TRA
TRANSPORT RESEARCH ARENA

VIENNA 2018

A digital era for transport

solutions for society, economy and environment

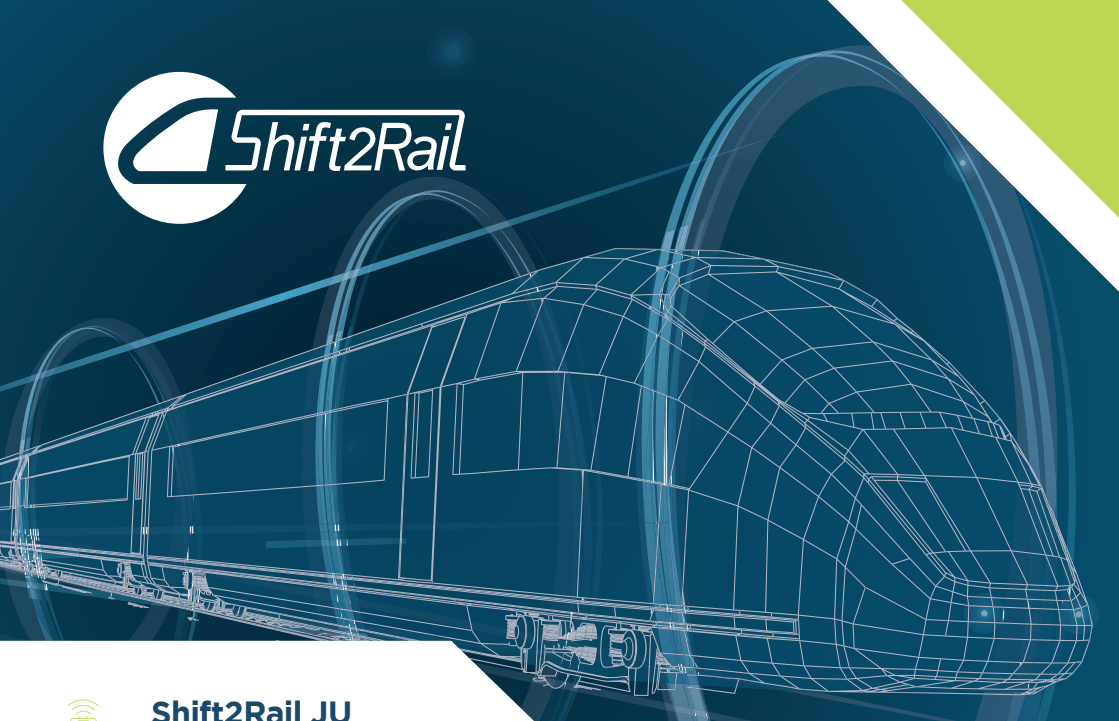
16 - 19 April 2018
Reed Messe Wien

PROGRAMME

www.traconference.eu

#tra2018

Shift2Rail



Shift2Rail JU contributes to smart & sustainable growth by developing innovative solutions and technologies to create the railway system of the future, acting as the backbone of EU mobility.

www.Shift2Rail.org

S2R addresses evolving needs of EU citizens, and target life-cycle cost and efficiency of rail systems to bring about the most high-performing, time driven, digital and competitive passenger & freight transport mode for Europe. The R&I Programme focuses on demonstration activities and dissemination of relevant results for market uptake, promoting the competitiveness of the European rail industry while creating a multiplier effect of EU funds invested in R&I.

Shift2Rail_JU

Shift2Rail Joint Undertaking

Please come visit us at A04 stand

Horizon 2020
European Union Funding
for Research & Innovation

TABLE OF CONTENT

WELCOME ADDRESS

Norbert Hofer,
Austrian Federal Minister
for Transport, Innovation and Technology

Austria is the host of this 7th Transport Research Arena and I am delighted to welcome you to Vienna, where representatives from research, industry, the public sector and policy makers will gather, discuss and establish new networks over the next four days. This edition of TRA features the motto "A digital era for transport: solutions for society, economy and environment". The transport sector is facing different challenges in respect to climate change, shortage of resources and new mobility patterns. Digitalisation has the potential to address these issues and gives opportunities to design sustainable mobility for the future. This provides the unique potential for both European top-level industry and the transport research sector to ensure and develop their international competitiveness.

TRA provides a platform to present, discuss and showcase the latest developments in research and the newest technologies. Their implementation and the necessary framework conditions and social aspects will also be addressed. Continuing the successful tradition of the former TRA editions, a broad range of topics including all modes will be presented in the different sessions. I would like to emphasize that this year for the first time aviation is also part of the TRA.

In order to face the challenges and responsibilities in the transport sector, the very first Industrial Round Table has been established in this TRA. Also newly introduced at this edition in Austria is the Interactive Zone, where all participants can experience research in hands-on demonstrations in a lively and interactive way.

With this rich agenda and an exciting accompanying programme, the Transport Research Arena 2018 promises to offer many opportunities to experience the newest developments and strengthen important networks.

I wish you a fruitful conference and a memorable stay in Vienna.

WELCOME ADDRESS

European Commission

Clara de la Torre,
Director for Transport Research, DG Research and Innovation

Herald Ruijters,
Director for Investment, Innovative and Sustainable Transport, DG Mobility and Transport

The European Commission is pleased to welcome you to Vienna for the 7th Transport Research Arena (TRA 2018).
This is not just another conference on transport: it is an arena which brings together all European stakeholders - policy-makers, researchers, operators and industrialists entrepreneurs - from all areas of transport and transport-related activities.
From the first TRA Conference in 2006 the European Commission has supported the event, as it is the only research conference in Europe covering all modes of transport and their interconnecting activities, such as logistics, urban mobility. It also includes for the first time aviation and multimodal traffic management. The European Commission works in concert with its stakeholders to promote safe, efficient, clean and competitive transport policies and seeks to ensure that Europe remains at the cutting edge of transport innovation. TRA offers the opportunity to highlight the links between research and policy, as well as showcasing the latest results of research activities in transport.

The theme of this year's Conference «A digital era for transport – solutions for society, economy and environment» is in line with the first of the 10 European Commission priorities identified by President Junker for 2014-2019: «Jobs, Growth and Investment». These can be achieved through an optimal use of the opportunities offered by digital technologies and a smarter use of financial resources, by removing obstacles to investment and providing visibility and technical assistance. Transport is one of the most important fields receiving substantial EU investment, and we have to ensure that the right return will be to the benefit of European citizens.
Digitalisation is essential to the achievement of a low/zero-carbon transport as it can also significantly improve transport management. The benefits from digitalisation will continue to grow. Better access to- and sharing of digital transport data (traffic, travel, vehicle, cargo etc.) for both public and private stakeholders along the supply chain will foster seamless information flows, and open up a wide range of new business opportunities.

2018 is also the year of multimodality where digitalisation is a key element. Multimodality is important for driving sustainable mobility, for ensuring economic strength and efficiency of freight transport, for achieving social inclusivity allowing disadvantaged citizens the best accessibility to mobility, and for improving the environmental performance of transport as a whole. Transport Research and Innovation has also a crucial role to play in enhancing the European social and economic integration, ensuring energy efficiency and other policy objectives, seizing the opportunities stemming from new developments like automation and, more generally, in achieving a more efficient and greener transport system for the future.
We thank our Austrian hosts and we hope that you will really take full advantage from your participation in TRA 2018.

WELCOME ADDRESS

Ingolf Schädler,
Chair of the Management Committee
Austrian Federal Ministry for Transport, Innovation & Technologyh

Dear visitors,

As your host of TRA2018, we feel honoured to welcome the European transport and mobility community to Vienna.

With this year's motto of "A Digital Era for Transport", TRA2018 focuses on a global and all-embracing phenomenon. For us, digitalisation is a synonym for integrated mobility and services. It not only means installing new digital layers, but also digitalising all our physical assets and combining them in an interoperable and integrated system.

This all starts with open data that enables transparency on responsibilities, impact and benefits. Moreover, we will highlight how digitalisation fosters decarbonisation in transport, increases the safety and efficiency of mobility or encourages interconnectivity between various modes.

As we can only address these challenges and solutions in a common European perspective and effort, we feel blessed to co-organise this conference together with the European Commission, CEDR and the European Technology Platforms (ETRA, ERTRAC, ERRAC, WATERBORNE, ALICE, ECTP and ACARE). We are sure that the cross-European collaboration efforts that have already been appreciable during the organisation of TRA2018, will inspire you: the visitors, speakers, exhibitors, journalists and active participants.

As the largest transport research conference in Europe, the Transport Research Arena is a valuable opportunity to stimulate fruitful debates and discourses, exchange knowledge and solutions, as well as controversies and challenges. With the conference and exhibition, the new interactive zone and competence corner, you will have plenty of opportunities to participate in this year's event.

In times of constantly changing technological and societal conditions, enabling and guaranteeing exchange between all relevant stakeholders and experts is key. Hence, we invite you to join a lively debate and hope you will have a memorable TRA2018!

WELCOME ADDRESS

AIT AUSTRIAN INSTITUTE OF TECHNOLOGY
TOMORROW TODAY

Christian Chimani
Chair of the Programme Committee
Austrian Institute of Technology

The Transport Research Arena (TRA) is the European arena for researchers, companies and public authorities to discuss the most important research and innovation topics for the transport sector. It addresses the major challenges confronting our mobility systems and seeks to explore and develop ground-breaking digital and low-carbon solutions for the benefit of society, the transport system and the environment. The seventh edition of the conference, TRA 2018, is held under the motto "A Digital Era for Transport". This conference theme reflects the fact that the megatrend of digitalisation, which is changing the way we live and work at breath-taking speed, is already transforming our transport and mobility systems.

R&D plays a crucial role in designing new smart, safe and decarbonised transport systems. This makes research and technology organisations key partners for public administrations and the transport industry, a sector that is a major driving force for the whole European economy. Among the European research organisations, the AIT Austrian Institute of Technology is a specialist in the central infrastructure issues of the future. Our experts develop cutting-edge solutions for low-emission transport and use state-of-the-art digital technologies to optimise people mobility, freight transport and the underlying infrastructure. It is not least due to this comprehensive expertise that AIT was put in charge of devising the programme for this year's TRA 2018. A range of session formats will offer ample opportunity to share information on recent findings and discuss new developments across all transport modes. In addition to plenary, strategic and invited sessions, the programme features a total of 52 scientific and technical sessions with more than 600 contributions on basic research findings, application-oriented engineering, socio-economic aspects and policy issues. In line with the conference theme, a strong focus is placed on automation and digitalisation in transport, including big data applications, intelligent transport management or smart urban mobility and logistics.

In my capacity as Chair of the Programme Committee, I am delighted to welcome you to TRA 2018 in Vienna and hope that you will use this platform to share your expertise with other experts from research, industry and politics. The aim of this conference is to encourage debates and collaborations in order to provide the basis for new technologies and solutions that will shape the mobility landscape of the future.

WELCOME ADDRESS

austriatech

Martin Russ
Chair of the Organising Committee
AustriaTech

Dear visitors,

after almost two years of preparation we feel delighted to finally welcome you at TRA2018 in Vienna.

The tasks and challenges facing the mobility sector are manifold. Sustainability, safety, efficiency and competitiveness are just a few of the buzzwords that accompany our daily work in a digital era. The range of their effects extends from specific opportunities to disruptive challenges.

As this year's motto of TRA2018 already describes, the goal must be to use the transformation processes triggered by digitisation as solutions to current challenges. "Solutions for society, economy and environment" means exploiting the digital potential in the transport and mobility sector for the benefit of all present and future generations.

Anyone who generates data as a user of mobility services would like this data to flow back into the market for their own benefit. Therefore we need transparency and exchange between all users of this data with the aim of making connected and synchronized data sets usable for all modes of transport. Only in this way can our transport and mobility system become a cooperative ecosystem from which all participants benefit: Operators, users, industry, economy, politics and environment.

According to this year's motto we hope to pick up on important trends and topics, to concretise them, to communicate them and thus to mobilise actors and help to create the framework conditions. Building on this mission, we look forward to meeting you in this year's arena. Be part of the impetus for a connected and cooperative future.

WELCOME ADDRESS

European Road Transport Research Advisory Council

Stephan Neugebauer
Chairman of ERTRAC
European Road Transport Research Advisory Council

Today more than ever, Europe needs cooperation in order to accelerate innovation. Collaboration among researchers within European projects is an excellent way to exchange knowledge and share results. By doing that, we can avoid duplication of efforts and bring Europe together faster on key innovations domains. It is also an issue of competitiveness of Europe versus other regions of the world, in order to get technology leadership. In road transport, researchers are dealing with challenges that will completely transform our mobility system in the long-term, such as electrification, connectivity and automation.

The TRA Conference has the right format to bring transport researchers together, and its multi-modal coverage is interesting because more cross-sectoral collaboration is needed for the development of key enabling technologies. We need to avoid the development in silos and think about innovation that can be integrated within the transport system: considering the vehicles, the infrastructures, the services to users, and the links between the different transport modes. It is very important that researchers understand better the needs from the other components of the transport system, so that a better integration can be designed for the future, and the overall efficiency be enhanced.

The TRA approach of bringing the research community together with the industry and the public authorities is also a very good approach. It is key that from early research work, there is consideration for application and deployment: to avoid that research results stay at low TRL levels and are not exploited. It is very important to build research and industry collaboration, to consider the industry development requirements. And researchers should also always look at the needs of the users: assess, test and demonstrate how the application will be done, if the users needs and expectations are met, and what will be the impacts of deployment. Therefore, as ERTRAC we encourage very much that collaboration between the actors: academic, research organisations, industry, users representatives, and the public authorities from European, national and local levels.

ERTRAC wishes to all the TRA 2018 participants a very fruitful conference!

WELCOME ADDRESS

Andy Doherty
Chairman of ERRAC
European Rail Research Advisory Council

ERRAC is delighted to have the opportunity of networking with stakeholders from right across the transport spectrum at TRA. TRA is a great opportunity to present the new ERRAC "RAIL 2050 Vision document", which is the long-term strategy of the rail sector for Research and Innovation with at its heart Digitalisation of rail transport.

Rail transport is an essential contributor to the economies of the Member States of the European Union. It provides effective and essential travel into the great cities of Europe, high speed sustainable travel between cities and regions and forms an essential long-distance freight transport backbone for Europe. During TRA 2018, ERRAC representatives will present the new ERRAC "Rail 2050 Vision" setting out the future capabilities needed from railways to meet the future needs of Europe and providing a route to utilising the new technologies to achieve these capabilities. To deliver these capabilities and to maintain their essential contribution to Europe, the railways need continued support and investment to embrace the technological opportunities and simplified regulation to improve cost competitiveness of the European Railway Industry.

ERRAC fully supports the continued work of Shift2Rail (S2R Joint Undertaking) and future extensions of that Joint Undertaking in the next European research framework programmes. Shift2Rail research and innovation projects will be presented at TRA 2018. Do not miss this opportunity to discover how innovative is the rail sector and how Shift2Rail contributes to the new ERRAC "Rail 2050" vision.

Bringing together all the transport modes at the same place during almost one week in Vienna is also unique to discuss all together about multi-modality. The development of genuinely multi modal transport system design and integration, the wider social and economic issues of human factors, noise and vibration in society, sustainability and environmental challenge, are wider transport factors that need a combined focus across all modes of transport and will need separate funding and planning in future European research framework programmes.

Do not hesitate to visit us at TRA 2018!

WELCOME ADDRESS

Henk Prins
Chairman of the WATERBORNE Technology Platform

It is with great pleasure that the Waterborne Technology Platform participates to TRA 2018. As the Chairman of this platform, I would like to thank the organisers for hosting this year's TRA in a wonderful Vienna.

I look forward to interesting discussions during the conference sessions and I am proud to announce that speakers from the Waterborne Technology Platform will participate to these sessions to shed a light on today's and tomorrow global trends and societal challenges.
The waterborne sector consists of a large community of diverse stakeholders, including ship-owners, shipbuilders, equipment manufacturers, dredgers, ports, inland navigation, researchers, academia, etc. This community meets in the Waterborne Technology Platform to discuss policies, needs and projects relating to research, development and innovation.

The waterborne sector in Europe creates and produces a wide range of products and services that can be used on and under the sea, as well as onshore and in coastal or inland waters. The sector generates €500 billion a year, creates 5,4 million jobs, and is a driver for other industrial sectors. It greatly contributes to Europe's economic growth, prosperity, wealth, and job creation. The sector has also largely contributed to Europe's status as world maritime power: it is key for international trade and for Europe's external and internal trades, European shipowners control 40% of the world fleet, and some sectors such as shipbuilding or maritime equipment manufacturers are world leaders for the building of the world's most complex, high value civilian and naval ships and offshore platforms or the production of the world's most sophisticated and advanced systems, equipment and technologies for civilian and naval purposes. The sector also contributes to exploiting new economic opportunities, in particular in the blue economy, such as renewable energy, tidal energy, or offshore energy storage. Finally, the waterborne sector is a strategic sector. For Europe, it contributes to securing its energy supply and to protecting its security and defence. For the world, it contributes to realizing 8 out of 17 UN Sustainable Development Goals to transform the world, including food security; water and salination; energy; economic growth; or infrastructure.

Today, the waterborne sector needs to cope with interesting but challenging global trends, such as climate change, fast developing information and communication technologies, global economic growth, population growth, or energy consumption. Climate change will lead to more extreme weather conditions and this will require more robust ships, ports, or offshore infrastructures. The fast development in information and communication technologies will influence ship design, enhance automation of systems and ship operations, including autonomous shipping, and improve the integration of shipping and other sea-based activities with shore-based activities. Global energy consumption will increase and new and complex energy sources will develop, such as renewable energy, tar sands or methane hydrates or energy production on offshore wind farms and other water-based energy production devices using wave and tidal energy.

Confronted with these global trends and eager to exploit promising economic and business opportunities, whilst contributing to global and Europe's sustainability, economic growth, and prosperity, the waterborne sector is developing a new and ambitious vision.

I look forward to welcoming you at the waterborne booth, where you will discover our daily activities.

WELCOME ADDRESS

Damir Topolko
Chairman of CEDR
Conference of European Directors of Roads

From its road transport origins, TRA has, like many CEDR members, developed a multimodal identity supporting transport innovation for Europe. Both my own agency as CEDR's current Presidency, Slovenia (alsoTRA host in 2008) and the TRA launching host in 2006, (and CEDR's 2019 President) Sweden have developed into multimodal agencies during these past 12 years. Moreover the 2018 theme of digitalisation reflects the further broadening of our scope to the 'virtual modes'. No other event encompasses the breadth and depth that TRA can offer. Bringing together academia, industry, NGOs, public authorities and policy makers, it is the much-needed melting pot to incubate innovative solutions for transport challenges.

We are clear that digitalisation will influence all aspects of transport. This includes the aspects of traffic operations such as connected vehicles, integrated network management (including intermodality) as well as the planning and management of infrastructure with tools such as Building Information Modelling (BIM) and the Internet of Things (IoT). Perhaps more importantly it will influence the relation between transport providers and users. Social media and the transparency of data are increasingly involved in both long-term planning and day-to-day management. The role of digitisation in the financing of our transport systems is another area of great interest. The internet has revolutionised commerce, but we are still at the beginning of the journey in terms of transport. Of course, there are many other aspects and that is what will make TRA2018 Vienna so important.

The word Arena in TRA was deliberately chosen to emphasise the exchange between different actors in the sector in many levels. It is not just an opportunity stakeholders to talk to their peers – for example, researcher to researcher; it is the opportunity for a wider dialogue. Problem owners are able to see the solutions on offer and explain their challenges to the innovators. Solutions providers have a chance to promote the outcomes of their work and better frame their activities. The outcomes of this dialogue then helps policy makers shape their ideas. This is the true Arena that CEDR is commited to supporting.

I welcome you all to Vienna and look forward to an enjoyable and productive week.

WELCOME ADDRESS

alice | Alliance for Logistics Innovation through Collaboration in Europe

Sergio Barbarino
Chairman of ALICE
Alliance for Logistics Innovation through Collaboration in Europe

ALICE is proud to be a member organization of the TRA 2018 in Vienna, Austria. Alice focus is on collaboration and innovation in freight transport Logistics pursuing more sustainable and efficient logistics.

A Digital Era for Transport is the theme of TRA 2018. Digitalization is indeed very fast transforming all industries including freight transport and logistics and the topic is addressed timely. ALICE has always had a very strong and important link to digitalization since its creation almost 5 years ago. Our vision for the logistics of the future is linked to the evolution and implementation of different technologies that will leverage more efficiency and sustainability to logistics and therefore, more competitiveness to all industry sectors in Europe. The confluence of all these technologies and also societal trends and needs will lead us to the adoption of the Physical Internet concept that we are currently targeting for 2030 realization. Physical Internet will bring the efficiency gains necessary to grow sustainably and achieve the very challenging goal of Zero Freight Logistic emissions by 2050 that ALICE has recently adopted.

We envision a very productive and inspiring conference in Vienna that together with other activities such as the exhibition, the marketplace, etc. conform The Transport Research Arena. The program has been built with care and in a very holistic way. Thanks to the wide collaboration of the various stakeholders, all key "hot" topics in transport research and innovation will be addressed.

From TRA 2018 we expect to get and overview of the foreseen advances in all transport sectors in the upcoming years that will also drive the development of freight transport and logistics We challenge you, the participants, at TRA 2018 to identify the connections that will support delivering the breakthroughs that are needed in a sustainable and responsible way. You can count on ALICE to follow up these connections and to work closely together with all TRA member organisations to realize these needed breakthroughs under a responsible innovation umbrella.

We wish you a creative and fruitful participation in the Arena and do not miss the occasion to pass by our booth to share your thoughts with us and where main running H2020 R&I projects: AEOLIX, Clusters 2.0, CORE, LEARN, LOGIMATIC, NOVELOG, SELIS & SYNCHRONET will be showcased.

WELCOME ADDRESS

Caroline Almeras (ECTRI)
Armando Carrillo Zanuy (EURNEX)
Thierry Goger (FEHRL)
ETRA - European Transport Research Alliance

TRA embraces the will of the European transport community to cooperate in order to promote and help to create a more unified and cooperative transport research sector in Europe, which can work together to provide future mobility solutions. In this respect, the European Transport Research Alliance (ETRA) brings synergies to TRA that can be accrued in transport research and innovation from the cooperation of the transport research community with industrial stakeholders and public bodies.
ETRA is a voluntary collaborative platform of surface transport research associations that aims to support the European Research Area in Transport (ERA-T). It provides a forum for collaboration between the partners, giving them a more powerful collective voice and enabling cross-fertilisation to achieve the highest visibility for the transport research community in Europe. To do so, ETRA focuses on two main objectives: 1) Being an open platform of communication and cooperation among its partners to facilitate synergies in selected activities 2) Supporting the TRA conference and, more particularly the overall conference strategy, raising its scientific quality and sustaining its organisation with a Secretariat. Such an objective is pursued in close collaboration and partnership with the conference host and the other TRA supporting organisations, such as the European Commission, the six European Technology Platforms (ETPs), and the European Conference of Road Directors (CEDR).
ETRA is formed by:

- ECTRI (European Conference of Transport Research Institutes)
- EURNEX (European Rail Research Network of Excellence)
- FEHRL (Forum of European National Highway Research Laboratories)
- FERSI (Forum of European Road Safety Institutes)
- HUMANIST (Human centered design Network for Information Society Technologies)

WELCOME ADDRESS

Miguel Segarra
Chairman of ECTP Infrastructure & Mobility Committee
European Construction, built environment and energy efficient building Technology Platform

ECTP committed to success of TRA2018

The European Construction, built environment and energy efficient building Technology Platform (ECTP) is a leading membership organisation promoting and influencing the future of the Built Environment, gathering 160+ Member organisations from across the construction sector and other sectors from the whole supply chain .. ECTP is today one of the European Technology Platforms (ETPs), as an industry-led stakeholder forum recognised by the European Commission as key in driving innovation, knowledge transfer and European competitiveness.
Many tend to think that the word "digital", when applied to Transport, refers mainly to the rolling stock (e.g. vehicles or trains), whereas ECTP see more profound changes.

Firstly, in the way infrastructures for all transport modes will be built using digital technologies, with a sector integrating digitalisation in its production processes in a more complex environment than manufacturing.

Secondly, in the level of services to be provided to vehicles by HLSI (High Level Service Transport Infrastructure). For instance, the generation of infrastructure management data to provide positioning services in areas without GNSS coverage, to furnish structural data about road condition and damaged pavements, information related to traffic restrictions available, etc..

Thirdly, in the way infrastructures are maintained: Big Data, IoT and Artificial Intelligence (AI) can deliver more efficient management and maintenance of the infrastructure, support and guidance to the customer through asset management to reduce costs and increase productivity, innovative maintenance methods based on actual infrastructure condition, less disrupting to traffic so the automated traffic flow would not be disturbed.

Fourth, in the way the future upgrades to transport infrastructure will be envisioned: virtual and augmented reality and ICT can be used to build digital replicas of infrastructure fed with real live data that can be studied and modified to understand the future demands and the requirements to be met, allowing the asset to be optimised, extending its service life and aiding decision making and planning for future use.

ECTP is a horizontal platform when transport platforms are dedicated to one mode of transport. ECTP achieve research on and delivery of infrastructure for all modes of transport in all modal and cross-modal ways, and logistics. TRA provides a unique arena bringing together industry and researchers where all stakeholders interact, meet and discuss with all modes of transport. At a platform level, another interesting aspect is not only what happens during TRA, but over the two years of preparation, with TRA Management, Programme and Organising Committees providing with a second arena of exchange between the different ETPs to understand the mutual interests, demands and needs.

For ECTP, TRA means a long-term effort. We are committed to the success of TRA 2018, where we expect to jointly define how the infrastructures(s) of the future will be seen considering several different transport-related organisations with converging and some diverging objectives. TRA is a good place for defining the future and continue discussing how transport must look like to serve our societal needs.

WELCOME ADDRESS

Jean-Brice Dumont
Chairman of ACARE
Advisory Council for Aviation Research and Innovation in Europe

Dear visitor to TRA 2018,

these are exciting times in transport. Fully autonomous passenger vehicles may soon become reality. Unmanned, fully autonomous vehicles will find several applications in logistics and numerous other areas. Passengers expecting seamless, predictable and comfortable door-to-door mobility become even more connected and informed. Changing transport modes for a particular journey may become the norm rather than the exception. Private ownership of vehicles may evolve further towards a sharing economy, as sharing vehicles or rides may be even more comfortable and economical. Environmental footprint and emission levels of mobility have to be reduced dramatically paving the way for electrification of transport or potentially other innovative forms of propulsion. Digitization will enable a new level of network management freeing up capacity and reducing congestion. Urban mobility concepts will have to become much smarter ensuring the mobility and well-being of citizens alike.

For the first time in TRAs history ACARE has joined the other modes in organizing TRA. Aviation depends on a multimodal transport system in order to provide good door-to-door connectivity and ensure customer service. While it is often considered to be a closed environment technology- and marketwise, it faces many challenges very similar to other modes. Lessons learned in aviation may provide important input to other modes, while in other aspects aviation may benefit from experiences or research results from other sectors (e.g. manufacturing, digitisation etc.) Co-operation between other transport modes and aviation in addressing those common challenges will provide synergies and increased efficiencies for all and foster more integrated transport concepts.

We are very much looking forward to this conference as it provides a unique opportunity to discuss the integration of the air transport system into the entire sustainable, reliable, comfortable, affordable, safe and secure transport system, to identify overlaps and commonalities with challenges of other participating modes and organisations and to initiate further cooperation and information exchange.

We wish you all a very informative and interesting conference !

Objectives and Scope

TRA 2018 is an arena for researchers, companies and public authorities active in the field of transport. It welcomes policy makers and stakeholders framing research and transport policy. Together they will share and discuss new ideas, research results, technological solutions and new business models.

Key focus areas will be:

- How digitalisation is transforming transport & mobility systems
- Decarbonisation & future growth – how to change our mobility system & remain competitive
- Shaping the new mobility landscape – a vision for transport & mobility for Europe

The TRA 2018 programme includes a range of different session formats that will offer ample opportunities to share information on recent findings and to discuss the aforementioned challenges and opportunities.

Topics

The following multidisciplinary topics will be addressed at **TRA2018**.
These will be divided into 5 grouped zones for the submitted **Scientific and Technical Posters.**

Zone 1	1. Environment and Energy Efficiency	2. Vehicles & Vessels – Design, Development and Production	3. Advanced Propulsion Systems
Zone 2	4. Smart Urban Mobility & Logistics	5. People Mobility – Systems and Services	
Zone 3	6. Freight Transport and Logistics	7. Transport Infrastructure	
Zone 4	8. Connected and Automated Transport	9. Digital Technologies for Transport	
Zone 5	10. Safe, Secure and Resilient Transport Systems Efficiency	11. Human Dimension in Transport	12. Socio-Economics, Innovation and Policy

TRA VISIONS Awards

TRA VISIONS 2018 invites Young and Senior researchers from all over Europe to submit innovative transport concepts with the prizes being awarded at TRA 2018.

Ever more people and goods are moving around the world in constantly shorter timeframes. This makes innovative transport solutions an important necessity. What could future transport look like? How can existing systems and infrastructure cope with the rising strain, be it road, rail, waterborne or cross-modal transport systems? Which are efficient and sustainable solutions to the arising questions on mobility issues?

The European project **TRA VISIONS 2018**, supported by the European Commission, invites young and senior researchers from all over Europe to enter their ideas of all kind concerning these and other questions to the competitions. TRA VISIONS takes place every two years and awards both a prize for innovative concepts for transport solutions for young and senior researchers in European funded projects throughout Europe.
The project consortium members are the Institute for Automotive Engineering of RWTH Aachen University, Foundation WEGEMT – A European Association of Universities in Marine Technology and Related Sciences, BALance Technology Consulting GmbH, Politecnico di Torino, Newcastle University, Forum of European National Highway Research Laboratories (FEHRL), Austrian Institute of Technology (AIT) and University College London (UCL).

YOUNG RESEARCHER COMPETITION

A competition that awards prize money sponsored by industry to BSc, MSc and PhD students from all over Europe with the main aim of stimulating their interest in the field of transport. Winners will take part in a prestigious award ceremony at the end of the Opening Ceremony on Monday 16th April (12:00-12:30pm) of the 2018 Transport Research Arena (TRA 2018) where they will have the opportunity to meet European Commission (EC) representatives and transport experts. Sponsors of the competition are ALICE, ERTRAC, Meyer Werft, SHIFT2RAIL and UITP.

SENIOR RESEARCHER COMPETITION

A competition aimed at senior researchers involved in EU-funded projects, which will identify and acknowledge leaders that generate impactful research in transport across the European Union (EU). Winners will receive awards from EC representatives at the beginning of the Gala Dinner on the evening of Tuesday 17th April 2018.

Papers of authors shortlisted for the Senior Research Award are marked with: ★

Wish to know more about TRA Visions? Then visit the TRA Visions booth (next to the Press Center in the Congress Center, Level 0). The 2018 Awarded Young Researchers will be there to present their projects.

www.travisions.eu/TRAVisions/

TRAVISIONS 2018

The project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 723037.

Plan your participation at #TRA2018 with the specially-designed app

- Get full details on the programme directly from your mobile phone or tablet
- Go on an advance virtual tour of TRA2018 to plan where you need to go
- Use the app's unique search functionality to find what you're looking for
- Create your own personalised agenda and be informed about what is upcoming

Go to the app store now and download TRA 2018 app!

Plenary Sessions (P)

Plenary sessions are dedicated to key political topics addressed by invited high-level speakers. Representatives from governments, European Commission and other international organisations, from the private sector, academics and researchers are invited to share their knowledge and vision.

Strategic Sessions (STR)

Strategic sessions convey key messages on major scientific, policy and industrial challenges of the transport system.

Scientific / Technical Sessions (ST)

These sessions cover a broad spectrum of research works and innovation activities ranging from fundamental research to application-oriented engineering, as well as social, technical and economic aspects. The reviewed papers will be presented by authors, either as oral or poster presentations.

Invited Sessions (INV)

Invited sessions are intended to provide unique opportunities to scientists and other professionals to demonstrate, discuss and exchange on relevant topics.

Marketplace Poster (MP)

Marketplace posters will show innovations and solutions with high market relevance and implementation potential.

Technical Tours

Within the framework of TRA2018 in Vienna there will be various exciting and informative Technical Tours coping with different topics.

Side Events

The Side Events are organised by stakeholders of the European transport community and mostly closed to the public. If it states "open event" the organisers invite all conference visitors to come and join them at their event.

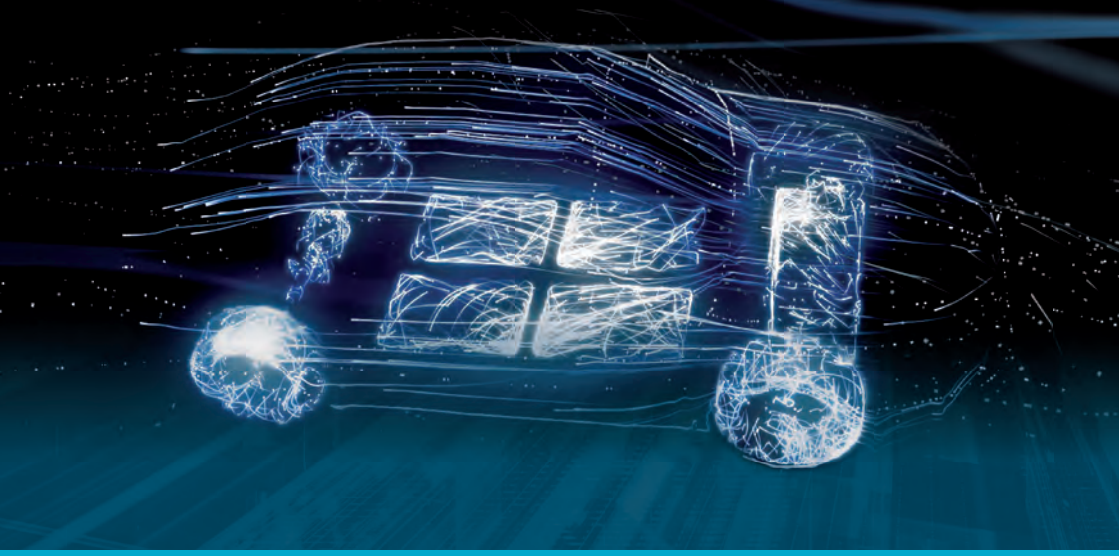
AVL

INNOVATIVE TECHNOLOGY

SUBJECTIVE FEELINGS
Fuel your passion for driving

AUTONOMOUS DRIVING
Free your mind to limitless possibilities

Power towards a greener future
ELECTRIFICATION



www.avl.com

DAY 1
Monday 16 April


austriatech
Welcomes you to TRA2018
organising transformation
advising change
creating awareness
mobilising experts
Visit us:
E06

OPENING

DAY 1 - Monday 16 April 2018 - 10:00 - 12:30

LEVEL 0
STRAUSS 1-3

Speakers:

10:00–10:30

Opening with European Commissioner **Violeta Bulc** and Austrian Federal Minister **Norbert Hofer**

10:30–10:50

Keynote Gerd Leonhard, Futurist, Humanist, Author and CEO The Futures Agency

10:50-12:00

Special High Level Industrial Round Table: EUROPE ON THE MOVE

Following high level representatives will discuss at this Round Table:

Carole Desnost, Chief Innovation Officer, SNCF
Axel Flaig, Head of Research and Technology, Airbus
Emmanuel Forest, Senior Vice-President of Institutional and European Affairs, Bouygues
Helmut List, CEO, AVL
Hanna Maurer Sibley, Head of Presales NWS North Central Europe, Ericsson
Bernard Meyer, Managing Director, Meyer Shipyards

The discussion moderated by **Alex Taylor** will focus on the following questions:

- What are the visions of the industry for European global leadership in transport, mobility and deployment?
- Europe on the move – an industry perspective?
- The role of policy action on EU and national level?

12:00-12:30

TRA Visions Young Researchers Award - trophy presented by EU Commissioner for Transport **Violeta Bulc**

12:30 - Exhibition Opening

PLENARY SESSION 1

DAY 1 - Monday 16 April 2018 - 13:40 - 14:40
Plenary 1: Shaping the New Mobility Landscape – a Vision for Transport & Mobility for Europe

LEVEL 0
STRAUSS 1-3

Social, ecological and economical challenges and transformation processes require an efficient and sustainable mobility ecosystem. Digitalisation, automated driving, sharing mobility, e-mobility and multimodality – trends like these demand the development of a comprehensive European vision. Public authorities have the responsibility to initiate and coordinate the process towards an extensive strategy, addressing the diverse needs and interests of the future. It is a crucial proposition of TRA to reach out to various stakeholders and achieve comprehensive attendances, involving universities, industry, government as well as the public. By an active design, coordination and cooperation and the usage of existing approaches, such as roadmaps, the Transport Research Arena shapes a precise framework for the European mobility ecosystem. Plenary Session #1 offers the opportunity to clarify and harmonise ideas, concepts and strategies to best shape the mobility landscape of the future.

Speakers:

Henrik Hololei, Director General, DG Mobility and Transport, European Commission
Chin Kian Keong, Group Director, Land Transport Authority, Singapore
Young Tae Kim, Secretary General of ITF
Robyn Scott, CEO and Co-Founder of Apolitical

STRATEGIC SESSIONS

DAY 1 - Monday 16 April 2018 - 15:00 - 16:30
STR1.1: User-Centric Mobility Systems

LEVEL 0
STRAUSS 1-3

The transport sector has to shape the new mobility landscape, build up and share a vision for Europe. This session will focus on the required changes to provide adequate mobility systems (MS) for local and transnational travellers. Thus far, local MS have been organised by regional public authorities from a city-centered perspective, covering mostly urban areas and providing seamless stop-to-stop services. Increasingly "connected" travellers, new digital travel services and mobility provider disrupt the current system and demand suitable MS. For transnational and Europe-wide travel, air or rail services have been offered only as monomodal systems, with the exception of services offered by travel agencies. The EU, EC, various Member States/regional/local actors and new stakeholders need to provide new door-to-door mobility services for travellers with diverse requirements.

Organisers:

Yves Amsler, EU Projects Consultant, UITP, ERRAC
Jürgen Schlaht, Technology and Innovation, Siemens AG Mobility Rolling Stock
Armando Carrillo Zanuy, Secretary General, EURNEX

Moderator:

Alex Taylor

Panellists:

Mohamed Mezghani, Secretary General,UITP
Klaus Bamberger, Head of Market and Customer Service, Wiener Linien
Matteo Antoniola, Business Development Manager, 5T
Maria Bjorner Brauer, Director of Marketing, Västtrafik (tbc)
Jürgen Schlaht, Technology and Innovation, Siemens AG Mobility Rolling Stock
Floridea Di Ciommo, Universitat Politècnica de Catalunya, Co-founder cambiaMO

DAY 1 - Monday 16 April 2018 - 15:00 - 16:30
STR1.2: Towards a Truly Integrated Transport System

LEVEL 0
LEHAR 1+2

A truly integrated transport system needs to be established to respond to the major challenges of decarbonisation, pollution and congestion, while addressing societal needs and the demands of the industry. A successful integration requires not only a smooth operation of the different transport modes individually, but also a shared vision of a customer-centric transport system as a whole, including new or changed business models, innovative IT tools, smart and coordinated interoperability as well as proper integration of services to be provided to users (people and industry). Therefore, a wide variety of stakeholders, transport industry and users need to be involved to contribute pieces to a system of systems that can be used and operated in a seamless, efficient and sustainable way. In this session attendees will: address urban and long distance transport system integration, hear from different stakeholders and discuss options with panellists and policy makers.

Organisers:

Fernando Liesa, Secretary General, ALICE
Maria-Cristina Marolda, DG Mobility and Transport, European Commission
Patrick Mercier-Handisyde, DG Research and Innovation, European Commission
Christoph Schneider, Senior Airside Masterplanner, Munich Airport, ACARE
Christophe Chéron, SNCF, ERRAC

Moderator:

Jacki Davis

Keynote Speakers:

Maja Bakran, Deputy Director-General, DG Mobility and Transport, European Commission
Mark Robinson, Professor, Director NewRail, Newcastle University

Panellists:

Jean Luc Di Paola Galloni, Corporate Vice-President for Sustainability and External Affairs, Valeo, ERTRAC
Andy Doherty, Chief Rail Technology Officer, Networkrail, ERRAC
Nik Delmeire, Secretary General, European Shippers' Council, ALICE
Christoph Schneider, Senior Airside Masterplanner, Munich Airport, ACARE
Christophe Tytgat, Secretary General, SEA Europe

EIN MARKANTES STATEMENT.

DER ERSTE BMW 6er GRAN TURISMO.

Symbolfoto

Mehr erfahren unter bmw.at/6ergt

BMW 6er Gran Turismo: von 190 kW (258 PS) bis 250 kW (340 PS), Kraftstoffverbrauch gesamt von 5,1 l/100km bis 8,0 l/100km, CO_2 Emission von 135 g/km bis 183 g/km.

Freude am Fahren

DAY 1 - Monday 16 April 2018 - 15:00 - 16:30
STR1.3: Innovative Governance Enabling Sustainable Urban Mobility

LEVEL 0
LEHAR 3+4

Cities want to provide citizens with transport services that meet their mobility needs in an inclusive, fair, accessible, and flexible way. Yet, local policy makers also want their cities to be pleasant, attractive and healthy places to live, work and be in. This requires tackling a number of severe transport-related societal challenges, such as congestion, air and noise pollution and safety, which pose a threat to the same citizens' health and well-being, and the overall quality of life. This session tries to reconcile the needs of today's connected traveller, who wants flexibility, with the sometimes drastic measures needed to address the aforementioned challenges. It will discuss the potential of emerging technologies and mobility services, the required new forms of cooperation between public and private stakeholders, as well as the appropriate regulatory frameworks to enhance innovation and avoid disruption.

