology (IJWET) and the International Journal of Learning Technology (IJLT), published by Inderscience, UK.

Professor Uden is adjunct professor at VIT, India and also visiting professor to universities in Australia, Brazil, China, Colombia, Finland, India, Italy, Japan, South Korea, Malaysia, Mexico, New Zealand, Slovenia, Slovakia, Spain, South Africa and Taiwan. She has been keynote speaker at many international conferences. On the international front, she collaborates widely with colleagues worldwide in paper writing. She is the founder of the KMO and LTEC conferences. Professor Uden is also the conference chair of KMO2017 and LTEC 2017.

Professor Uden travels widely to give seminars on research methods, Problem Based learning, big data, e learning, Information system design, Innovation, knowledge management, service science, IOT and many other subjects. She is actively helping colleagues internationally to write papers as well as the external examiner to the university of West Indies and City University in Hong Kong. Professor Uden is on the panel of reviewers for research proposals for Hong Kong government. She has being external PhD examiner for many universities throughout the world

**DAY 1 - WEDNESDAY, 29TH NOVEMBER, 2017**

Time	
8:30-9:15	Registration
9:15-9:30	Opening Session - Welcome by ERAciate
9:30-10:30	<p><b>Session 1 (Room #11)</b></p> <p><u>Planning for Sustainable Transport and Smart Cities</u></p> <p>Moderator : Tatiana Kovacikova</p> <p><i>Car-pooling Attractiveness Modeling in Greater Cairo Organizations – A Case Study</i> Hatem Abdel-Latif; Khaled Elaraby; Alsayed Alsobky; Amr Mohamed</p> <p><i>Impact of Public Transport Priority on Traffic in Chosen Part of the City of Martin</i> Milan Veterník; Ján Palúch; Alica Kalašová</p> <p><i>Assessing Driving Behavior in Macau Public Transportation through Mobile Crowd Sensing: A Study of the Macau Bus Passenger Profile</i> Fei Chun Ma; Sok Hán Tóng; Tak Son Cheang; João Cordeiro</p> <p><i>A Smart Application for University Bus Routes Optimization</i> Al-Sayed Al-Sobky; Patrik Hrkút; Miroslava Mikušová</p>
9:30-10:30	<p><b>Session 2 (Room #14)</b></p> <p><u>Intelligent Rail and Road Transport Systems</u></p> <p>Moderator : Tibor Petrov</p> <p><i>A Diagnostic Method for Axle Counting Systems based on the SNMP Protocol</i> Waldemar Nowakowski; Piotr Bojarczak; Zbigniew Łukasik</p> <p><i>Intelligent Wagon: A New Approach to Monitoring the Wagon's Technical Conditions</i> Michal Balog; Lucia Knapčíková; Peter Balog</p> <p><i>Verification and Validation of Railway Control Systems Using an Expert System</i> Waldemar Nowakowski; Piotr Bojarczak; Zbigniew Łukasik</p> <p><i>Understanding of Drivers Speed Decisions to Improve Traffic Management on Highways of the Future</i> Michal Matowicki; Ondrej Pribyl</p>
10:30 - 11:00	Coffee Break

DAY 1 - WEDNESDAY, 29TH NOVEMBER, 2017

Time	
11:00 -12:30	<p><b>Common Session with SC 360 Summit (Plenary Room #6)</b></p> <p>Keynote Address:</p> <p><b>Prof. Lorna Uden (UK)</b> "Design intelligent transport systems for user experience"</p> <p><b>Mr. Martin Russ (Austria)</b> "The Austrian Urban Mobility Labs (UML) Initiative – Experimental environments for effective research"</p> <p><b>Prof. Michael Schreckenberg (Germany)</b> "Traffic research between science and application"</p>
12:30 - 14:00	Lunch
14:00 - 15:00	<p><b>Special ERAdiate Session (Room #11)</b></p> <p>From Travel Time and Cost Savings to Value of Mobility “Mobility and Time Value” (MoTiV)</p>
15:00 - 15:30	Coffee Break
15:30 - 17:00	<p><b>Session 3 (Room #11)</b></p> <p><u>Transport Modelling and Simulation &amp; Big Data Application</u></p> <p><i>Moderator : Giuseppe Lugano</i></p> <p><i>Microscopic Simulation of New Traffic Organisation in the City of Lučenec</i> <i>Ján Palúch; Simona Kubíková; Alica Kalašová</i></p> <p><i>Numerical Simulation of the Hydrodynamic Ship Performance</i> <i>Adham S. Bekhit, Adrian Lungu</i></p> <p><i>Health Monitoring Strategies for Multifunctional Vessels with Modular Mission-Oriented Architecture</i> <i>Igor Kabashkin; Andrejs Zvaigzne</i></p> <p><i>Using Deep Learning to Predict Short Term Traffic Flow: A Systematic Literature Review</i> <i>Usman Ali; Tariq Mahmood</i></p> <p><i>Study of Performance of the Vehicular Ad Hoc Networks in Dense Network Scenarios</i> <i>Tibor Petrov; Viktor Ďurčeka; Milan Dado; Karl Ambrosch</i></p> <p><i>Vehicles Recognition Based on Point Cloud Representation</i> <i>Jozef Talapka; Richard Orjesek; Patrik Kamencay; Peter Sykora</i></p>