Organisers:

Karen Vancluysen, Secretary General, Polis Network, ERTRAC
Jürgen Schlaht, Technology and Innovation, Siemens AG Mobility Rolling Stock

Moderator:

Karen Vancluysen, Secretary General, Polis Network, ERTRAC

Panellists:

Philippe Crist, Administrator, Corporate Partnership Board Programme Manager, International Transport Forum at the OECD
Malin Andersson, Head of Department Development and International Affairs, Urban Transport Administration, City of Gothenburg
Rafael Cuesta, Head of Innovation, Transport for Greater Manchester
Daniel Kofler, CEO, Bikecitizens
Marcus Zwick, Head of Innovative Mobility Solutions, Siemens
Kerstin Enochsson, Vice-President Corporate Strategy and Project Office, Volvo Cars

SCIENTIFIC AND TECHNICAL SESSIONS

DAY 1 - Monday 16 April 2018 - 17:00 - 18:30
ST1 5.1: New Apps and New Mobility Services
People Mobility – Systems and Services

LEVEL 1
SCHUBERT 2+3

Chair: Yves Amsler, UITP

Organizing the Multi-Modal Transport System: Addressing the Travel-Related and Organizational Challenges to Provide Seamless, Multi-Modal, Door-to-Door Journeys
Robin Kleine, Otto Cazemier, Babet Hendriks
Mobycon, The Netherlands

Participating in Environmental Loyalty Program of Real-time Multimodal Travel Planner App: Users Need, Environmental and Privacy Motivators
Aliasghar Mehdizadeh Dastjerdi[1], Sigal Kaplan[1,2], João de Abreu e Silva[3], Francisco Camara Pereira[1]
[1]Technical University of Denmark, Denmark; [2]Hebrew University of Jerusalem; [3]Technical University of Lisbon

Localization and Guidance of Individuals or Groups in Multi-Modal Transit Situations Using a Novel Cooperative Positioning Concept based on Differential Wi-Fi
Guenther Retscher[1], Hannes Hofer[1], Franz Obex[2]
[1]Vienna University of Technology, Austria; [2]Freelancer, Austria

ATTRACkTIVE - Advanced Travel Companion and Tracking Services
Daniel Schmidt[1], Achim von der Embse[1], Leyre Merle Carrera[2], Pascal Flauder[3]
[1]HaCon Ingenieurgesellschaft mbH, Germany; [2]Indra Sistemas, Spain; [3]DIGINEXT, France

ST4RT – Semantic Transformations for Rail Transportation
Riccardo Santoro[1], Ugo Dell'Arciprete[2], Stefanos Gogos[3], Mohammad Mehdi Pourhashem Kallehbasti[4], Matteo Rossi[4], Alessio Carenini[5]
[1]Trenitalia, Italy; [2]Hit Rail, The Netherlands; [3]UNIFE, Belgium; [4]Polimi, Italy; [5]CEFRIEL, Italy

Analysis of the Market Actors Interests in Shift2Rail and Interoperability Framework Solutions
Guido Di Pasquale[1], John Stafford[2], Paolo Umiliacchi[3]
[1]UITP, Belgium; [2]RSSB, UK; [3]CNC, Italy

Posters
Level 0 CONGRESS CENTER

Addressing the Challenges of Supplying People with Daily Consumer Goods in Rural Areas
Harald Wahl[1], Lukas Rohatsch[1], Nicole Ringer[2]
[1]UAS Technikum Wien, Austria; [2]RaumRegionMensch, Austria

An Innovative Way to Embed Local Mobility Services Into the Transportation Networks
Maguelonne Chandesris[1], Jean-Baptiste Bonneville[2], Perrine Bouche[1]
[1]SNCF Innovation & Research, France; [2]Université Paris-Est, France

GoF4R – Governance of the Interoperability Framework for Rail and Intermodal Mobility
John Lutz[1], Stefanos Gogos[2], John Stafford[3], Guido Di Pasquale[4]
[1]UIC, France; [2]UNIFE, Belgium; [3]RSSB, UK; [4]UITP, Belgium

Identification of Relevant Aspects for Personal Air Transport System Integration in Urban Mobility Modelling
Anna Straubinger, Raoul Rothfeld
Bauhaus Luftfahrt e.V., Germany

Information or Integration? Supporting Multimodal Travelling Through Mobility Apps
Paula Ruoff[1], Thuy Chinh Duong[2], Marcel Buffat[3]
[1]KCW GmbH, Germany; [2]Motion-Tag GmbH, Germany; [3]Ecoplan AG, Switzerland

Linking Multimodal Traveller Information Services for Transnational Journey Planning
Bettina Neuhäuser[1], Alexander Hausmann[1], Domokos Esztergar-Kiss[2], Sorin Dumitrescu[3], Tamás Tettamanti[2]
[1]AustriaTech GmbH, Austria; [2]Institute for Computer Science and Control, Hungarian Academy of Sciences; [3]Electronic Solutions SRL

MASAI: Overcoming Mobility Barriers by Providing Tools and Mechanisms to Enable Seamless Travel Intelligent Digital Concierges in Everyone's Pocket
Jorge Vieira da Silva, MASAI Consortium
M2C - MASAI Mobility Community aisbl, Belgium

Multimodal Information Screen – Towards an Awareness Raising for the Use of Public Transport
Lukas Rohatsch, Mathias Ballner, Harald Wahl
Department of Information Engineering & Security, UAS Technikum Wien, Austria

Terminal On Rail - Air Baggage drop off during train ride to the airport
Bernhard Rüger[1], Christian Albl[2]
[1]Vienna University of Technology, Austria; [2]BB-Holding, Austria

DAY 1 - Monday 16 April 2018 - 17:00 - 18:30
ST2 5.2: Mobility as a Service and Mobility Management
People Mobility – Systems and Services

LEVEL 0
LEAHAR 1+2

Chair: Pekka Leviäkangas, VTT, Finland

Improvement of Rural Mobility in European Regions Affected by Demographic Change
Dana Sitanyiova[1], Sona Masarovicova[1], Sophie Golinski[2], Cino Repetto[3], Francesco Misso[3], Helena Luketič[4]
[1]University of Zilina, Slovak Republic; [2]Ministry of Regional Development and Transport of Saxony-Anhalt, Germany; [3]T Bridge S.p.A, Italy; [4]HŽ Passenger Transport Limited Liability Company, Croatia

Unravelling Travel Flow Dynamics: A Multi-Level Analysis of Public Transport Demand and Passenger Reliability
Patricia Bellver Muñoz[1], Oded Cats[2], Johanna Törnquist Krasemann[3], Clas Rydergren[4], Riccardo Scarinci[5], Marco Laumanns[6], Eva Muñoz[1]
[1]ETRA I+D, Spain; [2]Delft University of Technology, The Netherlands; [3]Blekinge Institute of Technology, Sweden; [4]Linköping University, Sweden; [5]cole Polytechnique Fédérale de Lausanne, Switzerland; [6]IBM Research, Switzerland

Developing the CIPTEC Toolbox for the Promotion of Public Transport Innovation
Saverio Gini[1], Giorgio Ambrosino[2], Evangelos Genitsaris[3], Dimitrios Nalmpantis[3], Brian Masson[4], Aristotelis Naniopoulos[3]
[1]MemEx, Italy; [2]Tiemme, Italy; [3]Aristotle University of Thessaloniki, Greece; [4]Ortelio Ltd, UK

Towards the Development of Real Time Services for an Optimized Multimodal Mobility Supported by Cooperative Networks and Open Data - Advances in TIMON Project
Hugo Landaluce[1,2], Leire Serrano[1,2], Enrique Onieva[1,2], Antonio D. Masegosa[1,2,3], Eneko Osaba[1,2], Pedro Lopez-Garcia[1,2]
[1]DeustoTech - Fundación Deusto, Bilbao, Spain; [2]Faculty of Engineering, University of Deusto, Bilbao, Spain; [3]IKERBASQUE, Basque Foundation for Science, Spain

Unlocking Large Scale Access to Combined Mobility Through MaaS applications in Europe: the IMOVE Approach
Marco Boero[1], Hans Arby[4], Paola Cossu[2], Marco Gorini[1], Stefano Persi[3]
[1]Softeco Sismat Srl, Italy; [2]FIT Consulting Srl, Italy; [3]Mosaicfactor S.L., Spain; [4]UbiGo Innovation AB, Sweden

Perceived Action Spaces for Public Actors in the Development of Mobility as a Service
Dalia Mukhtar-Landgren[1,2], Göran Smith[2,3,4]
[1]Lund University; [2]K2 – The Swedish Knowledge Centre for Public Transport; [3]Chalmers University of Technology; [4]Västra Götalandsregionen

Posters
Level 0 CONGRESS CENTER

Advancements in Passenger Processes at Airports – An aircraft Perspective
Michael Schultz[1], Michael Schmidt[2]
[1]German Aerospace Center (DLR), Germany; [2]Bauhaus Luftfahrt, Germany

ARMS - Asfinag Traveltime Management System
Thomas Mariacher[1], Katharina Bretis[1], Bernd Rainer[1], Felix Pletzer[2]
[1]ASFINAG Maut Service GmbH, Austria; [2]Intelliroad GmbH, Austria

Booking Processes in Autonomous Carsharing and Taxi Systems
Florian Dandl, Klaus Bogenberger
Bundeswehr University Munich

Computer Vision-Based Dynamic Monitoring of Multimodal Traffic in Streets
Ilan N. Goodman, Paul A. de Konkoly Thege, Tara W. Pham
Numina, United States of America

Digital Changes in Travel and Transportation Systems and Services. Using the SVIDT Method to Assess Digital Opportunities and Threats.
Dominik Kronberger[1,2], Malgorzata Zofia Goraczek[1], Thomas Schalko[1,3], Sebastian Kayser[1,4], Mirella Lafuente Peris[1,5]
[1]Danube University Krems, Austria; [2]CSC Computer Sciences Consulting Austria GmbH a DXC Technology company, Austria; [3]Magna Steyr AG & Co KG, Austria; [4]BIT Mosaik GmbH, Germany; [5]EUROBECAS, Diputació de València, Spain

Electronic Decisions for Public Transport Lines
Hans Fiby, Lukas Nebel, Klaus Heimbuchner
ITS Vienna Region / Verkehrsverbund Ost-Region (VOR) GmbH, Austria

Exploring the Living Lab Approach for Improving the Interoperability Between Local, Regional and Transnational Transport
Florian Kressler[1], Tamara Vlk[1], Gabriele Grea[3], Anja Seyfert[2], Doris Wiederwald[1]
[1]AustriaTech Ltd., Austria; [2]CERTeT – Bocconi University, Italy; [3]Redmint s.c.r.l, Italy

Productivity of Railway Stations: Case Study - New Delhi Railway Station
Rohit Anand, Sanjay Gupta
School of Planning and Architecture, New Delhi, India

Reviewing and Assessing Existing Innovations with High Potential for Higher Public Transport Use, with Special Focus on Mobility as a Service
Otto Cazemier[1], Hans Stevens[2], Thomas Geier[1]
[1]Mobycon, The Netherlands; [2]Verkeersonderneming Rotterdam, The Netherlands

The Impact of New Technologies on Mode Shift Towards Sustainable Travel: Findings from the STTRIDE Project
Marcus Jones[1], Jesse Fahnestock[2], Niklas Fernqvist[2], Jean Hopkin[1], Flora Ognissanto[1], Erkki Siira[3]
[1]TRL, UK; [2]RISE, Sweden; [3]VTT, Finland

Traffic Users Delays Variability at Pedestrian Crossings
Jacek Oskarbski, Lucyna Gumińska, Kazimierz Jamroz
Gdansk University of Technology, Poland

DAY 1 - Monday 16 April 2018 - 17:00 - 18:30
ST3 9.1: Big Data Enhancing Mobility Services
Digital Technologies for Transport

LEVEL 0
LEAHAR 3+4

Chair: Bernd Datler, ASFINAG, Austria

Assessing the Relevance of Mobile Phone Data to Estimate Origin-Destination Matrices
Wilfried Raballand
Cerema Centre-Est, France

Big Data Analytics in E-Commerce Logistics: Findings from a Systematic Review and a Case Study
Eleni Zampou[1], Christina Milioti[1], Aggelos Liapi[1], Vega Rodrigalvarez[2], Florian Flocke[3], George Dimitrakopoulos[4], George Bravos[5]
[1]Athens University of Economics And Business, Greece; [2]IT-AINNOVA, Spain; [3]Fraunhofer. Germany; [4]INTRASOFT INTL, Belgium; [5]ITML, Greece

Big Data for Low-Carbon Transport: an Overview of Applications for Designing the Future of Road and Air Transport
Michele De Gennaro[1], Alessandro Zanon[1], Helmut Kuehnelt[1], Marco Pretto[2], Pietro Giannattasio[2]
[1]AIT Austrian Institute of Technology GmbH, Center for Low-Emission Transport, Austria; [2]Dipartimento di Ingegneria Elettrica, Gestionale e Meccanica, University of Udine, Italy

Can Technologically Assisted Travel Surveys Improve Mode Choice Modelling? Differences and Improvements Compared to Travel Conventional Survey Data.
Christian Rudloff
AIT Austrian Institute of Technology GmbH, Austria

Positive Drive, a Gamified Tracking Campaign to Uncover Human Mobility Behavior in an Urban Business District
Martin Kracheel[1], Patrick van Egmond[1], Gaelle Tavernier[2]
[1]LuxMobility, Luxembourg; [2]IMS Luxembourg

The Transforming Transport Project – Mobility Meets Big Data
Rodrigo Castiñeira[1], Andreas Metzger[2]
[1]Indra Sistemas, Spain; [2]paluno (The Ruhr Institute for Software Technology), University of Duisburg-Essen

Posters
Level 0 CONGRESS CENTER

Analysis of Driving Behaviour Characteristics Based on Smartphone Data
Eleonora Papadimitriou, Dimitrios I. Tselentis, George Yannis
National Technical University of Athens, Greece

Crowdsourcing Techniques for Transport Planning and Operations
Andrew Nash
Emch + Berger AG Bern, Austria

Data as a Asset: EMT Open Platform for Transport Data in Madrid
Sergio Fernandez Balaguer, Mario González Fernández, Andrés Recio Martín
Empresa Municipal De Transportes De Madrid S.A., Spain

DATEX II Profiling and Testing
Bettina Neuhäuser, Wolfgang Kernstock, Katharina Zwick, Michael Zangl
AustriaTech, Austria

Machine Learning Techniques for Modeling Ships' Performance on Waves
Luka Grubisic[1], Dino Mandic[2], Luka Mudronja[3], Izvor Grubisic[4]
[1]Faculty of Science, Department of Mathematics, Croatia; [2]ITEL d.o.o., Croatia; [3]Faculty of Maritime Studies, Croatia; [4]Center for inovation in Small Craft Naval Architecture), Croatia

Real-Time Urban Traffic State Estimation and Prediction Using a Data-Fusion Framework Based on Link Neighbors

Luuk de Vries[1], Luc Wismans[2,3], Eric van Berkum[2]
[1]Sweco Nederland B.V., The Netherlands; [2]University of Twente, The Netherlands; [3]DAT.Mobility, The Netherlands

Use of GPS-Tracks and Multi-Agent Simulation MATSim to Support Incident Management of Public Transport Operators in Vienna.
Georg Kriebernegg, Jacqueline Aspäck, Christoph Schlager
IKK Kaufmann-Kriebernegg ZT-GmbH, Austria

DAY 1 - Monday 16 April 2018 - 17:00 - 18:30
ST4 4.1: Innovative Urban Freight Developments
Smart Urban Mobility & Logistics

LEVEL 1
SCHUBERT 4

Chair: Paola Cossu, FIT CONSULTING SRL, Italy

A Cross-Case Assessment of City Logistics Measures
Eftihia Nathanail, Ioannis Karakikes, Lambros Mitropoulos, Giannis Adamos
University of Thessaly, Greece

Urban Freight: What About Construction Logistics?
Cindy Guerlain, Samuel Renault, Francesco Ferrero
LIST, Luxembourg

Using a Consolidation Centre to Reduce Deliveries and Waste Collections from an Urban Uk Shopping Centre
Maria Triantafyllou[1], Tom Cherrett[2]
[1]Coventry University, UK; [2]Transportation Research Centre, University of Southampton, UK

Electric Freight Vehicles for Urban Logistics – Technical Performance, Economics Feasibility and Environmental Impacts
Yanjie Dong[1], John Polak[1], Terje Tretvik[2], Isabelle Roche-Cerasi[2], Hans Quak[3], Nina Nesterova[3], Tariq Van Rooijen[3]
[1]Imperial College London, UK; [2]SINTEF, Norway; [3]TNO, The Netherlands

Mobile Multi-Functional Urban Logistics-Platforms with Electric Drive Train
Arno Eichberger[1], Susanne Wrighton[2], Harald Kraus[1], Martin Hofstetter[1], Martin Ackerl[1], Ricardo Tiefengruber[1], Georg Peneder[1], Michael Schadler[1], Norbert Hafner[1], Günther Kronawetter[3], Angelika Rauch[3], Rudolf Hubauer[4]
[1]Graz University of Technology, Austria; [2]FGM-AMOR gemeinnützige GmbH, Austria; [3]tbw research GesmbH, Austria; [4]Scheuwimmer Fahrzeugbau GmbH, Austria

Thermal Management System for a Thermally Controlled Food Delivery Electric Vehicle Integrating Heat Pump, Cold Storage Unit, Solar Panels and PCT Resistors
Marco Biasiotto[1], Gregorio Iuzzolino[1], Gioele Sabato[1], Marco Grosso[1], Sergio Pozzato[1], Pietro Perlo[1], Reiner Jhon[2], Daniela Mayer[2], Christopher Roemmelmayer[2], Jaibin Wang[3], Helder-Philippe de-campos Garcia[4], Mathieeu Leborgne[4]
[1]ifevs; [2]infineon; [3]University of Sheffiled; [4]Hutchinson

Posters
Level 0 CONGRESS CENTER

A 2050 Vision for Energy Efficient and CO2-Free Urban Logistics
Martin Sven Ruesch[1], Simon Bohne[1], Thomas Schmid[1], Ueli Haefeli[2], Tobias Arnold[2], Tobias Fumasoli[3]
[1]Rapp Trans AG, Switzerland; [2]Interface, Switzerland; [3]ETH Zürich, Switzerland

Business Models Analysis of Construction Consolidation Centres
Carolina Navarro-Correcher, Carles Pérez-Cervera, Salvador Furió-Pruñonosa, Josep Sanz-Argent
Fundación Valenciaport, Spain

Crowdsourcing for Innovation in Public Transport: Planning, Implementation and Results of Five Different Campaigns in Europe

Evangelos Genitsaris[1], Ilias Trochidis[2], Hafieda El Aissati[3], Johannes Bardong[4], Giorgio Ambrosino[5]
[1]Aristotle University of Thessaloniki, Greece; [2]Tero Ltd., Greece; [3]Metropoolregio Rotterdam Den Haag, The Netherlands; [4]traffiQ, Germany; [5]Tiemme, Italy

Fluvial Transportation as Alternative Solution for Optimizing Restaurant Waste Management
Paul-Eric Dossou
Icam Site de Paris-Sénart, France

Improving Traffic Conditions Around Pedestrian Zone Using Microsimulation Software – Case Study: Town of Ruma
Vuk Bogdanovic[1], Nenad Ruskic[1], Nemanja Garunovic[1], Biljana Ivanovic[2], Valentina Basaric[1]
[1]Faculty of Technical Sciences, University of Novi Sad, Serbia; [2]Faculty of Civil Engineering, University of Montenegro, Podgorica

Simplified Scenario Based Simulation of Parcel Deliveries in Urban Areas Using Electric Cargo Cycles and Urban Consolidation Centers.
Christian Rudolph[1], Johannes Gruber[1,2], Gernot Liedtke[1]
[1]Institute of Transport Research at the German Aerospace Center (DLR), Germany; [2]Humboldt University of Berlin, Department of Geography, Germany

Smart Solution for Last Mile Problem in Urban Areas
Grzegorz Sierpiński, Marcin Staniek
Silesian University of Technology, Poland

Moving and Parking to Build the City: How Craftsmen and Small Businesses in the Building Industry Cope with Parking Constraints in Paris
Virginie Boutueil, Manon Eskenazi, Thomas Quillerier, Célia Tanguy
ENPC - LVMT, France

DAY 1 - Monday 16 April 2018 - 17:00 - 18:30
ST5 12.1: Social Aspects of Innovative Mobility
Socio-Economics, Innovation and Policy

LEVEL 1
SCHUBERT 1

Chair: Robert Missen, EC

A Social Equity Analysis of Swedish and Scottish National Transport Policy
Tom Rye
TRI Edinburgh Napier Uni, UK

Social Innovations for Transitioning Towards Sustainable Mobility
Petra Wagner
AIT Austrian Institute of Technology, Austria

Blockchains in Mobility and Logistics
Tuomo Kalevi Kinnunen[1], Keir Finlow-Bates[2], Juho Kostiainen[1], Lasse Nykänen[1], Kimmo Rouhiainen[2], Pekka Leviäkangas[1]
[1]VTT Technical Research Centre of Finland LTD, Finland; [2]Chainfrog Oy

A Cost Benefit Analysis of Self-Driving Vehicles on the Road
Peter Andersson, Pernilla Ivehammar
Linköping University, Sweden

Driver De-Skilling and its Effect for Safety in Autonomous Driving
Alexander Meschtscherjakov[1], Sandra Trösterer[1], Alexander Mirnig[1], Roderick McCall[2], Fintan McGee[2], Manfred Tscheligi[3]
[1]University of Salzburg, Austria; [2]Luxembourg Institute of Science and Technology, Luxembourg; [3]AIT Austrian Institute of Technology, Austria

Exploring Potential Impacts of Societal Dynamics on the Development of Autonomous Cars
Jens Schippl[1], Torsten Fleischer[1], Bernhard Truffer[2,3]

[1]Karlsruhe Institute of Technology (KIT), Germany; [2]Eawag, Switzerland; [3]Faculty of Geosciences, Utrecht University, The Netherlands

Posters
Level 0 CONGRESS CENTER

Estimating Costs and Benefits of C-ITS Deployment in Austria, England and the Netherlands Using the COBRA+ Tool
Kerry Marie Malone[1], Flora Ognissanto[2], Philippe Nitsche[3], Aroen Soekroella[1], Jean Hopkin[2]
[1]TNO, The Netherlands; [2]TRL, UK; [3]AIT Austrian Institute of Technology, Austria

Measuring Success of ITS Services and their Implementation
Xavier Leal[1], Arno Schroten[2], Peter Scholten[2], Olatunde Baruwa[3], Eleni Anoyrkati[4], Alexeis Garcia-Perez[5], Alba Lina Avarello[4], Anitha Chinnaswamy[5]
[1]Ortelio Ltd, UK; [2]CE Delft, The Netherlands; [3]Universitat Autonoma de Barcelona, Spain; [4]Coventry University Enterprises, UK; [5]Coventry University, UK

On the Public Acceptance of Autonomous Driving and its Impacts on Further Considerations in Austria and Beyond
Daniela Patz
KFV (Austrian Road Safety Board), Austria

The Introduction of Automated Vehicles and its Implications for Society and the Environment
Maria Angerer[2], Alfons Bauernfeind[2], Tobias Haider[1], Philipp Haydn[1], Roman Klementschitz[3]
[1]UbiGo, Austria; [2]Institute for participatory social research; [3]University of Natural Resources and Life Sciences, Institute for Transport Studies

The Role of ICT-Based Innovations in Transforming Intermediate Transport Modes in Africa. The Cases of Cape Town, Nairobi, and Addis Ababa
Virginie Boutueil, Gaele Lesteven
ENPC LVMT, France

DAY 1 - Monday 16 April 2018 - 17:00 - 18:30
ST6 8.1: Automated Transport: Enabling Methods and Technologies
Connected and Automated Transport

LEVEL 0
STOLZ 1

Chair: Ludger Rogge, EC

Deep Learning Application for 3D LiDAR Odometry Estimation in Autonomous Vehicles
Miguel Clavijo, Alberto Díaz, Francisco Serradilla, Felipe Jiménez, José Eugenio Naranjo
INSIA - Universidad Politécnica de Madrid, Spain

Augmented Perception by V2X Communication for Safety of Autonomous and Non-Autonomous Vehicles
Pierre Merdrignac, Oyunchimeg Shagdar, Samir Tohmé, Jean-Laurent Franchineau
VEDECOM, France

Advances in Road Infrastructure, both Physical and Digital, for Mixed Vehicle Traffic Flows
Panagiotis Lytrivis[1], Evdokia Papanikolaou[1], Angelos Amditis[1], Martin Dirnwöber[2], Alexander Froets cher[2], Robert Protzmann[3], Werner Rom[4], Andreas Kerschbaumer[4]
[1]Institute of Communication and Computer Systems, Greece; [2]AustriaTech; [3]Fraunhofer FOKUS, Germany; [4]Virtual Vehicle Research Center, Austria

Wi-Fi and Bluetooth Based Sensors for Pedestrian Detection in Urban Areas
Maximilian Franz Böhm, Eirin Ryeng, Torbjørn Haugen
NTNU Norwegian University of Science and Technology, Norway

ODAS – An Anti-Collision Assistance System for Light Rail Vehicles and further Developments
Landri Fel[1], Christian Zinner[2], Clemens Reisner[3], Thomas Kadiofsky[2], Wolfgang Pointner[2], Johannes Weichselbaum[2]
[1]BTA Bombardier Transportation Austria; [2]AIT Austrian Institute of Technology GmbH, Austria; [3]ME Mission Embedded

Internet of Things at Sea: Using AIS and VHF over Satellite in Remote Areas
Tu Dac Ho[1], Marianne Hagaseth[1], Agathe Rialland[1], Ørnulf Jan Rødseth[1], Ruben Gonzalez Criado[2], Georgios Ziaragkas[2]
[1]SINTEF Ocean, Norway; [2]Avanti Communications Group

Posters
Level 0 CONGRESS CENTER

A Flexible Automotive Systems Architecture for Next Generation ADAS
Johannes Hiltscher[1], Sri Venkata Naga Phanindra Akula[1], Robin Streiter[2], Prof. Gerd Wanielik[1]
[1]Technische Universität Chemnitz, Germany; [2]NAVENTIK GmbH, Germany

A New Clustering Structure for VANET
Lucas Rivoirard[1], Martine Wahl[1], Patrick Sondi[2], Marion Berbineau[1], Dominique Gruyer[3]
[1]Univ Lille Nord de France; [2]Univ. Littoral Côte d'Opale, France; [3]IFSTTAR, COSYS, LIVIC, France

Current and Potential Negative Effects of Autonomous Vehicles
Carlo Polidori[1], Marco Petrelli[2], Paola Di Mascio[3], Giuseppe Cantisani[3]
[1]Associazione Italiana Professionisti Sicurezza Stradale, Italy; [2]Università ROMA TRE, Italy; [3]Sapienza Università di Roma, Italy

Determination and Prediction of Traffic Conditions Using an Extended FCO Approach
Michael Schaefer, Robert Hoyer
University of Kassel, Germany

End-to-End Latency in HAD Applications Using Cloud Technology
Gottfried Allmer[1], Manfred Harrer[1], Bernd Datler[1], Peter Hrassnig[1], Felix Pletzer[2], Vijay Mudunuri[2], Dominik Figl[3], Oliver Hunger[4], Georg Joo[4]
[1]ASFINAG, Austria; [2]Intelliroad, Austria; [3]Tieto, Austria; [4]Cellent, Austria

iKaaS Project: "Intelligent Knowledge-As-A-Service Platform"
Sergio Fernández Balaguer[1], Andres Recio Martín[1], Guadalupe Rodríguez Díaz[2], Patricia Cervigón[3], Consuelo de Garrastazu[4]
[1]Empresa Municipal De Transportes De Madrid (Emt Madrid); [2]ATOS Research & Innovation; [3]Red Palinocam. D.G. De Salud Pública. Comunidad De Madrid; [4]Instituto De Salud Pública. Madrid Salud. Ayuntamiento De Madrid

V2X - Beyond The Horizon
Oliver Brandl
Kapsch TrafficCom AG, Austria

DAY 1 - Monday 16 April 2018 - 17:00 - 18:30
ST7 4.2: New Urban Mobility Services
Smart Urban Mobility & Logistics

LEVEL 1
SCHUBERT 5+6

Chair: Ivo Cré, POLIS, Belgium

Supporting Urban Integrated Transport Systems: Transferable Tools for Local Authorities (SUITS)
Marco Diana[1], Miriam Pirra[1], Andree Woodcock[2], Sofia Martins[3]
[1]Politecnico di Torino, Italy; [2]Coventry University, UK; [3]VTM Global, Portugal

The European Roadmap 2025 for Mobility as a Service
Jenni Eckhardt[1], Aki Aapaoja[1], Lasse Nykänen[1], Jana Sochor[2], MariAnne Karlsson[2], David König[3]
[1]VTT Technical Research Centre of Finland Ltd.; [2]Chalmers University of Technology; [3]AustriaTech

The Mobility as a Service Maturity Index: Preparing the Cities for the Mobility as a Service Era
Maria Kamargianni, Richard Goulding,
University College London, UK

A Network Based Method to Study Urban Sharing Mobility: The Case of Milan
Melisa Lucia Diaz Lema[1], Andrea Robbiani[1], Arnaboldi Michela[1], Vantini Simone[2]
[1]Dipartimento di Ingegneria Gestionale, Italy; [2]MOX Laboratory for Modeling and Scientific Computing, Italy

The Vehicle Relocation for Electric Free-Floating Car Sharing Services
Roberto Nocerino[1], Paola Tresca[1], Maurizio Bruglieri[2], Alessandro Luè[1], Luca Studer[2]
[1]Poliedra, Italy; [2]Dipartimento Design, Italy

Modelling and Control of Innovative Car Sharing Services based on Stackable Electric vehicles
Raffaele Bruno[1], Mohamed H. Laarabi[1], Chiara Boldrini[1], Helen Porter[2], Peter Davidson[2]
[1]IIT-CNR, Italy; [2]Peter Davidson Consultancy Ltd, UK

Posters
Level 0 CONGRESS CENTER

A Co-Creation Approach to Identifying Vehicle-Sharing Concepts for Future Markets
Benjamin Walter[1], David Mark Storer[2], Albert Albers[1], Cristina Barberi[2]
[1]Karlsruhe Institute of Technology (KIT), Germany; [2]Centro Ricerche FCA (CRF)

Highly Automated Driving Bus in Urban Scenarios
Ray Lattarulo, Mauricio Marcano, Jose Angel Matute, Joshué Manuel Pérez Rastelli, Jesus Murgoitio, Alberto Peña
Tecnalia, Spain

New Ropeway System for Smart Urban Mobility & Logistics in Graz
Wolfgang Trummer[1], Norbert Hafner[1], Martin Fellendorf[2], Karl Hofer[2], Kurt Fallast[3], Georg Huber[3]
[1]Institut für Technische Logistik (ITL), Graz University of Technology, Austria; [2]Institut für Straßen- und Verkehrswesen (ISV), Graz University of Technology, Austria; [3]PLANUM Fallast Tischler & Partner GmbH

Smartness of Urban Mobility and "Quality of Life" in Vienna
Hermann Knoflacher, Harald Frey, Ulrich Leth
Vienna University of Technology, Austria

Turnaround Succeeded! Analysis of Impacts of Sustainable Transport Policies in Vienna and Four Other European Capital Cities
Oliver Roider[1], Roman Klementschitz[1], Regine Gerike[2], Rico Wittwer[2], Charlotte Halpern[3]
[1]University of Natural Resources and Life Sciences Vienna (BOKU), Austria; [2]Techincal University Dresden, Germany; [3]Sciences Po Paris, France

INVITED SESSIONS

DAY 1 - Monday 16 April 2018 - 17:00 - 18:30
INV1: How to Enable Interoperable and Seamless Cross-Border C-ITS Services in Europe

LEVEL 0
STOLZ 2

While the European Commission published its C-ITS Strategy in November 2016, the European industry in parallel stated its intention to start full scale deployment of C-ITS enabled vehicles in 2019.
Since the start of the C-Roads Platform in December 2016, there are numerous initiatives on the changing roles and responsibilities to be expected in the near to mid-term future. Road operation and traffic management will need to be adapted in order to enable safe, reliable, efficient and environmentally friendly mobility. This means new challenges, but also new opportunities for road operators and traffic managers.

This session will bring together key stakeholders from the European Commission, industry as well as Member States to discuss the feasibility of having the first C-ITS services available for European travellers in 2019.

Organiser:

Martin Böhm, AustriaTech

Panellists:

Claire Depre, EC, DG MOVE
Martin Böhm, Austriatech
Niels Peter Skov Andersen, Anemone Technology
Joost Vantomme, ACEA
Manfred Harrer, ASFINAG
Serge Van Dam, Rijkswaterstaat
Torsten Geißler, BASt

DAY 1 - Monday 16 April 2018 - 17:00 - 18:30

INV2: Aviation as an Integral Part of the Multimodal Transport System – Addressing Future Challenges Together

LEVEL 0
STRAUSS 1-3

Aviation by nature depends on a multimodal transport system in order to provide good door-to-door connectivity and ensure customer service. Aviation faces many challenges very similar to other modes. Lessons learned in aviation may provide important input to other modes, while in other aspects aviation may benefit from experiences or research results from other sectors. Cooperation between aviation and other transport modes to address these common challenges may provide synergies and increased efficiencies for all and foster more integrated transport concepts.
This session will provide an important opportunity to

- learn about aviations' strategic areas of research and innovation
- discuss the integration of the optimised air transport system into the entire sustainable, reliable, comfortable, affordable, safe and secure transport system
- identify overlaps and commonalities with challenges of other participating modes and organisations
- initiate further cooperation and information exchange

Organisers:

Naresh Kumar, Rolls Royce
Uwe Möller, Henrik Nielsen, Vasttrafik
Christoph Schneider, Munich Airport, ACARE

Panellists:

Nicolas Jeuland, Safran Group
Sebastiano Fumero, EC, DG RTD
Andrea Gentili, EC, DG RTD
Joris Melkert, TU Delft
Uwe Möller, DLR Deutsches Zentrum für Luft- und Raumfahrt
Barry Kirwan, Eurocontrol
Neil Harris, Airbus
Christoph Schneider, Airport Munich, ACARE

MARKETPLACE POSTER DAY 1

DAY 1 - Monday 16 April 2018 - 12:00 - 19:00

Self-Adaptable Energy and Power Routing System Network for Efficient Thermal Management of Fully Electrical Vehicles

Gregorio Iuzzolino[1], Pietro Perlo[1], Christopher Roemmelmayer[2], John Reiner[2], Daniela Maier[2], Mathieu Leborgne[3], Helder Filipe De Campos Garcia[3], Marco Biasiotto[1], Marco Grosso[1], Sergio Pozzato[1], Gioele Sabato[1], Davide Penserini[1], Jiabin Wang[4]

[1]I-FEVS, Italy; [2]Infineon,Germany; [3]Hutchinson,France; [4]University of Sheffield, UK

A New Packaging Solution for Li-Ion Battery Cells

Stephane Dessors[1], Cécile Reynaud[1], Maximilian Barth[2], Thomas Meissner[2], Yan Lopez[3], Come Leys[3], Yvan Reynier[3], Willy Porcher[3], Lionel Tenchine[1]

[1]IPC, France; [2]Hahn-Schickard; [3]Université Grenoble Alpes, CEA-LITEN, France

Life Cycle Costing Analysis (LCCA) for New Generation of Lithium-Ion Batteries

Ajinkya Ganesh Metkar, Lukas Richter, Christina Thun, Paul Siggelkow, Tobias Petry, Gunther Reinhart

Techinal University of Munich, Institute for machine tools and industrial management (iwb),Germany

aDrive - Innovative Simulation Toolset for Vehicle Automation Systems Assessment

Mikolaj Kruszewski[1], Arkadiusz Matysiak[1], Michał Niezgoda[1], Tomasz Kamiński[1], Krystian Konarzewski[2], Michał Pędzisz[2], Grzegorz Zamecznik[2]

[1]Motor Transport Institute, Poland; [2]SEARCH S.C. - Safety Engineering Research

Affordable, Multi Material, Light Weight Structure for a Safe Urban Electric Vehicle

Dieter Horwatitsch[1], Javier Romo[2], Javier Perez[3], Diego Val[4], Klaus Lipp[5], Fermo Maspero[6], Ralph Schäfer[7], Francisco Podadera[8]

[1]LKR Leichtmetallkompetenzzentrum Ranshofen GmbH, Austria; [2]Cidaut Foundation, Spain; [3]Estampaciones Casple, Spain; [4]Grupo Antolín Ingeniería, Spain; [5]Fraunhofer LBF, Germany; [6]Fonderia Maspero, Italy; [7]PST Products, Germany; [8]CREADORA NBC, Spain

Very Low Underwater Background Noise Test Bed

Salvatore Mauro - CNR-INSEAN, Italy

Common Logistics Functions for Shopping Centres

Tale Ørving, Olav Eidhammer, Jardar Andersen, Karin Fossheim

Institute of Transport Economics, Norway

My-Moby : A Customer Oriented Tool to Support Integrated Transport and Resilient Communities

Cristina Pronello[1], Jean-Baptiste Gaborieau[2]

[1]Sorbonne Universités - Université de Technologie de Compiègne; [2]Politecnico di Torino

Successful Demonstration of Battery Electric Buses Worldwide – A Game Changer in Urban Public Transport

Gerfried Jungmeier - JOANNEUM RESEARCH, Austria

GreisslerPLUS - Towards Local Supply in Rural Areas

Lukas Rohatsch, Harald Wahl, Josef Wagner

Department of Information Engineering & Security, UAS Technikum Wien, Austria

Life Cycle Analysis of Expanded Public Transport with Electric Passenger Ferries in Oslo, Norway

Espen Nordtveit[1], Reyn Joseph O'Born[1], Bernhard Faessler[2]

[1]University of Agder, Norway; [2]Vorarlberg University of Applied Sciences, Austria

Diffusion of Bike-Sharing System use in Cluj-Napoca, Romania

Cristian Tosa[1], Tomio Miwa[2], Hitomi Sato[3], Takayuki Morikawa[3]

[1]Technical University of Cluj Napoca, Romania; [2]Institute of Materials and Systems for Sustainability, Nagoya University; [3]Institute of Innovation for Future Society, Nagoya University

Numina: Real-Time Insights from Streets to Make Cities More Responsive
Ilan N. Goodman, Paul A. de Konkoly Thege, Tara W. Pham
Numina, USA

The Mobility Services Hub (MSH) - The One-Stop-Shop for Urban and Regional Mobility
Sebastian Haas[1,2]
[1]Mobility Services Hub MSH GmbH, Austria; [2]MEP Mobile Equity Partners GmbH, Austria

MoveWise: Enrichment of Real-Time Public Transportation Data with User Feedback through Participatory Crowdsensing
Sylwester Arabas, Alexandros Papacharalampous
AETHON Engineering Consultants, Greece

DynaHUBs: Crowdsourcing the Physical Internet in your Neighbourhood
Pelin Smines[1], Mehmet Golhan[1], Jose Papi[2]
[1]LOJIKA FIELD LABS, Turkey; [2]Etelätär Innovation OÜ

Ethnographic Study of Pedestrian Decision-Making Processes to Inform the Design of External Human-Machine Interaction Concepts for Autonomous Vehicles
Markus Rothmueller[1], Pernille Holm Rasmussen[1], Alexandra Vendelbo-Larsen[1], Ruth Madigan[2], Fanta Camara[2], Charles Fox[2], Oscar Giles[2], Gustav Markkula[2], Natasha Merat[2]
[1]Aalborg University Copenhagen, Denmark; [2]Institute for Transport Studies, University of Leeds, UK

Co-Active: CO-Modal Journey Re-ACcommodation on Associated Travel SerVices
Edouard Carpentier de Changy, Nihad BAHRI
Thales Group, France

FutureDRV Profile - Tasks and Roles of Professional Drivers and Qualification Requirements in 2030 and Beyond
Tanja Bacher, Claudia Ball
3s research laboratory, Austria, DEKRA Academy, Germany

Demographic, Behavioural, Cultural and Socioeconomic Factors on Transport Sector Workforce in Europe
Maria Pomoni[1], Alexandra Laiou[1], Christina Plati[1], George Yannis[1], Matina Loukea[2], Evangelos Bekiaris[2]
[1]National Technical University of Athens, Greece; [2]Hellenic Institute of Transport-Centre for Research and Technology Hellas, Greece

BUGA:log: Investigating the Public Acceptance of Autonomous Delivery Vehicles in Urban Transportation Systems
Sebastian Kapser - Hochschule Heilbronn, Germany

MOP - Mobility Operation Platform
Alessandra Raffone
Almaviva The Italian Innovation Company S.p.A., Italy

Planning and Optimization of Mobility Solutions - Enabling MaaS
Martin Reinthaler
AIT Austrian Institute of Technology GmbH, Austria

Towards Efficient Linear Transport Infrastructure Maintenance. Final Developments of the Infralert Project
Jacobo Peralta-Escalante[1], Noemi Jiménez-Redondo[1], Antonio Reyes[2], Noelia Caceres[2], Ute Kandler[3], Axel Simroth[3], András Juszt[4], Tamás Hanák[4], João Morgado[5], Emanuel Duarte[5], Johan Odelius[6], Adithya Thaduri[6], Marco Fruttero[7], Daniele Iorio[7]
[1]CEMOSA, Spain; [2]Universidad de Sevilla, Spain; [3]Fraunhofer-Institut für Verkehrs- und Infrastruktursysteme IVI, Germany; [4]REGENS, Hungary; [5]Infraestruturas de Portugal; [6]Lulea Tekniska Universitet, Universitetsomradet Porson, Sweden.; [7]DMA s.r.l, Italy

Joining Battery Real Scenarios and Parameters with an Effective Battery Testing Procedure
Iosu Cendoya[1], César Gutiérrez[1], Hartmut Popp[2], Karin Davidsson[3], Ingvar Karlson[3], Aneta Dumitrescu[4], Luca Nuti[5], Andrea Grassi[5], Mauro Franceso Sgroi[6], Istaq Ahmed[7]
[1]CIDETEC Energy Storage, Spain; [2]AIT Austrian Institute of Technology GmbH, Austria; [3]RISE, Sweden; [4]Lithops, Italy; [5]Piaggio, Italy; [6]CRF, Italy; [7]Volvo Trucks, Sweden

DAY 2
Tuesday 17 April

SCIENTIFIC AND TECHNICAL SESSIONS

DAY 2 - Tuesday 17 April 2018 - 08:30 - 10:00
ST8 8.2: Automated Transport: Scenarios, Fundamentals, Regulation
Connected and Automated Transport

LEVEL 0
STRAUSS 1-3

Chair: Ingrid Skogsmo, EC

Posters
Level 0 CONGRESS CENTER

Road Riding Hazardous Situations for Motorcycles
Claire Naude[1], Thierry Serre[1], Christophe Perrin[1], Michèle Guilbot[1], Vincent Ledoux[2]
[1]IFSTTAR, France; [2]CEREMA, France

Going Driverless: the Legal Consequences of Making the Human Driver Redundant
Nynke Elske Vellinga
University of Groningen, The Netherlands

CODECS - Coordination and Support for C-ITS in Europe
Sandro Berndt[1], Karl-Oskar Proskawetz[2], Torsten Geißler[1], Holger Drees[1]
[1]Bundesanstalt für Straßenwesen - Federal Highway Research Institute, Germany; [2]ITS Automotive Nord

Scenarios for the Development of Self-Driving Vehicles in Freight Transport
Ida Kristoffersson[1], Anna Pernestål Brenden[2]
[1]VTI Swedish Road and Transport Research Institute, Sweden; [2]KTH Royal Institute of Technology

Feasibility Study of Trains Involvement in Electrical Demand-Response
Tony Letrouve, Guillaume Gazaignes
SNCF, France

Railway Cybersecurity: on the Way of a Common and Integrated Approach
François Hausman[1], Claudia Lutze[2], Darren Hepburn[3], Aitor Erdozain[4]
[1]Alstom Transport S.A., Belgium; [2]Thales Austria GmbH, Austria; [3]Network Rail, UK; [4]CAF, Spain

Airports: Spanish Initiative for "Airport Improvement Research on Processes & Operations of Runway, TMA and Surface"
Jesus Murgoitio[1], Francisco A. Navarro[2], Izaro Etxebarria[3], Joshué Manuel Perez[1], Ray Alejandro Latarulo[1]
[1]TECNALIA, Spain; [2]Boeing Research & Technology Europe; [3]Ikusi - Velatia

ATLAS – Establishing the mapping requirements for fully autonomous navigation
P A Morgan, H E Viner, M A Wright
TRL Limited, UK

AUTOCITS - Regulation Study for Interoperability in the Adoption of Autonomous Driving in European Urban Nodes
Rodrigo Castiñeira[1], Mauro Gil Cabeza[1], Jose Eugenio Naranjo[2], Felipe Jimenez[2], Cristiano Premebida[3], Pedro Serra[4], Alberto Vadejo[4], Fawzi Nashashibi[5], Mohammad Y Abualhoul[5], Alireza Asvadi[3]
[1]Indra Sistemas, Spain; [2]Universidad Politécnica de Madrid (UPM); [3]Dept of Electrical and Computer Engineering, University of Coimbra; [4]Instituto Pedro Nunes; [5]Institut National de Recherche En Informatique Et En Automatique

Framework for Assessing the Impacts of Automated Driving
Satu Innamaa[1], Scott Smith[2], Yvonne Barnard[3], Lydia Rainville[2], Hannah Rakoff[2], Ryota Horiguchi[4], Helena Gellerman[5]
[1]VTT, Finland; [2]Volpe Center, US DOT, US; [3]University of Leeds, UK; [4]i-Transport Lab., Japan; [5]SAFER, Sweden

ICT Infrastructure for Cooperative, Connected and Automated Transport in Transition Areas
Meng Lu[1], Robbin Blokpoel[1], Julian Schindler[2], Sven Maerivoet[3], Evangelos Mintsis[4]
[1]Dynniq, The Netherlands; [2]German Aerospace Center (DLR),

Germany; [3]Transport & Mobility Leuven, Belgium; [4]Center for Research and Technology Hellas (CERTH) / Hellenic Institute of Transport (HIT), Greece

SMART Concept of an Integrated Multi-Sensory On-Board System for Obstacle Recognition
Danijela Ristić-Durrant[1], Muhammad Abdul Haseeb[1], Damon Emami[1], Axel Gräser[1], Vlastimir Nikolić[2], Ivan Ćirić[2], Milan Banić[2], Branislav Brindić[3], Dragan Nikolić[3], Dušan Radovanović[3], Florian Eßer[4], Christian Schindler[4]

[1]Institute of Automation, University of Bremen, Germany; [2]Faculty of Mechanical Engineering, University of Niš, Serbia; [3]HARDER digital SOVA, Niš, Serbia; [4]Institute of Rail Vehicles and Transport Systems, RWTH Aachen University, Germany

Recommendations on Regulatory Framework and Standardisation Proposals Based on COMPANION Project
Marta Tobar, Marcos Pillado, Carles Lujan, Adriana Lladó
Applus IDIADA Group, Spain

DAY 2 - Tuesday 17 April 2018 - 08:30 - 10:00
ST9 5.4: Data Management and Demand Analysis
People Mobility – Systems and Services

LEVEL 0
LEHAR 1+2

Chair: Mikko Räsänen, Finnish Transport Safety Agency, Finland

Quantifying the Impact of Crisis on Bus User Satisfaction and Perceptions. Evidence from Athens, Greece.
Dimitrios Efthymiou[1], Constantinos Antoniou[1], Yannis Tyrinopoulos[2]
[1]Technical University of Munich (TUM), Germany; [2]TEI Athens, Greece

Modal Substitution in Urban Transport: a Stated Preference Approach
Nils Fearnley, Stefan Flügel, Marit Killi
Institute of Transport Economics, Norway

Combination of Traditional and New Methods for the Analysis of Travel Patterns: the Case of Nationwide Public Transport OD Matrices in Hungary
András Munkácsy, Vilmos Oszter
KTI Institute for Transport Sciences, Hungary

Analysis of the Effects of Establishing Affordable Annual Tickets in Vienna
Dominik Bieland, Carsten Sommer
Chair of Transportation Planning and Traffic Systems, Department of Civil and Environmental Engineering, University of Kassel, Germany

Impact of Public Transport Service Disruptions on Ensuing Travel Strategies and the Relevant Sources of Travel Information – a Passenger Survey Analysis
Arkadiusz Adam Drabicki[1], Md Faqhrul Islam[2]
[1]Cracow University of Technology, Poland; [2]Edinburgh Napier University, UK

Data Standards for Interoperability of Systems and People Mobility
Kasia Bouree[1], Fabrizio Arneodo[2], Christophe Duquesne[3], Gergely Nitsch[4], Ulf Bjersing[5], Nicholas Knowles[6], Stuart Reynolds[7], Andrej Tibaut[8]
[1]KBIC, France; [2]5T, Italy; [3]Aurige, France; [4]One Planet Engineering, Hungary; [5]Hogia, Sweden; [6]Steam Intellect, UK; [7]Reynolds Consultancy, UK; [8]University of Maribor, Slovenia

Posters
Level 0 CONGRESS CENTER

Changes in Commuters Travel Behaviour after Introducing High-Quality Regional Railway Services
Tomasz Kulpa, Rafał Kucharski, Arkadiusz Drabicki, Justyna Mielczarek
Politechnika Krakowska (Cracow University of Technology), Poland

Customers' Demands for Multimodal Tariffs
Claudia Witte, Carsten Sommer
Chair of Transportation Planning and Traffic Systems, Department of Civil and Environmental Engineering, University of Kassel, Germany

Exploring and Evaluating Users' Satisfaction and Perceptions at an Urban Transport Hub
Eftihia Nathanail, Maria Tsami, Giannis Adamos
University of Thessaly, Greece

Multidimensional Comparatives Analysis of Transport Behavior of Urban Residents. The Case of Polish Cities
Sebastian Saniuk[1], Cheba Katarzyna[2]
[1]University of Zielona Gora, Poland, Poland; [2]West Pomeranian University of Technology in Szczecin, Poland

The HARMONY Project – Study for the Harmonization of Data in the Public Transport Network and Road Network
Jorge Alfonso Kurano[1], José Manuel Menéndez García[1], Daniel Perales Martín[2], Rodrigo Castiñeira González[2], Mauro Gil Cabeza[2]
[1]Universidad Politécnica de Madrid, Spain; [2]Indra Sistemas, Spain

Towards a Microeconomic Theory of For-Hire Services
Fabien Leurent[1,2], Jaâfar Berrada[2,3]
[1]Université Paris Est; [2]LVMT; [3]VEDECOM

Which Factors Influence Non-Motorized Mobility and Mode Choice? A Practical Application of the Theory of Planned Behaviour.
Anita Eichhorn, Eva Aigner-Breuss, Eveline Braun
KFV (Austrian Road Safety Board), Austria

DAY 2 - Tuesday 17 April 2018 - 08:30 - 10:00
ST10 10.6: Policy, Data, Knowledge & Decision Making in Road Safety
Safe, Secure and Resilient Transport Systems

LEVEL 0
LEHAR 3+4

Chair: Pete Thomas, Loughborough University, UK

SafetyCube - the European Road Safety Decision Support System
George Yannis[1], Eleonora Papadimitriou[1], Athanasios Theofilatos[1], Pete Thomas[2], Ashleigh Filtness[2], Heike Martensen[3], Wouter Van den Berghe[3], Kevin Diependaele[3], Rune Elvik[4], Klaus Machata[5], Susanne Kaiser[5], Eva Aigner-Breuss[5], Wendy Weijermars[6], Thierry Hermitte[7], Rob Thomson[8]
[1]National Technical University of Athens; [2]Loughborough University; [3]VIAS Institute; 4Institute of Transport Economics (TOI); [5]KFV (Austrian Road Safety Board), Austria
[6]Stichting Wetenschappelijk Onderzoek Verkeersveiligheid (SWOV); [7]LAB (PSA Peugeot Citroën); [8]Chalmers University

Road User Related Risks and Measures – Evidence Based Decision Support for Road Safety Policy
Susanne Kaiser[1], Eva Aigner-Breuss[1], Heike Martensen[2], Rachel Talbot[3], Athanasios Theofilatos[4]
[1]KFV (Austrian Road Safety Board), Austria; [2]VIAS Institute, Belgium; [3]Loughborough Design School, University of Loughborought, UK; [4]Department of Transportation Planning and Engineering, NTUA, Greece

Costs of Road Crashes in Europe
Wim Wijnen[1], Annelies Schoeters[2], Ward Vanden Berghe[2], Robert Bauer[3], Wendy Weijermars[1], Heike Martensen[2], Laurent Carnis[4], Rune Elvik[5]
[1]SWOV; [2]BRSI; [3]KFV (Austrian Road Safety Board), Austria; [4]IFSTTAR; [5]TOI

Ethical Issues in Road Safety Policy-Making
Wouter Van den Berghe
Vias institute, Belgium

Accident Prediction in European Countries – Development of a Practical Evaluation Tool
Francesca La Torre[1], Niccolò Tanzi[1], George Yannis[2], Anastasios Dragomanovits[2], Thomas Richter[3], Stephan Ruhl[3], Niovi Karathodorou[4], Daniel Graham[4]
[1]University of Florence, Italy; [2]National Technical University of Athens, Greece; [3]Technical University of Berlin, Germany; [4]Imperial College of London, UK

Developing the African Road Safety Observatory
George Yannis[1], Stergios Mavromatis[1], Alexandra Laiou[1], Katerina Folla[1], Antonino Tripodi[2], Luca Persia[2], Davide Usami[2], Eleonora Meta[2]
[1]National Technical University of Athens, Greece; [2]Università degli Studi di Roma "La Sapienza"

Quantification of Accident Probabilities for a Risk Observatory

Chong Wang[1], Sylvain Metge[2], Florian Holzapfel[1]
[1]Technical University of Munich, Germany; [2]Airbus Operations SAS

Posters
Level 0 CONGRESS CENTER

Costs Related to Serious Road Injuries

Annelies Schoeters[1], Wim Wijnen[2], Laurent Carnis[3], Wendy Weijermars[2], Rune Elvik[4], Heiko Johannsen[5], Ward Vanden Berghe[1], Steven Reed[6], Stijn Daniels[1]
[1]Vias institute, Belgium; [2]SWOV, Stichting Wetenschappelijk Onderzoek Verkeersveiligheid, The Netherlands; [3]IFSTTAR, Institut français des sciences et technologies des transports, de l'aménagements et des réseaux, France; [4]TOI, Transportøkonomisk institutt, Norway; [5]MHH, Hannover Medical School, Germany; [6]LOUGH, Loughborough University, UK

Implementing Effective Automated Traffic Enforcement in African Countries

Bruno Kinyaga
Sensys Gatso Group, Tanzania

Traffic Safety Culture – A New Paradigm for Road Safety?

Gerald Furian[1], Susanne Kaiser[1], Klaus Machata[1], Birgit Salamon[1], Christopher Schlembach[2]
[1]KFV (Austrian Road Safety Board), Austria; [2]University of Vienna, Department of Sociology, Austria

DAY 2 - Tuesday 17 April 2018 - 08:30 - 10:00

ST11 4.3: ICT, Data and Modelling Approaches to Enhance Urban Transport

Smart Urban Mobility & Logistics

LEVEL 0
STOLZ 1

Chair: Wolfgang Ponweiser, AIT Austrian Institute of Technology GmbH, Austria

The Leading Role of Public Transport for Successful MaaS Deployment in Europe

Karine Sbirrazzuoli, Guido Di Pasquale
UITP, Belgium

Developing an Open Source Platform for the Evaluation of Intelligent Traffic Control Algorithms

Bo Gao[1], Bani Anvari[1], Christos Tsotskas[2], Patrizia Franco[2], Simon Box[1]
[1]University of Southampton, UK; [2]Transport Systems Catapult, UK

URBANWISE - Efficient Urban Deliveries by Means of an IT Platform

Hinko Van Geelen[1], Milena Janjevic[2]
[1]BRRC (Belgian Road Research Centre), Belgium; [2]Qalinca - Université libre de Bruxelles

LIFE Project: Implementing a Modelling Framework for Emergency Vehicles Advanced Priority Strategies

Fabio Galatioto[1], Vittoria Parisi[2], Ecaterina McCormick[1], Ali Fereidoonian[1]
[1]Transport Systems Catapult, UK; [2]Immense Simulations Ltd, UK

TransportBuddy: Navigation in Human Accessible Spaces

Markus Bader, George Todoran, Florian Beck, Benjamin Binder, Klaus Buchegger
Vienna University of Technology, Austria

Augmented and Virtual Reality Applied for Innovative, Inclusive and Efficient Participatory Planning

Helmut Schrom-Feiertag[1], Florian Lorenz[2], Georg Regal[1], Volker Settgast[3]
[1]AIT Austrian Institute of Technology, Austria; [2]Florian Lorenz Consultant; [3]Fraunhofer Austria Research GmbH, Austria

Posters
Level 0 CONGRESS CENTER

A Case Study of Zurich's Two-Layered Perimeter Control
Lukas Ambühl, Allister Loder, Monica Menendez, Kay W. Axhausen
ETH Zurich, Switzerland

An Algorithm to Minimize the Expectation Time of Finding a Parking Place in Urban Area
Asma Houissa[1,2], Dominique Barth[1], Nadège Faul[2], Thierry Mautor[1]
[1]Université de Versailles Saint Quentin, France; [2]Institut VEDECOM, France

Estimating a Light Commercial Vehicle OD Matrix Based on the Fleet Tracking Data of Heavy Good Vehicles
András Szele
Institute for Transport Scineces, Hungary

Evaluating London's Congestion Charge – an Approach Using the Macroscopic Fundamental Diagram
Allister Loder, Lukas Ambühl, Henrik Becker, Monica Menendez, Kay W. Axhausen
ETH Zurich, Switzerland

Implementation of User Driven Innovation Methodology to Estimate Origin-Destination Matrices and to Deploy Tailored Bus Routes
Samir Awad-Núñez[1], Miguel Álvarez Martínez[2], Adrián Fernández Carrasco[2], Rafael Barriuso Maicas[3], Nicolás Escudero Prieto[3], Marta Serrano Balbuena[4], Paula Botella Andreu[2]
[1]Universidad Europea de Madrid. Escuela de Arquitectura, Ingeniería y Diseño, Spain; [2]Hécate Ingeniería S.L., Spain; [3]Tribalyte Technologies S.L, Spain; [4]EMT (Empresa Municipal de Transportes de Madrid), Spain

Looking for a New Approach to Categorize Urban Streets - Insights and Recommendations from a Comparative Analysis of Innovative Approaches in Europe
Markus Mailer[1], Gregory Telepak[2]
[1]Universität Innsbruck, Institute for Infrastructure Engineering - Intelligent Transport Systems; [2]Vienna City Administration – Urban Planning Department, MobilitySection

Saturation Based Forecasting of Travel Time Reliability in Urban Road Transport
Mattias Juhász[1], Tamás Mátrai[2], Csaba Koren[1]
[1]Széchenyi István University, Hungary; [2]Budapest University of Technology and Economics, Hungary

DAY 2 - Tuesday 17 April 2018 - 08:30 - 10:00
ST12 7.4: Transport Infrastructure: Technology Testing and Assessment
Transport Infrastructure

LEVEL 0
STOLZ 2

Chair: Bernard Jacob, IFSTTAR, France

The Use of Non-Intrusive Monitoring for Slope Stability Assessments
Marijan Car[1], Irina Stipanović[2], Kenneth Gavin[3], Meho Saša Kovačević[1]
[1]University of Zagreb, Croatia; [2]University of Twente, The Netherlands; [3]Technical University Delft, The Netherlands

Comparing Lab to Field Properties in Cen Type Testing for Asphalt Concrete - the NL-LAB program-
Sandra Erkens[1], Dave Vliet. Van[2], Giorgos Seleridis[1], Inge Vilsteren. Van[3], Nadieh Meinen[2], Alieh Alipour[2], Jan Voskuilen[3], Kumar Anupam[1]
[1]Delft University of Technologie, The Netherlands; [2]TNO, The Netherlands; [3]Rijkswaterstaat, The Netherlands

Characterizing the Air Void Structure of Asphalt mixes by means of Large Asphalt Plane Sections
Moritz R.D. Tielmann, Tobias Hill
TU Darmstadt, Germany

Analysing the Effect of Rainfall on Railway Embankments Using Fragility Curves
Cormac Reale[1], Kenneth Gavin[1,2], Karlo Martinović[2]
[1]TU Delft, The Netherlands, [2]Gavin and Doherty Geosolutions

Rheological Properties of Materials Used in Bridge Asphalt Pavement Structures
Piotr Pokorski, Piotr Radziszewski, Michał Sarnowski
Warsaw University of Technology, Poland

Towards Improving Earthworks Production from an Industry 4.0 Perspective: the Role of Remote Information Technologies and Dynamic Optimization Techniques
Manuel Parente[1], António Gomes Correia[2], Gonçalo Figueira[1], Afshin Mehrsai[1]
[1]Institute for Systems and Computer Engineering, Technology and Science (INESC TEC), Portugal; [2]Institute for Sustainability and Innovation in Structural Engineering (ISISE), University of Minho, Portugal

Posters
Level 0 CONGRESS CENTER

Application of the Magnetic Leakage Field Method to Investigate Wire Strands
Michael Schreiner, Frank Lehmann
MPA Universität Stuttgart, Germany

Alternative FWD Evaluation Concepts
Marko Čičković
Technische Universität Darmstadt, Germany

Comparative Analysis of Cold Central-Plant Recycled and Unbound Base Course Bearing Capacity
Audrius Vaitkus[1], Donatas Čygas[2], Judita Gražulytė[1], Vitalijus Andrejevas[2], Igoris Kravcovas[1]
[1]Road Research Institute, Vilnius Gediminas Technical University, Lithuania; [2]Department of Roads, Vilnius Gediminas Technical University, LIthuania

Contact Pressure Measurement of a Small-Scale Wheel Tracking Device for Different Surface Types
Dermot Casey[1], Gordon Airey[2], James Grenfell[3], Phillip Millar[4], David Woodward[4]
[1]AECOM, UK; [2]University of Nottingham; [3]Australian Road Research Board; [4]University of Ulster

Damage Detection of Bridges through Acceleration Monitoring
Andrea Benedetti[1], John Nichols[2], Adrienn Tomor[3]
[1]University of Bologna, Italy; [2]Texas A & M University; [3]University of West of England

Data Collection for the Second Generation of European Bituminous Binders Standards in The Czech Republic – Round Robin Test Results and Experience
Jan Valentin[1], Václav Valentin[3], Ondřej Dašek[2], Petr Bureš[6], Václav Neuvirt[4], Radek Černý[5]
[1]Faculty of Civil Engineering, CTU Prague, Czech Republic; [2]Faculty of Civil Engineering, Brno University of Technology; [3]GAVA Consult; [4]VIAKONTROL, spol. s r.o.; [5]UniCRE Litvínov; [6]EUROVIA Services s.r.o.

Determining the Elongation Energy of PmB Bitumen at Various Extension Lengths
Marjan Tušar[1], Mojca Ravnikar-Turk[2], Dušanka Bohinc[2]
[1]Slovenian national building and civil engineering institute, Slovenia, National Institute of Chemistry; [2]Slovenian national building and civil engineering institute, Slovenia

Repair of Discrete Rail Head Defects – A Novel Technology
Robert James Cox[1], Jay Jaiswal[2], Elena Kabo[3], Sandra Fretwell Smith[4]
[1]Network Rail, UK; [2]ARR Rail Solutions Limited UK; [3]Charmers University Sweden; [4]British Steel UK

Effect of Pavement Roughness and Vehicle Dynamic Loads on Decrease of Fatigue Life of Flexible Pavements
Dawid Rys, Piotr Jaskula
Gdansk University of Technology, Faculty of Civil and Enviromental Engineering, Poland

First Bridge with Aspects of the "Smart Bridge" Released for Traffic
Sarah Dabringhaus
Federal Highway Research Institute, Germany

Friction after Polishing - a New Performance Orientated Test Method in Situ
Christine Kellermann-Kinner, Gudrun Golkowski
Bundesanstalt für Strassenwesen, Germany

Influence of Permanent Deformations of Substructure on Ballasted and Ballastless Tracks Performance
Ana Luísa Ramos[1], António Gomes Correia[1], Rui Calçada[2], Pedro Alves Costa[2]
[1]School of Engineering - University of Minho, Portugal; [2]Faculty of Engineering - University of Porto, Portugal

Investigating Track Stiffness Quality Based on Rail Foot Bending Strain Utilizing Structure Optimization Methods
Kangle Chen, Bernhard Lechner, Stephan Freudenstein
Technical University Munich, Germany

Laboratory Test Methods for Determining Freeze Resistance of Unbound Materials in Road Pavements
Barbara Likar, Karmen Fifer Bizjak
Slovenian National Building and Civil Engineering Institute

Measuring Deflections with Accelerometers in Existing Pavements
Marko Čičković, Moritz R. D. Tielmann
Technische Universität Darmstadt, Germany

Monitoring of Railway Structure with Bituminous Underlayment
Diana Khairallah[1], Juliette Blanc[2], Louis Marie Cottineau[2], Pierre Hornych[2], Mohsen hossengholian[1], Simon Pouget[3], Alain Ducreau[4], Philippe Voigner[5]
[1]Railenium, France; [2]IFSTTAR; [3]Eiffage; [4]SNCF reseau; [5]Setec

Nonlinear Dynamic Load-Displacement Response of Foundation Piles under Progressive Damage
Luke James Prendergast, Kenneth Gavin
Delft University of Technology, The Netherlands

Radar for Pavement Surveys: Research Project in Belgium
Colette Gregoire, Carl Van Geem, Audrey Van der Wielen, Jean-Pierre Drevet
BRRC, Belgium

Will Smart Cars Drive on Smart Infrastructure? -A Study of Sensor Systems in Asphalt Concrete Pavements-
kumar anupam[1], Seirgei Miller[2], Sandra Erkens[1]
[1]Delft University of Technology, The Netherlands, [2]Twente University, The Netherlands

DAY 2 - Tuesday 17 April 2018 - 08:30 - 10:00
ST13 1.4: Improvement of Energy Efficiency in Transportation Systems Including Intermodal
Environment and Energy Efficiency

LEVEL 1
SCHUBERT 2+3

Chair: Maria Cristina Galassi, EC DG JRC

A Comprehensive Approach to Increase Energy Efficiency of Bus Systems: Methodology and Directions from the Ebsf_2 Project
Michele Tozzi[1], Maria Vittoria Corazza[2], Juhani Laurikko[3]
[1]International Association of Public Transport - UITP, Belgium; [2]Sapienza University of Rome, Italy; [3]Teknologian Tutkimuskeskus - VTT, Finland

Cooperation Across Transport Modes to Develop Common Research Objectives for the Reduction of Energy Consumption and Carbon Emissions
Sarah Jane Reeves[1], Martin J Lamb[2], Elisabete Arsenio[3], Ewa Zofka[4]
[1]TRL, UK; [2]Maple Consulting, UK; [3]LNEC, Portugal; [4]IBDiM, Poland

Evaluation of the Fuel-Consumption-Reduction Potential of a Danube Vessel
Juha Gernot Schweighofer[1], Aleksa Suvačarov[2]
[1]via donau - Österreichische Wasserstraßen GmbH, Austria; [2]University of Belgrade

German and European Ground-Transport Emissions in Three Different Scenarios Until 2040
Stefan Seum[1], Johannes Bieser[2], Simone Ehrenberger[1], Ulrike Kugler[1]
[1]German Aerospace Center (DLR), Germany; [2]Helmholtz Zentrum Geesthacht (HZG), Germany

Ground-Level Feeding Systems: from Rail to Road Transport
Patrick Duprat, Philippe Veyrunes, Jean-Luc Hourtane
Alstom, France

Analysing the Vehicle Fuel-Consumption Variability. Implications for the Development of a Proper Labeling Scheme for Consumer Information
Jelica Pavlovic, Kostis Anagnostopouols, Michael Clairotte, Victor Valverde Morales, Georgios Fontaras, Biagio Ciuffo
European Commission Jointe Research Centre, Italy

Posters
Level 0 CONGRESS CENTER

Cooling Fluids and Ambient Temperature: Sensitivity Performance of a Container Ship Organic Rankine Cycle Unit
Santiago Suárez de la Fuente[1], Ulrik Larsen[2], Richard Bucknall[1], Alistair Greig[1]
[1]University College London, Department of Mechanical Engineering, UK; [2]Chalmers University of Technology, Maritime Operations, Gothenburg, Sweden

Digital Solutions for Environmental Performance and Energy Efficient Navigation Using On-Board Monitoring and River Modeling
Benjamin Friedhoff[1], Dick Abma[2], Pim van Mensch[2], Ruud Verbeek[2], Anne-Christin Schulz[3], Alexander Lutz[4]
[1]DST, Germany; [2]TNO, The Netherlands; [3]BAW, Bundesanstalt für Wasserbau, Germany; [4]Argonics, Germany

EU Projects Contribute to Continuing Development of Ship Propulsion
Maarten Flikkema, Tom van Terwisga, Henk Prins
MARIN, The Netherlands

Innovative Railway Traction System
Marco Falco, Guillaume Desportes, Michel Piton
Alstom, France

Robust Control of Railway Traction Electric Drive Systems in Terms of Energy Efficiency
Ilhan Mutlu, Emre Dincel, Mehmet Canevi, Mehmet Turan Söylemez
Istanbul Technical University, Turkey

Standardisation of Transport Chain Emission Calculation – Status Quo and What Is Needed Next
Verena Charlotte Ehrler[1], Saskia Seidel[1], Andreas Lischke[1], Igor Davydenko[2], Kerstin Dobers[3], Alan Lewis[4], Susana Val[5], Davide Luzzini[5]
[1]DRL Institute of Transport Research, Germany; [2]TNO; [3]IML Fraunhofer Institute for Material Flow and Logistics; [4]Smart Freight Centre; [5]ZLC Zaragossa Logistics Centre

Standardization of Driving Cycles for Shunting Locomotives – Reduction of Energy Consumption and Optimized Selection of New Powertrain Solutions
Roman Schaal[1], Martin Cichon[1], Corinna Salander[2]
[1]Technische Hochschule Nuremberg Georg Simon Ohm, Germany; [2]Universitiy of Stuttgart, Germany

Train Speed Profiles Optimization Using a Genetic Algorithm Based on a Random-Forest Model to Estimate Energy Consumption
Ahmed AMRANI[1], Amira BEN-HAMIDA[1], Tao LIU[2,1], Olivier Langlois[2,1]
[1]IRT SystemX, Paris-Saclay, France; [2]ALSTOM, France

DAY 2 - Tuesday 17 April 2018 - 08:30 - 10:00
ST14 12.4: Mobility Planning
Socio-Economics, Innovation and Policy

LEVEL 1
SCHUBERT 5+6

Chair: Maria-Cristina Marolda, EC DG MOVE

Development of an Architecture Framework for Intelligent Transport Systems
Hanfried Albrecht[2], Holger Drees[1], Jens Lachenmaier[3], Kathrin Pfähler[3], Lutz Rittershaus[1], Werner Scholtes[4]
[1]Federal Highway Research Institute, Germany; [2]AlbrechtConsult GmbH, Germany; [3]University of Stuttgart, Germany; [4]Werner Scholtes IT-Beratung, Germany

Mobility as a Service in Practice and Urban Development - Jointly Contributing to Low-Car, and Low-Carbon and Affordable Housing - the Bremen Hulsberg Case (H2020 project SUNRISE)
Michael Glotz-Richter
CIty of Bremen, Germany

User-Centric Vision for Mobility in 2030: Participatory Evaluation of Scenarios by the Multi-Actor Multi-Criteria Analysis (MAMCA)
Imre Keseru, Thierry Coosemans, Elisavet Gagatsi, Cathy Macharis
Vrije Universiteit Brussel, Mobility, Logistics and Automotive Technology Research Centre (MOBI), Belgium

Living Labs for Mobility – The Urban Mobility Labs Approach in Austria
Doris Wiederwald, Lina Mosshammer, Walter Wasner, Michaela Topolnik
AustriaTech, Austria

Being Ready for the Next Uber: Can Local Government Reinvent Itself?
Tom Cohen
University College London, UK

Integration vs fragmentation: alternative tactics of local mobility businesses in response to a global wave of market disruptions
Vassilen Iotzov[1], Fabio Cartolano[2], Gennaro Ciccarelli[3], Timothy Durant[3], Andrea Emilio Rizzoli[4]
[1]Bermag sp.j., Poland; [2]FIT Consulting, Italy; [3]VECTOS, UK; [4]SUPSI, Switzerland

Posters
Level 0 CONGRESS CENTER

Future Communication Scenarios for Next-Generation Railways: a Technical and Economic Analysis by the MISTRAL Project
Veronika Nedviga[4], Edoardo Bonetto[1], Daniele Brevi[1], Matteo Ferraris[1], Michele Osella[1], Maurizio Spirito[1], Alexander Wolf[2], Andrea Piattino[3], Daniele Trentini[3]
[1]Istituto Superiore Mario Boella, Italy; [2]Technische Universität Dresden, Germany; [3]Sirti S.p.A, Italy; [4]Ardanuy Ingenieria, Spain

Impact of Shift2Rail - a KPI Model for the Entire Railway System
Michael Meyer zu Hörste[1], Florian Brinkmann[1], Mats Berg[2]
[1]DLR, Germany; [2]KTH Royal Institute of Technology

Innovation Milieus for Mobility – Analysis of Innovation Lab Approaches for the Establishment of Urban Mobility Labs in Austria
Gert Breitfuss[1], Martin Berger[2], Linda Doerrzapf[2]
[1]Know-Center GmbH, Austria; [2]Vienna University of Technology, Austria

Methodology to Obtain Long Term Needs of Different Actors in The Railway Sector
Christian Katschnig[1], Paul Melia[2], Roberto Sañudo Ortega[3], Manfred Ninaus[1]
[1]IITR - Institute for Innovation and Trend research, Austria; [2]Rx - Railistics GmbH, Germany; [3]UC - University of Cantabria, Spain

Mobility4EU – Action Plan for the Future of Mobility in Europe
Beate Müller, Gereon Meyer
VDI/VDE Innovation und Technik GmbH, Germany

Security or Fluidity? The Introduction of Boarding Security on Thalys its Impact on Movement and Services at Paris Gare du Nord
Nacima Baron[1], Nils Le Bot[2]
[1]Laboratoire Ville Mobilité Transport University Paris Est; [2]Laboratoire LISST CIEU University Tourilouse Jean Jaurès

Towards an Integrated European Platform for Monitoring and Analysing Transport Research and Innovation (TRIMIS)
Anastasios Tsakalidis, Konstantinos Gkoumas, Ferenc Pekar, Monica Grosso, Gary Haq, Luisa Marelli
European Commission, Italy

INVITED SESSIONS

DAY 2 - Tuesday 17 April 2018 -08:30 - 10:00
INV3: The New Urban Mobility Ecosystem, CCAV and Urban Planning - Between Vision and Managing Disruption

LEVEL 1
SCHUBERT 1

Automated transport systems and their contribution towards an urban mobility ecosystem have the potential to be the strongest transformative force for urban mobility and urban areas as such in the last decades. Yet, policy makers, city and transport planners have hardly started to integrate these developments into their planning scope.
The panellists will discuss how to get an insight about mid- and long-term opportunities of automated driving such as more socially inclusive transport, strengthening sustainable modes of transport, better use of existing infrastructure as well as impacts on jobs and production processes. However, the development might go in an unwanted direction and unexpected side-effects can easily be overseen. Participants will learn about possible development paths from small-scale pilots towards a sustainable urban mobility ecosystem that includes various forms of automated driving and services for public, private and freight transport.

Organiser:

Martin Russ, AustriaTech

Panellists:

Mathias Mitteregger, Vienna University of Technology
Siegfried Rupprecht, Rupprecht Consult
Karin Tausz, SBB Swiss Railway Company
Adriano Allesandrini, University of Florence
Peter Sweatman, CAVita

DAY 2 - Tuesday 17 April 2018 -08:30 - 10:00
INV4: Transport Safety: Societal Challenges, Research Solutions - The Way Forward

LEVEL 1
SCHUBERT 4

The session will address both the safety challenges specific to each mode, as well as common issues and concerns that cut across them all – notably human factors, transport user interaction and data management – taking into account societal challenges, policy requirements, technological developments and economic benefits.
The session will explore the specificities, and also common ground for research as identified in the European Presidential Conference on Transport Safety held in Genoa 2014 and will consider the potential to ensure the proper deployment and implementation of safety solutions and regulations, including at international level resulting from research activities.
Input also will be provided from several ongoing European R&I projects to give an overview of the State of the Art in the field, and increase awareness of developments among stakeholders.

Organisers:

William Bird, European Commission
Anca Pasca, INEA

Moderator:

Angela Di Febbraro, University of Genoa

Panellists:

Luciana Iorio, Italian Ministry of Infrastructure & Transport
Marku Mylly, EMSA
Keir Fitch, European Commission
Barry Kirwan, EUROCONTROL

PLENARY SESSION 2

DAY 2 - Tuesday 17 April 2018 - 10:30 - 12:00
Plenary 2: How Digitalization is Transforming the Transport & Mobility System

LEVEL 0
STRAUSS 1-3

By now, digitalisation has fully pervaded the transportation sector. New digital infrastructures develop, innovative players are pushing new services onto the market and digital business models are affecting the whole sector. Increasing automation and connectivity of vehicles and infrastructure enable a wide range of potential benefits, such as pertaining to road safety, efficiency and competitiveness. But they also hold risks and challenges regarding data privacy protection and security. In general, data driven developments have the ability to improve transparency, for example in relation to planning, operation, monitoring and maintenance. Utilising the potentials of digital transformation requires the systematic involvement of users and the ensuring of social inclusion. Plenary Session #2 offers the possibility of defining future challenges as well as discussing necessary steps toward a sustainable transportation system.

Speakers:

Mathieu Dunant, Head of Innovation, RATP Group
Georg Kapsch, CEO of Kapsch Group
Norbert Kouwenhoven, Head of Global Trade Digitalisation at IBM
Mika Rytkönen, HERE & Solutions EMEA, Director, invited
Despina Spanou, Director of Digital Society, Trust and Cybersecurity, European Commission

INVITED SESSION

DAY 2 - Tuesday 17 April 2018 -12:00 - 13:15
INV5: Digitalisation - Opportunities for Start-ups?!

LEVEL 1
SCHUBERT 5+6

Frost & Sullivan's recent analysis entitled "Startups Disrupting the Global Automotive and Mobility Industry, 2016-2017" concluded that the total amount of start-up funding across various vertical technology segments last year was $ 1.55 billion, with the main investments focusing on mobility, electrification and networked vehicle technologies.
This analysis highlights the enormous potential in the mobility sector. However, there are still not enough female experts who are successful in this future area of interest. This is due to the fact that in the mobility and transport sector generally, women are still strongly underrepresented, but also that start-ups are very much dominated by men. Successful female start-up founders will present their experiences and discuss which framework conditions and support measures are beneficial and which are a hindrance.

Organiser:

Gertraud Oberzaucher, Senior Expert

Moderator:

Susanne Wolf-Eberl, Research&Data Competence

Panellists:

Madi Sharma, European Economic and Social Committee
Maja Bacran, European Commission
Katja Schechtner, International Transport Forum
Sarah Bittner-Krautsack, Austrian Federal Ministry for Transport, Innovation and Technology
Karl-Heinz Leitner, AIT Austrian Institute of Technology GmbH
Tanja Sternbauer, Startup Live GmbH

thalesgroup.com

Wherever safety and security matter, we deliver

SPACE
Optimising solutions for telecoms, Earth observation, navigation and research

DEFENCE
Improving decision-making and helping forces gain operational superiority

AEROSPACE
Assisting customers in making air travel safer, smoother, environmentally cleaner and more enjoyable

SECURITY
Helping to protect citizens, sensitive data, cyberspace and critical infrastructure

GROUND TRANSPORTATION
Enabling networks to run more swiftly, safely and at higher capacity

Everyday millions of critical decisions are made in safety and security, Thales is at the heart of these. Thales has more than 64,000 talented people across 56 countries. Together, we innovate with our customers to build smarter solutions. Our intelligent technologies are dedicated to protecting people, property and information worldwide in Space, Aerospace, Security, Ground Transportation, Defence and Cyberspace markets. Every moment of every day, wherever safety and security are critical, Thales delivers.

Search: Thalesgroup

THALES
Together • Safer • Everywhere

STRATEGIC SESSIONS

DAY 2 - Tuesday 17 April 2018 - 13:15 - 14:45
STR2.1: New Digital Technologies Impacting Transport

LEVEL 0
LEHAR 3+4

Thanks to increased digitalisation and enhanced connectivity both freight and passenger transport will be transformed by 2025. Although their level of digitalisation significantly differs, different transport modes use, to a certain extent, the same ICT technologies. The transfer of best practice among sectors, today relatively limited, can improve uniformity and lead to a faster uptake of innovation.
Within this context, the aim of the session is to identify, across transport modes, common opportunities (e.g. related to big data) as well as coherent use of ICT tools (e.g. blockchain). The discussion will be guided by questions which the panellists will be asked to reply to aiming at cross fertilisation and at an increased transfer of best practice.

Organisers:

Mario Dogliani, Technical Director, Sea Europe
Fernando Liesa, Secretary General, ALICE
Christoph Schneider, Senior Airside Masterplanner, Munich Airport, ACARE
Nadia Mazzino, V. P. Digital Railway and Innovative Technologies, ERRAC

Moderator:

Alex Taylor/Mario Dogliani

Panellists:

Klaus Schierhackl, CEO, ASFINAG
Yves Perreal, Director of Advanced Studies, Thales Group
Doug Owen, Secretary General, Bureau International de Containers
Matthew Baldwin, Deputy Diretor General, DG Mobility and Transport, European Commission
Michael Flynn, Programme Director, Transport for London
Bert de Colvenaer, Executive Director at ECSEL JU
Simona Costa, CEO, Costa Partners, URBACT
Alexander Lewald, Chief Technology Officer, Kapsch
Uwe-Dieter Grebe, Member of Executive Board, AVL

DAY 2 - Tuesday 17 April 2018 - 13:15 - 14:45
STR2.2: Safe and Efficient Transport through Connectivity and Automation

LEVEL 0
LEHAR 1+2

Automated and connected transport is expected to be driven by potentially positive impacts on the transportation system's safety and efficiency. Automated and connected transport systems will need to balance individual initiatives and decisions with integrated centralised control systems. In this session strategic drivers and research priorities are considered, to identify the challenges, opportunities and unique selling points towards achieving a safe, efficient and integrated transport system for passengers and freight through connectivity and automation. The economic viability and social acceptance of technological and regulatory solutions, the extent of concrete benefits that are expected as a result and to which extent the mixed use of transport infrastructures can be achieved, will be discussed.

Organisers:

Laura Lonza, Scientific Officer, European Commission
Bastiaan Krosse, Research Manager Integrated Vehicle Safety, TNO, ERTRAC
Bernard Jacob, Directeur Scientifique Délégué, IFSTTAR
Ralf Marxen, Head of Legal/Associate General Counsel, Shell Germany, ERRAC
Mario Dogliani, Technical Director, Sea Europe, WATERBORNE

Moderator:

Margriet Van Schijndel, TNO

Panellists:

Clara de la Torre, Transport Director, DG Research and Innovation, European Commission
Herald Ruijters, Director, DG Mobility and Transport, European Commission
Thomas Jäger, Head of Asset Management & Technology Wagons, DB Schenker Rail AG
Sabine Kühschelm, Austrian Federal Ministry for Transport, Innovation and Technology
Oskar Levander, SVP Concepts & Innovation, Rolls-Royce Marine
Peter Sweatman, Principal CAVita
Mats Rosenquist, Director External Research Collaboration, Volvo Group Trucks Technology
Katja Schechtner, Urban Scientist, OECD, MIT

DAY 2 - Tuesday 17 April 2018 - 13:15 - 14:45
STR2.3: Transport and Data Security in a Digital Era

LEVEL 0
STRAUSS 1-3

The advances in connectivity, big data and artificial intelligence are driving the development of increasingly connected and automated systems. The resulting transfer of responsibility from human intervention to artificial intelligence can reduce human error as the main cause of accidents and increase efficiencies. At the same time, new challenges arise to secure the future multimodal transport system and all of its (mode specific) elements. The increasing flow of big data and the public's interest in ensuring its safe and secure use, while avoiding new monopolies and access restrictions, will require significant governance, standardisation and new rules to enable both competition and data protection. This session will bring together relevant actors from public authorities, transport and ICT industry to discuss potential solutions and future challenges, individual data privacy rights and the ownership of mobility data and outline possible future joint-actions, notably in research and innovation, of transport and telecoms industry as well as all public authorities and users to ensure synergies and impart best practices.