DAY 1 - WEDNESDAY, 29TH NOVEMBER, 2017

Time	
15:30 - 17:00	<p><b>Session 4 (Room #14)</b></p> <p><u>ITS Safety and Security</u></p> <p>Moderator : Patrik Hrkut</p> <p><i>Potential of Plenoptic Cameras in the Field of Automotive Safety</i> Sinan Hasirlioglu; Mahesh Karthik; Andreas Riener; Igor Doric</p> <p><i>Mathematical Model of Safety Score Calculation for Validation of Coach Operators in the UK</i> Manoharan Ramachandran; Reza Sahandi; Simant Prakoonwit; Wajid Khan</p> <p><i>ITS Safety Ensuring through Situational Management Methods</i> Irina Makarova; Ksenia Shubenkova; Eduard Mukhametdinov; Vadim Mavrin</p> <p><i>Near-miss Accidents – Classification and Automatic Detection</i> Georg Thallinger; Florian Krebs; Eduard Kolla; Peter Vertal; Gust´av Kasanick´y; Helmut Neuschmied ; Karl-Ernst Ambrosch</p> <p><i>A Cloud Based Safety Transport Model for Validation of UK Coach Operators for School Journeys</i> Manoharan Ramachandran; Reza Sahandi; Simant Prakoonwit; Wajid Khan; Siti Aishah Mohd Selamat</p> <p><i>Model Based Generation of Driving Scenarios</i> Thomas Hempen; Sanjana Biank; Werner Huber; Christian Diedrich</p> <p><i>Interactive (Intelligent) Integrated System for the Road Vehicle's Diagnostics</i> Eduard Tsybunov; Ksenia Shubenkova; Polina Buyvol; Eduard Mukhametdinov</p>
17:00 - 18:00	<p><b>Panel Discussion 1 (Room #11)</b></p> <p><u>"ITS Value Chain and a role of different players"</u></p> <p><i>Lorna Uden (TBC)</i></p> <p><i>Michael Schreckenbergr (TBC)</i></p> <p><i>Martin Russ (TBC)</i></p> <p><i>Floridea di Ciommo (TBC)</i></p>
19:00	<p><b>Gala Dinner</b></p>

**DAY 2 - THURSDAY, 30TH NOVEMBER, 2017**

Time	
8:30 - 9:00	Registration
9:00 - 10:30	<p><b>Common Session with SC 360 Summit (<i>Plenary Room #6</i>)</b></p> <p>Keynote Address:</p> <p><b>Dr. Floridea di Ciommo (Spain)</b> "Crossing ITS data analysis with people needs"</p> <p><b>Dr. Uwe Reiter (Germany)</b> "The Future of Mobility – the City of Tomorrow"</p> <p><b>Jarkko Jaakkola, Maas Global (Finland)</b> "MaaS presentation"</p>
10:30 - 11:00	Coffee Break
11:00 - 12:30	<p><b>Plenary Session and Industrial Track (<i>Room #11</i>)</b></p> <p><b>Piia Karjalainen, Senior Manager, MaaS Alliance / ERTICO - ITS Europe</b> "Creating a thriving ecosystem for Mobility as a Service"</p> <p><b>Mr. Martin Nemčík, Skoda (Czech Republic)</b> "Small step to massive C-ITS deployment and big step forward for OEMs"</p> <p><b>Mr. Harri Paloheimo, CoReorient (Finland)</b> "Sharing economy solutions - from theory to practice"</p>
12:30 - 13:15	Lunch
13:15 - 14:15	<p><b>Session 5 (<i>Room #11</i>)</b></p> <p><b>Cooperative ITS and Autonomous Driving</b></p> <p><b>Moderator : Giuseppe Lugano</b></p> <p><i>From Automated Vehicles to Centrally-managed Automated Road Transport</i> <i>Maria Alonso Raposo; Biagio Ciuffo; Michalis Makridis; Christian Thiel</i></p> <p><i>Evaluation of Traffic Control Systems as ITS Infrastructure for Automated Driving</i> <i>Juliane Franze; Dominique Seydel; Gereon Weiss; Ulrich Haspe</i></p>



**DAY 2 - THURSDAY, 29TH NOVEMBER, 2017**

Time	
	<p><b>802.11p: Insights from the MAC and Physical Layers for a Cooperate Car Following Application</b>  <i>Samodha Pallewatta, Poorni S. Lakmali, Sandini Wijewardana, Pabasara Ranathunga, Tharaka Samarasinghe, and Dileeka Dias</i></p> <p><b>Automated Driver Scheduling for Vehicle Delivery</b>  <i>S.R. Muramudalige;; H.M.N. Dilum Bandara</i></p>
<p><b>14:20 - 15:30</b></p>	<p><b>Session 6 (Room #11)</b></p> <p><b>Intelligent traffic management and operations</b></p> <p><b>Moderator : Simona Kubikova</b></p> <p><b>Traffic Flow Estimation for Urban Roads Based on Crowdsourced Data and Machine Learning Principles</b>  <i>Sakitha P. Kumarage; R.P.G.K.S. Rajapaksha; Dimantha De Silva; J.M.S.J. Bandara</i></p> <p><b>Adaptive Traffic Signal Coordinated Timing Decision for Adjacent Intersections with Chicken Game</b>  <i>Xin-hai Xia</i></p> <p><b>Detecting Change in the Urban Road Environment along a Route Based on Traffic Sign and Crossroad Data</b>  <i>Zoltán Fazekas; Gábor Balázs; László Gerencsér, Péter Gáspár</i></p> <p><b>Automatic Relocation of Link Related Data in an Updated Road Map</b>  <i>Louis C Touko Tcheumadjeu; Rüdiger Ebdendt; Elmar Brockfeld</i></p>

## **DAY 2 - THURSDAY, 29TH NOVEMBER, 2017**

<b>Time</b>	
<b>15:30 - 17:00</b>	<b>Panel Discussion 2 (<i>Plenary Room #6</i>)</b>  “Smart Cities and Complex Systemic Challenges of European Cities and Regions” (Integrated with Smart City 360 Summit)
<b>17:00-18:00</b>	<b>Closing Session (<i>Room #11</i>)</b>

## **STEERING COMMITTEE MEMBERS**

### **Steering Committee Chair**

Imrich Chlamtac, CREATE-NET, Italy

### **Steering Committee Members**

Prof. Tatiana Kovacikova, University of Zilina, Slovakia

Prof. Milan Dado, University of Zilina, Slovakia

Assoc. Prof. Dagmar Cagáňová, Slovak University of Technology, Bratislava, Slovakia

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Prof. Tatiana Kovacikova, University of Zilina, Slovakia, ERA Chair senior researcher for ITS

### **TPC Chair**

Dr. Ghadir Pourhashem, University of Zilina, ERA Chair senior researcher for ITS

### **TPC Co-Chair**

Dr. Giuseppe Lugano, University of Zilina, ERA Chair senior researcher for ITS

### **Web Chair**

Samia Ait Zaoucheova, University Science Park, University of Zilina, Slovakia

### **Publicity and Social Media Chair**

Dr. Veronika Sramova, University Science Park, University of Zilina, Slovakia

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Prof. Ladislav Janousek, University of Zilina, Slovakia

### **Publications Chair**

Nathalie Lugano, University of Zilina, Slovakia, ERA Chair senior researcher for ITS

### **Conference Manager**

Lenka Bilka, European Alliance for Innovation (EAI), Slovakia

## **TECHNICAL PROGRAM COMMITTEE MEMBERS**

- Dr. Ghadir Pourhashem, University of Zilina, ERA Chair senior researcher for ITS, Slovakia  
Dr. Giuseppe Lugano, University of Zilina, ERA Chair senior researcher for ITS , Slovakia  
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