Organisers:

Yves Perreal, Director of Advanced Studies, Thales Group, ERRAC
Maria Carbone, Policy Officer, DG Mobility and Transport, European Commission

Moderator:

Jacki Davis

Panellists:

Despina Spanou, Director for Digital Society, Trust & Cybersecurity, Communications Networks, Content and Technology, European Commission
Anders Johnson, Senior Specialist Mobility, Transport & Logistics, RISE Research Institutes of Sweden
Helmut Leopold, Head of Center for Digital Safety and Security, AIT Austrian Institute of Technology
Jean-Marie Letort, Vice-President, Cybersecurity Evaluation and Consulting, Thales Group
Antonella Querci, Director, Development and Innovation, Livorno Port Authority
Juha Kenraali, Director General, Data and Knowledge, Finnish Transport Safety Agency, invited
Sandro Berndt, Chairman of the C-Roads Task Force on Security

SCIENTIFIC AND TECHNICAL SESSIONS

DAY 2 - Tuesday 17 April 2018 - 15:15 - 16:45
ST15 9.2: Digitizing the Transport Systems
Digital Technologies for Transport

LEVEL 0
STRAUSS 1-3

Chair: Sabine Hahlweg, ÖBB-Infrastruktur, Austria

Posters
Level 0 CONGRESS CENTER

Big Data for Assessing Travel Behaviour in Europe: Initiating a Continental Scale Pilot for Supporting the Next Generation of Policy Makers
Elena Paffumi[1], Michele De Gennaro[1,2], Giorgio Martini[1]
[1]EU DG JRC, Dirc C, ETC, Italy; [2]AIT Austrian Institute of Technology GmbH, Center for Low-Emission Transport, Austria

Defining an Adaptable Communications System for All Railways
Ben Allen[1], Benedikt Eschbach[2], Michael Mikulandra[3]
[1]Network Rail, UK; [2]DB Netz AG, Germany; [3]Kapsch CarrierCom Deutschland GmbH, Germany

Impact of the Megatrend Digitalization on Maritime Logistics - Opportunities and Threats
Carlos Jahn[1], Katrin Brümmerstedt[2], Ralf Fiedler[2]
[1]Hamburg University of Technology, Germany; [2]Fraunhofer Center for Maritime Logistics and Services CML, Hamburg, Germany

Novel Highly Reliable Safe Architecture for Robust Integration of on-Board Train Control Applications
Arjan Geven, Mirko Jakovljevic
TTTech Computertechnik AG, Austria

Shift2Rail CONNECTA: The Next Generation of the Train Control and Monitoring System
Javier Goikoetxea
Construcciones y Auxiliar de Ferrocarriles, S.A.

Using the Validation Data of Smart Cards to Better Design Public Transport Networks
Cristina Pronello[1,2], Davide Longhi[2]
[1]Sorbonne Universités - UTC; [2]Politecnico di Torino

Big-Data Framework-Based Visualization Solution for Performance Analysis of Positioning Systems in Railway Environments
Zheng Liu[1], Inigo Adin[2], Saioa Arrizabalaga[2], Jon Goya[2], Javier Añorga Benito[2], Sijia Yang[1]
[1]Beijing University of Posts and Telecommunications, China, People's Republic of; [2]Ceit and Tecnun (University of Navarra)

Cybersecurity in Maritime Logistics
Nils Meyer-Larsen, Rainer Müller
Institute of Shipping Economics and Logistics, Germany

EGNOS Service Evaluation in Railway Environment for Safety-Critical Operations
Juliette Marais[1], Julie Beugin[1], Jean Poumailloux[2], Marc Gandara[2]
[1]Univ Lille Nord de France, IFSTTAR, COSYS, LEOST, France; [2]Thales Alenia Space, France

Qualification of Satellite-Based Localization Systems for Railway Safety-Related Applications
Andreas Dodinoiu[1], Joachim Wagner[1], Arne Geffert[1], Debiao Lu[2], Uwe Becker[1]
[1]Technische Universität Braunschweig, Germany; [2]Beijing Jiaotong University, China

Standards as a Facilitator of the Supply Chain
Lance Thompson
UN/CEFACT, Switzerland

Terminal Operation Software: A Saturated Market?
Katharina Renken[1], Kai-Oliver Zander[2], Katrin Brümmerstedt[1]
[1]Fraunhofer Center for Maritime Logistics and Services CML, Germany; [2]Lumics GmbH & Co. KG

DAY 2 - Tuesday 17 April 2018 - 15:15 - 16:45
ST16 6.2: Systems and Technologies towards the Physical Internet
Freight Transport and Logistics

LEVEL 0
LEHAR 1+2

Chair: Gzim Ocakoglu, EC

Cooperative Container Trucking – System, Model and Solution
Hannes Koller[1], Bin Hu[1], Ulrike Ritzinger[1], Melitta Dragaschnig[1], Gerald Hofmann[2], Kurt Hofmann[2], Reinhard Naber[3], Sanford Bessler[1]
[1]AIT Austrian Institute of Technology, Austria; [2]Interlogistik Transport- und Speditionsgesellschaft m.b.H.; [3]Multitask-Informationssysteme

Innovative Automated Unloading of Parcels.
Christian Landschützer[1], Matthias Fritz[2], Wolfschluckner Andreas[2]
[1]Graz University of Technology, Austria; [2]PHS Logistiktechnik GmbH, Austria

Interoperability of IoT Platforms Applied to the Transport and Logistics Domain
Diana Cecilia Yacchirema[1,2], Regel Gonzalez[1], Carlos Enrique Palau[1], Manuel Esteve[1], Miguel Montesinos[3], Miguel Llorente[3], Pablo Gimenez[4], Miguel Llop[4]
[1]Universitat Politècnica de València; [2]Escuela Politécnica Nacional; [3]PRODEVELOP; [4]Valencia Port Foundation

Logistics Information Exchange Platforms: Insights of the AEOLIX Project
Lina Konstantinopoulou, Per-Olof Arnas, German Herrero, Marcel Huschebeck, Rein Westra, Evangelos Mitsakis, Georgia Aifantopoulou, Iraklis Stamos
IRU Projects, Belgium

Terminal 4.0 – Automation and Optimization of Multimodal Cargo Handling Processes in Existing Terminal Environments
Daniel Elias[1], Birgit Nadler[1], Friedrich Nadler[1], Carolin Spiesberger[1], Mario Dobrovnik[2], Eveline Fasthuber[2], Sebastian Kummer[2], David Moosbrugger[3]
[1]nast consulting ZT GmbH, Austria; [2]Wirtschaftsuniversität Wien - Institut für Transportwirtschaft und Logistik, Austria; [3]Hans Künz GmbH, Austria

The SELIS Approach to Delivering a 'Platform for Pan-European Logistics Applications'
Ioanna Fergadioti[1], Panayiotis Katsoulakos[1], Pat O' Sullivan[1], Yannis Zorgios[2]
[1]Inlecom Systems Ltd, UK; [2]CLMS Ltd, UK

Posters
Level 0 CONGRESS CENTER

Assessment of High-Speed Weigh-In-Motion Systems by Road Testing for direct Enforcement
Eric Purson[1], Eric Klein[1], Didier Simon[1], Louis-Marie Cottineau[2], Bernard Jacob[2]
[1]Cerema, France; [2]IFSTTAR, France

Business Insights of Innovative Logistics Services – Discussing Models, Strategy and Markets
Iraklis Stamos[1], Lina Konstantinopoulou[2]
[1]IRU Projects, Belgium; [2]ERTICO, Belgium

CORE Case Study: Key Performance Indicators for Assessing a Satellite Navigation-Based Solution for Tracking & Tracing the Transport of Dangerous Goods
Antonella Di Fazio[1], Konstandinos Diamandouros[2], Daniele Bettinelli[1], Leonardo Domanico[3]
[1]Telespazio, Italy; [2]European Union Road Federation, Belgium; [3]TTS Italia, Italy

Data Sorting and Signal Processing Algorithms for High Weight in Motion Systems for Direct Application
Nicolas Grignard[2], Florian Daize[2], Mohamed Bouteldja[2], Louis-Marie Cottineau[1], Bernard Jacob[1]
[1]IFSTTAR, France; [2]CERMA, France

DigiTrans: Exploring the New Austrian Test Region for Automated Driving in Transport Logistics

Klemens Schwieger[1], Isabela Erdelean[1], Philippe Nitsche[1], Peter Saleh[1], Martin Reinthaler[1], Peter Fröhlich[1], Matthias Neubauer[2], Andreas Pell[2]
[1]AIT Austrian Institute of Technology GmbH, Austria; [2]FH OÖ Forschungs & Entwicklungs GmbH

Impact of Innovative Technologies on Highway Operators: Tolling Organizations Perspective

Muhammad Azmat[1], Sebastian Kummer[1], Lara Trigueiro Moura[4], Federico Di Gennaro[3], Rene Moser[2]
[1]Vienna University of Economics and Business, Austria; [2]Autobahnen- und Schnellstraßen-Finanzierungs-Aktiengesellschaft, Austria; [3]Associazione Italiana Società Concessionarie Autostrade e Trafori, Italy; [4]A-to-Be (Brisa Inovação e Tecnologia, S.A.), Portugal

Integrated Concept of Lightweight Wagon with Freight Condition Monitoring Capabilities and Predictive Maintenance Solutions

Cristian Ulianov[1], Laura Mazzola[2], Dachuan Shi[3]
[1]Newcastle University, UK; [2]Politecnico di Milano, Italy; [3]Technische Universität Berlin, Germany

Key Factors for the Implementation and Integration of Innovative ICT Solutions in SMEs and Large Companies Involved in the Multimodal Transport of Dangerous Goods.

Gemma Molero[1], Francisco Santarremigia[1], Sara Poveda-Reyes[1], Melanie Mayrhofer[2], Samir Awad-Núñez[3], Abdullah Kassabji[4]
[1]AITEC, Spain; [2]PRISMA, Austria; [3]Universidad Europea de Madrid, Spain; [4]Universitat Politècnica de València (UPV), Spain

Management of Autonomous Straddle Carrier Fleet

Georgia Aifandopoulou[1], Josep Maria Salanova Grau[1], Panagiotis Tzenos[1], Anastasios Theodosiou[1], George Tsoukos[2], Christos Papadopoulos[3], Dimitrios Tsitsamis[3]
[1]Center for Research and Technology Hellas - Hellenic Institute of Transport, Greece; [2]TREDIT; [3]Thessaloniki Port Authority S.A.

On Coordinating Document Exchange in Maritime Containerized Transport: the STM Project

Andrea Conca[1], Angela Di Febbraro[1], Mario Dogliani[2], Francesco Rebora[1]
[1]University of Genoa, Italy; [2]Authorised Representative of MIT, Italy

Optimizing Production Schedules in Classification Yards

Henning Preis, Stefan Frank, Sebastian Bäcker, Rainer König
TU Dresden, Center for Rail Logistics, Germany

Process Efficiency of Multi-Modal Hinterland Terminals

Herbert Ruile
University of Applied Science Northwestern Switzerland, Switzerland

Safe and Secure Truck Parking Area in the Framework of a Unified Single Freight Window

Marina P. Kouta, Yorgos J. Stephanedes, Christos K. Gioldasis
University of Patras, Greece

DAY 2 - Tuesday 17 April 2018 - 15:15 - 16:45
ST17 8.3: Automated Transport: Modelling, Evaluation, Validation & Testing
Connected and Automated Transport

LEVEL 0
LEHAR 3+4

Chair: Bastiaan Krosse, TNO, The Netherlands

ENABLE-S3 – Advanced Simulation Models and Accelerated Testing for the Development of Electric Vehicles
Horst Pfluegl, Andrea Leitner, Hannes Schneider
AVL List GmbH, Austria

Mapping and Evaluation for GPS Restricted Environments Used for Automated Parking Applications
Richardos Drakoulis, Anastasia Bolovinou, Manolis Tsogas, Panagiotis Lytrivis, Angelos Amditis
Institute of Communications and Computer Systems (ICCS), Greece

Evaluation of Human Acceptance and Comfort of Automated Highway Driving at Different Levels of Automation
Branko Rogic[1], Arno Eichberger[1], Philipp Quinz[1], Christian Payerl[2], Michael Haberl[1], Dusan Malic[1], Ioana Koglbauer[1]
[1]Graz University of Technology, Austria; [2]MAGNA Steyr Engineering, Austria

Test Fields and Advanced Accompanying Methods as Necessity for the Validation of Automated Driving
Andreas Kuhn[1], José Carmona[1], Thomas Novak[2], Wolfgang Schildorfer[3], Daniela Patz[4]
[1]ANDATA, Austria; [2]Swarco Futurit; [3]HiTec Marketing; [4]KFV (Austrian Road Safety Board), Austria

A Simulation-based Validation and Testing Framework for ADAS Development
Tong Duy Son, Jacob Hubrechts, Lisa Awatsu, Ajinkya Bhave, Herman Van der Auweraer
Siemens Industry Software NV (SISW), Belgium

Channel Characterization Tool (CCT): Distributed Network Performance Evaluation Framework for the Feasibility Study of Public IP Networks in Railway
Sijia Yang[1], Saioa Arrizabalaga[2], Inigo Adin[2], Javier Añorga Benito[2], Jon Goya[2], Zheng Liu[1], Jaizki Mendizabal[2]
[1]Beijing University of Posts and Telecommunications, China, People's Republic of; [2]Ceit and Tecnun (University of Navarra)

Posters
Level 0 CONGRESS CENTER

Automation-Ready Framework for Urban Transport Planning
Bernard Gyergyay[1], Syrus Gomari[1], Johan Olstam[2], Fredrik Johansson[2], Markus Friedrich[3], Jörg Sonnleitner[3], Siegfried Rupprecht[1], Wolfgang Backhaus[1]
[1]Rupprecht Consult - Forschung & Beratung GmbH, Germany; [2]Swedish National Road and Transport Research Institute (VTI), Sweden; [3]University of Stuttgart, Institute for Road and Transport Science, Department for Transport Planning and Traffic Engineering, Germany

Development Tool Chain for Connected and Automated Driving Functions
Dominik Raudszus[1], Adrian Zlocki[2], Lutz Eckstein[1]
[1]Institute for Automotive Engineering (ika), RWTH Aachen University, Germany; [2]fka Forschungsgesellschaft Kraftfahrwesen mbH Aachen

Impact of Connected and Autonomous Vehicles on the Capacity of Signalized Intersections – Microsimulation of an Intersection in Munich
Tanja Niels, Mustafa Erciyas, Klaus Bogenberger
Bundeswehr University Munich, Germany

System of the Preventive Diagnostics as an Integrated Part of "Smart" Transport System
Natallia Stepanovna Yankevich
National Academy of Scienes of Belarus, Belarus

Train-to-Ground Communications of a Train Control and Monitoring Systems: a Simulation Platform Modelling
Maha Bouaziz[1], Ying Yan[2], Mohamed Kassab[1], José Soler[2], Marion Berbineau[1]
[1]IFSTTAR, France; [2]Technical University of Denmark

VITE (Virtualisation of the Testing Environment) First Results

Daniel Molina[1], Beatriz Sierra[2], Jorge Iglesias[1], Silvia Domínguez[2], Riccardo Licciardello[3]
[1]CEDEX railway Interoperability Laboratory, Spain; [2]INECO, Spain; [3]SAPIENZA Universitá di Roma, DICEA Dipartimento di Ingegneria Civile, Italy

DAY 2 - Tuesday 17 April 2018 - 15:15 - 16:45
ST18 7.1: Transport Infrastructure: Application of Machine Learning
Transport Infrastructure

LEVEL 0
STOLZ 1

Chair: Manfred Haider, AIT Austrian Institute of Technology GmbH, Austria

Improving Linear Transport INFRAstructure Efficiency by Automated LEaRning and Optimised Predictive Maintenance Techniques (INFRALERT)

Noemi Jiménez-Redondo[1], Álvaro Calle Cordón[1], Ute Kandler[2], Axel Simroth[2], Francisco Morales[3], Antonio reyes[3], Johan Odelius[4], Stephen Famurewa[4], João Morgado[7], Emanuel Duarte[7], Daniele Iorio[5], Marco Fruttero[5], András Juszt[6]
[1]CEMOSA, Spain; [2]Fraunhofer IVI, Germany; [3]University of Sevilla, Spain; [4]Luleå University of Technology, Sweden; [5]DMA, Italy; [6]Regens, Hungary; [7]Infraestruturas de Portugal, Portugal

A Machine Learning Approach for Maintenance Prediction of Railway Assets

Zaharah Allah Bukhsh[1], Aaqib Saeed[2], Irina Stipanovic[1]
[1]Department of Construction Management and Engineering, University of Twente, The Netherlands; [2]Department of Computer Science, University of Twente, The Netherlands

Bridge Scour Monitoring Technique Using the Vibratory Response of Rods Embedded in the Riverbed.

Nissrine Boujia[1], Franziska Schmidt[1], Christophe Chevalier[1], Dominique Siegert[1], Damien Pham Van Bang[2]
[1]IFSTTAR, France; [2]CEREMA, France

Turning Data Driven Condition Now- and Forecasting for Railway Switches into Maintenance Actions

Daniela Narezo Guzman[1], Edin Hadzic[2], Robert Schuil[2], Eric Baars[2], Jörn Christoffer Groos[1]
[1]German Aerospace Center DLR, Germany; [2]Strukton Rail, The Netherlands

Analysis of Pressure Loads on Installations in High-Speed Tunnels- with Model Scale Experiments and Numerical Simulations

Helmut Kühnelt[1], Alois Vorwagner[1], Daniela Heine[2], Florian Saliger[3], Roman Heissenberger[3]
[1]AIT Austrian Institute of Technology GmbH, Austria; [2]DLR German Aerospace Center; [3]OEBB Infrastruktur AG

Skin-Like Sensor for Structural Health Monitoring of Transport Infrastructure

Adewole Adesiyun[1], Angelos Amditis[2], Athanasios Anastasopoulos[9], Stephanos Camarinopoulos[5], Claudia Ciuca[1], Yannis Damigos[2], Bernd Frankenstein[7], Johannes Gantner[8], Reimund Gerhard[3], Peter Jones[6], Vassilis Kalidromitis[4], Konstantinos Loupos[2], Panagiotis Panetsos[10], Dmitry Rychkov[3], Werner Wirges[3], Rahsan Yildirim[11]
[1]Forum of European National Highway Research Laboratories, Belgium; [2]Institute of Communication and Computer Systems, Greece; [3]University of Potsdam, Institute of Physics and Astronomy, Germany; [4]Techniche e consulenze nell'ingegneria civile consulting engineers spa., Italy; [5]Risa Sicherheitsanalysen GmbH, Germany; [6]Transport Research Laboratories, UK; [7]Teletronic Rossendorf GmbH, Germany; [8]University of Stuttgart, Chair of Building Physics, Germany; [9]Mistras Group Hellas, Greece; [10]Egnatia Odos A.E., Greece; [11]Turkish General Directorate of Highways, Turkey

Posters
Level 0 CONGRESS CENTER

Automatic Prediction of Maintenance Intervention Types in Transport Linear Infrastructures Using Machine Learning

Antonio Reyes[1], Francisco J. Morales[1], Noelia Caceres[2], Luis M. Romero[1], Francisco G. Benitez[1], Joao Morgado[3], Duarte Emanuel[3], Martins Teresa[3]

[1]School of Engineering, University of Sevilla, Spain; [2]AICIA, School of Engineering, Spain; [3]Infrastruturas de Portugal

Machine Learning Algorithms for Rock Cutting Slopes Stability Condition Identification

Joaquim Tinoco[1], António Gomes Correia[1], Paulo Cortez[1], David Toll[2]

[1]University of Minho, Portugal; [2]University of Durham, UK

Road Surface Characterization Using Crowdsourcing Vehicles

Boaz Mizrachi[1], Shimon Nesichi[2], Aviv Rozenberg[1], Stanislav Shapira[1]

[1]MobiWize, Israel; [2]Chief Scientist, Netivei Israel – National Transport Infrastructure Company

DAY 2 - Tuesday 17 April 2018 - 15:15 - 16:45
ST19 10.3: Risk Assessment, Accident Analysis & Models, Crash Mechanics & Reconstruction
Safe, Secure and Resilient Transport Systems

LEVEL 1
SCHUBERT 4

Chair: George Yannis, National Technical University of Athens, Greece

Evaluation of a Momentum Based Impact Model in Frontal Car Collisions for the Prospective Assessment of ADAS

Stefan Smit[1], Ernst Tomasch[1], Harald Kolk[1], Jürgen Gugler[2], Michael Plank[1], Hannes Glaser[3]

[1]Graz University of Technology, Austria; [2]Tecpond, Austria; [3]Austria

Gathered Riding Dynamics Data for Semi-Automated Risk Assessment of Roads

Peter Saleh[1], Horst Ecker[2], Klemens Schwieger[1], Manfred Neumann[2], Isabela Erdelean[1]

[1]AIT Austrian Institute of Technology GmbH, Austria; [2]Vienna University of Technology, Austria

Impact of Heavy Goods Vehicles with Different Payload on Crashworthiness of Safety Barriers

Holger Schwedhelm, Xiaochen Yu
Federal Highway Research Institute (BASt), Germany

Safety Performance of the New Bus Rapid Transit System in Haifa, Israel: First Two-Years of Monitoring

Victoria Gitelman, Roby Carmel, Anna Korchatov
Transportation Research Institute, Technion, Israel

Experience with Serious Road Traffic Accidents in Finland and Lithuania

Harri Peltola[1], Kornelija Ratkevičiūtė[2], Vilma Jasiūnienė[2], Laura Jateikienė[2], Noora Airaksinen[3]

[1]VTT Technical Research Centre of Finland Ltd; [2]Vilnius Gediminas Technical University, Lithuania; [3]Sito Ltd, Finland

Quantifying the Impact of Risk Factors at Railway Level Crossings Using Accident Prediction Models: A cross-Country Study

Jiri Ambros[1], Jan Perutka[1], Dominika Miksova[2], Attila Borsos[3], Christian Stefan[4], Rainer Stuetz[4]

[1]CDV - Transport Research Centre, Czech Republic; [2]Vienna University of Technology, Austria; [3]Szechenyi Istvan University, Hungary; [4]AIT Austrian Institute of Technology GmbH, Austria

Posters
Level 0 CONGRESS CENTER

Kinematics of Powered Two-Wheelers at Bends on Intercity Roads
Alexandre Hublart, Peggy Subirats, Olivier Floris
CEREMA, France

Analytical Approach to Determining Factors that Influence Wheelchair Occupant Kinematics during a Railway Vehicle Crash
Emmanuel Matsika
NewRail, Newcastle University, UK

Application of Fuzzy Cognitive Maps to Investigate the Contributors of Maritime Collision Accidents
Beatriz Navas de Maya, Rafet Emek Kurt, Osman Turan
University of Strathclyde, UK

Application of Risk Assessment Models for Railway Systems to Ensure Safe Rail Operations - Development of Risk Based Standards for Upgrading Railway Interlocking Systems
Oliver Senekowitsch[1], Florian Diernhofer[1], Gabriele Berger-Boyer[2]
[1]ILF Consulting Engineers Austria GmbH, Austria; [2]PPM Planung- und Projektmanagement GmbH

Characteristics of Single Vehicle Accidents in Europe
Katerina Folla[1], George Yannis[1], Alexandra Laiou[1], Christian Brandstaetter[2], Robert Bauer[2], Klaus Machata[2]
[1]National Technical University of Athens (NTUA), Greece; [2]KFV (Austrian Road Safety Board), Austria

From Reactive to Proactive: Czech Examples of Development and Application of Alternative Road Safety Assessment Approaches
Jiri Ambros
CDV - Transport Research Centre, Czech Republic

Is Stereo Vision a Suitable Remote Sensing Approach for Motorcycle Safety? An Analysis of LIDAR, RADAR, and Machine Vision Technologies Subjected to the Dynamics of a Tilting Vehicle.
Gustavo Gil, Giovanni Savino, Simone Piantini, Marco Pierini
University of Florence, Italy

DAY 2 - Tuesday 17 April 2018 - 15:15 - 16:45
ST20 3.1: New Concepts of Advanced Propulsion Systems: Design & Demonstrators
Advanced Propulsion Systems

LEVEL 1
SCHUBERT 2+3

Chair: Felix Lehfuss, AIT Austrian Institute of Technology GmbH, Austria

Battery Cost for Hybrid Heavy Duty Vehicles
Eleni Avaritsioti, Biagio Ciuffo
Joint Research Centre, Italy

Designing and Demonstrating an Electric Road System for Efficient and Sustainable Road Freight
Benjamin Wickert, Patrik Akerman, Michael Lehmann
Siemens AG, Germany

Concept Study of a Hybrid-Electric Refrigerated Vehicle with Electrically Operated Cooling System for Urban Freight Transport
Hannes Lacher
AIT Austrian Institute of Technology, Austria

Technical Assessment of Hybrid Powertrains for Energy-Efficient Heavy-Duty Vehicles
Ricardo Barrero[1], Omar Hegazy[1], Noshin Omar[1], Duong Dai Tran[1], Joeri Van Mierlo[1], Olof Lindgaarde[2], Jonas Hellgren[2], Tenil Cletus[2], Thinh Pham[3], Gillis Hommen[3], Steven Wilkins[3], Giorgio Zurlo[4]
[1]Vrije Universiteit Brussel, Belgium; [2]Volvo GTT, Sweden; [3]TNO Powertrains, The Netherlands; [4]IVECO S.p.A., Italy

TRANSFORMERS – Test Drive Results of a New Hybridisation Concept for Truck-Semitrailer Combinations

Gunter Nitzsche[1], Sebastian Wagner[1], Rik Baert[2], Frank Engels[2], Christophe Maillet[3]
[1]Fraunhover IVI, Germany; [2]TNO, The Netherlands; [3]Volvo Trucks, Sweden

The Hercules-2 Project of R&D on Large Engines for Ships

Nikolaos Kyrtatos
National Technical University of Athens, Greece

Posters
Level 0 CONGRESS CENTER

Visioning and Practicing Electrification of Public Transport in Europe: Methodology and Results from the ELIPTIC Experience

Yannick Bousse[1], Maria Vittoria Corazza[2], Jan Kowalski[3], Gerhard Sessing[3]
[1]International Association of Public Transport (UITP), Belgium; [2]Sapienza University of Rome, Italy; [3]Siemens, Germany

A 4-Cylinder High Performance Diesel Engine Concept for D/E-Class Vehicles Featuring Low Fuel Consumption and EU7 Emission Levels

Stefan Bohatsch[1], Håkan Persson[1], Marie Stenfeldt[1], Thomas Bernichon[1], Ludwig Buergler[2], Alexander Machold[2]
[1]Volvo Car Corporation, Sweden; [2]AVL List GmbH, Austria

Design of a LNG Supply Network for the Mediterranean Area

Angela Di Febbraro, Davide Giglio, Chiara Ridella
Università di Genova, Italy

Hydrogen Production and Storage by Oxidation and Reduction of Iron-Based Oxygen Carriers

Sebastian Bock[1], Robert Zacharias[1], Richard Schauperl[2], Jürgen Rechberger[2], Florian von Hofen[3], Gernot Voitic[3], Uwe Strohmeyer[3], Viktor Hacker[1]
[1]Institute for Chemical Engineering and Environmental Technology, Graz University of Technology, Austria; [2]AVL List GmbH, Austria; [3]Rouge H2 Engineering GmbH, Austria

Methods to Determine Degradation in Fuel Cells

Viktor Hacker, Kurt Mayer, Merit Bodner, Alexander Schenk
Institute of Chemical Engineering and Environmental Technology, Graz University of Technology, Austria.

Strategies for Introducing Methanol as an Alternative Fuel for Shipping

Jeroen Dierickx[1], Jorne Beyen[2], Rudi Block[3], Michel Hamrouni[4], Pieter Huyskens[5], Christoph Meichelböck[6], Sebastian Verhelst[1]
[1]Ghent University; [2]Dredging International; [3]Kant Marine en Industrie nv; [4]Methanex Europe; [5]Damen Shipyards Gorinchem; [6]ABEKING & RASMUSSEN Schiffs- und Yachtwerft SE

High Efficient Natural Gas Engine Concepts for Long Haul Transportation

Gernot Hasenbichler[1], Anton Arnberger[1], Theodor Sams[1], Steffen Maus[2], Constantin Plikat[2], Stefano Golini[3], Johann Weinzierl[4], Ingemar Magnusson[5], Matthew Keenan[6]
[1]AVL List GmbH, Austria; [2]Daimler AG, Germany; [3]FPT Industrial, Italy; [4]MAN Truck & Bus AG, Germany; [5]Volvo Technology AB, Sweden; [6]Ricardo UK Limited

European Competitiveness in Commercial Hybrid and Automotive Powertrains (ECOCHAMPS): Energy Consumption Optimization and Vehicle Dynamics Performance Improvement for a Scalable P-HEV e-AWD Power Split Architecture to be Validated on a B-Segment Vehicle

Pablo Prieto[1], Elena Trancho[1], Miguel Allende[1], Igor Real[1], Rossella Marco[2], Daniel Roiu[2], Vittorio Ravello[2]
[1]Tecnalia, Spain; [2]CRF, Italy

INVITED SESSIONS

DAY 2 - Tuesday 17 April 2018 -15:15 - 16:45
INV6: Digital Mobility – Where Is The Human?

LEVEL 1
SCHUBERT 1

Digitalisation and automation are driving the development in the mobility sector these days and new applications, features and services pop up nearly every day.
Aim of the session is to bring the human and its needs into the centre of our attention. Therefore, we invited representatives from research institutions, industry and politics from across Europe to discuss their point of view to take a deeper look at the human factors within the transport system, especially in the context of digital and automated mobility.
The session intends to open the floor for discussion of real needs and challenges of people and society in the digital era of transport lying ahead of us. And it will focus on ways to include the human factor in mobility research, strategies and services at an early stage towards a humane and sustainable future transport system.

Organisers:

Veronika Kessler, ÖVG - Austrian Society for Traffic and Transport Sciences
Eva Hackl, ÖVG - Austrian Society for Traffic and Transport Sciences
Sebastian Belz, EPTS - European Platform of Transport Sciences

Moderators:

Eva Hackl, ÖVG - Austrian Society for Traffic and Transport Sciences
Sebastian Belz, EPTS - European Platform of Transport Sciences

Keynote Speakers:

Hermann Knoflacher, Vienna University of Technology
Georg Kopetz, TTTech Computertechnik AG

Panellists:

Csaba Csiszár, Budapest University of Technology and Economics - BME
Martin Kagerbauer, Karlsruhe Institute of Technology - KIT
Boguslaw Liberadzki, European Parliament
Martina Zeiner, Graz University of Technology

DAY 2 - Tuesday 17 April 2018 -15:15 - 16:45
INV7: Automated Vehicle Testing on European Public Roads

LEVEL 0
STOLZ 2

The aim of the session is to provide an overview of ongoing automated driving pilots across Europe as well as an understanding of common issues and concerns associated with such tests and how they contribute to the deployment of viable solutions. The panel participants are representatives from various European member states who are currently running public road pilots with automated vehicles. Their projects cover different aspects of road transport, such as public transportation, passenger cars, and trucks, offering new opportunities for users and operators. The session will focus in particular on how to leverage insights gained by others and discuss areas where experience, knowledge and result exchange would be helpful for large scale tests. Presenters and panellists include coordinators from the EU-projects L3PILOT and AUTOPILOT, as well as representatives of selected projects in Austria, France and Sweden.

Organisers:

Ingrid Skogsmo, European Commission
Maxime Flament, ERTICO

Moderator:

Ingrid Skogsmo, European Commission

Panellists:

Francois Fischer, ERTICO
Gunnar Tornmalm, Scania
Nadège Faul, VEDECOM
Aria Etemad, Volkswagen
Thomas Zach, AlpLab

DAY 2 - Tuesday 17 April 2018 -15:15 - 16:45
INV8: Modal Synergies for Future Mobility

LEVEL 1
SCHUBERT 5+6

To fulfil the vision of a connected Europe, traditional modal silos need to be overcome and substituted by effective cross-modal collaboration and joined-up thinking.
Building on the inputs from different European Technology Platforms (ETPs) representing all transport modes and relevant stakeholders, SETRIS proposes key avenues to achieve a seamless and sustainable experience based on a portfolio of action topics creating a potential framework for common/joint research activities underpinned by a synergetic approach to mobility. Decarbonisation, travel information, infrastructure evolution or automated vehicles are some of the tangible areas proposed to build a common research roadmap that enhances the synergies between all modes for maximum efficiency and accelerated benefits. This is in full harmony with Mobility4EU which focuses on user-centred approaches and aims to identify synergies and collaboration opportunities between modes and sectors.

Please see details about the two projects here:
https://www.mobility4eu.eu/
http://newrail.org/setris/

Organisers:

Roberto Palacin, Newcastle University
Cristina Hernández de la Poza, UITP

Panellists:

Roberto Palacin, Newcastle University
Cristina Hernández, UITP
Beate Müller, VDI-VDE
Marcia Urban, Bauhaus Luftfahrt
Cristina Hernández de la Poza, UITP

SCIENTIFIC AND TECHNICAL SESSIONS

DAY 2 - Tuesday 17 April 2018 - 17:00 - 18:30
ST21 8.4: Automated Transport: Concepts, Applications, Results
Connected and Automated Transport

LEVEL 0
STRAUSS 1-3

Chair: Alvaro Arrue, IDIADA

Rail Freight Automation in Shift2Rail – Development of prototypes
Norbert Kahl[1], Niels Weigelt[2], Andrea Mazzone[3]
[1]DB Cargo AG, Germany; [2]DB Cargo AG, Germany; [3]Bombardier Transportation, Switzerland

2-Wheel Personal Rapid Transit: Self-Driving Vehicles for Maximum Sustainability
Harald Buschbacher
Harald Buschbacher e.U., Austria

Cooperative Systems for Future Automated Road Transport and Traffic Management in Urban Areas
Robbin Blokpoel[1], Meng Lu[2]
[1]Dynniq Peek Traffic B.V., The Netherlands; [2]Dynniq Nederland B.V., The Netherlands

Connected and Automated Vehicles on a Freeway Scenario. Effect on Traffic Congestion and Network Capacity
Konstantinos Mattas[1], Michail Makridis[1], Biagio Ciuffo[1], Maria Alonso Raposo[1], Tomer Toledo[2], Christian Thiel[1]
[1]Joint Research Centre, European Commission, Italy; [2]Faculty of Civil and Environmental. Engineering, Transportation Research Institute, Technion - Israel Institute of Technology

Effects of Automated Driving Functions on the Track Availability of the Austrian Motorway Network
Bernhard Hintermayer[1], Michael Haberl[2], Robert Neuhold[2], Martin Fellendorf[2], Andreas Kerschbaumer[3], Martin Rudigier[3], Arno Eichberger[4], Branko Rogic[4]
[1]ASFINAG, Austria; [2]Institute of Highway Engineering and Transport Planning, Graz University of Technology; [3]VIRTUAL VEHICLE, Department Integrated Vehicle Development; [4]Institute of Automotive Engineering, Graz University of Technology, Austria

Digibus: Results from the First Self-Driving Shuttle Trial on a Public Road in Austria
Karl Rehrl, Cornelia Zankl
Salzburg Research Forschungsgesellschaft mbH, Austria

Posters
Level 0 CONGRESS CENTER

Assessing the Impact of Automated Driving: Needs, Challenges and Future Directions
Yvonne Barnard[1], Adrian Zlocki[4], Satu Innamaa[3], Helena Gellerman[2], Davide Brizzolara[5], Sami Koskinen[3], Haibo Chen[1], Dongyao Jia[1]
[1]University of Leeds, UK; [2]SAFER, Sweden; [3]VTT, Finland; [4]IKA, Germany; [5]ERTICO - ITS Europe, Belgium

Automated Vehicles in a Major European City – a Technical Perspective on Urban Transport Policy Options: the Case of Vienna
Gregory Telepak, Helmut Augustin
Vienna City Administration – Urban Planning Department, Austria

Autonomous Driving on Freely Accessible Railway Tracks
Burkhard Stadlmann[1], Thomas Penkner[1], Stefan Grünberger[1], Stefan Dumberger[1], Johann Weichselbaum[2], Thomas Kadiofsky[2], Wolfgang Pointner[2]
[1]FH OÖ, Austria; [2]AIT Austrian Institute of Technology GmbH, Austria

Impacts of Cooperative Safety-Related Traffic Information System
Satu Innamaa[1], Ilkka Kotilainen[2], Risto Kulmala[2], Reuben George[3], Anna Schirokoff[4]
[1]VTT, Finland; [2]Finnish Transport Agency, Finland; [3]HERE Technologies, US; [4]Finnish Transport Safety Agency, Finland

MOVEUS Project: Developing Innovative Solutions for Pedestrians and Buses

Sergio Fernandez Balaguer[1], Mario González Fernández[1], Beatriz García Prada[2]
[1]Empresa Municipal de Transportes de Madrid S.A., Spain; [2]SICE

Transitioning Towards a Coordinated Automated Road Transport (C-ART) System

Maria Alonso Raposo, Biagio Ciuffo, Michail Makridis, Christian Thiel
Joint Research Centre, European Commission, Italy

DAY 2 - Tuesday 17 April 2018 - 17:00 - 18:30
ST22 10.5: Safety of Vulnerable Road Users
Safe, Secure and Resilient Transport Systems

LEVEL 0
LEHAR 1+2

Chair: Rob Eenink, SWOV, Institute for Road Safety Research, The Netherlands

Advancing Active Safety towards the Protection of Vulnerable Road Users by Evolution of ADAS Solutions that Meet Real-World Deployment Challenges: The Project PROSPECT

Andres Aparicio[1], Ilona Cieslik[1], Johann Stoll[2], Martin Kunert[3], Fabian Flohr[4], Maxim Arbitmann[5], Thomas Wimmer[6], Julia Bräutigan[7], Dariu Gavrila[8]
[1]IDIADA Automotive Technology; [2]Audi; [3]Robert Bosch; [4]Daimler AG; [5]Continental Teves; [6]4activeSystems GmbH; [7]Federal Highway Research Institute (BASt); [8]University of Amsterdam

Safety Assessment of Unsignalized Pedestrian Crossings by Means of Advanced Movement Tracking – The OBSERVE Project

Christian Stefan[1], Claus Aichinger[1], Rainer Stütz[1], Oliver Sidla[2]
[1]AIT Austrian Institute of Technology GmbH, Austria; [2]SLR Engineering GmbH

Improving LED Luminaries for Street Lighting to Meet Road User's Needs: The Case of Vienna

Karin Markvica, Gerald Richter, Gernot Lenz
AIT Austrian Institute of Technology GmbH, Austria

Bicycle Accidents in Denmark - the Contribution of Cyclist Behavior, the Vehicle, and the Road

Mette Møller, Kira Hyldekær Janstrup, Ninette Pilegaard
Technical University of Denmark

The Road and its Influence on Bicycle Accidents in Denmark

Kira Hyldekær Janstrup, Mette Møller, Ninette Pilegaard
Technical University of Denmark

Cyclists' Evaluation of Different Types of Green Wave Systems and Interfaces: a Study from two European Universities

Marco De Angelis[1], Arjan Stuiver[2], Gabriele Prati[1], Federico Fraboni[1], Víctor Marín Puchades[1], Filippo Fassina[1], Dick De Waard[2], Luca Pietrantoni[1]
[1]Department of Psychology, Alma Mater Studiorum University of Bologna, Italy; [2]Department of Psychology, University of Groningen, The Netherlands

Posters
Level 0 CONGRESS CENTER

Assessing Unsignalised Pedestrian Crossings

Marcin Budzynski[1], Tomasz Mackun[1], Kazimierz Jamroz[1], Piotr Tomczuk[2]
[1]Gdansk University of Technology, Poland; [2]Warsaw University of Technology, Poland

Increasing Cycling Safety by an Adaptively Triggered Road Instrumented Warning Element in EU Project XCYCLE

Kay Gimm, Sascha Knake-Langhorst, Maximiliano Bottazzi
German Aerospace Center (DLR), Germany

Injured Motorcyclists in Sweden: Where do the Crashes Occur and what Factors Influence the Injury Severity?
Åsa Forsman, Anna Vadeby
VTI, Sweden

Road Safety Issues of EU Funded Bicycle Network Projects in Hungary
Emese Mako[1], Erzsebet Hoz[2], Daniel Miletics[3]
[1]Department of Transport Infrastructure, Szechenyi Istvan University, Hungary; [2]Transportation Research Institute; [3]Department of Transport Infrastructure, Szechenyi Istvan University, Hungary

DAY 2 - Tuesday 17 April 2018 - 17:00 - 18:30
ST23 7.6: Transport Infrastructure: User Centric Capacity Planning and Management
Transport Infrastructure

LEVEL 0
LEHAR 3+4

Chair: Tiina Susanna Jauhiainen, Finnish Transport Agency, Finland

Modelling and Controller Design for Self-Adjusting Railway Track Switch System
Saikat Dutta, Tim Harrison, Maria Sarmiento-Carnevali, Christopher Ward, Roger Dixon
Loughborough University, UK

A Maintainable and Secure Backend Infrastructure for Carpooling Applications
Dimitrios Tsoukalas, Athanasios Salamanis, Dionysios Kehagias, Dimitrios Tzovaras
Center for Research & Technology Hellas, Information Technologies Institute, Greece

Passenger-Centric Airport Management Using Real-Time Data and Forecasting
Olaf Milbredt[1], Michel van Eenige[2], Ronald Grosmann[2], Axel Classen[1]
[1]German Aerospace Center (DLR), Germany; [2]Netherlands Aerospace Centre (NLR), The Netherlands

Truck Parking Space Creation through Intelligent Structuring of Given Capacity
Ilja Bäumler, Herbert Kotzab
University of Bremen, Germany

Network Effects of Local Intersection Design Strategies
Erwin Bezembinder[1], Luc Wimans[2], Eric Van Berkum[2]
[1]Windesheim University of Applied Sciences, The Netherlands; [2]University of Twente, The Netherlands

Classification of Traffic Jams on Alpine Motorways
Bartosz Bursa, Markus Mailer, Gajic Nemanja
University of Innsbruck, Austria

Posters
Level 0 CONGRESS CENTER

Accessibility and Network Changes of the Planned Budapest-Belgrade High-Speed Railway
András Gulyás, Áron Kovács
University of Pécs, Hungary

CarSense: Evaluating the Potential of In-Vehicle Sensor Data for Road Operators
Richard Brunauer[1], Karl Rehrl[1], Wolfgang Kremser[1], Rene Moser[2]
[1]Salzburg Research Forschungsgesellschaft mbH, Austria; [2]ASFINAG, Austria

Evolution into a New-Generation Traffic Data Platform to Support Emerging Interoperability and Multi-Modal Traffic Applications
Andreas Richter, Elmar Brockfeld, Eric Melde, Lucas Andreas Schubert, Michael Scholz
German Aerospace Center, Germany

Forecasting Air Traffic Demand for Major Infrastructure Changes
Terje A. Mathisen[1], Gisle Solvoll[1], Morten Welde[2]
[1]Nord University, Norway; [2]Norwegian University of Science and Technology, Norway

Instrumentation for Real Time Monitoring of the Overhead Contact Line Acceleration
Tudor Popa, Dorin Laurentiu Buretea, Lucian Emanuel Anghel
ADS-Electronic Research, Romania

Low-Cost Radio Network Based System for Monitoring Mechanical and Electromechanical Rail Interlocking Equipment
Tudor Popa, Dorin Laurentiu Buretea, Lucian Emanuel Anghel
ADS-Electronic Research, Romania

Road Transport Management in Australasia
Auttapone Karndacharuk, Asif Hassan
Australian Road Research Board (ARRB), Australia

Smart Technology Solutions for the NeTIRail-INFRA Case Study Lines: Axle Box Acceleration and Ultra-Low Cost Smartphones
Alfredo Nunez[1], Tudor Popa[2], Lucian Emanuel Anghel[2], Jurjen Hendriks[1], Jan Moraal[1], Laurentiu Dorin Buretea[2], Jon Paragreen[3], Berbece Miron[4], Draghici Gheorghe[4], Mihail Campean[4], Rolf Dollevoet[1], Zili Li[1]
[1]Delft University of Technology, The Netherlands; [2]ADS-Electronics Research, Romania; [3]MERail Railway Research Group, The University of Sheffield, UK; [4]RC-CF, Romania

Terminal Planning: The Selection of Relevant KPIs to Evaluate Operations
Ville Hinkka[1], Janne Porkka[1], Zarrin Fatima[1], Juha Hyvärinen[1], Aapo Huovila[1], Pau Morales-Fusco[3], Enrique Martin[3], Gisela Soley[2]
[1]VTT Technical Research Centre of Finland, Finland; [2]IDP Ingenieria Y Arquitectura Iberia, Spain; [3]Centre for Innovation in Transport, Spain

Traffic Analysis, Fairway Alignment and Efficient Investments in the Waterway Danube
Markus Hoffmann[1], Alexander Haberl[1], Christoph Konzel[2], Thomas Hartl[2], Stefan Simon[2], Markus Simoner[2]
[1]Vienna University of Technology, Austria; [2]viadonau – Austrian Waterway Company, Austria

'Do You Understand?' - Towards Improving Evaluation Tools that Support Decision-Making in Integrated Infrastructure Planning
Anne Marel Hilbers, Frans Sijtsma, Tim Busscher, Jos Arts
University of Groningen, The Netherlands

DAY 2 - Tuesday 17 April 2018 - 17:00 - 18:30
ST24 11.1: Driving Behavior and Safety of Road Users
Human Dimension in Transport

LEVEL 0
STOLZ 1

Chair: Lucile Mendoza, HUMANIST

Smartphone & Co - Extent and Consequences of Distraction in Traffic
Monika Pilgerstorfer, Sheila Agbontaen
KFV (Austrian Road Safety Board), Austria

Estimation of Driver's Risk Awareness from Physiological Data for Smart Assistance Systems
Jan Charles Lenk[1], Gert Weller[2], Andreas Lüdtke[1], Christian Strümpler[2]
[1]Humatects GmbH, Germany; [2]EMEA Core Engineering & Research, TAKATA AG, Germany

Compensatory Driving Behaviour of Older Drivers with Parkinson's Disease. Is it Sufficient to Counterbalance their Driving Difficulties?
Dimosthenis Pavlou[1], Eleonora Papadimitriou[1], Panagiotis Papantoniou[1], George Yannis[1], Sokratis Papageorgiou[2]
[1]National Technical University of Athens, Greece; [2]National and Kapodistrian University of Athens, Greece

The ESRA Survey: Cross National Initiative to Monitor Road Users' Attitudes and Self-Declared Behaviours
Uta Meesmann, Katrien Torfs, Wouter Van den Berghe
Vias institute, Belgium

Driving under the Influence of Alcohol and Drugs – International Comparison of 25 Countries
Yvonne Achermann Stürmer[1], Uta Meesmann[2]
[1]Swiss Council for Accident Prevention, Switzerland; [2]Vias institute, Belgium

Subjective Safety and Risk Perception: Results from the European Survey on Road User´s Safety Attitudes (ESRA)
Gerald Furian, Susanne Kaiser, Christian Brandstätter
KFV (Austrian Road Safety Board), Austria

Towards a Predictive Model of Driver Acceptance of Active Collision Avoidance Systems
David Robert Large, Victoria Banks, Catherine Harvey, Gary Burnett
University of Nottingham, UK


Posters
Level 0 CONGRESS CENTER

Dark Number and the Relation between Infringements and Penalties
Brecht Pelssers, Peter Silverans, Annelies Schoeters
Vias institute, Belgium

Determinants of the Use of Safety Restraint Systems in Italy
Davide Shingo Usami, Luca Persia, Veronica Sgarra
Sapienza University of Rome, Italy

Do the Impacts Justify Point-to-Point Speed Enforcement on Rural Roads?
Martin Winkelbauer, Veronika Zuser, Bernd Strnad
KFV (Austrian Road Safety Board), Austria

Lane Splitting Experiment: Comparative Analysis of How This Is Accepted by Motorcyclists and Car Drivers
Chloé Eyssartier[1], Marc Lanfranchi[1], Isabelle Ragot-Court[2]
[1]CEREMA, France; [2]Ifsttar, France

Human Science and Professional Approaches to Improve Workers and Drivers Safety on Workzones
Florence Rosey[1], Ludovic Robine[1], David Cheinisse[1], Samuel Aupetit[2], Eric Violette[1]
[1]CEREMA, France; [2]ERGO-CENTRE SARL, France

Impact of Mobile Phone Use on Driving Performance: Findings from a Simulator Study
Maria Linardou[1], Ioanna Spyropoulou[1], Dimosthenis Pavlou[2], George Yannis[2]
[1]School of Rural and Survey Engineering, National Technical University of Athens; [2]School of Civil Engineering, National Technical University of Athens

Investigating which Factors Affect Lateral Position Variability through a Driving Simulator Experiment
Panagiotis Papantoniou[1], George Yannis[1], Dimosthenis Pavlou[1], Constantinos Antoniou[2]
[1]National Technical University of Athens, Greece; [2]Technical University of Munich

Novice Drivers' Eye Movement Patterns in Potentially Hazardous Pedestrian Events: Differences between Novice Drivers with High and Low Hazard Perception Skills
Līva Ābele, Sonja Haustein, Mette Møller
Technical University of Denmark

The Impact of Roadside Advertising on Safe Driving Behaviour in Cities: A Driving Simulator Approach
Dimosthenis Pavlou, Anastasia Gkouskou, George Yannis
National Technical University of Athens, Greece

Traffic Safety Culture in Three Countries – Example of a New Conceptual Analysis
Susanne Kaiser[1], Christopher Schlembach[2], Robert Bauer[1], Vangelis Makris[4], Tamara Vlk[5], Eranda Janku[3], Gerald Furian[1]
[1]KFV (Austrian Road Safety Board), Austria; [2]University of Vienna, Department of Sociology; [3]POLIS University, Faculty of Planning, Environment and Urban Management; [4]Road Safety Institute (R.S.I.) "Panos Mylonas"; [5]AustriaTech

Problem of Trespassing Railway Property as an Accompanying Effect of Suburbanization
Ivo Dostál[1], Marek Havlíček[1], Pavlína Skládaná[1], František Nantl[2], Pavel Skládaný[1], Pavel Tučka[1], Jan Perůtka[1]
[1]CDV - Transport Research Centre, Czech Republic; [2]Institute for Spatial Development, Czech Republic

DAY 2 - Tuesday 17 April 2018 - 17:00 - 18:30
ST25 5.5: Local Accessibility, Active Mobility, Bikes and Soft Modes, Cable Car, On-Demand
People Mobility – Systems and Services

LEVEL 1
SCHUBERT 4

Chair: Guido Di Pasquale, UITP, Belgium

Travel Demand Estimation for Cable Car Transport in the Urban Areas Shown for the Moderate-Sized City of Graz, Austria

Karl Hofer[1], Michael Haberl[1], Martin Fellendorf[1], Georg Huber[2], Kurt Fallast[2]
[1]Graz University of Technology, Austria; [2]PLANUM Fallast Tischler & Partner GmbH

Understanding Access Mobility to Railway Stations

Sophie Hasiak, Fabrice Hasiak, Géraldine Bodard
Cerema, Territorial division Nord Picardie, France

What Makes and Breaks Active Travel? A Statistical Model for Evidence-Based Decision-Making in Transport Policy for Non-Motorized Modes

Roland Hackl[1], Clemens Raffler[1], Michael Friesenecker[1], Hans Kramar[2], Robert Kalasek[2], Aggelos Soteropoulos[2], Susanne Wolf-Eberl[3], Patrick Posch[3], Rupert Tomschy[4]
[1]tbw research GesmbH, Austria; [2]Vienna University of Technology, Austria; [3]Research & Data Competence, Austria; [4]HERRY Consult GmbH, Austria

Multi- and Intermodal Trip Chain Simulation for Individual Daily Routines, Using Bicycles

Cornelia Hebenstreit, Martin Fellendorf
Graz University of Technology, Austria

A Spatial Framework for Planning Station-based Bike Sharing Systems

Martin Loidl, Ursula Witzmann-Müller, Bernhard Zagel
Department of Geoinformatics, University of Salzburg, Austria

Semi-Automatic Location Planning for Urban Bike-Sharing Systems

Markus Straub[1], Christian Rudloff[1], Anita Graser[1], Christian Kloimüllner[2], Günther R. Raidl[2], Markus Pajones[3], Felix Beyer[4]
[1]AIT Austrian Institute of Technology GmbH; [2]Institute of Computer Graphics and Algorithms, Vienna University of Technology, Austria; [3]FH OÖ Forschungs & Entwicklungs GmbH – Logistikum Steyr; [4]Rosinak & Partner ZT GmbH

Posters
Level 0 CONGRESS CENTER

An Integrated Dynamic Ridesharing Dispatch and Idle Vehicle Repositioning Strategy on a Bimodal Transport Network

Tai-Yu Ma[1], Joseph Y. J. Chow[2], Saeid Rasulkhani[2]
[1]Luxembourg Institute of Socio-Economic Research; [2]C2SMART University Transportation Center, New York University

Capturing Potential for Active Mobility: A Multi-Level Survey Analysis Incorporating Associated Meanings

Christian Rudloff, Karin Markvica, Matthias Wunsch
AIT Austrian Institute of Technology GmbH, Austria

Modeling Cyclists Traffic Volume–Can Bicycle Planning Benefit from Smartphone Based Data?

Sven Lißner, Angela Francke
TU Dresden, Germany

Self-Driving Shuttles as a Complement to Public Transport – Classification and Characterization

Anna Pernestål Brenden, Karl Kottenhof
KTH Royal Institute of Technology, Sweden

Ticket Sharing – a Model for a Sharing Tariff in Public Transport

Franz Lambrecht, Carsten Sommer
University of Kassel, Germany

Transport and Mobility Services to Support Active Ageing

Tom Voege[1], Yanying Li[2], Dirk Beckmann[3]
[1]International Transport Forum in OECD; [2]ERTICO - ITS Europe, Belgium; [3]DLR

DAY 2 - Tuesday 17 April 2018 - 17:00 - 18:30

ST26 1.7: Improvement of Emissions and Efficiency of Electric and Fuel Cell Vehicles, Busses and Trains

Environment and Energy Efficiency

LEVEL 1
SCHUBERT 2+3

Chair: Guido Sacchetto, EC

Active Power Conditioner Based on a Voltage Source Converter for Harmonics and Negative Sequence Components Compensation in Electrified Railway Systems

José Gabriel Pinto, Mohamed Tanta, Vítor Monteiro, Luis A. M. Barros, João Luiz Afonso
University of Minho, Portugal

Development of a SOFC CCHP System towards Flexible Production of Electricity, Heat and Cooling Power for Transport Applications

Martin Hauth[1], Michael Seidl[1], Christopher Sallai[1], Nikolaus Soukup[1], Andreas Postl[1], Rene Rieberer[2], Johannes Albert[2]
[1]AVL List GmbH, Austria; [2]Graz University of Technology, Austria

Energy Efficient Control of Heat Pump in Fully Electric Vehicle

Jan Glos, Pavel Vaclavek, Petr Blaha
CEITEC - Central European Institute of Technology, Brno University of Technology, Czech Republic

Evaluation of the Energy Saving Potential of a Power Electronic Transformer for Rolling Stock Under 25kV, 50Hz

Jean-François Tremong, Bogdan Vulturescu, André-Philippe Chamaret
SNCF, France

Impact of Thermal-Electric Networks on the Usability of EVs Based on a Study with a C-Segment Car

Ernst Sumann[1], Mihai Nica[1], Matthias Hütter[1], Pavel Vaclavek[2], Christopher Römmelmayer[3], Martin Helwig[4], Pawan Garg[3], Vincent Lorentz[5], Helder-Filipe De-Campos-Garcia[6], Jianbo Tao[1]
[1]AVLList GmbH, Austria; [2]CEITEC Central European Institute of Technology, Brno University of Technology, Czech Republic; [3]Infineon Technologies AG, Germany; [4]Technische Universität Dresden, Institut für Leichtbau und Kunststofftechnik, Germany; [5]Fraunhofer IISB, Battery Systems, Division Power Electronics, Germany; [6]HUTCHINSON SA Centre de Recherche et d'Innovations, France

Solar Hybrid Road : from Concept to Modeling and Lab Scale Mock-Up Experiments

Nicolas Le Touz[1,3], Jean Dumoulin[1,3], Jean-Michel Piau[2]
[1]IFSTTAR, COSYS-SII, France; [2]IFSTTAR, MAST-LAMES, France; [3]Inria, I4S Team, France

Posters
Level 0 CONGRESS CENTER

A Comprehensive Comparison of Rail Power Conditioners Based on Two-Level Converters and a V/V Power Transformer in Railway Traction Power Systems

Mohamed Tanta[1], José Gabriel Pinto[1], Vítor Monteiro[1], António Pina Martins[2], Adriano Silva Carvalho[2], João Luiz Afonso[1]
[1]University of Minho, Portugal; [2]University of Porto, Portugal

Assessing the Impact of Extreme Temperatures on Fuel and Energy Efficiency of a Range Extended Electric Vehicle

Maria Cristina Galassi[1], Kevin M. Stutenberg[2], Marcos Garcia Otura[1], Germana Trentadue[1], Harald W. Scholz[1], Massimo Carriero[1], Keith S. Hardy[2], Henning Lohse-Busch[2]
[1]EC, Joint Research Centre (JRC), Directorate for Energy, Transport and Climate, Sustainable Transport Unit, Italy; [2]U.S. Department of Energy, Argonne National Laboratory, Advanced Powertrain Research Facility, U.S.A.

Driving Dynamic Investigations for the Estimation of Possible Braking Energy Recovery of Passenger Cars in Germany

Conrad Piasecki
Federal Highway Research Institute (BASt), Germany

Electric Energy Storage in DC Traction Power Supply Systems
Artur Rojek
Instytut Kolejnictwa, Poland

Fuel cell electric buses: experience of a zero emission solution
Sabrine Skiker[1], Michael Dolman[2], Frank Koch[3]
[1]Hydrogen Europe, Belgium; [2]Element Energy, UK; [3]Energie-Agentur.NRW, Germany

Hydrogenization of Road Transport in Poland – European Project HIT-2-Corridors
Wojciech Zdzisław Gis, Edward Menes, Jerzy Waśkiewicz, Maciej Gis
Motor Transport Institute, Poland

DAY 2 - Tuesday 17 April 2018 - 17:00 - 18:30
ST27 1.1: Life Cycle Assessment in Transportation
Environment and Energy Efficiency

LEVEL 1
SCHUBERT 1

Chair: Linda Ager-Wick Ellingsen, NTNU

Designing Efficient Contemporary Ship Recycling Yards through Discrete Event Simulation
Sefer Anil Gunbeyaz, Rafet Emek Kurt, Osman Turan
University of Strathclyde, UK

Enhancing Lithium-Ion Battery Recycling: Evaluation of Graphite and Carbon Recovered from Aged Cells for the Production of "New" Negative Electrodes
Iratxe de Meatza[1], Miguel Bengoechea[1], Aitor Eguía-Barrio[1], Farouk Tedjar[2], Jerome Cognard[2], Diogo Vieira Carvalho[3,4], Arianna Moretti[3,4], Stefano Passerini[3,4]
[1]CIDETEC, Spain; [2]RECUPYL, France; [3]Helmholtz Institute Ulm (HIU), Germany; [4]Karlsruhe Institute of Technology (KIT), Germany

Tank-to-Wheel Emissions from Articulated Steered Wheel Loaders
Babak Ebrahimi[1], Reyn Joseph O'Born[2], Gaylord Kabongo Booto[3], Hrefna Run Vignisdottir[3], Holger Wallbaum[1], Rolf André Bohne[3], Pål Drevland Jakobsen[3], Amund Bruland[3]
[1]Chalmers University of Technology, Sweden; [2]University of Agder, Norway; [3]Norwegian University of Science and Technology, Norway

EuroCombis in Germany – "Ecocombis" or "Climate Killers"?
Stefan Eckert[1], Michael Faltenbacher[1], Theresa Gutberlet[2], Alexander Labinsky[2], Hans-Paul Kienzler[2]
[1]thinkstep AG, Germany; [2]Prognos AG, Germany

Introducing the Circular Economy in Road Construction. Challenges and Dilemmas in Designing and Realizing Circular Roads.
Wim Leendertse[1,2], Joost Hendriksen[1], Stan Kerkhofs[1]
[1]Ministry of Infrastructure & Environment, The Netherlands; [2]University of Groningen, Faculty of Spatial Sciences

Life-Cycle Assessment Based Optimization Model for Asphalt Pavements
Jelena Cirilovic[1], Goran Mladenovic[2], Cesar Queiroz[3]
[1]IMS Institute, Serbia; [2]University of Belgrade, Serbia; [3]International Independent Consultant

Posters
Level 0 CONGRESS CENTER

Comparison of Greenhouse Gas Emissions Associated with Reconstruction of Low-Volume Road – Lithuania Case Study

Viktoras Vorobjovas[1], Algirdas Motiejūnas[1], Audrius Vaitkus[1], Alvydas Zagorskis[2], Vaidotas Danila[2]

[1]Road Research Institute, Vilnius Gediminas Technical University, Lithuania; [2]Research Institute of Environmental Protection, Vilnius Gediminas Technical University, Lithuania

LCA Based Estimation of Environmental Effects of the Global Electric Vehicles Fleet - Facts&Figures from the IEA Technology Collaboration Program on Hybrid&Electric Vehicles

Gerfried Jungmeier[1], Amgad Elgowainy[2], Simone Ehrenberger[3], Gabriella Beneviste[4], Pierre-Olivier Roy[5], Lim Ocktaeck6

[1]JOANNEUM RESEARCH, Austria; [2]ARGONNE, USA; [3]DLR, Germany; [4]IREC, Spain; [5]CIRAIG, Canada; [6]University of Ulsan, South Korea

Moving towards Green Public Procurement in Belgium

Johan Maeck, Kris Redant

Belgian Road Research Centre, Belgium

Training & Education on Standardization of Transport Chains Emission Accounting

Susana Val[1], Beatriz Royo[1], Iraklis Stamos[2], Roxana Ilie[3]

[1]Zaragoza Logistics Center, Spain; [2]IRU Projects, Belgium; [3]National Union of Road Hauliers, Romania

INVITED SESSIONS

DAY 2 - Tuesday 17 April 2018 -17:00 - 18:30

INV9: Managing the Transition Towards Higher Automation

LEVEL 0
STOLZ 2

Significant progress has been made in key technologies for innovative connected and automated driving (CAD) functions and applications. Many demonstration projects to test CAD functions in different use cases for passenger cars, automated urban transport systems and trucks, are already ongoing. The aim of the session is to present and discuss the progress in the field of Automated Road Transport, focusing on safety of automated driving systems, user acceptance, human-centred design of automated vehicles, innovative modelling, design and engineering of road infrastructure and assessment of socio-economic impacts. Speakers will be invited to present their work to give an overview of the State of the Art in the field, and increase awareness of developments among stakeholders concerned with supporting the smoother market penetration of automated driving.

Organisers:

Ludger Rogge, European Commission
Maria-Cristina Marolda, European Commission

Moderator:

Luisa Andreone, FCA-CRF

Keynote speaker:

Stephen Shladover, University of California

Panellists:

Anna Schieben, DLR Deutsches Zentrum für Luft- und Raumfahrt, Germany
David Pérez Pancho, Treelogic, Spain
Ahu Ece Hartavi Karci, University of Surrey, UK
Martin Dirnwoeber, AustriaTech
Meng Lu, Dynniq, NL
Siegfried Rupprecht, Rupprecht Consult, Germany

DAY 2 - Tuesday 17 April 2018 -17:00 - 18:30

INV10: Deep Impact of Transport Research and Funding? How Can We Better Understand Societal Impacts to Foster Responsible Research and Innovation in Transport?

LEVEL 1
SCHUBERT 5+6

In the light of emerging developments, transport research and innovation calls for more impact-sensitive approaches, which R&D policies, funding programs and related activities are often failing or struggling to deliver. By focussing on societal impact implications the session will bring together state-of-the-art expertise and novel approaches. It aims to sketch ways forward on how to anticipate or capture effects and to better (re)shape policies in a responsible and future-prove way. High calibre panellists and key-experts from different disciplines and areas in transport and mobility research will discuss – together with the audience – related questions and perspectives in this fairly underrated field. Findings are expected to raise awareness, contribute to mutual learning and could ultimately facilitate a coherent and straight-forward approach towards a more solid impact orientation. In this regard it shall also promote a better coordinated funding practice and program development in the ERA, thus aligning national programs and European/FP initiatives.

Organiser and Moderator:

Walter Wasner, Austrian Federal Ministry for Transport, Innovation and Technology

Panellists:

Sarah Bittner-Krautsack, Austrian Federal Ministry for Transport, Innovation and Technology
Christian Böhler, European Centre for Social Welfare Policy and Research
Torsten Klimke, European Commission
Peter Kaufmann, KMU Forschung Austria
Sebastian Seebauer, Joanneum Research
Katja Schechtner, International Transport Forum
Andrea Ricci, ISINNOVA
Philippe Crist, International Transport Forum

19:30 – Gala Dinner & TRA VISIONS Senior Researchers Awards

MARKETPLACE POSTER DAY 2

DAY 2 - Tuesday 17 April 2018 - 08:00 - 19:00

WiFi Thermograph for Remote Cold Chain Monitoring with Multipath TCP Support
Regel Gonzalez-Usach, Rene Ordonez
Universitat Politecnica de Valencia, Spain

C-ITS Enabled Railway Level Crossings to Enhance Protection of Car Drivers and Passengers
Michal Pavel[1], Martin Pichl[2], Jaroslav Hokeš[3], Petr Kolář[4]
[1]AZD Praha s.r.o., Czech Republic; [2]Ministry of transport, Czech Republic; [3]RADOM, s.r.o., Czech Republic; [4]SZDC s.o., Czech Republic

interACT Work Package 2 – How Do Traffic Participants Interact in Current Urban Scenarios and How This Helps when Designing Automated Vehicles
Andre Dietrich[1], Ruth Madigan[2], Dimitris Nathanael[3], Johannes Ruenz[4], Anna Schieben[5]
[1]Technical University of Munich, Germany; [2]Institute for Transport Studies, University of Leeds, UK; [3]Sector of Industrial Management & Operational Research, National Technical University of Athens, Greece; [4]Robert Bosch GmbH, Germany; [5]Institute of Tranportation Systems, German Aerospace Center (DLR), Germany

Telematics Based Road Access & Weight Control System - First Application Is High Productivity Vehicles and Many More on the Way
Sten Wandel[1], Thomas Asp[2]
[1]Lund University, Sweden; [2]Swedish Road Administration, Sweden

AI-Based Transport Planning and Management
Paweł Gora
University of Warsaw, Poland

A Closed-Loop Connection between Connected and Automated Vehicle (CAV) Control Logics, an Advanced Driver Assistance System (ADAS) and Autonomous Driving Simulator (PreScan), and a Microscopic Traffic Simulator (Vissim)
Bernard Gyergyay[1], Syrus Gomari[1], Mohamed-Cherif Rahal[2], Steve Pechberti[2], Bart Heijke[3], Peter Sukennik[4], Farid Bekka[5]
[1]Rupprecht Consult - Forschung & Beratung GmbH, Germany; [2]VEDECOM, France; [3]TASS International – A Siemens Business The Netherlands; [4]PTV Group, Germany; 5Renault, France

The Arctic Challenge - the Role of Infrastructure in Connected and Automated Driving Development for all Conditions
Alina Koskela
Finnish Transport Agency, Finland

VaMOS – A Tool for Traffic Forecast and Flow Optimization at Toll Plazas on Motorways
Robert Neuhold[1], Filippo Garolla[2], Oliver Sidla[2], Martin Fellendorf[1]
[1]Graz University of Technology, Austria; [2]SLR Engineering GmbH, Austria

Cybersecurity. A Methodology to Assess Vulnerability of Embedded IoT Systems.
Giuseppe Faranda, Gianfranco Burzio
Drivesec, Italy

Measuring Complexity of Traffic as an Instrument on the Way to Traffic Automation
Andreas Kuhn, Toni Palau, José Carmona
ANDATA, Austria

Asset Information Management for European Roads Using Linked Data.
Daniel Alsem[1], Bart Luiten[2], Michel Bohms[2], Aonghus O'Keeffe[3]
[1]INTERLINK, RHDHV Royal HaskoningDHV, The Netherlands; [2]INTERLINK, TNO, The Netherlands; [3]INTERLINK, ROD, Ireland

Improving Road Network Surveying in the Automotive Development Process through Road2Simulation Guidelines
Andreas Richter, Michael Scholz
German Aerospace Center, Germany

Satellite Services for the Maritime World – How Earth Observation benefits Maritime Activities
Nils Meyer-Larsen
ISL Institute of Shipping Economics and Logistics, Germany

Innovative Solution for Current State Assessment of Road Infrastructure by Using Big Data in Transport
Marcin Staniek, Grzegorz Sierpiński
Silesian University of Technology, Poland

A Spatial Issue Tracking System Boosting the Development of Track-Based Testing Environments
Michael Scholz, Oliver Böttcher, Andreas Richter
German Aerospace Center, Germany

Using Image Processing and Artificial Intelligence in Control Centers Renewal
Mariam Masmoudi, Bertrand Houzel
SNCF, France

An Innovative ICT Solution for the Management of Dangerous Goods in a Safe, Secure, Environmentally-Friendly and Cost Efficient Way.
Gemma Molero[1], Sara Poveda-Reyes[1], Ulrike Brocza[2], Nik Widmann[2], Francisco Santarremigia[1]
[1]AITEC, Spain.; [2]PRISMA Solutions, Austria.

SafetyCube - Gathering and Presenting Evidence for Road Safety Decisions in a Decision Support System (DSS)
Pete Thomas[1], Robert Thomson[2], Heike Martensen[3], Susanne Kaiser[4], Eleonora Papadimitriou[5], Franck Leopold[6], Wendy Weijermars[7]
[1]loughborough Transport Safety Research Centre, Loughborough University, UK; [2]Chalmers University of Technology, SE; [3]VIAS Institute, BE; [4]KFV (Austrian Road Safety Board), Austria; [5]National Technology University of Athens, GR; [6]Laboratory of Accidentology, Biomechanics and Human Behaviour, FR; [7]Institute for Road Safety Research, NL

Climate Impact Assessment: A Multimodal Approach for Federal Transport Infrastructure in Germany
Martin Klose[1], Stephanie Hänsel[2], Martin Helms[3], Carina Herrmann[4], Gudrun Hillebrand[3], Sabine Hüttl-Kabus[5], Claudius Fleischer[3], Markus Forbriger[4], Alexander Kikillus[6], Elise Lifschiz[6], Anne-Farina Lohrengel[1], Jens Möller[5], Enno Nilson[3], Regina Patzwahl[6]
[1]Federal Highway Research Institute, Germany; [2]Deutscher Wetterdienst, Germany; [3]Federal Institute of Hydrology, Germany; [4]Federal Railway Authority, Germany; [5]Federal Maritime and Hydrographic Agency, Germany; [6]Federal Waterways Engineering and Research Institute, Germany

Innovative Usage-Based Motor Insurance for Significant Road Safety Improvement
Dimitrios I. Tselentis, George Yannis
National Technical University of Athens, Greece

Information Security Enforced by Quantum Technologies toward Redundant and Robust Security
Gregorio Iuzzolino[1], Pietro Perlo[1], Yury Pozdnyakov[2], Yury Kurochkin[2], Alexey Fedorov[2], Konstantin Zvezdin[3]
[1]I-FEVS, Italy; [2]RQC, Russia; [3]Istituto-PM, Italy

Drone Stations for Remote Rapid Response to Security Threats on High Speed Rail
Alexey V. Shvetsov[1], Svetlana V. Shvetsova[2]
[1]Moscow State University of Railway Engineering,Moscow, Russian Federation; [2]Far East State Transport University, Khabarovsk, Russian Federation

The System for Protection of High-Speed Trains against Unmanned Aerial Vehicles (UAVs)
Alexey Shvetsov[1], Svetlana Shvetsova[2]
[1]Moscow State University of Railway Engineering, Moscow, Russian Federation, Russian Federation; [2]Far East State Transport University, Khabarovsk, Russian Federation

Factors to Consider in the Design of Future Secure and Accessible Rail Stations
Emmanuel Matsika[1], Mark Robinson[1], Umberto Battista[2]
[1]Newcastle University, UK; [2]STAM, Italy

Advancing active Safety towards the Protection of Vulnerable Road Users by Evolution of ADAS Solutions that meet Real-World Deployment Challenges: The Project PROSPECT
Ilona Cieslik[1], Johann Stoll[2], Martin Kunert[3], Fabian Flohr[4], Maxim Arbitmann[5], Thomas Wimmer[6], Julia Bräutigan[7], Dariu Gavrila[8]
[1]IDIADA, Spain; [2]Audi; [3]Robert Bosch; [4]Daimler AG; [5]Continental Teves; [6]4activeSystems GmbH; [7]Federal Highway Research Institute (BASt); [8]University of Amsterdam

Using New Generation Data to Enhance Transport and Health Policy Tools

Gillian Harrison[1], Susan Grant-Muller[1], Frances Hodgson[1], Nick Malleson[1], Rob Snowball[2], Tom Redfern[1]
[1]University of Leeds, UIK; [2]Newcastle City Council, UK

First Steps of MARES Project Spurring on Cyclelogistics in Madrid: Identification and Classification of the Barriers of Access to the Market and the Problems within It

Samir Awad-Núñez[1,5], Floridea di Ciommo[2,5], Gianni Rondinella[3,5], Adrián Fernández Carrasco[4,5]
[1]Department of Civil Engineering, European University of Madrid, Spain.; [2]cambiaMO, Spain; [3]cambiaMO, Spain; [4]Hécate Ingeniería, Spain.; [5]Mar de Movilidad, Spain

Cargo Rider - Attracting New Audiences for Cargo Ships

Birgit Blauensteiner, Frank Michelberger, Peter Judmaier
FH St. Pölten, Austria

NeTIRail-INFRA – Needs Tailored Interoperable Railway Infrastructure - technology demonstrations

Jonathan Paragreen[1], David Fletcher[1], Christine Hassoun[2]
[1]University of Sheffield, UK; [2]UIC, France

Enabling Transport Logistics Education in Secondary Schools: www.retrans.at

Sandra Eitler[1], Reinhold Schodl[1], Lisa Wesp[2], Alexandra Haller[2], Eva Jung[2], Lisa-Maria Putz[2], Andreas Breinbauer[1], Oliver Schauer[2]
[1]University of Applied Sciences BFI Vienna, Austria; [2]University of Applied Sciences Upper Austria

Designing Participative Decision-Making Support Systems to Aid Mobility Policy Design

Edgar Ramiro Jimenez Perez[1], Hernan Lopez-Garay[2], Jose D. Meisel[1], Ivan Hernandez[3], Jorge Pinho de Sousa[4]
[1]Facultad de Ingenieria, Universidad de Ibague, Colombia; [2]Direccion de Proyectos Especiales, Universidad de Ibague, Colombia; [3]Facultad de Ciencias Economicas y Administrativas, Universidad de Ibague, Colombia; [4]INESC TEC and Faculdade de Engenharia da Universidade do Porto, Portugal

Sustainable Transport Planning - the Case of Chemical Sector in Central Europe

Katarzyna Nowicka
Warsaw School of Economics, Poland

DAY 3
Wednesday 18 April

SCIENTIFIC AND TECHNICAL SESSIONS

DAY 3 - Wednesday 18 April 2018 - 08:30 - 10:00
ST28 1.5: Reduction of Pollutant Emissions and Improvement in Air Quality from Road, Rail and Marine
Environment and Energy Efficiency

LEVEL 0
STRAUSS 1-3

Chair: Marina Kousoulidou, EC and Maurizio Maggiore, EC

Comparison of Real Driving Emissions and Chassis Dyno Tests on Emissions from Two Fuels in Three Euro 6 Diesel Cars
Rod Williams[1], Heather Hamje[2], Jon Andersson[3], Pauline Ziman[1]
[1]Shell Global Solutions, UK; [2]Concawe, Belgium; [3]Ricardo, UK

Emissions Race SSS vs. ROAD - Road versus Short Sea Shipping: Updating the 2008 Comparison of Emissions between Modes
Vanherle Kris
Transport & Mobility Leuven, Belgium

Evaluation of Innovative Ideas for Public Transport Proposed by Citizens Using Multi-Criteria Decision Analysis (MCDA)
Dimitrios Nalmpantis, Anastasia Roukouni, Evangelos Genitsaris, Afroditi Stamelou, Aristotelis Naniopoulos
Aristotle University of Thessaloniki, Greece

Particle Reduced, Efficient Gasoline Engines: A First Year Report on the PaREGEn Project
Simon Paul Edwards[1], Ernst Verschragen[2]
[1]Ricardo Deutschland GmbH; [2]formerly Uniresearch, The Netherlands

Study of Brake Wear Particle Emissions of a Minivan on a Chassis Dynamometer
Leonidas Chasapidis[1], Theodoros Grigoratos[2], Alexandra Zygogianni[1], Apostolos Tsakis[1], Athanasios G. Konstandopoulos[1,3]
[1]Aerosol & Particle Technology Laboratory, CPERI/CERTH, Greece; [2]EC, Joint Research Centre (JRC), Institute for Energy and Transport (IET), Sustainable Transport Unit (STU), Ispra - ITALY; [3]Department of Chemical Engineering, Aristotle University, Greece

Understanding and Measuring Sub-23 nm Particle Emissions from Direct Injection Engines
Eleni Papaioannou[1], Anastasios Melas[1], Emmanouil Daskalos[1], Dimitrios Zarvalis[1], Nikos Vlachos[1], Athanasios G. Konstandopoulos[1,2], Giovanna Nicol[3], Mauro Sgroi[3], Stephane Zinola[4], Bianca M. Vaglieco[5], Silvana di Iorio[5], Cesar Barrios[6], Heinz Burtscher[7], Martin Fierz[7]
[1]Aerosol & Particle Technology Laboratory, CERTH/CPERI, Greece; [2]Department of Chemical Engineering, Aristotle University, Greece; [3]Centro Ricerche Fiat, Orbassano, Italy; [4]IFP Energies nouvelles, Solaize, France; [5]Istituto Motori – CNR, Italy; [6]SEADM S.L., Spain; [7]Institute for Aerosol und Sensor Technology, Switzerland

Posters
Level 0 CONGRESS CENTER

***Mobility Energy Emissions Diagnosis (MEED)*: A Standardized Approach to Assess the Environmental Impacts of Urban Mobility in France**
Damien Verry, Fabrice Hasiak, Arnaud Lannoy
cerema, France

A Novel Approach for Implementing Control Strategies to Reduce the Impact of Traffic Emissions from Roads and Highways
Danny Moshe[1], Alan Gertler[1,2]
[1]GreenVision Systems Ltd; [2]Desert Research Institute

Evaluation and Comparative Analysis of Road Transport Emissions Evolution in Different European Countries: The Case Studies of Portugal, Romania, Spain, and Sweden.
Pavlos Tafidis, Eloísa Macedo, João Teixeira, Margarida C. Coelho, Jorge M. Bandeira
Department of Mechanical Engineering, Centre for Mechanical Technology and Automation, University of Aveiro

Parking Management as a Means of Decreasing Air Pollution in Cities
Jelena Simicevic, Vladimir Momcilovic, Nada Milosavljevic
University of Belgrade, Serbia

Setup and Validation of a Pre-Prototype after Treatment System Aimed to Reduce PM2.5 and NOx Emissions from Locomotive Diesel Engines
Tommaso Rossi, Simone Casadei, Angela Maggioni
Innovhub-SSI, Italy

The ACCRA Project. Importance of Accuracy in Vehicle Emissions Estimation for Urban Dynamic Geofencing
Fabio Galatioto[1], Chris Rushton[1], James Wright[1], Ciaran O'Neill[2], Francis Robson[3], Antoine Jeanjean[4]
[1]Transport Systems Catapult, UK; [2]Dynniq, UK; [3]CENEX, UK; [4]EarthSense ltd, UK

DAY 3 - Wednesday 18 April 2018 - 08:30 - 10:00
ST29 10.2: Response to Extreme Events & Climate Change
Safe, Secure and Resilient Transport Systems

LEVEL 0
LEHAR 1+2

Chair: Andrea Nowak, AIT Austrian Institute of Technology GmbH, Austria

Tools and Guidance to Help National Road Administrations Address Climate Change
Sarah Jane Reeves[1], Ewa Zofka[2], Andreas Leupold[3], Matthias Schlögl[4], Marek Skakuj[5], Arne Spekat[6]
[1]TRL, UK; [2]IBDiM, Poland; [3]Alfen Consult, Germany; [4]AIT Austrian Institute of Technology GmbH, Austria; [5]Heller Ingenieurgesellschaft, Germany; [6]Climate & Environment Consulting Potsdam, Germany

Assessing the Resilience of Land Transport Networks against Extreme Rainfall Events
Kalliopi Anastassiadou[1], Ingo Kaundinya[1], Harald Kammerer[2], Evangelos Mitsakis[3], Iraklis Stamos[4]
[1]Federal Highway Research Institute, Germany; [2]ILF Consulting Engineers Austria GmbH, Austria; [3]Hellenic Institute of Transport - Centre for Research and Technology Hellas, Greece; [4]World's Road Transport Organisation, Belgium

Adapting the German Transport System to Climate Change and Extreme Weather Events – First Case Study Results Connected to Extreme Precipitation
Stephanie Hänsel[1], Nils Schade[2], Enno Nilson[3], Martin Helms[3], Christoph Brendel[1], Hartmut Heinrich[2], Carina Herrmann[4], Martin Klose[5], Elise Lifschiz[6], Monika Rauthe[1], Annegret Gratzki[1]
[1]Deutscher Wetterdienst, Germany; [2]Federal Maritime and Hydrographic Agency, Germany; [3]Federal Institute of Hydrology, Germany; [4]Federal Railway Authority, Germany; [5]Federal Highway Research Institute, Germany; [6]Federal Waterways Engineering and Research Institute, Germany

Safety and Availability of Road Infrastructure During Extreme Natural and Man-Made Events
Jennifer Harder[1], Jörg Finger[2], Kalliopi Anastassiadou[1], Kai Fischer[2], Alexander Stolz[2]
[1]Federal Highway Research Institute, Germany; [2]Fraunhofer Institute for High-Speed Dynamics, Ernst-Mach-Institut, Germany

First Steps Towards a Modelling Toolbox Suitable for Evaluating Resilience of German Inland Waterways in Context of Climate Change
Alexander Kikillus, Regina Patzwahl, Marie Brunel, Nils Huber
Federal Waterways Engineering and Research Institute, Germany

Compilation of a Geo-Hazard Map for Slope Instabilities and Landslides Along the German Railway Infrastructure

Andreas Knobloch[4], Enrico Kallmeier[4], Markus Forbriger[1], Carina Herrmann[1], Eckhard Roll[1], Jens Kirsten[2], Christoph Brendel[3], Stephanie Hänsel[3]

[1]Federal Railway Authority, Germany; [2]Federal Highway Research Institute, Germany; [3]Deutscher Wetterdienst, Germany; [4]Beak Consultants GmbH, Germany

Posters
Level 0 CONGRESS CENTER

A Preparedness System for Natural Hazard Management on Norwegian Roads

Martine Holm Frekhaug, Lene Lundgren Kristensen, Tore Humstad

Norwegian Public Roads Administration, Norway

Assessment of the Impacts of Extreme Weather Events upon the Pan-European Infrastructure to the Optimal Mitigation of the Consequences

Maria Nogal[1], Alan O'Connor[1], Pieter Groenemeijer[2], Peter Prak[7], Maria Luskova[3], Milenko Halat[4], Pieter van Gelder[6], Ciaran Carey[5], Kenneth Gavin[6]

[1]Trinity College Dublin, Ireland; [2]European Severe Storms Laboratory, Germany; [3]University of Žilina, Slovakia; [4]Aplicaciones en Informática Avanzada, Spain; [5]Roughan & O'Donovan Innovative Solutions, Ireland; [6]Delft University of Technology, The Netherlands; [7]PSJ, IJsselstein, The Netherlands

Climate Adaption of Road Infrastructure – A Comparison of the Implementation of the CEDR ROADAPT and the FHWA Framework for Vulnerability Assessment in The Netherlands and Washington State

Kees van Muiswinkel[1], Tina Hodges[2], Simon Page[3], Amy Plovnick[4], Mike Woning[5]

[1]Ministry of Infrastructure and Water Management, Rijkswaterstaat, The Netherlands; [2]Federal Highway Administration, Washington DC, USA; [3]Washington State Department of Transportation, USA; [4]US Department of Transportation Volpe Center; [5]Deltares, The Netherlands

Exploring user Needs for Climate Risk Assessment in the Transport Sector: How Could Global High-Resolution Climate Models Help?

Erika Jane Palin, Galina Guentchev, Julia Lockwood

Met Office, UK

Development of a Climate Adaptive Strategy for the InnovA58 Highway in The Netherlands

Myrthe Leijstra[1], Kees van Muiswinkel[1], Wim Leendertse[3.1], Thomas Bles[2]

[1]Ministry of Infrastructure & Environment, The Netherlands; [2]Deltares; [3]Faculty of Spatial Sciences, University of Groningen

Extreme Weather Exposure Identification for Road Networks in Heterogeneous Landscapes

Matthias Schlögl[1], Gregor Laaha[2]

[1]Transportation Infrastructure Technologies, AIT Austrian Institute of Technology GmbH, Austria; [2]Institute of Applied Statistics and Computing, University of Natural Resources and Life Sciences (BOKU), Austria

Management Tools to Study and to Deal with the Effects of Climate Change on Inland Waterways

Pablo Segovia[1.2], Guillaume Desquesnes[1], Arnaud Doniec[1], Eric Duviella[1], Guillaume Lozenguez[1], Fatiha Nejjari[2], Vicenç Puig[2], Lala Rajaoarisoa[1]

[1]IMT Lille Douai; [2]Technical University of Catalonia (UPC)

Water Management for Road Authorities in the Face of Climate Change

Thomas Bles[1], Lise Foucher[2], Janette Bessembinder[3], Robert Corbally[4], John Paul Rooney[4], Christian Axelsen[5], Mark Tucker[4]

[1]Deltares, The Netherlands; [2]Egis, France; [3]KNMI, The Netherlands; [4]ROD-IS, Ireland; [5]Danish Road Directorate, Denmark

DAY 3 - Wednesday 18 April 2018 - 08:30 - 10:00
ST30 7.2: Challenges on the Electrification of Infrastructure
Transport Infrastructure

LEVEL 0
LEHAR 3+4

Chair: Lutz Pinkofsky, BASt Federal Highway Research Institute Germany

Techno-Economic Optimisation of Railway Power Substation Hybridization
Tony Letrouve[1], Julien Pouget[1], Nanfang Yang[1], Hedi Mohamed Kharrat[2]

Reduced-Scale Power Hardware-In-the-Loop Simulation of a Hybrid Railway Power Substation
Yang Nanfang[1], Tony Letrouvé[1], Cristian Jéçu[2], Julien Pouget[1], Loic Joseph-Auguste[2]
[1]SNCF Innovation and Research Dept., France; [2]SNCF Engineering and Project Dept., Electric Traction, France

Business Case for Electric Roads
Håkan Sundelin, Ann-Charlotte Mellquist, Marcus Linder, Martin Gustavsson, Conny Börjesson, Stefan Pettersson
RISE Viktoria, Sweden

Modelling Range Extension of Electric Vehicles Using Dynamic Wireless Power Transfer
Mehmet Emre, Alan Stevens, Denis Naberezhnykh
Transport Research Laboratory, UK

Charging Station Optimization for Battery Electric Vehicles on Highways
Johannes Asamer, Sebastian Knopp, Bernhard Heilmann
AIT Austrian Institute of Technology GmbH, Austria

Vulnerability Of Charging Infrastructure, A Novel Approach For Improving Charging Station Deployment
Marieke Glombek[1], Jurjen Rienk Helmus[1], Mike Lees[2], Rick Quax[2], Robert va den Hoed[1]
[1]University of Applied Sciences Amsterdam, The Netherlands; [2]Computational Science Lab, University of Amsterdam (UvA), The Netherlands

Posters
Level 0 CONGRESS CENTER

Infrastructure and Operation –Research on Utilisation of the Maximum Train Speed Profile
Andrzej Massel
Instytut Kolejnictwa, Poland

Simulation Platform for Electric Road Systems - a Swedish Case Study
Christofer Sundström, Håkan Sundelin
RISE Viktoria, Sweden

DAY 3 - Wednesday 18 April 2018 - 08:30 - 10:00
ST31 12.2: Impacts of Innovation on Citizens and Society
Socio-Economics, Innovation and Policy

LEVEL 0
STOLZ 1

Chair: Paola Chiarini, EC DG MOVE

Safety Culture in Maritime Cargo Transport in Norway and Greece: Which Factors Predict Unsafe Maritime Behaviours?
Tor-Olav Navestad[1], Kristine Storkersen[2], Alexandra Laiou[3], George Yannis[3]
[1]Institute of Transport Economics, Norway; [2]NTNU Samfunnsforskning, Norway; [3]National Technical University of Athens, Greece

Key Trends and Developments in the European Port Sector: Main Implications for the Port Labour Industry
Sotirios Theofanis[1], Maria Boile[2,3], Eleftherios Sdoukopoulos[3,2]
[1]Rutgers University, Center for Advanced Infrastructure and Transportation; [2]University of Piraeus, Department of Maritime Studies; [3]Centre for Research and Technology Hellas, Hellenic Institute of Transport

The Analysis of Impact of Larger Aircraft A-380 on Frequency of Flights
Isabelle Laplace[1], Chantal Roucolle[1], Aliya Ussinova[2]
[1]ENAC, France; [2]Toulouse School of Economic, France

Profiling Future Air Transport Passengers in Europe
Ulrike Kluge[1], Annika Paul[1], Hector Ureta[2], Kay O. Ploetner[1]
[1]Bauhaus Luftfahrt e. V., Germany; [2]Innaxis Research Institute, Spain

Transport Costs in Household's Budgets and their Evolution in 1985-2011 According to the Type of Space
Jean-Paul Hubert[1], Pierre Pistre[2], Jean-Loup Madre[1]
[1]IFSTTAR, France; [2]Université Paris Diderot, France

Posters
Level 0 CONGRESS CENTER

Interdisciplinary Education and Knowledge Transfer in Merging the Mobility and the Energy Transitions
Karoline Karohs[1,2], Birgit Böhm[1,2]
[1]Technische Universität Berlin, Germany; [2]Mobility2Grid e.V., Germany

Maritime Education in EU: Strengths and Challenges
Evangelos Boulougouris, Leonidas Chrysinas, Georgios Vavourakis, Panagiotis Mizythras
University of Strathclyde, UK

Using Gamification to Teach Sustainable Freight Transport: Results from an Empirical Study
Lisa-Maria Putz[1], Horst Treiblmaier[2], Sarah Pfoser[1], Oliver Schauer[1]
[1]University of Applied Sciences Upper Austria, LOGISTIKUM, Austria; [2]MODUL University, Austria

DAY 3 - Wednesday 18 April 2018 - 08:30 - 10:00
ST32 2.2: Chassis and Vehicle Dynamics
Vehicles & Vessels – Design, Development and Production

LEVEL 1
SCHUBERT 1

Chair: Thilo Bein, Fraunhofer LBF, Germnany

A Local/Global Approach for Predicting Welding Distortion in Automotive Chassis Design
Cristina Renzi, Davide Panari, Francesco Leali
Università di Modena e Reggio Emilia, Italy

Impact Assessment of an Intelligent Central Tire Inflation System for Passenger Cars
Stefano d'Ambrosio, Elia Francesco Mameli, Roberto Vitolo
Politecnico di Torino, Italy

Manufacturing Process for Automated Preforming of Complex, Double-Curved Components Based on the Diaphragm Method
Marian Körber, Manuel Endraß, Georg Braun
German Aerospace Center (Deutsches Zentrum für Luft- und Raumfahrt; DLR), Germany

Multi-Resolution Simulations of Material Processes for E-Mobility Applications
Amir Horr
AIT Austrian Institute of Technology GmbH, Austria

Robot Preformed CFRP Rear Pressure Bulkhead as an Example for Highly Automated Manufacturing of Large Carbon Fibre Aircraft Parts
Marcin Malecha
German Aerospace Center, Germany

Verification and Validation of Static Structural and Explicit Dynamic Simulations Respectively for Plastic Products with Especial Care for Automotive Application
Boglárka Zentai, Árpád Veress
Budapest University of Technology and Economics, Hungary

Posters
Level 0 CONGRESS CENTER

Integration of an Active Chassis System for Better Driving Dynamics and Enhanced Small Overlap Crash Performance
Oliver Deisser, Michael Schaeffer, Marco Muenster
DLR - Institute for vehicle concepts, Germany

DAY 3 - Wednesday 18 April 2018 - 08:30 - 10:00
ST33 11.2: Mobility and Modal Choice
Human Dimension in Transport

LEVEL 1
SCHUBERT 5+6

Chair: Martin Winkelbauer, KFV (Austrian Road Safety Board)

Implementing a Two-Step Decision-Aid Tool for the Assessment of New Mobility Offers in a Spatial Framework
Remy le Boennec[1], Isabelle Nicolai[2], Pascal da Costa[3]
[1]VEDECOM Institute, France; [2]Laboratoire Genie Industriel, CentraleSupélec, Université Paris-Saclay (UVSQ), France; [3]Laboratoire Genie Industriel, CentraleSupélec, Université Paris-Saclay, France

Community-Based Mobility: a Transport Option for Rural Areas?
Fabian Dorner, Martin Berger
Vienna Technical University, Austria

Equity in Sustainable Urban Mobility: the Case of Peripheral Districts
Angel Aparicio
Universidad Politécnica de Madrid, Spain

Possibilities and Barriers in Ride-Sharing in Work Commuting – a Case Study in Sweden
Anna Pernestål Brenden[1], Mia Hesselgren[1], David Bauer[2]
[1]KTH Royal Institute of Technology, Sweden; [2]Scania CV AB

Investigating the Preferences of Individuals on Public Transport Innovations Using the Maximum Difference Scaling Method
Stelios Tsafarakis[1], Panagiotis Gkorezis[1], Dimitrios Nalmpantis[2], Evangelos Genitsaris[2], Andreas Andronikidis[2], Efthymios Altsitsiadis[3]
[1]Tero Ltd, Greece; [2]Aristotle University of Thessaloniki, Greece; [3]KU Leuven, Belgium

Posters
Level 0 CONGRESS CENTER

Challenges in Transportation System to Support Independent Mobility of People with Dementia
Georg Hauger[1], Claudia Berkowitsch[1], Monika Wanjek[1], Christopher Schlembach[2], Ulli Röhsner[3], Birgit Duschek[3], Christian Dominko[3]
[1]Vienna University of Technology, Centre of Transportation System Planning, Austria; [2]Dr. Christopher Schlembach, Austria; [3]MAKAM Research GmbH, Austria

Co-Creating Innovation: Concepts and Ideas for Public Transport Resulted through Participatory Processes Applied in Four Different Urban Areas of Europe
Aristotelis Naniopoulos[1], Evangelos Genitsaris[1], Afroditi Stamelou[1], Ioannis Kostopoulos[2], Hafieda El Aissati[3], Winfried Schmitz[4]
[1]Aristotle University of Thessaloniki, Greece; [2]White Research Ltd., Belgium; [3]Metropoolregio Rotterdam Den Haag, The Netherlands; [4]traffiQ, Germany

The SaveMyBike Project: ITS Technologies and Rewarding Policies to Improve Sustainable Mobility in Cities
Antonio Pratelli, Massimiliano Petri, Alessandro Farina, Marino Lupi
University of Pisa, Logistics Systems Center, Italy

Transport and Equity Analysis Results' Empowerment for Future Mobility Challenges
Floridea Di Ciommo
cambiaMO, changing MObility

INVITED SESSIONS

DAY 3 - Wednesday 18 April 2018 - 08:30 - 10:00
INV11: Infrastructure as a Service

LEVEL 0
STOLZ 2

During the last years, European society has experienced an unprecedented political and social transformation, that no sector can ignore, in particular the transport infrastructure industry. New vehicle technologies, changes in mobility patterns, increased urbanisation, and new requirements from the users... have completely modified the way society apprehends mobility.
This implies also that infrastructure is to be considered a public SERVICE to accommodate innovative vehicles and mobility patterns.
A public service that is versatile, fully available, with increased levels of safety and emission reduction, and new paradigms of land use and territorial planning.
Public administrations and private companies can provide this separately or together and/or in partnership, but new schemes may be needed. It is necessary to rethink how services will be funded, who will have the responsibility of delivery, what are the acceptable costs for users, as well as how to ensure a comprehensively socially inclusive system.

Organisers:

Christophe Nicodème, European Road Federation - ERF
Maria-Cristina Marolda, European Commission
Steve Phillips, Conference of European Directors of Roads - CEDR
Miguel Segarra, European Network of Construction Companies for Research and Development - ENCORD

Moderator:

Claude van Rooten, PIARC

Panellists:

Tom Roelants, Conference of European Directors of Roads - CEDR
Marc Ribo, ABERTIS
Pascal Tebibel, COLAS
Guillaume Grolleau, Syndicat des Equipements de la Route - SER
Bruno Gonçalves,GMV Innovating Solutions
Miklos Horvath, The European Freight and Logistics Leaders Forum - F&L

Conclusions:

Christophe Nicodème, European Road Federation - ERF

DAY 3 - Wednesday 18 April 2018 - 08:30 - 10:00

INV12: How to Speed-up Transition towards Sustainable Urban Mobility Schemes?

LEVEL 1
SCHUBERT 2+3

Various innovative technologies, (service) concepts and ideas are proposed by innovators, companies and scientists that should help to solve certain challenges. These ideas include advanced mobility services (such as Mobility as a Service, intermodal services), guided and automated (public) transport and electric driven modes that change the shape of mobility supply. However, little is known about the potentially far-reaching consequences of large-scale implementation of disruptive concepts. Also, there's little of, sometimes only local, experience with transitioning current legal, financial, organisational and governance structures, business models and other conditions to accommodate such concepts. The session therefore aims at facilitating an exchange of experiences in driving such transitions as well as the reflection on further needs for action in research and policy to speed up urban transition processes.

Organisers:

Jonas Bylund, JPI Urban Europe
Arjan van Binsbergen, JPI Urban Europe

Panellists:

Bert van Wee, TU Delft
Cathy Macharis, VUB MOBI Research Centre
Steven Sarasini, RISE Viktoria

DAY 3 - Wednesday 18 April 2018 - 08:30 - 10:00

INV13: Achieving a Zero-Emission Ship - Electrification, Alternative Fuels, Green Retrofits and Newbuilds

LEVEL 1
SCHUBERT 4

Shipping accounts for approximately 3.5% of global CO2 emissions, similar to aviation. Ships are also a significant source of air pollution, particularly within coastal and port areas - this is subject to increased public attention. The session will present the progress towards green, decarbonised waterborne transport, the challenges and a pathway towards making zero emission inland and marine shipping a reality. Several ongoing European R&I projects will present their work to give an overview of the situation and discuss the way forward, focusing in particular on:

- Use of alternative fuels, ensuring seamless fuel flexibility and engine designs that will improve efficiency and massively reduce air pollution.
- Potential for electrification in shipping.
- Reducing the cost of deployment, both for retrofits and new builds.

Organisers:

Peter Crawley, European Commission
Renata Kadric, INEA
Agnieszka Zaplatka, European Commission

Moderators:

Agnieszka Zaplatka, European Commission
Peter Crawley, European Commission

Keynote Speakers:

Henk Prins, MARIN/ WATERBORNE TP
Faig Abbasov, Transport & Environment

Panellists:

Pieter Huyskens, Damen Shipyards Group
Trine Heinemann, Ærø Kommune
Jaap Gebraad, STC Group

ÖBB

GREEN MOBILITY.
SMART TRAVELLING.
CONNECTED TRANSPORT.

We are creating values for the future. Be part of it.

konzern.oebb.at

Meet us at **TRA 2018**: stand H05 and interactive zone.

PLENARY SESSION 3

DAY 3 - Wednesday 18 April 2018 - 10:30 - 12:00
Plenary 3: Decarbonisation & Future Growth: How to Change Our Mobility System & Remain Competitive

LEVEL 0
STRAUSS 1-3

Below two degrees Celsius: that is what the Paris climate agreement of 2015 settled on to mitigate global warming. Decarbonisation of the transport system helps to achieve this goal. Technical, regulative and social challenges are waiting along the way and need to be addressed within the next decades. A paradigm shift enables innovative solutions concerning increased traffic demand, individual and social needs and economic competitiveness. Disruptive trends like e-mobility, automated driving, sharing mobility and C-ITS also play a major role in this scenario. Therefore a framework for sustainable business models and a foundation for economic growth need to be created. Integrated strategies, innovative technologies and standardised monitoring mechanisms for an efficient and successful decarbonisation of the transportation system will be discussed in Plenary Session #3.

Keynote:

Gerd Schuster, Senior Vice President, BMW

Speakers:

Lena Erixon, Director-General, Swedish Transport Administration
Andreas Matthä, CEO, ÖBB-Holding AG
Alan McKinnon, Professor at Kühne Logistics University
José Mendes, Deputy Environment Minister of Portugal

INVITED SESSION

DAY 3 - Wednesday 18 April 2018 - 12:00 - 13:15
INV14: Hidden Aspects of Autonomous Driving

LEVEL 1
SCHUBERT 5+6

What would be the opportunities and threats when cities had to focus more on autonomous driving because this development was forced by the automotive industry? What does this mean for the future of smart urban mobility? Although numerous innovations are emerging, a lot of infrastructural and organisational challenges will lie ahead of us until this kind of mobility will work smoothly in cities. Cities should pay attention to important but still hidden aspects: How to cope with sharing mobility as a new agenda of public private partnership in terms of services of general interest and what kind of new business models will be necessary? What would be the impact of autonomous driving on urbanisation, density, city planning and affordability? And last but not least how to transform the DNA of private car ownership into a behaviour of collectively used autonomous driving cars? Take part in the debate on the role of autonomous mobility in cities between some of the most innovative representatives from various sectors.

Organiser:

Angelika Winkler, City of Vienna

Moderator:

Eugen Antalovsky, UIV Urban Innovation Vienna GmbH

Panellists:

Angelika Winkler, City of Vienna
Stephan Rammler, Institute for Transportation Design
Mathias Mitteregger, Vienna University of Technology
Katja Schechtner, OECD, MIT

STRATEGIC SESSIONS

DAY 3 - Wednesday 18 April 2018 - 13:15 - 14:45
STR3.1: Decarbonisation for a Competitive European Industry

LEVEL 0
STRAUSS 1-3

This session will host speakers from research and industry to debate challenges of decarbonisation and energy efficiency and potential solutions, including the benefits of new fuels and technologies. An important element will be the increased uptake of electrically-powered and hydrogen fuel cell vehicles, in particular in the passenger road and rail segment. There will also be particular challenges to be addressed in the decarbonisation of the aviation and marine industries. Investments and development of new skills will be needed and the cost-effective development of such a wide array of energy sources and associated propulsion technologies and vehicle concepts will depend on economies of scale and potentially require standardisation and new regulations. The session will cover these aspects in particular, the research needs in these areas and the strategic steps which need to be taken to get there.

Organisers:

Heather Hamje, Science Executive, Fuels Quality and Emissions, concawe, ERTRAC
Zissis Samaras, Professor, Director of the Laboratory of Applied Thermodynamics, Aristotle University of Thessaloniki AUTh, ERTRAC
Henk Prins, Manager R&D, Maritime Research Institute Netherlands, WATERBORNE
Thomas Witolla, SEA Europe, WATERBORNE
Laura Lonza, Scientific Officer, European Commission
Nicolas Furio, Head of UNIFE Technical Affairs Unit, ERRAC

Moderator:

Simon Edwards, Global Director of Technology, RICARDO, Chairman of EARPA

Opening Remarks:

Signe Ratso, Deputy Director General, DG Research and Innovation, European Commission

Keynote Speaker:

Stephan Neugebauer, Director Global Research Corporation, BMW, ERTRAC, EGVIA

Panellists:

Bernard Frois, IPHE chair, IPHE International Partnership for Hydrogen and Fuel Cells in the Economy
Leigh Hudson, Renewable Fuels Manager, British Airways
Jenny N. Braat, Managing Director, Danish Maritime
Wolfram Schwab, VP, Regional Platform – Products & Innovation, ALSTOM Transport S.A.
Robin Nelson, Science Director, concawe

DAY 3 - Wednesday 18 April 2018 - 13:15 - 14:45
STR3.2: Optimising Logistics - Environmental and Economic Benefits

LEVEL 0
LEHAR 1+2

Logistics is a key sector for Europe as per its contribution to the GDP, being the single biggest industry sector in the EU. The European Commission has committed to a 60% Green House Gas emissions reduction target, compared to the 1990 levels, to be reached by 2050. Concerning the freight transport and logistics sector, similar targets have been set. The session reflects on how Green House Gas emissions and energy consumption could be reduced through improved logistics while saving costs at the same time and if more efficient processes combined with technology improvements could make the energy, GHG emissions and congestion reduction targets attainable. Furthermore, opportunities of the digitalisation to optimise logistics and the new physical internet paradigm implementation will have consequential beneficial impacts on society that will also be addressed.

Organisers:

Fernando Liesa, Secretary General, ALICE
Bernard Jacob, Directeur Scientifique Délégué, IFSTTAR
Ralf Marxen, Head of Legal/Associate General Counsel, Shell Germany, ERRAC

Moderator:

Jacki Davis

Panellists:

Elisabeth Werner, Director, European Commission
Andreas Janetzko, Managing Director, DP World Logistics Europe
Vicente del Río Méndez, Director General, Fundación Valenciaport
Sophie Punte, Executive Director, Smart Freight Center
Markus Ksoll, Deutsche Bahn
Charlotte Migne, Director, Développement Durable Groupe, FM Logistic

DAY 3 - Wednesday 18 April 2018 - 13:15 - 14:45
STR3.3: Infrastructure and Decarbonised Transport

LEVEL 0
LEHAR 3+4

This strategic session will highlight the fact that both renewable energy and recycle and reuse will be key factors for the de-carbonisation of infrastructure and transport. Bearing in mind that implementation of new technologies is fostered by adequate business models, green procurement systems or intelligent road pricing, this session will cover four topics:

1. Energy supply, harvesting and storage
2. Green public procurement
3. Upgrading, recycling and maintenance
4. Business models and financing

As decarbonisation truly is a cross-modal issue, almost all transport modes will be represented to show either their mode specific approach or even co-operations for a cross-modal approach. The above mentioned topics will be covered in paired presentations demonstrating both the public and private perspective.

Organisers:

Lutz Pinkofsky, Federal Highway Research Institute BASt, CEDR
Alain Zarli, Centre Scientifique et Technique du Bâtiment CSTB, Secretary General, ECTP
Clemente Fuggini, D'Appolonia S.p.A., ECTP
Bernard Jacob, Directeur Scientifique Délégué, IFSTTAR

Moderator:

Markus Auerbach, Senior Researcher, BASt, CEDR

Panellists:

Damir Topolko, Director, Slovenian Infrastructure Agency, CEDR Chair 2018
Jochen Holzfeind, CTO, voestalpine Railway Systems
Detlev Majewski, Head of Department, Meteorological Analysis and Numerical Prediction, Deutscher Wetterdienst DWD
Miguel José Segarra Martínez, Head of R&D and Innovation, DRAGADOS, ECTP Vice President
Vincent Piron, Vice-Chairman of the Working Group Infrastructure & Financing, FIEC
Herald Ruijters, Director, DG Mobility and Transport, European Commission, Investment, Innovative and Sustainable Transport

SCIENTIFIC AND TECHNICAL SESSIONS

DAY 3 - Wednesday 18 April 2018 - 15:15 - 16:45
ST34 2.3: Technologies for Clean, Efficient and Safe Vehicles
Vehicles & Vessels – Design, Development and Production

LEVEL 0
STRAUSS 1-3

Chair: Leonidas Ntziachristos, Aristotle University, Greece

A Mixed-Methodes Approach to Derive Vehicle Concepts for the Urban Mobility
Gerhard Kopp, Matthias Klötzke, Laura Gebhardt, Horst E. Friedrich
Deutsches Zentrum für Luft- und Raumfahrt e.V., Germany

Challenges and Error Propagation of PM Sensor-Based DPF Diagnostics
Dimitrios Kontses[1], Savas Geivanidis[1,2], Zissis Samaras[1]
[1]Laboratory of Applied Thermodynamics, Aristotle University, Greece; [2]Vehicle Technology Laboratory, Technological Educational Institute of Central Macedonia, Greece

Electromagnetic Modelling Strategies for Virtual Testing of Electrical Powertrains
Alastair R. Ruddle, Jiaqi Chen, Yu Xian Teo
HORIBA MIRA Limited, UK

Fuel Consumption Improvement of a LCV Diesel Engine by Conventional Measures, Targeting Post Euro 6 Emission Compliance.
Wolfgang Hubert Gstrein[1], Konstantinos Priftis[1], Richard King[2], Jeremy Gidney[3]
[1]FPT Motorenforschung AG, Switzerland; [2]Ricardo UK Ltd.; [3]Johnson Matthey, UK

Vehicle Demonstration of Performance and Economy of a Comprehensive B/C Class Diesel Engine and Aftertreatment System Approach for Emissions Beyond Euro 6
Herwig Ofner[1], Ludwig Bürgler[1], Martin Wieser[1], Philippe Mallet[2], Jeremy Gidney[3], Thomas Leroy[4], Marie-Sophie Gande[1], Valerie Houel[3]
[1]AVL List GmbH, Austria; [2]Renault SAS, France; [3]Johnson Matthey Plc, UK; [4]IFP Energies nouvelles, France

PEM Fuel Cell Degradation Analysis Based on Joint Experimental and Simulation Techniques
Reinhard Tatschl[1], Clemens Fink[1], Peter Urthaler[1], Viktor Hacker[2], Merit Bodner[2], Alexander Schenk[2], Larisa Karpenko-Jereb[3], Eduard Schatt[3], Pal Verebes[3], Alexander Bergmann[3], Sönke Gößling[4], Volker Peinecke[4]
[1]AVL List GmbH, Austria; [2]Graz University of Technology, Institute of Chemical Engineering and Environmental Technology, Austria; [3]Graz University of Technology, Institute of Electronic Sensor Systems, Austria; [4]Zentrum für BrennstoffzellenTechnik GmbH, Germany

Posters
Level 0 CONGRESS CENTER

A Compact and Efficient Heat-Pump System with a Preconditioning Concept for Electric Vehicles
Andres Caldevilla, Markus Özbek, Werner Hünemörder, Vipul Kohli, Tibor Györög
DENSO AUTOMOTIVE Deutschland GmbH, Germany

Fault Injection Framework for Time Triggered Ethernet
Daniel Lucky Onwuchekwa, Roman Obermaisser, Jia Jiann Foo
University of Siegen, Germany

Improvement of Crash Behavior in a Light Urban Electric Vehicle
Javier Romo[1], Javier Pérez[2], Dieter Horwatitsch[3], Julio Abajo[1], Klaus Lipp[4]
[1]Cidaut Foundation, Spain; [2]Estampaciones Casple, Spain; [3]AIT Austrian Institute of Technology GmbH, Austria; [4]LBF Fraunhofer, Germany

DAY 3 - Wednesday 18 April 2018 - 15:15 - 16:45
ST35 6.1: Intermodal Freight Transport and Synchromodality
Freight Transport and Logistics

LEVEL 0
LEHAR 1+2

Chair: Sandra Stein, Vienna University of Technology; Austria

Development of a Multi-Step Approach for Continuous Planning and Forecasting of Required Transport Capacity for the Design of Sustainable Transport Chains
Georg Brunnthaller[1,2], Sandra Stein[1,2], Georg Schett[1], Wilfried Sihn[1,2]
[1]Fraunhofer Austria Research GmbH, Austria; [2]Vienna University of Technology, Institute of Management Science, Department of Industrial and Systemems Engineering, Austria

Exploring Logistics Managers' Preferences for Sustainable Transport: A Literature Review on Choice Experiments
Sarah Pfoser[1], Lisa-Maria Putz[1], Oliver Schauer[1], Herbert Kotzab[2]
[1]University of Applied Sciences Upper Austria, Logistikum; [2]University of Bremen, Chair of Logistics Management

FLUXNET - Multimodal Infrastructure Integrated with Land Use, Freight and Logistics
Robert Broesi[1], Tertius Hanekamp[2], Jos Arts[3]
[1]MUST, Germany; [2]Temah, The Netherlands; [3]University of Groningen, The Netherlands

Smart-Rail - Smart Supply Chain Oriented Rail Freight Services
Ming Chen[1], Milos Milenkovic[2], Matic Prosen[3], Jaco Meijeren
[1]TNO, The Netherlands; [2]ZLC, Spain; [3]Railistics, Germany

SYNCHRO-NET: a Powerful and Innovative Synchro-Modal Supply Chain Eco-NET
Denise Holfeld[1], Chiara Iorfida[2], Mikal Koya[3], Daniele Manerba[4], Julian Stephens[5], Roberto Tadei[6], Frank Werner[7]
[1]Fraunhofer Institute for Transportation and Infrastructure Systems IVI; [2]COSCO Shipping Lines, Spain; [3]Kuene + Nagel (Ireland) Limited; [4]Politecnico di Torino; [6]politecnico di Torino; [7]Software AG

Synchromodal Freight Transport Network Modelling
Alexia Fenollar Solvay, Max Haberstroh, Tobias Meisen, Sabina Jeschke
IMA, RWTH Aachen University, Germany

Posters
Level 0 CONGRESS CENTER

An Assessment System for the Optimization of Logistical, Operational and Administrative Processes at Multimodal Hubs
Alessandra Angelini[1], Daniel Elias[2], Georg Hauger[1], Birgit Nadler[2], Friedrich Nadler[2]
[1]Vienna University of Technology, Center of Transportation System Planning, Austria; [2]nast consulting ZT GmbH, Austria

Automated Handling of a Screw Coupling of Freight Wagons
Christoph Zellner[1], Burkhard Stadlmann[1], Martin Egger[1], Mathias Hattinger[1], Frank Michelberger[2], Jürgen Zajicek[3]
[1]FH OÖ, Austria; [2]FH St.Pölten, Austria, [3]AIT Austrian Institute of Technology GmbH, Austria

Collaborative Planning and Synchromodal Transport: a Research Agenda for the SELIS Project
Alberto Giudici[1], Hamid Saeedi[1], Martijn van der Horst[2], Tao Lu[1], Rob Zuidwijk[1]
[1]Rotterdam School of Management, Erasmus University Rotterdam, The Netherlands; [2]Erasmus Centre for Urban, Port and Transport Economics, Erasmus University Rotterdam, The Netherlands

Forwarders' Perceptions of the Silk Route: The Case of Finland
Alena Khaslavskaya[1], Olli-Pekka Hilmola[2], Violeta Roso[1]
[1]Chalmers University of Technology, Sweden; [2]Lappeenranta University of Technology, Finland

FR8RAIL: Development of Functional Requirements for Sustainable and Attractive European Rail Freight
Jaizki Mendizabal[1], Iñigo Adin[1], Jon Goya[1], Jan Bergstrand[2], Anders Ekmark[2]
[1]Ceit and tecnun (Universidad de Navarra), Spain; [2]Trafikverket, Sweden

ILCO – Integrated Logistics Network for Combined Transport (in Austria)
Andreas Käfer[1], Bernhard Fürst[1], Johannes Weinzerl[2], David Wurz-Hermann[1], Herbert Peherstorfer[1]
[1]TRAFFIX Verkehrsplanung GmbH, Austria; [2]c.c.com Moser GmbH, Austria

Inland Shipping to Serve the Hinterland: the Challenge for Seaports Authorities
Izabela Kotowska[1], Marta Mankowska[2], Michal Plucinski[2]
[1]Maritime University in Szczecin, Poland; [2]University of Szczecin, Poland

On-Board Positioning Strategies for GNSS Based Low-Cost Receivers for Rail Freight Transport
Jon Goya[1], Jaizki Mendizabal[1], Iñigo Adin[1], Gorka De Miguel[1], Michael Roth[2], Jörn Groos[2], Anna Maria Ademeit[2]
[1]Ceit, Spain; [2]DLR (Deutsches Zentrum für Luft- und Raumfahrt / German Aerospace Center), Germany

Rail Freight Research: How Market Trends and Customers' Needs Drive Technology Innovation
Cristian Ulianov[1], Franco Castagnetti[2], Paul Hyde[1], Giuseppe Rizzi[2]
[1]Newcastle University, UK; [2]NewOpera Aisbl, Belgium

Scenarios and Requirements for the Operation of Longer Freight Trains in Europe
Carlo Vaghi[1], Mats Berg[2], José Conrado Martinez Acevedo[3], Volker Boeckenholt[4], Andrea Demadonna[5]
[1]FIT Consulting srl, Italy; [2]KTH Royal Institute of Technology; [3]ADIF; [4]Laird Controls Europe GmbH; [5]UNIFE - The European Rail Industry

The Effects of Longer Trucks on Freight Transport Demand in Germany
Jan-André Buehne[1], Robert Burg[2], Marco Irzik[1]
[1]Federal Highway Research Institute (BASt), Germany; [2]SSP Consult, Beratende Ingenieure GmbH

The Role of Bangladeshi Seaports in Connecting 21st Century Maritime Silk Road and Silk Road Economic Belt to Implement OBOR (One Belt One Road) Initiative of China
Razon Chandra Saha
Bangladesh University of Professionals, People's Republic of Bangladesh

Upgrading of Freight Railways to Meet Operational and Market Demands
Björn Paulsson[1], Anders Ekberg[1], Lennart Elfgren[2]
[1]Chalmers University of Technology, Sweden; [2]Luleå University of Technology

DAY 3 - Wednesday 18 April 2018 - 15:15 - 16:45
ST36 7.7: New Materials, Constructions & Techniques for Infrastructure
Transport Infrastructure

LEVEL 0
LEHAR 3+4

Chair: Clemente Fuggini, Rina Consulting, Italy

A Viscoplastic Model to Simulate Settlements Inside Innovative Asphalt Concrete Railway Structures
Thomas Gabet[1], Octavio Lopez-Polanco[2], Pierre Hornych[1], Nicolas Calon2
[1]IFSTTAR, France; [2]SNCF Réseau, France

Sustainable Superstructure with Under Sleeper Pads
Ferdinand Pospischil, Stefan Vonbun, Harald Loy
Getzner Werkstoffe, Austria

Glass Fiber Modified Asphalt Pavements
Christiane Weise
TU Dresden, Germany

Backfill Material Properties and Construction of Testbed Using Recycled Coal Ash
Tri Ho Minh Le, Dae-Wook Park, Jung-Woo Seo, Jun Kim
Kunsan National University, Republic of South Korea

Efficient Asphalt Pavement Technologies by Combination of Increased Reclaimed Asphalt Content and Warm Mix Solutions – Effect on Workability and Cracking
Adriana Kotoušová, Jan Valentin, Monika Chmmelíková
Faculty of Civil Engineering, CTU Prague, Czech Republic

Determination and Evaluation Of Structural Remaining Substance of Asphalt Roads - Asphalt Analysis
Sebastian Lipke
Court of Audit North Rhine-Westfalia, Germany

Posters
Level 0 CONGRESS CENTER

Analytically Designed - Agreed by Construction Contract: Asphalt Pavements in the Area of Conflict between Theory and Reality
Sebastian Lipke
Court of Audit North Rhine-Westfalia, Germany

Bridge Vibrations under Road Traffic During Concrete Hardening of Widened Bridge Deck
Marian Ralbovsky[1], Alois Vorwagner[1], Stefan Lachinger[1], Michael Kleiser[2]
[1]AIT Austrian Institute of Technology GmbH, Austria; [2]ASFINAG Bau Management GmbH, Austria

Changes in Material Stocks and Flows of a Century-old Urban Rail Network Caused by Refurbishment
Andreas Gassner, Jakob Lederer, Johann Fellner
Christian Doppler Laboratory for Anthropogenic Resources; Institute for Water Quality, Resource and Waste Management; Vienna University of Technology; Austria

Development and Optimization of the Induction Healing of Asphalt Mixes Including Alternative Materials and Sustainable Technologies
Marta Vila-Cortavitarte, Pedro Lastra-González, Daniel Castro-Fresno, Pablo Pascual-Muñoz
Construction Technology Applied Research Group, GITECO, University of Cantabria, Spain

Development of Innovative Methods to Optimise the Surface Properties of Asphalt Pavements
Tim Blumenfeld, Dominik Rott
Technische Universitaet Darmstadt, Road and Pavement Engineering, Germany

Horizontal Road Markings with High Retroreflectivity: Durability, Environmental, and Financial Considerations
Tomasz E. Burghardt[1], Anton Pashkevich[2], Mario Fiolić[3], Lidia Żakowska[2]
[1]M. Swarovski Gmbh, Austria; [2]Politechnika Krakowska, Poland; [3]University of Zagreb, Croatia

Evaluation of the Performance of Rubber Modified Bitumen
Juliane Kraft, Anita Blasl, Frohmut Wellner
Technische Universität Dresden, Germany

The Use of Waste Glass in Asphalt Concrete
Olumide Ogundipe[1], Segun Nnochiri[2]
[1]Ekiti State University Ado-Ekiti, Nigeria; [2]Afe Babalola University, Ado-Ekiti, Nigeria

DAY 3 - Wednesday 18 April 2018 - 15:15 - 16:45
ST37 1.6: Reduction of CO2 Emissions and Improved Fuel Economy
Environment and Energy Efficiency

LEVEL 0
STOLZ 1

Chair: Marina Kousoulidou, EC and Maurizio Maggiore, EC

Assessing the Impacts of Alternative Fuel Infrastructure Deployment Efforts in the EU
Christian Thiel, Andreea Julea, Beatriz Acosta Iborra, Nerea De Miguel Echevarria, Emanuela Peduzzi, Enrico Pisoni, Jonatan Gomez Vilchez, Jette Krause
Joint Research Centre, European Commission

Assessment of Real World CO2 Emissions from Passenger Cars Using Simulation Models and PEMS Data
Dimitrios Tsokolis[1], Stylianos Doulgeris[1], Athanasios Dimaratos[1], Zissis Samaras[1], Peter Mock[2], Jan Dornoff[2]
[1]Laboratory of Applied Thermodynamics, Greece; [2]The International Council on Clean Transportation, Germany

Design of a Fuel-Efficient Two-Stroke Diesel Engine for Medium Passenger Cars: Assessment of the Best Suited Scavenging Architecture, Stroke-to-Bore Ratio and Air-Loop Layout
Fano Rampanarivo[1], Pascal Rahir[1], Jérémy Galpin[2], Gaetano De Paola[2], Pavel Brynych[3], Jan Macek[3], Kévin Thein[4], Ricardo Novella[4], Jesus Vincente Benajes Calvo[4]
[1]Renault SAS, France; [2]IFP Energies nouvelles, Institut Carnot IFPEN TE, France; [3]Czech Technical University, Czech Republic; [4]CMT-Motores Térmicos, Universidad Politechnica de Valencia, Spain

IMPERIUM – IMplementation of Powertrain Control for Economic and Clean Real Driving Emission and Fuel ConsUMption
Alois Danninger[1], Eric Armengaud[1], Gareth Milton[2], Jörg Lützner[3], Bram Hakstege[4], Giorgio Zurlo[5], Andreas Schöni[6], Johan Jl Lindberg[7], Ferdinand Krainer[1]
[1]AVL List GmbH; [2]RICARDO UK LIMITED; [3]Continental Automotive GmbH; [4]DAF Trucks NV; [5]IVECO S.p.A.; [6]FPT Motorenforschung AG; [7]VOLVO Group

Indirect CO2 Emissions of Electric Vehicles – Insights from Real-World Vehicle Use
Viktoriya Kolarova, John E. Anderson, Michael Hardinghaus
German Aerospace Center, Institute of Transport Research

Influence of on-Board Storage Capacity on CO2 Savings from Vehicle Photovoltaic Roofs under Real-World EU Driving
Chiara Lodi, Yannis Dronissos, Simone Serra, Thomas Huld, Pierre Bonnel
Joint Research Centre, Directorate for Energy, Transport and Climate, Italy

Posters
Level 0 CONGRESS CENTER

Energy Intensity of Railway and Road Passenger Transport and its Breaking Point According to Vehicle Capacity Usage
Martin Kendra, Tomáš Skrúcaný, František Synák, Milan Škorupa, Juraj Grenčík
Zilinska univerzita v Ziline, Slovak Republic

Thermodynamic Influences of Lubricant in an ORC for Waste Heat Recovery in Propulsion Systems
Stefan Stanzer[1], Michael Lang[2], Josef Klammer[1]
[1]MAN Truck and Bus Österreich GesmbH, Austria; [2]University of Technology Graz, Institute of Internal Combustion Engines and Thermodynamics

LNG Blue Corridors: A Summary of the Main Activities Performed during the First Four Years of the Project
Pedro Manuel Barroso Guzman, Judith Dominguez, Javier Lebrato, Mario Pita, Edgard De Seia
Applus IDIADA, Spain

Research and Innovation in Predictive Management for bus Fleets: the Ravenna Case Study
Maria Vittoria Corazza[1], Daniela Vasari[2], Silvia Magnalardo[2], Enrico Petracci[2], Michele Tozzi[3], Emmanuel de Verdalle[4]
[1]Sapienza University of Rome, Italy; [2]Pluservice, Italy; [3]UITP, Belgium; [4]DIGIMOBEE, France

Speed Advisory System Evaluation along Signalized Rural Arterial Corridors

Nikolaos Koutroumpis[1], Evangelos Mintsis[2], Socrates Basbas[3], Josep Maria Salanova Grau[4]
[1]ANK Technical Consultants, Greece; [2]Department of Transportation Planning and Engineering, School of Civil Engineering, National Technical University of Athens; [3]Faculty of Rural & Surveying Engineering, Aristotle University of Thessaloniki; [4]Centre for Research and Technology Hellas - Hellenic Institute of Transport

DAY 3 - Wednesday 18 April 2018 - 15:15 - 16:45
ST38 7.5: Transport Infrastructure Safety
Transport Infrastructure

LEVEL 0
STOLZ 2

Chair: Peter Saleh, AIT Austrian Institute of Technology GmbH, Austria

Are the Roadwork Zones Safe?

Donatas Čygas, Audrius Vaitkus, Dovydas Skrodenis
Vilnius Gediminas Technical University Road Research Institute, Lithuania

From Cause-Specific Treatment Selection on Single Road Sections to Work-Zone Optimization with User and External Costs

Valentin Donev, Markus Hoffmann
Vienna University of Technology, Austria

Safety Effects of Infrastructure Road Safety Measures

Eleonora Papadimitriou[1], Klaus Machata[2], Robert Bauer[2], Severin Stadlbauer[2], Aggelos Soteropoulos[2], Stijn Daniels[3], Rune Elvik[4], Apostolos Ziakopoulos[1], Athanasios Theofilatos[1], George Yannis[1]
[1]National Technical University of Athens (NTUA), Greece; [2]KFV Austrian Road Safety Board, Austria; [3]VIAS Institute, Belgium; [4]Institute of Transport Economics (TOI), Norway

A Comparative Evaluation of the Safety Performance of Median Barriers on Non-urban Roads in Israel

Victoria Gitelman[1], Etti Doveh[2], Shalom Hakkert[1]
[1]Transportation Research Institute, Technion, Israel; [2]Technion Statistical Laboratory, Techinon, Israel

Instantaneous Incident Detection System Based on Analysis of Acoustic Signal from Crash and Skid in Tunnel

Jinhwan Jang
Korea Institute of Civil Engineering and Building Technology, Republic of South Korea

Semantic 3D Models from Real World Scene Recordings for Traffic Accident Simulation

Ludwig Mohr[1], Martin Ötti[3], Michael Haberl[2], Matthias Rüther[1,3], Horst Bischof[1]
[1]Institute of Computer Graphics and Vision, Graz University of Technology, Austria; [2]Institute of Highway Engineering and Transport Planning, Graz University of Technology, Austria; [3]Holistic Imaging Meixner & Rüther OG, Austria

Posters
Level 0 CONGRESS CENTER

Development of a Framework for Quantitative Evaluation of Alignment Related Risk on Transport Infrastructure Ireland's Road Network

Thomas Gerard Casey[1], Alan O'Connor[2], Zacarias Grande Andrade[2], Seamus MacGearailt[3], Enda Burton[3]
[1]Transport Infrastructure Ireland, Ireland; [2]Roughan and O'Donovan Innovative Solutions, Ireland; [3]Roughan and O'Donovan Consulting Engineers, Ireland

Experiences with the Implementation of the EU Directive on Road Infrastructure Safety Management in Hungary

Csaba Koren[1], Tibor Mocsari[2]
[1]Szechenyi Istvan University, Hungary; [2]Ministry of National Development, Hungary

Left-Turn Phasing Decisions for Improved Intersection Safety

Nikiforos Stamatiadis, Kirakos Amiridis, Adam Kirk
University of Kentucky, USA

Monitoring and Inventory of Road Signs and Road Markings. State of the Art – a Review of Existing Methods and Systems

Denitsa Osichenko, Roland Spielhofer
Austrian Institute of Technology GmbH, Austria

Motion Trajectories OF Over-Height Vehicles FOR Warning Drivers

Bella Nguyen[1], Ioannis Brilakis[2]
[1]University of Cambridge, UK; [2]University of Cambridge, UK

On the Efficient Use of Road Safety Inspections on Rural Roads

Martin Winkelbauer, Sandra Schmied, Bernd Strnad, Peter Trimmel
KFV Austrian Road Safety Board, Austria

Studying Road Restraint Systems to Develop New Guidelines

Marcin Budzynski, Krzysztof Wilde, Kazimierz Jamroz, Jacek Chroscielewski, Wojciech Witkowski, Stanisław Burzynski, Dawid Bruski, Lukasz Jelinski
Gdansk University of Technology, Poland

DAY 3 - Wednesday 18 April 2018 - 15:15 - 16:45
ST39 1.2: Battery Technology for Hybrid and Electric Vehicles
Environment and Energy Efficiency

LEVEL 1
SCHUBERT 2+3

Chair: Christian Chimani, AIT Austrian Institute of Technology GmbH, Austria

Development of Zinc-Air Flow Batteries by Investigating Compact Zinc Deposition and Improving Air Electrode Cycling Stability

Birgit Pichler[1], Viktor Hacker[1], Christian Zelger[2], Waltraud Taucher-Mautner[2], Bernhard Gollas[2], Hans-Jürgen Pauling[3]
[1]Institute of Chemical Engineering and Environmental Technology, Graz University of Technology, Austria; [2]Institute for Chemistry and Technology of Materials, Graz University of Technology, Austria; [3]TSR-KAT GmbH, Germany

Holistic Characterisation of Cylindrical Lithium Ion Cells by Thermal Ramp Experiments and Simulation of Failure Scenarios

Michael Lammer[1], Alexander Königseder[1], Peter Gluschitz[1], Viktor Hacker[1], Andrey W. Golubkov[2], Christiane Essl[2], Rene Planteu[2], Bernhard Rasch[2], Niels Köstner[2], Franz Pichler[2], Alexander Thaler[2], Stefan Seger[3]
[1]Graz University of Technology, Institute of Chemical Engineering and Environmental Technology, Austria; 2VIRTUAL VEHICLE Research Center, Austria; [3]Samsung SDI Battery Systems GmbH, Austria

LNMO Cathode Materials for High-Voltage, Next -Generation Automotive Li-Ion Cells

Dimitrios Zarvalis[1], George Gkanas[1], Georgia Kastrinaki[1], George Karagiannakis[1], Athanasios Konstandopoulos[1,2], Aitor Eguia-Barrio[3], Miguel Bengoechea[3], Iratxe de Meatza[3], Anwar Ahniyaz[4], Carole Bourbon[5], Frederic Fabre[5], David Peralta[5]
[1]Aerosol &Particle Technology Laboratory, Greece; [2]Department of Chemical Engineering, Aristotle University, Greece; [3]CIDETEC, Parque Tecnológico de San Sebastián, Spain; [4]Chemistry and Materials and Surface Unit, RISE Bioscience and Materials Division, RISE Research Institutes of Sweden; [5]Commissariat à l'Energie Atomique et aux Energies Alternatives, Laboratoire des Composants pour Batteries, France

Silicon and Polyanionic Chemistries and Architectures of Li-Ion Cell for High Energy Battery

Willy Porcher[1], Jean-Baptiste Ducros[1], Cedric Haon[1], Guillaume Claude[1], Maxime Montaru[1], Tong Zhang[2], Niloofar Ehteshami[2], Elie Paillard[2], David Eskenazi[3], Mikel Oyarbide[4], Iratxe de Meatza[4], Grietus Mulder[5], Trad Khiem[5], Stephan Kosch[6], Diogo Vieira Carvalho[7], Arianna Moretti[7], Stefano Passerini[7]
[1]Université Grenoble Alpes, CEA-Liten; [2]Helmholtz Institute Münster, FZJ, Germany; [3]Prayon SA, Belgium; [4]CIDETEC, Spain; [5]VITO/EnergyVille, Belgium; [6]Institute for Electrical Energy Storage Technology, TUM, Germany; [7]Helmholtz Institute Ulm, Germany

Towards Environmentally Friendly High-Energy Cathodes for Sustainable Lithium-Ion Batteries

Arefeh Kazzazi[1,2], Agnese Birrozzi[1,2], Nina Laszczynski[1,2], Guk-

Tae Kim[1,2], Dominic Bresser[1,2], Stefano Passerini[1,2], Farouk Tedjar[3], Idoia Urdampilleta[4], Iratxe de Meatza[4]
[1]Helmholtz Institute Ulm (HIU, Germany; [2]Karlsruhe Institute of Technology (KIT), Germany; [3]Recupyl SAS, France; [4]CIDETEC, Spain

Tragacanth Gum as New Binder for Lithium Ion Battery

Daniele Versaci[1], Roberto Nasi[1], Donald Dongmo Ymele[1], Mauro Sgroi[2], Aneta Dumitrescu[3], Carlotta Francia[1], Nerino Penazzi[1], Silvia Bodoardo[1]
[1]Electrochemistry group, Department of Applied Science and Technology, Politecnico di Torino, Italy; [2]C.R.F. S.C.p.A, Group Materials Labs Environment & Chemical Analysis, Italy; [3]Lithops s.r.l., Italy

Posters
Level 0 CONGRESS CENTER

A New Packaging Solution for Li-Ion Battery Cells

Stephane Dessors[1], Maximilian Barth[2], Thomas Meissner[2], Yan Lopez[3], Côme Leys[3], Yvan Reynier[3], Willy Porcher[3], Lionel Tenchine[1]
[1]IPC, France; [2]Hahn-Schickard, Germany; [3]Université Grenoble Alpes, CEA-LITEN, France

SnO2 Anode Materials for High Capacity Li-Ion Cells

Daniele Versaci[1], SVETOSLAVA Vankova[1], Nerino Penazzi[1], Silvia Bodoardo[1], Georgios Ganas[2], Georgia Kastrinaki[2], Dimitrios Zarvalis[2], Athanasios Konstandopoulos[2,3]
[1]Politecnico di Torino, Italy; [2]Aerosol &Particle Technology Laboratory, Greece; [3]Department of Chemical Engineering, Aristotle University, Greece

Thermal Runaway and Battery Fire: Comparison of Li-Ion, Ni-MH and Sealed Lead-Acid Batteries

Andrey Golubkov[1], Rene Planteu[1], Bernhard Rasch[1], Christiane Essl[1], Alexander Thaler[1], Viktor Hacker[2]
[1]VIRTUAL VEHICLE Research Center, Austria; [2]Institute of Chemical Engineering and Environmental Technology, Graz University of Technology, Austria

Transport of Li-Ion Batteries: Early Failure Detection by Gas Composition Measurements

Christiane Essl, Andrey W. Golubkov, Rene Planteu, Bernhard Rasch, Alexander Thaler, Anton Fuchs
VIRTUAL VEHICLE Research Center, Austria

DAY 3 - Wednesday 18 April 2018 - 15:15 - 16:45
ST40 2.1: Marine and Railway Engineering
Vehicles & Vessels – Design, Development and Production

LEVEL 1
SCHUBERT 1

Chair: Peter Crawley, EC

Active Suspension for a More Attractive and Cost-Efficient Rail Service

Alireza Qazizadeh, Sebastian Stichel
Division of Rail Vehicles, Department of Aeronautical and Vehicle Engineering, KTH Royal Institute of Technology, Sweden

Auxetic Lightweight Composite Panels – Enhanced Mechanical Properties and Vibration Damping in Transportation Structures

Vitor Hugo Carneiro, José Meireles
MEtRiCS - Centro de Engenharia Mecânica e Sustentabilidade de Recursos; University of Minho – Campus de Azurem, Portugal

Compliance Matrix Model Based on Ship Owners' Operational Needs

Alan Guegan[1], Benoit Rafine[2], Laurent Descombes[3], Hanane Fadiaw[3], Pierre Marty[4], Philippe Corrignan[4], Romain Le Nena[2]
[1]SIREHNA, France; [2]DCNS, France; [3]IRT SystemX, France; [4]Bureau Veritas, France

Energy Prediction Benchmark for Universal Cost Model Calculations

Carlos Casanueva[1], Asier Alonso[2,6], Christof Bernsteiner[3], Thomas Czerwinka[4], Daniel Gabriel[5], Xabier Gonzalez Larrache[4], Christof Marte[3], Jesús Muñoz[5], Ane Orbegozo[2], Roland Paar[4]
[1]KTH Royal Institute of Technology, Sweden; [2]CAF I+D, Spain; [3]VIRTUAL VEHICLE Research Center, Austria; [4]Siemens

AG, Austria; [5]Stadler Rail Valencia, Spain; [6]TECNUN, University of Navarra, Spain

Parametric Design and Holistic Optimisation of Post-Panamax Containerships
Alexandros Priftis, Evangelos Boulougouris, Osman Turan
University of Strathclyde, UK

RAMSSES - Realisation and Demonstration of Advanced Material Solutions for Sustainable and Efficient Ships
Matthias Krause[1], Frank Roland[1], Carlo Cau[2]
[1]CMT - Center of Maritime Technologies e. V., Germany; [2]CET - Cetena S.p.A. Centro per gli Studi di Tecnica Navale

Posters
Level 0 CONGRESS CENTER

A New Era of Fishing Vessel Safety Emerges
Georgios Atzampos, Donald Paterson, Dracos Vassalos, Evangelos Boulougouris
Maritime Safety Research Centre, University of Strathclyde, UK

Automated Testing HiL-System for Agile Product-Design Environments.
Michal Lukasz Krzeslak, Piotr Andrzej Luczak, Jerzy Michał Kocerka
Tritem Microsystems GmbH, Germany

Design of a Novel, Low Impact Bogie for a Freight Locomotive
Maria Marsilla[1], Simon Iwnicki[2], Stefano Bruni[3], Mats Berg[4], Steven Cervello[5], Markus Hecht[6], Andrea Demadonna[7], Samuel Hawksbee[2], Yasmin Baumgärtel[7]
[1]Stadler Rail Valencia S.A.U, Spain; [2]University of Huddersfield, UK; [3]Politecnico di Milano, Italy; [4]KTH Royal Institute of Technology, Sweden; [5]Lucchini RS S.p.A., Italy; [6]Technische Universität Berlin, Germany; [7]UNIFE the European Rail Industry, Belgium

The E-Ferry: Energy Efficient Hull Design
Jens Kristensen[1], Claus Bendix Nielsen[1], Trine Heinemann[2]
[1]Jens Kristensen Aps, Denmark; [2]rø Kommune, Denmark

First Steps of the FIBRESHIP Project: Engineering, Production and Life Cycle Management for the Complete Construction of Large Length Fibre-Based Ships.
Raúl Salinas[1], Julio García[2], Xavier Martínez[3], Ignacio García[1], Alberto Octavio[1]
[1]Técnicas y Servicios de Ingeniería, S.L, Spain; [2]COMPASSIS, S.A; [3]CIMNE

HOLISTIC Ship Design for Future Waterborne Transport
Jochen Marzi[1], Apostolos Papanikolaou[1], Philippe Corrignan[2], George Zaraphonitis[3], Stefan Harries[4]
[1]Hamburgische Schiffbau Versuchsanstalt GmbH - HSVA; [2]BUREAU VERITAS - Marine & Offshore Division; [3]National Technical University of Athens; [4]FRIENDSHIP SYSTEMS AG

LINCOLN: Lean Innovative Connected Vessels
Lucia Ramundo, Brendan Sullivan, Rossella Luglietti, Monica Rossi, Sergio Terzi
Politecnico di Milano, Italy

One Solution for Measurement of Wheel-Rail Contact Forces
Milan Bižić[1], Dragan Petrović[1], Miloš Tomić[2], Zoran Djinović[3]
[1]University of Kragujevac, Faculty of Mechanical and Civil Engineering in Kraljevo, Serbia; [2]University of Belgrade, School of Electrical Engineering, Serbia; [3]Austrian Center for Medical Innovation and Technology, Austria

Rail Operator and Passenger Friendly Efficient Rail Vehicle Interiors
Bernhard Rüger, Norbert Ostermann
Vienna University of Technology, Austria

Quantification of the Maritime Security Problem Onboard Passenger Ships
Ioli Gypa, Evangelos Boulougouris, Dracos Vassalos
University of Strathclyde, UK

INVITED SESSIONS

DAY 3 - Wednesday 18 April 2018 - 15:15 - 16:45

INV15: Clean & Digitalised Logistics: Opportunities for Sustainable Growth and Jobs

LEVEL 1
SCHUBERT 5+6

Fears that the automatization of the sector will bring unemployment and disrupt traditional economy in freight transport and logistics, are balanced by the opportunities for growth arising from the introduction of digital technologies potentially leading to new professions, more qualified skills and better working conditions.
The session will analyse different aspects of the digitalization of the sector, namely:

- Digitalization and future Scenarios for transport & logistics development.
- Digitalization as an enabler to reduce carbon footprint.
- Digitalization: the perfect storm for logistics transformation.
- Need for a change in mind-set: new business models based on sharing principles, managerial skills and "preparedness to change.
- Impact of MaaS revolution in innovative logistics and supply chain

Organisers:

Maria-Cristina Marolda, European Commission
Sergio Barbarino, ALICE
Fernando Liesa, ALICE

Moderator:

Maria-Cristina Marolda, European Commission

Panellists:

Cathy Macharis, Vrjie Universiteit Brussels
Rosário Macário, Instituto Superior Tecnico Lisboa
Kathrin Mohr, DB DHL
Sophie Punte, Smart Freight Centre

DAY 3 - Wednesday 18 April 2018 - 15:15 - 16:45

INV16: Fuelling Clean Transport - Europe-wide Alternative Fuels Projections in 2030 by the JEC research collaboration including reports on three European projects on batteries for EVs

LEVEL 1
SCHUBERT 4

- Alternative renewable fuels are expected to increasingly replace fossil fuels in many transport modes over the long term. The availability of such clean fuels and a sound assessment of their effectiveness in reducing GHG emissions are therefore essential in the transition to a sustainable energy future. A variety of fuel options are envisaged: their uptake in the European fleet is a key element to attain the ambitioned reduction level of a decarbonised transport sector.
- A critical assessment is made to include all alternative renewable fuels for which realistic expectations exist in terms of market entry and relative impact towards achieving Europe-wide objectives. Non-road transport modes have been analysed to assess their potential as complementary or competing alternative contribution to the climate objectives.

Organisers:

Heather Hamje, concawe
Laura Lonza, European Commission
Luis de Prada, EUCAR

Moderator:

Robin Nelson, Science Director, concawe, (tbc)

Keynote Speaker:

Alexander Thaler, Virtual Vehicle

Panellists:

Luis de Prada, EUCAR
Laura Lonza, European Commission
Heather Hamje, concawe

SCIENTIFIC AND TECHNICAL SESSIONS

DAY 3 - Wednesday 18 April 2018 - 17:00 - 18:30
ST41 6.3: Decarbonization and Sustainability of Freight Transport and Logistics
Freight Transport and Logistics

LEVEL 0
STRAUSS 1-3

Chair: Alain Baeyens, 30º North

A Major Pilot Study on LNG Heavy Duty Trucks: New Business Model for Enhanced Sustainability in Freight Transport Corridors for Manufacturers and Retailers
Clement Chandon[2], Silvana Toffolo[1], Mark Rickhoff[3], Jan-Joris van Dijk[5], Leonidas Ntziachristos[4]
[1]CNH Industrial, Italy; [2]CNH Industrial IVECO, France; [3]Unilever Europe Business Center B.V. , The Netherlands; [4]Aristotle University of Thessaloniki, Greece; [5]ENGIE LNG Solutions

Greenhouse Gas Reduction and Fair Gain Sharing in Trusted Collaborative Transport Networks
Robert Boute[1], Tom Van Steendam[1], Wout Dullaert[2], Dirk Inghels[2], Bianca Oussoren[2]
[1]Vlerick Business School, Belgium; [2]Vrije Universiteit Amsterdam, The Netherlands

Lean & Green Analytics
Nico Anten, Herman Wagter, Leon Simons, Harsha Dijk
Connekt, The Netherlands

Smart Infrastructure Access Policy: A Highway towards More Efficient Road Freight Transport
Karel Kural[1], Christopher de Saxe[4], Sogol Kharrazi[5], Thomas Asp[2], Ben Kraaijenhagen[3], Joop Pauwelussen[1]
[1]HAN University of Applied Sciences, Netherlands, The; [2]Trafikverkert, Sweden; [3]MAN Truck & Bus AG, Germany; [4]University of Cambridge; [5]Swedish National Road and Transport Research Institute (VTI)

The Added Value of Rail Freight Transport Demand in Belgium
Frank Troch, Thierry Vanelslander, Christa Sys
University of Antwerp, Belgium

TRANSFORMERS – Configurable and Adaptable Trucks and Trailers for Optimal Transport
Paul Adams[1], Gunter Nitzsche[5], Sofia Löfstrand[1], Alfredo Selas[2], Adewole Adesiyun[4], Guus Arts[3], Sebastian Wagner[5], Thorsten Koch[6], Bernard Jacob[7], Marc Billiet[8], Adi Hariram[9], Birger Queckenstedt[10], Gertjan Koornneef[11], Cor van der Zweep[12], Ton Bertens[13], Bernhard Hillbrand[14], Franziska Schmidt[7]
[1]Volvo GTT, Sweden; [2]Bosch; [3]DAF Trucks; [4]FEHRL; [5]Fraunhofer IVI; [6]Fraunhofer LBF; [7]IFSTTAR; [8]IRU Projects; [9]Proctor & Gamble; [10]Schmitz Cargobull; [11]TNO; [12]Uniresearch; [13]Van Eck; [14]Virtual vehicle

Posters
Level 0 CONGRESS CENTER

Determining Sustainable Strategies of Freight Forwarding Companies in the Environment of the Road Transport Market
Vitalii Naumov
Cracow University of Technology, Poland

Does the Introduction of Small Electric Cargo Vehicles into a Logistics Concept for Last Mile Delivery of Parcels and Groceries in Urban Areas Reduce its Environmental Impact ?
Bernhard Heilmann[1], Martin Reinthaler[1], Boschidar Ganev[2], Mario Eibl[3]
[1]AIT Austrian Institute of Technology GmbH, Center for Mobility Systems; [2]AIT Austrian Institute of Technology, Center for Low-Emission Transport; [3]gleam technologies GmbH, Austria

High Capacity Transport Vehicles vs. Standard Vehicles in Finland
Jussi Sauna-aho, Olavi H. Koskinen, Pasi Sauna-aho, Tapio Rivanti
Vemosim Oy, Finland

Improving Heavy Vehicle Safety and Road Transport Efficiency: A Performance-Based Standards Approach in South Africa
Paul Anthony Nordengen, Anton Johan Steenkamp, Robert John Berman
CSIR Built Environment, South Africa

Management of Chemical Freight Transport Emissions in Poland: Potential for CO2 Reduction
Marzenna Cichosz, Aneta Pluta-Zaremba
Warsaw School of Economics, Poland

What do Data Tell Us? The Story of the European Logistics and Road Freight Transportation Sector
Iraklis Stamos
IRU Projects, Belgium

DAY 3 - Wednesday 18 April 2018 - 17:00 - 18:30
ST42 7.3: Transport Infrastructure: Asset Management and Life Cycle Analysis
Transport Infrastructure

LEVEL 0
LEHAR 1+2

Chair: Clemente Fuggini, Rina Consulting, Italy

Towards an Intelligent and Automated Platform for Railway Asset Management
Alice Consilvio[1], Carlo Crovetto[1], Benoit Guyot[2], Andy Kirwan[3], Nadia Mazzino[1], Federico Papa[1]
[1]Ansaldo STS, Italy; [2]SNCF RESEAU, France; [3]NETWORK RAIL, UK

Long-Term Forecasting and Assessment of Road Infrastructure Investment Needs Based on Standardized Life Cycles
Markus Hoffmann
Vienna University of Technology, Austria

Combined RAMS and LCC Analysis in Railway and Road Transport Infrastructures
Álvaro Calle-Cordón[1], Noemi Jiménez-Redondo[1], Francisco Javier Morales-Gámiz[1], Francisco Antonio García-Villena[1], Juan Jacobo Peralta-Escalante[1], Stephen Mayowa Famurewa[2], Amir Garmabaki[2], Emanuel Duarte[3], Joao Morgado[3]
[1]CEMOSA, Spain; [2]LTU, Sweden; [3]IP, Portugal

Practical Remote Survey Applications for Improved Geotechnical Asset Management on England's Strategic Road Network
Oliver Pritchard[1], Aine Ni Bhreasail[2], Grace Campbell[2], Savina Carluccio[2], Matthew Willis[2], James Codd[3]
[1]Arup, The Arup Campus, Blythe Gate, Blythe Valley Park, Solihull, UK; [2]Arup, UK; [3]Highways England, UK

Smart Data for a Pro-Active Railway Asset Management
Matthias Landgraf[1], Markus Enzi[2]
[1]Graz University of Technology, Institut for Railway Engineering and Transport Economy; [2]Austrian Federal Railways, ÖBB Infrastruktur AG

FASSTbridge Methodology and Strengthening System
Mazen Wahbeh[1], Rami Boundouki[1], Michael Fischer[2], Sylvain Chataigner[3], David Garcia Sanchez[4], Iñigo Calderon[4], María Zalbide[4], Gianluca Gemignani[5], Elena Martin[6], Luis Sopeña[6], Veit Birtel[7]
[1]ALTAVISTA SOLUTIONS; [2]Leonhardt, Andrä und Partner Beratende Ingenieure VBI AG (LAP); [3]Institut francais des Sciences et Technologies des Transports, de l'amenagement et des reseaux (IFSTTAR); [4]Fundación Tecnalia Research and Innovation (TECNALIA); [5]COLLANTI CONCORDE S.R.L (COLLANTI); [6]DRAGADOS S.A.; [7]MPA Universitaet Stuttgart (USTUTT)

Posters
Level 0 CONGRESS CENTER

An Open Data Taxonomy for Support Rail Asset Management
Timo Hartmann, Lucian Ungureanu, Elzbieta Borun, Damian Harasymczuk
Contecht GmbH, Germany

Evolution of Decision Support Systems for Railway Infrastructure Managers
Zaharah Allah Buhksh[1], Irina Stipanovic[1], Kenneth Gavin[2], Andre Doree[1]
[1]University of Twente, The Netherlands; [2]Technical University of Delft, The Netherlands

Operationalising Risk-Based Decision Support to Improve the Management of Transport Infrastructure Networks

Clemente Fuggini[1], Paolo Basso[1], Claudia Pani[2], Romina Colgiaco[2], Mark Gaddes[3], Federico Di Gennaro[4], Ivan Tesfai[1]
[1]Rina Consulting S.p.A. (formerly D'Appolonia S.p.A.), Italy; [2]AoN, Italy; [3]Network Rail; [4]Aiscat Servizi S.r.l.

PREMiUM - Understanding Network-Level Measurement and Management of Road Equipment

Alex Wright[2], Emma Benbow[2], Roland Spielhofer[5], Carl van Geem[4], Ciaran Carey[3], Leif Sjögren[1], Tom Casey[6]
[1]VTI, Sweden; [2]TRL, UK; [3]Rodis, Ireland; [4]BRRC, Belgium; [5]AIT Austrian Institute of Technology GmbH, Austria; [6]Transport Infrastructure Ireland

RAGTIME Risk Based Approaches for Asset inteGrity Multimodal Transport Infrastructure

Maria Zalbide[1], David Garcia Sanchez[1], Jon Aurtenetxe[1], Jose Luis Izkara[1], Clemente Fuggini[2], Federico Di Genaro[3], Maria Antonia Perez[4], Claudia Pani[5]
[1]Fundación Tecnalia Research and Innovation (TECNALIA); [2]D'Appolonia SPA; [3]Aiscat Servizi Srl (Aiscat); [4]Universidad De Cantabria; [5]AON

The Genetic Algorithm to Optimize the Strategies for Bridge Repair Works

Larysa Petrovna Bodnar[1], Alexander Kanin[2], Sergii Stepanov[1]
[1]DerzhdorNDI SE, Ukraine; [2]National Transport University

DAY 3 - Wednesday 18 April 2018 - 17:00 - 18:30
ST43 5.3: Travel and Transportation Planning
People Mobility – Systems and Services

LEVEL 0
LEHAR 3+4

Chair: Anastasios Tsakalidis, EC

Passenger-Oriented Optimization of Lines in a Mass Transit System

Lucile Brethomé[1,3], Rémy Chevrier[1], Niels van Oort[2], Joaquin Rodriguez[3]
[1]SNCF Innovation & Research, France; [2]Delft University of Technology, The Netherlands; [3]IFSTTAR - ESTAS, France

Comparison of Microscopic and Macroscopic Approaches to Simulating the Effects of Infrastructure Disruptions on Railway Networks

Markus Zinser[2], Torsten Betz[2], Jennifer Warg[1], Emma Solinen[3], Markus Bohlin[1]
[1]KTH Royal Institute of Technology, Stockholm, Sweden; [2]Deutsche Bahn AG, Germany; [3]Trafikverket, Sweden

Effects of the Mandatory Validation on Bus Commercial Speed: Case Study in Torino (Italy)

Cristina Pronello[1,2], Valentina Rappazzo[2], Jean Baptiste Gabourieau[3], Veronica Martino[4], Alberto Forchino[5]
[1]Sorbonne Universités - UTC, Italy; 2Politecnico di Torino; [3]Politecnico di Torino; [4]Politecnico di Torino; [5]Gruppo Torinese Trasporti - GTT

A New Approach to Integrated Cross-Modal Transport – the FOX and USE-iT Experience

Ewa Zofka[1], Adam Zofka[1], Sarah Reeves[2], Isabela Erdelean[3], Martin Lamb[4], Ursula Blume[5], Migle Paliukaite[6], Thierry Goger[6]
[1]IBDiM, Poland; [2]TRL, UK; [3]AIT Austrian Institute of Technology GmbH, Austria; [4]Maple Consulting, UK; [5]Bast, Germany; [6]FEHRL, Belgium

Modeling Urban Mobility at a Metropolitan Scale: a Comparison of Paris Transportation Models

Mallory Trouve, Fabien Leurent
Université Paris-Est, LVMT, Ecole des Ponts ParisTech, France

Integration of Vehicle Sharing Systems into an Intermodal Journey Planner

Andreas Partusch
Verkehrsauskunft Österreich VAO GmbH, Austria

Posters
Level 0 CONGRESS CENTER

An Integrated Behavioural Model for Active Transport Mode Choices

Emmanuelle Dupont[1], Tim De Ceunynck[1], Gert Jan Wijlhuizen[2]
[1]Vias institute, Belgium; [2]Institute for Road Safety Research SWOV

Beyond Speed: A New Outlook on Mass Transport Systems in Megalopoleis
Marcelo Blumenfeld Mendonca, Clive Roberts, Felix Schmid
University of Birmingham, UK

Determination of Potentials for Drivers and Passengers of Integrated Ride-Sharing Services in Rural Areas
Carsten Sommer, Jonas Harz
Chair of Transportation Planning and Traffic Systems, University of Kassel, Germany

Fitting Strategy and Structure: Implementing Integrated Transport Policies in Dutch National and Regional PPB Systems
Marijn Thomas van Geet[1], Sander Lenferink[1], Wim Leendertse[1,2], Jos Arts[1]
[1]University of Groningen, Faculty of Spatial Planning, The Netherlands; [2]Ministry of Infrastructure and the Environment, Rijkswaterstaat, The Netherlands

Improvement of Rail Accessibility Especially for Eastern European Countries
Bernhard Rüger[1], Goran Simic[2], Peter Tauschitz[3], Marion Wendelken[4]
[1]Vienna University of Technology, Austria; [2]Belgrade University, Serbia; [3]BB-Infrastruktur AG; [4]Palfinger Tail-Lifts

Processing of Passenger Data for Zone Estimation
Viktor Nagy, Balázs Horváth
Széchenyi István University, Hungary

Providing Intermodal Route Alternatives
Matthias Prandtstetter[1], Clovis Seragiotto[1], Markus Straub[1], Babis Magoutas[2], Efthimios Bothos[2], Luka Bradesko[3]
[1]AIT Austrian Institute of Technology GmbH, Austria; [2]Institute of Communication and Computer Systems (ICCS), National Technical University of Athens (NTUA), Greece; [3]Institut Jozef Stefan, Slovenia

Strategic Multimodal Assessment of Suburban Transport Infrastructure
Martin Smoliner[1], Karl Hofer[2], Stefan Walter[3], Martin Fellendorf[2]
[1]Graz University of Technology - Institute of Railway Engineering and Transport Economy, Austria; [2]Graz University of Technology - Institute of Highway Engineering and Transport Planning, Austria; [3]Province of Styria, Department of Transport and Structures, Austria

TRIMODE: Integrated Transport Model for Europe
Angelo Martino[1], Ian Williams[1], Davide Fiorello[1], Klaus Noekel[2], Pantelis Capros[3], Pelopidas Siskos[3], Georgios Zazias[3], Ioannis Charalampidis[3], Panagiotis Karkatsoulis[3], Wolfgang Schade[4]
[1]TRT Trasporti e Territorio, Italy; [2]PTV GROUP, Germany; [3]E3MLab - National Technical University of Athens, Greece; [4]M-Five Mobility, Futures, Innovation, Economics, Germany

DAY 3 - Wednesday 18 April 2018 - 17:00 - 18:30
ST44 1.3: Road Surface, Traffic and Effect on Noise Pollution and Fuel Consumption
Environment and Energy Efficiency

LEVEL 1
SCHUBERT 1

Chair: Manfred Haider, AIT Austrian Institute of Technology GmbH, Austria

A Methodology to Facilitate the Implementation of New Sustainable Technologies for Greener Asphalt Roads
Joëlle De Visscher[1], Sara Anastasio[3], Nicolas Bueche[2], Inge Hoff[3], Johan Maeck[1], Ann Vanelstraete[1], Stefan Vansteenkiste[1], Matthew Wayman[4]
[1]Belgian Road Research Centre, Belgium; [2]Ecole Polytechnique Fédérale de Lausanne, Switzerland; [3]Technical University Trondheim, Norway; [4]Transport Research Laboratory, UK

Calculation of Weather-Corrected Traffic Noise Immission Levels on the Basis of Emission Data and Meteorological Quantities
Fabio Strigari, Michael Chudalla, Wolfram Bartolomaeus
Federal Highway Research Institute (BASt), Germany

Comparing On-Board Vibration and Sound Measurements of Trams with their Respective Pass-by-Levels

Karoline Alten[1], Reinhard Wehr[1], Andreas Fuchs[1], Werner Wehr[2], Thomas Hauser[2]
[1]AIT Austrian Institute of Technology GmbH, Austria; [2]Wiener Linien GmbH & Co KG

Diffractors: a Fascinating Alternative to Noise Screens?

Luc Goubert
Belgian Road Research Centre, Belgium

Numerical and Experimental Predictions of Pavement Texture Effects on Vehicle Fuel Consumption

Dmytro Adnan Mansura[1], Nicholas Howard Thom[2], Hartmunt Johannes Beckedahl[1]
[1]Pavement Research Centre, Department of Civil Engineering, Faculty D, University of Wuppertal, Germany; [2]Nottingham Transportation Engineering Centre, Department of Civil Engineering, Faculty of Engineering, University of Nottingham, UK

Reducing Noise Pollution of Urban Areas: New Advances for Railway Vehicles.

Andrea Bistagnino
ALSTOM, France

Posters
Level 0 CONGRESS CENTER

A Novel Ventilation Control Strategy with Piston Effect for Optimal Energy Management in Subway Station

Alexandre De Bernardinis[1,2], Marouan Sabah[2], Lilia Galai-Dol[2]
[1]IFSTTAR; [2]Efficacity

Comprehensive Noise Assessment in Complex Situations with More than one Mode of Transport

Michael Chudalla, Fabio Strigari, Wolfram Bartolomaeus
Federal Highway Research Institute (BASt), Germany

Inge – Intelligent Street Lighting for Increased Traffic Safety with Reduced Costs

Klaus Pollhammer[1], Thomas Novak[1], Daniel Elias[2], Birgit Nadler[2], Friedrich Nadler[2]
[1]Swarco Futurit Verkehrssignalsysteme Ges.m.b.H., Austria; [2]nast consulting ZT GmbH, Austria

Mitigating the Impact of Roadworks through Travel Demand Management Measures

Khalid Nur[1], Rachel Hutchins[2], Savina Carluccio[1], Shyful Choudhury[1], Helen Parkyns[2], Graham Jones[3], Jim Doxford[4]
[1]Ove Arup & Partners Ltd, UK; [2]IBI Group, UK; [3]Transport for Greater Manchester, UK; [4]Highways England, UK

Road Wearing Layer Type and Age Effect on Pavement Acoustic Degradation

Audrius Vaitkus, Tadas Andriejauskas, Viktoras Vorobjovas, Faustina Tuminienė, Jurgita Židanavičiūtė
Vilnius Gediminas Technical University, Lithuania

The Use of Rejuvenators as an Effective Way to Restore Aged Binder Properties

Tomas Koudelka[1], Laurent Porot[2], Pavel Coufalik[1], Michal Varaus[1]
[1]Brno University of Technology, Czech Republic; [2]Kraton Corporation

DAY 3 - Wednesday 18 April 2018 - 17:00 - 18:30
ST45 10.1: Road Infrastructure Analysis, Management & Improvements
Environment and Energy Efficiency

LEVEL 0
STOLZ 2

Chair: Eleonora Papadimitriou, National Technical University of Athens, Greece

SAFER-LC Project: Safer Level Crossings by Integrating and Optimizing Road-Rail Infrastructure Management and Design
Grigore M. Havârneanu[1], Annika Dreßler[2], Jan Grippenkoven[2], Anne Silla[3], Eduardo Prieto[4], Marie-Hélène Bonneau[1]
[1]International Union of Railways (UIC), France; [2]German Aerospace Center e.V. (DLR); [3]VTT Technical Research Centre of Finland Ltd.; [4]Spanish Railways Foundation (FFE)

Decision Support System for Winter Maintenance of the Motorways in Slovenia
Rok Kršmanc[1], Alenka Šajn Slak[1], Samo Čarman[1], Marko Korošec[2], Denis Kotnik[1]
[1]CGS Labs d.o.o., Slovenia; [2]DARS d.d., Slovenia

Road & Tunnel Safety Management: Establishment of a Common Enhanced Approach to Road Infrastructure and Tunnel Safety Management
Adewole Adesiyun[1], Antonio Avenoso[2], Claudia Ciuca[1], Kallistratos Dionelis[3], Liljana Cela[4], Christophe Nicodeme[5], Thierry Goger[1], Carlo Polidori[6], An Volckaert[7]
[1]Forum of European National Highway Research Laboratories, Belgium; [2]European Transport Safety Council, Belgium; [3]European Association of Operators of Toll Road Infrastructures, Belgium; [4]South East Europe Transport Observatory, Serbia; [5]The European Union Road Federation, Belgium; [6]Italian Association of Road Safety Professionals, Italy; [7]Belgian Road Research Centre, Belgium

Can Light Engineering Measures Make a Difference? An Overview of the Effect of Delineation and Signage on Road Safety
Apostolos Ziakopoulos[1], Giulia Botteghi[2], Giacomo Macaluso[2], Athanasios Theofilatos[1], Eleonora Papadimitriou[1], George Yannis[1], Konstantinos Diamandouros[3], Kyriaki Arampidou[3]
[1]National Technical University of Athens, Greece; [2]Università degli Studi di Firenze, Italy; [3]European Road Federation - ERF

Simulation Assisted Safety Impact Analyses for Signalized Urban Intersections
Michael Haberl[1], Martin Fellendorf[1], Harald Kolk[2], Ernst Tomasch[2]
[1]Institute of Highway Engineering and Transport Planning, Graz University of Technology, Austria; [2]Vehicle Safety Institute, Graz University of Technology, Austria

Effectiveness of Rumble Strips Positioned at Different Lateral Distance to the Edge Line to Avoid Run-Off-Road Accidents
Ernst Tomasch[1], Heinz Hoschopf[1], Woflgang Sinz[1], Bernd Strnad[2]
[1]Graz University of Technology, Austria; [2]KFV (Austrian Road Safety Board), Austria

Posters
Level 0 CONGRESS CENTER

A Critical Analysis of Consistency Measures for Self-Explaining Roads.
Elena Mora[1], María Nogal[2], Zacarías Grande[1], Alan O'Connor2, Enrique Castillo[1]
[1]Department of Applied Mathematics and Computational Sciences, University of Cantabria, Spain; [2]Department of Civil, Structural & Environmental Engineering, Trinity College Dublin, Ireland.

Awareness and Behaviour of Road Tunnel Users: What Headway Has Been Made Since the 2000s?
Jean-Michel Putzola[1], Magalie Escoffier[2], Michaël Potier[2], Estelle Marano[2], Alexis Bacelar[1]
[1]Cerema, France; [2]Cetu, France

Different Designs of Floor Markings: A Successful Low Cost Measure Against Motorcycle Crashes in Rural Left Hand Curves
Martin Winkelbauer, Bernd Strnad, Sandra Schmied, Florian Schneider
KFV (Austrian Road Safety Board), Austria

Inconsistent Results of Roundabout Implementation: A Case Study in Louisiana, USA
Xiaoduan Sun, Yi He, M. Ashifur Rahman
University of Louisiana, USA

New Ways for Roadway Design – Using Driving Simulation to Restructure the Finkenwerder Ring in the Port of Hamburg Aiming at Enhanced Traffic Safety and Reliability
Dominik Muehlbacher[1], Stephanie Engelhardt[2], Yannick Forster[1], Jonas Rademacher[2]
[1]WIVW GmbH, Germany; [2]Hamburg Port Authority, Germany

DAY 3 - Wednesday 18 April 2018 - 17:00 - 18:30
ST46 12.5: Socio-Economic Aspects of Electrification
Socio-Economics, Innovation and Policy

LEVEL 1
SCHUBERT 2+3

Chair: Robert Missen, EC DG MOVE

Speeding up the Transition to Partly (Hybrid) or Fully Electric Waterborne Transportation through Education and Skills Upgrading
Cecilie Larsen[1], Henrik Hagbarth Mikkelsen[2], Trine Heinemann[1], Georgia Aifadopoulou[3]
[1]rø Kommune, Denmark; [2]Marstal Navigationsskole/Marstal Maritime Academy, Denmark; 3Hellenic Institute of Transport (CERTH/HIT), Greece

Electric Vehicles in Commercial Fleets: Potential and Challenges from the User Perspective in Germany
Viktoriya Kolarova[1], Ulrike Kugler[2], Danny Calliari[2]
[1]German Aerospace Center, Institute of Transport Research; [2]German Aerospace Center, Institute of Vehicle Concepts

Evaluating CO2-Reduction Potential of EV Incentives across European Cities and Regions
Huw Charles Davies[1], Stephan Schmid[2], Georgina Santos[3]
[1]Coventry University, UK; [2]German Aerospace Center.; [3]Cardiff University, UK

From H2020 Research to Political Initiatives: the "Factor 100" Campaign of the ELIPTIC Project
Michael Glotz-Richter, Hendrik Koch
CIty of Bremen, Germany

Drivers of Electric Bicycle Use in Norway - a Consumer Survey
Christian A. Klöckner[1], Özlem S. Nordfjærn[1,2]
[1]Norwegian University of Science and Technology, Department of Psychology, Norway; [2]Nord University Business School, Traffic Section, Norway

Posters
Level 0 CONGRESS CENTER

Boundary Conditions and Incentives Influencing EV Market Success and Consequences for EV Policy Makers
Ian Faye[1], Harm Weken[2], Rob Kroon[2]
[1]Robert Bosch; [2]FIER Automotive

INVITED SESSIONS

DAY 3 - Wednesday 18 April 2018 - 17:00 - 18:30

INV17: Horizon Prizes on Engines – Results of the Horizon Prize on the Cleanest Engine Retrofit & Presentation of the Horizon Prize on the Cleanest Engine of the Future

LEVEL 0
STOLZ 1

On 20 April 2016 two Horizon Prizes were launched to find solutions to air pollution problems caused by car emissions – one focused on retrofitting the existing car engines, to deal with the huge existing fleet, and another one on developing a new, future concept of the internal combustion engine that satisfies much stricter emissions limits than the ones in force today, to guarantee that there will be no impact on air quality.
The Prize of € 3.5 million will be awarded to participants coming up with a solution integrated in a prototype vehicle, which will be able to demonstrate the reduction of both, pollutant emissions and fuel consumption in real driving conditions without affecting the operational capabilities of the vehicle.
The session will discuss the results of the Retrofit prize and the developments in the Cleanest engine of the future, such as the testing protocols and the rules of contest.

More information on this prize: http://europa.eu/!BP39NV
#HorizonPrize

Organisers:

Maurizio Maggiore, European Commission
Julija Sakovica, European Commission

Panellists:

Clara de la Torre, European Commission
Maurizio Maggiore, European Commission
Neville Jackson, Jury Chairman, Ricardo

DAY 3 - Wednesday 18 April 2018 - 17:00 - 18:30
INV18: Legal Framework in a Dynamic Technical Environment

LEVEL 1
SCHUBERT 5+6

Developments in the transport and mobility sector happen fast these days. Due to lengthy legislative procedures, the legal framework often cannot keep up with the transition. Furthermore, it can block research and innovation by failing to provide the necessary conditions. Currently, automated driving clearly is the issue most affected by this challenge although – looking ahead – other topics that need quickly adapting legal frameworks are going to appear increasingly. Still, the responsible authorities cannot only act according to the needs of industry and research but need to find a balanced strategy.
This session will focus on different national approaches as well as on the different needs of the various stakeholders dealing with the legal frameworks in question. It addresses not only legal authorities and professionals but also interested participants from all other sectors. This session is organised in a workshop format.

Organiser:

Andrea Dapra, Austrian Federal Ministry for Transport, Innovation and Technology

Panellists:

Chin Kian Keong, Land Transport Authority Singapore
Sabine Kühschelm, Austrian Federal Ministry for Transport, Innovation and Technology
Representative from USA

DAY 3 - Wednesday 18 April 2018 - 17:00 - 18:30
INV19: Circular Economy and Sustainable Processes in the Automotive and Transport Value Chain

LEVEL 1
SCHUBERT 4

The objective of sustainability must include a whole life-cycle assessment, particularly in the road transport sector where vehicles are produced in millions and comprise large quantities of diverse materials and components. Trends towards electrification and automation will lead towards the use of new lighter materials, as well as even more electronics: the recyclability or reusability must be ensured. Moreover, the trend towards sharing mobility could lead to more intensive use of vehicles over a shorter lifetime compared with privately-owned vehicles. A critical challenge is to set up sustainable processes in the industry value chain in order to guarantee a sustainable sourcing of materials, optimise the use of resources at design and production levels, and put in place a circular economy based on recycling, re-use and second life. The session will present different stakeholder's perspectives on the issues and potential solutions to be developed, within the automotive value chain and from other transport industries.

Organiser:

Xavier Aertsens, ERTRAC

Moderator:

Jean-Luc di Paola-Galloni, Valeo, ERTRAC

Panellists:

Pierre Robert, Michelin Test Ambition Program
Hugo-Maria Schally, European Commission DG Environment, invited
Pete Harrisson, European Climate Foundation, invited
Jean-Luc Brossard, PFA - French Automotive Platform
Thierry Goger, FEHRL
Thilo Bein, Fraunhofer LBF, ERTRAC

MARKETPLACE POSTER DAY 3

DAY 3 - Wednesday 18 April 2018 - 08:00 - 19:00

Availability of EV Charging in Buildings as a Driver for Traffic Emission Reductions

Heikki Suonsivu, Jiri Räsänen, Markku Peräniitty
Parking Energy Ltd., Finland

Analysis of Ageing Test Results Conducted on Different LFP-Graphite Battery Casings

Khiem Trad[1], Niloofar Ehteshami[2], Maxime Montaru[3], Arianna Moretti[4], Mikel Oyarbide[5], Willy Porcher[3], Yao Wu[6]
[1]VITO-EnergyVille, Belgium; [2]Helmholtz Institute Münster, Germany; [3]Grenoble Université Alpes, CEA-LITEN, France; [4]Helmholtz Institute Ulm (HIU), Germany,Karlsruhe Institute of Technology (KIT), Germany; [5]CIDETEC, Spain; [6]Institute for Electrical Energy Storage Technology, Technical University of Munich (TUM), Germany

An Insight of Hybridization in the Observed CO2 Emissions over Type Approval and Real-World Driving Cycles

Dimitrios Tsokolis, Stylianos Doulgeris, Nikolaos Symeonidis, Georgios Triantafyllopoulos, Zissis Samaras
Laboratory of Applied Thermodynamics, Greece

Cycle-Life Analysis of Commercial Lithium Ion Battery

Khiem Trad[1], Filip Leemans[1], Carlo Mol[1], Jaykanth Govindarajan[2]
[1]VITO-EnergyVille, Belgium; [2]TÜV SÜD Battery Testing GmbH, Germany

Key Factors in Life Cycle Analysis of Alternative Transport Systems

Martin Beermann, Gerfried Jungmeier
JOANNEUM RESEARCH Forschungsgesellschaft mbH, Austria

Post-Mortem Analysis of Lithium Ion Batteries in SPICY Project: Guide-Lines and Results

Arianna Moretti[1,2], Diogo Vieira Carvalho[1,2], Stefano Passerini[1,2], Niloofar Ehteshami[3], Elie Paillard[3], Iratxe de Meatza[4], David Brun-Buisson[5], Willy Porcher[5], Aitor Eguia-Barrio[4], Khiem Trad[6]
[1]Helmholtz Institute Ulm (HIU), Germany; [2]Karlsruhe Institute of Technology (KIT), Germany.; [3]Helmholtz Institute Münster – Forschungszentrum Jülich (IEK-12), Germany; [4]IK4-CIDETEC, Spain; [5]CEA-LITEN, France; [6]VITO/EnergyVille, Belgium

High Incorporation of Recycled Materials in Warm Mix Asphalt for Road Infrastructures – the Demonstration of a Cost Effective Solution

Vítor Antunes[1,2], Ana Cristina Freire[2], José Neves[2,3]
[1]National Laboratory of Civil Engineering – LNEC, Protugal; [2]Instituto Superior Técnico – University of Lisbon, Portugal; [3]CERIS, CESUR, University of Lisbon, Portugal

Environmentally Compatible Transport and Infrastructure – a Cross-Sector Research Approach

Ute Feiler[1], Anja Baum[2], Björn-Rüdiger Beckmann[3], Susanne Biermann-Höller[4], Michael Chudalla[2], Michael Cox[5], Dirk Heuzeroth[2], Eckhard Roll[6], Cyrus Schmellekamp[2], Stefan Schmolke[7], Franz Schöll[1], Michael Schröder[8], Thomas A. Ternes[1], Peter Heininger[1]
[1]Federal Institute of Hydrology, Germany; [2]Federal Highway Research Institute, Germany; [3]Deutscher Wetterdienst, Germany; [4]Deutsche Flugsicherung, Germany; [5]Bundesamt für Güterverkehr, Germany; [6]Federal Railway Authority, Germany; [7]German Maritime and Hydrographic Agency, Germany; [8]Federal Waterways Engineering and Research Institute, Germany

Compatibility of EC-Free, Adiponitrile-based Electrolytes with Water Processed Graphite Electrodes

Niloofar Ehteshami[1], Diogo Vieira Carvalho[2,3], Arianna Moretti[2,3], Stefano Passerini[2,3], Iratxe de Meatza[4], Willy Porcher[5], Elie Paillard[1]
[1]Helmholtz Institute Münster – Forschungszentrum Jülich (IEK-12), Germany; [2]IK4-CIDETEC, Spain; [3]Helmholtz Institute Ulm (HIU), Germany; [4]Karlsruhe Institute of Technology (KIT), Germany; [5]CEA-LITEN, France

Fuel Consumption Improvement of a LCV Diesel Engine by Conventional Measures, Targeting Post Euro 6 Emission Compliance
Wolfgang Hubert Gstrein, Gerald Pfaff
FPT Motorenforschung AG, Austria

Battery Pack Product Development for a Zero-Emission Bus: Irizar ie Tram
Oscar Miguel[1], Haritz Macicior[1], Julen Trojaola[2], Hector Olabegogeaskoetxea[2]
[1]CIDETEC Energy Storage, Spain; [2]IRIZAR e-mobility

Simulating the Electrical and Thermal Behaviour of Lithium-Ion Cells with a Silicon Alloy/Graphite blend Anode and Li(Ni_xMn_yCo_z)O_2 Cathode Using a Spatially Distributed RC Equivalent- Circuit-Model Including Hysteresis
Philip Kargl[1], Franz Pichler[1], Petra Stegmaier[2], Egbert Figgemeier[2], Paul C. Spurk[3], Daniël Nelis[3], Gregory Schmidt[4], Jerome Chauveau[4], Mario Marinaro[5], Peter Axmann[5], Margret Wohlfahrt-Mehrens[5], Jelle Smekens[6], Alexander Thaler[1]
[1]Kompetenzzentrum - Das virtuelle Fahrzeug Forschungs-GmbH, Austria; [2]3M Electronics Materials Solutions Division, Germany; [3]Umicore Rechargeable Battery Materials, Belgium; [4]Arkema, France; [5]ZSW, Zentrum für Sonnenenergie- und Wasserstoff-Forschung Baden-Württemberg, Germany; [6]Vrije Universiteit Brussel, Belgium

DYNAFREIGHT - Innovative Technical Solutions for Improved Train DYNAmics and Operation of Longer FREIGHt Trains
Andrea Demadonna[1], Maria Marsilla[2], Mats Berg[3]
[1]UNIFE - The European Rail Industry, Belgium; [2]Stadler Rail Valencia; [3]KTH

Eco-Efficient Interoperable Dynamic Lighting System for Port Container Terminals
Regel Gonzalez-Usach, Carlos Enrique Palau
Universitat Politecnica de Valencia, Spain

Measuring the Environmental Performance of Logistical Activities – Creating a Set of Environmental Key Performance Indicators for Inland Ports
Johanna Freiberger, Eva Jung, Lisa-Maria Putz
University of Applied Sciences Upper Austria, Austria

New EU network to support freight delivery in TEN-T urban nodes
Melanie Leroy[1], Peter Staelens[1], Ivo Cre[2]
[1]EUROCITIES, Belgium; [2]POLIS, Belgium

Integration of Urban Nodes on the TEN-T Corridors
Raymond Marcel Linssen[1], Jos Arts[2], Sjaak van der Werf[1]
[1]Rijkswaterstaat, The Netherlands; [2]University of Groningen, Department of Spatial Planning & Environment, The Netherlands

ILCO – Integrated Logistics Network for Combined Transport (in Austria)
Andreas Käfer[1], Bernhard Fürst[1], Johannes Weinzerl[2], David Wurz-Hermann[1], Herbert Peherstorfer[1]
[1]TRAFFIX Verkehrsplanung GmbH, Austria; [2]c.c.com Moser GmbH

Ad'hoc Logistic Digital Platform
Quentin de Madre, Ignacio Tirado
FLASH Group, Luxembourg

Infrastructure Requirements on the Road to the Vision of a Climate-Neutral Infrastructure 2045
Håkan Johansson
Swedish Transport Administration, Sweden

The Genetic Algorithm to Optimize the Strategies for Bridge Repair Works
Larysa Petrovna Bodnar[1], Oleksandr Kanin[2], Sergii Stepanov[1]
[1]DerzhdorNDI SE, Ukraine; [2]National Transport University

Complex Index of Determination Losses of Road Accidents
Bogdan Stasyuk, Artem Bezugliy, Yuliya Bibyk
SE "DerzhdorNDI", Ukraine

Ways to Create a Competitive Environment in the Area of Operational Maintenance of Roads
Artem Bezuglyi, Sergii Illiash, Oleksandr Tymoshchuk
M.P. Shulgin State Road Research Institute State Enterprise, Ukraine

Capacity Analysis of Single and Two-Lane Roundabouts: A Case Study in Bosnia and Herzegovina

Ammar Saric, Sanjin Albinovic, Mirza Pozder
University of Sarajevo, Faculty of Civil Engineering, Bosnia and Herzegovina

Benchmarking Road Safety in Latin American Countries

Sandra Vieira Gomes[1], Veronique Feypell[2], Fred Wegman[3]
[1]Laboratório Nacional de Engenharia Civil, Portugal; [2]International Transport Forum; [3]International Traffic Safety Data and Analysis Group

3D Sensing for Advanced Rider Assistance Systems

Gustavo Gil, Marco Pierini
University of Florence, Italy

Promoting Eco-Friendly Transport in Higher Logistics Education: Assessment of a Case Study Approach

Eva Jung, Lisa-Maria Putz, Oliver Schauer
University of Applied Sciences Upper Austria, Austria

Modularity in High Energy Battery Packs, Designed to Cover Different Applications

Iosu Cendoya[1], Haritz Macicior[1], Blanca Palomo[2], Julie Badin[3], Christoph Wilfling[4], Engin Pinar[5], Simon Ritz[6], Alexandre Collet[7], Hartmut Popp[8], Peter Dooley[9], Sven Nordmann[10], Reiner Weyhe[11], Roland Ambrosch[12], Sylvie Genies[13], Thierry Tourret[14]
[1]Cidetec Energy Storage, Spain; [2]Rescoll, France; [3]Tyva Energie, France; [4]Miba AG, Austria; [5]Heksagon Muhendislik ve Tasarim AS, Turkey; [6]Rheinisch-Westfaelische Technische Hochschule Aachen, Germany; [7]Freemens SAS, France; 8AIT Austrian Institute of Technology GmbH, Austria; [9]Cleancarb SARL, Luxembourg; [10]e.Go Mobile AG, Germany; [11]Accurec-Recycling GmbH, Germany; [12]Pro Automation GmbH, Austria; [13]CEA Commissariat a l energie atomique et aux energies alternatives, France; [14]Renault SAS, France

Whether its informing passengers with impairments, customer flow management systems or expressing your creativity. We are the specialist for indoor and outdoor display systems.

Convince yourself of our solutions and visit us at TRA stand N° C05.

DAY 4
Thursday 19 April

SCIENTIFIC AND TECHNICAL SESSIONS

DAY 4 - Thursday 19 April 2018 - 08:30 - 10:00
ST47 9.3: Intelligent Traffic- and Transportmanagement
Digital Technologies for Transport

LEVEL 0
STRAUSS 1-3

Chair: Andreas Breinbauer, FH des BFI Wien, Austria

A Probabilistic Framework for Traffic Data Quality
Ruediger Ebendt, Neumann Thorsten
Institute of Transportation Systems, German Aerospace Center (DLR), Germany

Asset Information Management for European Roads Using Linked Data
Bart Luiten[1], Aonghus O'Keeffe[2], Michel Böhms[1], Daan Alsem[3]
[1]TNO, The Netherlands; [2]ROD, Ireland; [3]RHDHV, The Netherlands

Big Data Value for Improving Transport Performance in all Modes, an Assessment Methodology
Guillermo Velazquez, Andres Monzon, Alfonso Roman
Universidad Politécnica de Madrid, Spain

System-Level Evaluation of Next-Generation Radio Communication System for Train Operation Services
Loic Brunel[1], Hervé Bonneville[1], Akl Charaf[1], Émilie Masson[2]
[1]Mitsubishi Electric R&D Centre Europe, France; [2]Institut de Recherche Technologique Railenium, France

The waterway Danube as Smart Transport Infrastructure of the Future
Markus Hoffmann[1], Alexander Haberl[1], Thomas Hartl[2], Markus Simoner[2], Hans-Peter Hasenbichler[2]
[1]Vienna University of Technology, Austria; [2]viadonau – Austrian Waterway Company, Austria

Train Tracking and Train Condition Monitoring by Distributed Acoustic Sensing
Christoph Wiesmeyr[1], Adam Papp[1], Heinrich Garn[1], Günther Neunteufel[2], Wolfgang Zottl[3]
[1]AIT Austrian Institute of Technology GmbH, Austria; [2]nbg-fosa GmbH, Austria; [3]BB-Infrastruktur AG, Austria

Posters
Level 0 CONGRESS CENTER

Cooperative and Connected Intelligent Transport Systems for Sustainable European Road Transport
Meng Lu[1], Oktay Türetken[2], Evangelos Mitsakis[3], Robbin Blokpoel[1], Rick Gilsing[2], Paul Grefen[2], Areti Kotsi[3]
[1]Dynniq, The Netherlands; [2]Eindhoven University of Technology; [3]Center for Research and Technology Hellas (CERTH)/ Hellenic Institute of Transport (HIT)

Development of VISSIM Generator based on OpenStreetMap
Dzenan Dzafic[1], Leon Oss[1], Christian Dernehl[1], Miriam Geulen[2], Dirk Vallée[2], Stefan Kowalewski[1]
[1]RWTH Aachen University - Informatik 11 Embedded Software, Germany; [2]RWTH Aachen University - Chair and Institute of Urban and Transportation Planning, Germany

EurOpean Logistics Information eXchange with Waterways
Juergen Troegl, Mario Sattler
viadonau, Austria

ICT Platforms in Support of Future Railway Systems
Markos Anastasopoulos[1], Anna Tzanakaki[1], Dimitra Simeonidou[1], Olivier Langlois[2], Jean-Francois Pheulpin[2], Marius Iordache[2]
[1]University of Bristol, UK; [2]ALSTOM, France

Influence of Intelligent Transport Systems Services on Motorways Road Safety
Jacek Oskarbski, Tomasz Marcinkowski, Krystian Mowiński, Izabela Oskarbska, Marcin Zawisza, Karol Żarski
Gdansk University of Technology, Poland

Network Analysis for Assessment of Road Safety on Rural Travel Time Information System

Salvatore Cafiso[1], Carmelo D'agostino[1], Mariusz Kiec[2], Sylwia Pogodzinska[2]
[1]Department of Civil Engineering & Architecture, University of Catania, Italy; [2]Faculty of Civil Engineering, Cracow University of Technology, Poland

Smart Inspection – Innovative Solutions for Maintenance of Railway Bridges

Hirut Grossberger, Frank Michelberger
University of Applied Sciences, Carl Ritter von Ghega Institute for Integrated Mobility Research, Austria

Towards Intelligent Mobility: The MOBile Intelligent Cooperative Systems (MOBICS) platform

Luís Osório[2], Lara Trigueiro Moura[1], Rui Silva Costa[1], Paulo Borges[2]
[1]A-to-Be, Portugal; [2]Instituto Superior de Engenharia de Lisboa, Portugal

DAY 4 - Thursday 19 April 2018 - 08:30 - 10:00
ST48 7.8: Infrastructure as a Part of the Mobility/Society System
Transport Infrastructure

LEVEL 1
SCHUBERT 4

Chair: Hamid Zarghampour, Trafikverket, Sweden

REFINET Multi-Modal Transport Infrastructure Framework

Jon Aurtenetxe[1], Alain Zarli[2], Miguel Segarra[3], Savina Carluccio[4]
[1]tecnalia Research & Innovation, Spain; [2]Centre Scientifique Et Technique Du Bâtiment, France; [3]DRAGADOS, S.A., Spain; [4]ARUP, UK

Decision Support for Tactical Planning – a Use Case for the INFRALERT Project

Axel Simroth[1], Ute Kandler[1], João Morgado[2], Emanuel Duarte[2]
[1]Fraunhofer IVI, Germany; [2]Infraestruturas de Portugal

Asset Management and Social Effects - CEDR-Project ISABELA

Alfred Weninger-Vycudil[1], Darko Kokot[2], Goran Mladenovic[3], Jelena Cirilovic[10], Bajko Bajko Kulauzovic[4], Philippe Philippe Lepert[5], Maria Lurdes Antunes[6], Pedro Marcelino[6], Johann Litzka[7], Michael Wistuba[8], Rade Hajdin[9], Frank Schiffmann[9], Nikolai Tanasic[9]
[1]PMS-Consult GmbH, Austria; [2]ZAG, Slovenia; [3]University of Belgrad, Serbia; [4]CESTEL, Slovenia; [5]Logiroad, France; [6]LNEC, Portugal; [7]Litzka ZT, Austria; [8]ISBS TU Braunschweig, Germany; [9]IMC, Switzerland; [10]Institute IMS, Serbia

Procurement of Road Maintenance: between Knowledge Loss and Efficiency Gains

Andreas Hartmann[1], Juha Aijo[2], Jens Roehrich[5], Rainer Hess[4], Monica Altamirano[3], Thomas Bles[3]
[1]University of Twente, The Netherlands; [2]Ramboll, Finland; [3]Deltares, The Netherlands; [4]Durth Roos Consulting GmbH, Germany; [5]University of Bath, UK

Impact of Heavier and Longer Vehicles on the Performance of Asphalt Pavements

Sigurdur Erlingsson[1,2], Abubeker Ahmed[1], Shafiqur Rahman[1]
[1]VTI - National Road and Transport Research Institute, Sweden; [2]Faculty of Civil and Environmental Engineering, University of Iceland, Reykjavik, Iceland

Analysing the European Truck Tolling Policy: Has it Lead to a More Efficient Use of Road Infrastructure?

Juan Gomez, José Manuel Vassallo
Universidad Politécnica de Madrid (UPM), Spain

Posters
Level 0 CONGRESS CENTER

Making Infrastructure Fit for Automated Driving
Thomas Novak[1], Andreas Kuhn[2], Klaus Pollhammer[1]
[1]SWARCO FUTURIT, Austria; [2]AnData, Austria

PipeSNet: The Fifth Mode of Transport for a Sustainable Future
Dario Biggi[1], Franco Cotana[2], Christian Felix Durach[4], Valerio Gatta[3], Michela Le Pira[3], Edoardo Marcucci[3,6], Benjamin Nitsche[4], Jan Reipert[4], Horst Treiblmaier[5]
[1]Fondazione proPosta, Italy; [2]Università Perugia / CIRIAF, Italy; [3]Università Roma3, Italy; [4]TU Berlin, Germany; [5]MODUL University Austria, Austria; [6]Molde University College, Norway

REFINET: A New Era for the Sustainable Development of Transport Infrastructures Networks in Europe.
Alain Zarli[1], Miguel Segarra[2], Clemente Fuggini[3], Thierry Goger[4], Jesus Isoird[5]
[1]CSTB, France; [2]DRAGADOS SA, Spain; [3]RINA Group S.p.A., Italy; [4]FEHRL, Belgium; [5]TECNALIA, Spain

REFINET: Transport Infrastructure (TI) Technology & Innovation Clustering Tool
Clemente Fuggini[1], Simone Genta[1], Manuele Barbieri[1], Alain Zarli[2], Miguel Segarra[4], Thierry Goger[3]
[1]Rina Consulting S.p.A. (formerly D'Appolonia S.p.A.); [2]Centre Scientifique et Technique du Bâtiment (CSTB); [3]DRAGADOS S.A; [4]Forum of European Highways Research Laboratories (FEHRL)

Research Outlook: A Study about Inland Ports in the Physical Internet
Sandra Stein
Vienna University of Technology, Austria

The Strategic Foundation of Transport Infrastructure Projects
Marielis Fischer
RaumUmwelt Planungs-GmbH, Austria

DAY 4 - Thursday 19 April 2018 - 08:30 - 10:00
ST49 3.2: New Concepts of Advanced Propulsion Systems: Deployment & Assessment
Advanced Propulsion Systems

LEVEL 0
LEHAR 3+4

Chair: Simone Serra, EC - Joint Research Centre, Italy

Can Bus Users' Preferences Bolster Low Emission Bus Schemes? Lessons from Europe's Largest Hydrogen Bus Fleet
Luis Enrique Loria, Verity Watson, Takahiko Kiso, Euan Phimister
University of Aberdeen, UK

European Competitiveness in Commercial Hybrid and Automotive Powertrains (ECOCHAMPS): A City Bus Application
Tassilo Pflanz
MAN Truck and Bus, Germany

European Competitiveness in Commercial Hybrid and Automotive Powertrains (ECOCHAMPS): A Medium Duty Hybrid Vehicle to Meet the Needs of increasingly Sustainable Mobility
Roberto Mantia, Giorgio Mantovani, Marco Aimo-Boot
IVECO SPA, Italy

Future Freight Locomotives in Shift2Rail – Development of Full Electric Last Mile Propulsion System
Andrea Mazzone[1], Mathias Schönbacher[2], Xabier Larrea[3]
[1]Bombardier Transportation, Switzerland; [2]AVL List GmbH (Anstalt für Verbrennungskraftmaschinen List), Austria; [3]CAF Power & Automation

Introduction of Battery Electric Buses in European Cities – Economic Comparison of Novel Technological Concepts

Fabian Meishner[1,2], Dirk Uwe Sauer[1,2,3]
[1]ISEA - RWTH Aachen University, Germany; [2]Jülich Aachen Research Alliance, JARA-Energy, Germany; [3]Institute for Power Generation and Storage Systems (PGS), E.ON Energy Research Center, RWTH Aachen University, Germany

Second Life Application of Automotive Li-Ion Batteries: Ageing during First and Second Use and Life Cycle Assessment

Andreas Pfrang[1], Andreas Podias[1], Silvia Bobba[2], Franco Di Persio[1], Maarten Messagie[3], Fabrice Mathieux[2]
[1]EC (JRC), Directorate for Energy, Transport and Climate, Energy Storage Unit, The Netherlands; [2]EC (JRC), Directorate for Sustainable Resources, Land Resources Unit, Italy; [3]Vrije Universiteit Brussel, Faculty of Engineering, Department of Electrical Engineering and Energy Technology, Mobility, Logistics and Automotive Technology Research Centre – MOBI, Belgium

Posters
Level 0 CONGRESS CENTER

Effective Passenger Car Hybridisation via a 48V DCT (ECOCHAMPS)

Claude Lehongre[1], Harald Feuchter[2], Eddie Wearing[3]
[1]RENAULT SAS, France; [2]DAIMLER, Germany; [3]RICARDO, England

European Competitiveness in Commercial Hybrid and Automotive Powertrains (ECOCHAMPS): A Modular System and Standardization Framework (MSF) and the Development of MSF-conform Components

Guus Arts[1], Simon Edwards[2], Willem van Dorp[3], Susann Beyersdorfer[4], Nicolas Du Bois[5]
[1]DAF Trucks; [2]Ricardo UK; [3]Uniresearch; [4]Fraunhover IVI; [5]Daimler AG

European Competitiveness in Commercial Hybrid and Automotive Powertrains (ECOCHAMPS): Integration and Validation of Modular Standardised Framework Hybrid Components in a Heavy Duty Vehicle Driveline

Bart Lipsch, Guus Arts, John Kessels
DAF Trucks N.V.

Implementation of a Real Time Capable, Flexible and Accurate Electric Vehicle Model to Holistically Evaluate Charging Services and Methods

Daniel Stahleder[1], Martin Nöhrer[1], Felix Lehfuss[1], Herbert Müller[2]
[1]AIT Austrian Institute of Technology GmbH, Austria; [2]Vienna University of Technology, Austria

On the Correlation between Volume Change of Anode Materials in Li-Ion Cells and their Degradation and Failure

Akos Kriston[1], Vanesa Ruiz[1], Andreas Pfrang[1], Algirdas Kersys[1], Mario Marinaro[2], Petra Stegmaier[3], Christiane Rahe[4], Stefan Käbitz[4], Egbert Figgemeier[4]
[1]EC (JRC), Directorate for Energy, Transport and Climate, Energy Storage Unit, The Netherlands; [2]ZSW, Zentrum für Sonnenenergie- und Wasserstoff-Forschung Baden-Württemberg, Germany; [3]3M Deutschland GmbH, Germany; [4]Forschungszentrum Jülich GmbH, IEK-12, Helmholtz-Institut Münster, co ISEA of RWTH Aachen University, Germany

Optimization of the Catalyst and Membrane Performance by Addition of Various Additives for the Alkaline Direct Ethanol Fuel Cell

Viktor Hacker[1], Johanna Ranninger[1], Bernd Cermenek[1], Birgit Feketeföldi[2], Christina Spirk[2], Jan Hesse[2], Volker Ribitsch[3]
[1]Graz University of Technology, Institute of Chemical Engineering and Environmental Technology, Austria; [2]JOANNEUM RESEARCH Forschungsgesellschaft mbH/Materials, Institute for Surface Technologies and Photonics, Austria; [3]University of Graz, Institute of Chemistry, Austria

Project Targets, their Tracking and the Evaluation of the Demonstrator Vehicles

Gunter Nitzsche[1], Simon Edwards[2], Eric White[2], Michele De Gennaro[3], Alessandro Tansini[3], Theodoros Grigoratos[3], Eleni Avaritsioti[3]
[1]Fraunhofer IVI, Germany; [2]Ricardo Ltd., UK; [3]JRC, EC Europa

The Promotion of E-Mobility in Regional Policies: the Ongoing PROMETEUS Project

Chiara Bresciani, Gianluca Lentini, Alessandro Luè
Poliedra - Politecnico di Milano, Italy

DAY 4 - Thursday 19 April 2018 - 08:30 - 10:00
ST50 10.4: Security, Resilience and Crisis Management
Safe, Secure and Resilient Transport Systems

LEVEL 0
STOLZ 1

Chair: Helmut Leopold, AIT Austrian Institute of Technology GmbH, Austria

Towards a Risk-Based Approach for the Design of Highly Resilient Future Vehicles
Alastair R. Ruddle
HORIBA MIRA Limited, UK

Submerged Floating Tunnels Subjected to Internal Blast Loading
Martin Kristoffersen[1], Arianna Minoretti[2], Tore Børvik[1]
[1]Norwegian University of Science and Technology, Norway; [2]Norwegian Public Roads Administration, Norway

Proposition of a Formal Model for Crisis Management in the Context of High-Speed Train Networks in Border Areas
Hela Kadri[1,3], Simon Schleiner[2], Simon Collart-Dutilleul[1], Philippe Bon[1], Samir Ben Ahmed[3], Florian Steyer[2], Alexander Gabriel[2], Ompe Aimé Mudimu[2]
[1]IFSTTAR, France; [2]Institute of Rescue Engineering and Civil Protection, Germany; [3]University of Tunis El-Manar, Tunisia

A Passenger Flows Oriented Security and Safety Approach in International Railway Stations.
Simon Collart-Dutilleul[1], Stephan Maurer[2], Philippe Bon[1], Peter Kaul[2]
[1]IFSTTAR, France; [2]ISF Institute for Safety and Security Research, Bonn-Rhein-Sieg University of Applied Sciences, Rheinbach

Impact Assessment of Wave Statistics on Ship Survivability
Donald Paterson, Georgios Atzampos, Dracos Vassalos, Evangelos Boulougouris
Maritime Safety Research Centre,University of Strathclyde, UK

Accelerating the Situational Awareness of Emergency Events by UAV-Based Sensoring and Real-Time Analysis Systems
Rudolf Christian Gradinger[1], Christoph Sulzbachner[2], Gerardus Croonen[2], Daniel Steininger[2], Arno Fallast[3], Raoul Schild[4], Gregor Schnoell[5], Thomas Hinterhofer[6]
[1]LKR Leichtmetallkompetenzzentrum Ranshofen GmbH, Austria; [2]AIT Austrian Institute of Technology GmbH; [3]FH JOANNEUM Gesellschaft mbH; [4]Schild & Partner GmbH; [5]EYE. AERO gmbh; [6]RIEGL Research Forschungsgesellschaft mbH

Posters
Level 0 CONGRESS CENTER

A Detection System for Dirty Bombs in Open Environments
Felix Govaers, Torsten Fiolka, Josef Heinskill, Joachim Biermann, Wolfgang Koch
Fraunhofer FKIE, Germany

Adapting the Railway for the Future
Andrew David Quinn[1], John Beckford[2], Anson Jack[1], John Dora[3]
[1]University of Birmingham, UK; [2]Beckford Consulting, UK; [3]John Dora Consulting Limited, UK

Assessing the Cyber Security of Tunnel Control Centres
Selcuk Nisancioglu[1], Kalliopi Anastassiadou[1], Christian Thienert[2], Kai Jacobsen[3], Thorsten Holz[4], Benjamin Kollenda[4]
[1]Federal Highway Research Institute, Germany; [2]Research Association for Tunnels and Transportation Facilities (STUVA), Germany; [3]DÜRR Group GmbH, Germany; [4]Horst Görtz Institute for IT-Security (HGI), Ruhr-University Bochum, Germany

BMVI Network of Experts "Knowledge – Ability – Action": An Intermodal Research Network for an Innovation Oriented and Resilient Transport System in Germany
Anne-Kathrin Stube[1], Andreas Schacht[1], Stephanie Hänsel[2], Annegret Gratzki[2], Ute Feiler[3], Ralph Holst[1], Peter Heininger[3] Franz Schöll[3] Detlev Majewski[2], Beata Krieger[1]
[1]Federal Highway Research Institute, Germany; [2]Deutscher Wetterdienst, Germany; [3]Federal Institute of Hydrology, Germany

Comprehensive Framework on Asset Management of Transportation Networks and Resilience Planning

Afroditi Anagnostopoulou[2], Aggelos Aggelakakis[2], Maria Boile[2,3], Arjan Hijdra[1], Stefan Werland[4], Shritu Shrestha[4], Oliver Lah[4]

[1]Rijkswaterstaat, Netherlands; [2]Centre for Research and Technology Hellas, Greece; [3]University of Piraeus, Greece; [4]Wuppertal Institute for Climate, Environment, Energy, Germany

Cyber Security of the Railway Wireless System: Detection, Decision and Human-in-the-Loop

Christophe Gransart[1,5], Virginie Deniau[1,5], Éric Pierre Simon[2,5], Anthony Fleury[3,5], Stéphane Lecoeuche[3,5], Patrick Millot[4,5], Émilie Masson[5]

[1]Univ Lille Nord de France; [2]University of Lille, IEMN lab; [3]IMT Lille Douai, Univ. Lille, Unité de Recherche Informatique Automatique, France; [4]University of Valenciennes and Hainaut Cambrésis; [5]Institut de Recherche Technologique Railenium, France

Development of Greener and Climate Resilient Roads

Israel Rodríguez-Fernández[1], Pablo Pascual-Muñoz[1], Pedro Lastra-González[1], Irune Indacoechea-Vega[1], Raquel Casado-Barrasa[2], Daniel Jato-Espino[1], Daniel Castro-Fresno[1], Divya Deepankar[3], Gáspár László4

[1]GITECO Research Group. University of Cantabria.; [2]ACCIONA Construcción.; [3]BSRIA Limited.; [4]Institute for Transport Sciences KTI Non-profit Ltd.

Development of Weather Application for Enhancing Sea Safety and Rescue Operations

Stavros Kolios[1,2], Chrysostomos Stylios[1,2]

[1]Computer Technology Institute and Press "Diophantus", Greece; [2]Technological Educational Institute of Epirus

High Temperature Fire and Overheat Sensor Elements for Aircraft Fire and Overheat Detection System (FODS)

Derouet Viviane, Fourrez Stephane, Lecharpentier Denis, Pichon Laurent

THERMOCOAX, France

Increasing and Validating the Safety and Reliability of Cyber-Physical Systems

Johannes Pribyl, Willibald Krenn

AIT Austrian Institute of Technology GmbH, Austria

Integration of Safety and Security in Railway Systems

Leonardo Valdivia[1], Saioa Arrizabalaga[2], Javier Añorga[2], Jon Goya[2], Iñigo Adin[2], Jaizki Mendizabal[2]

[1]Universidad Panamericana. Facultad de Ingeniería, México; [2]CEIT and Tecnun (University of Navarra), Spain

New Certification System for Enhanced Fire Safety of Vehicles

Ola Willstrand, Peter Karlsson, Max Rosengren, Jonas Brandt

RISE Research Institutes of Sweden

Opportunities for Resilient Rail System Development Using Natural Language Processing

Howard James Parkinson, Gary Bamford

Digital Rail Limited, UK

Overview of People Localisation Systems for Safe Evacuation of Large Passenger Ships

Antonis Kalis[2], Ioannis Panaretou[1], Dimitris Karadimas[1], Charalampos Kostopoulos[1], Renato Campi[4], Corinne Kassapoglou-Faist[9], Hans Cristian Juul[8], Zacharias Siokouros[5], Konstantinos Sfakianakis[6], Petros Ganos[1], Lorenza Alfieri[3], Jesus Mediavilla Varas[7], Tasos Kounoudes[2], Naglaa El Agroudy[10], George Georgiades[11]

[1]OPTIONSNET IT & Consulting Services; [2]SignalGenerix LTD; [3]Safe Marine SRL; [4]Canepa & Campi SRL; [5]Maritime Institute of Eastern Mediterranean; [6]RCL Cruises Ltd; [7]Lloyd's Register EMEA; [8]Autronica Fire and Security AS; [9]CSEM Centere Suisse D'electronique et de Microtechnique SA; [10]Technische Universitaet Dresden; [11]G.G. Dedalos Technology Services LTD

Supply Chain Security: Benefits for the Socio-Economy

Kerstin Lange[1], Rainer Müller[2], Nils Meyer-Larsen[2], Juha Hintsa[3]

[1]Jade University of Applied Sciences; [2]Institute of Shipping Economics and Logistics; [3]Cross-border Research Association

DAY 4 - Thursday 19 April 2018 - 08:30 - 10:00
ST51 11.3: Driver Needs and Expectations
Human Dimension in Transport

LEVEL 1
SCHUBERT 1

Chair: Peter Fröhlich, AIT Austrian Institute of Technology GmbH, Austria

Public Acceptance of _SocialCar_, a New Mobility Platform Integrating Public Transport and Car-Pooling Services: Insights from a Survey in Five European Cities
Steve Wright[4], Francesca Cellina[1], Maria Bulgheroni[2], Fabio Cartolano[6], Luca Lucietti[6], Patric van Egmond[5], Luc van Wijngaarden[3]
[1]SUPSI - University of Applied Sciences and Arts of Southern Switzerland, Switzerland; [2]Ab.Acus, Italy; [3]Zight B.V., The Netherlands; [4]University of Aberdeen, UK; [5]Luxmobility, Luxembourg; [6]FIT Consulting, Italy

The Application of Human Mental Models for Engineering to Improve Acceptance and Performance of Driving Automation
Peter Moertl, Peter Wimmer, Daniel Watzenig, Martin Rudigier, VIRTUAL VEHICLE, Austria

Austrian 2nd Phase Road Safety Track Training Seems to Increase Risk Competence Among Novice Drivers
Michael Gatscha
Neurotraffic, Austria

TRAFISAFE - Parental Feedback for Novice Drivers
Michael Gatscha[1], Sami Mynttinen[2], Claudia Grand[3]
[1]Neurotraffic, Austria; [2]Trafi, Finland; [3]Test & Training International

Car Seat Comfort Assessment Based on Objective and Subjective Measurements in Elderly Population.
Diana Trojaniello[1], Alessia Cristiano[1], Elettra Oleari[1], Andrea Tettamanti[2], Alberto Sanna[1]
[1]E-services for life and health, San Raffaele Hospital, Italy; [2]Department of Neurorehabilitation, San Raffaele Hospital, Milan, Italy

Work-Related Road Safety - Challenges and Recommendations for Professional Drivers
Monika Pilgerstorfer[1], Eveline Braun[1], Peter Schwaighofer[2]
[1]KFV (Austrian Road Safety Board), Austria; [2]AUVA, Austria

Posters
Level 0 CONGRESS CENTER

Collecting End-Users Needs Regarding Driver State Based Automation in ADAS&ME Project
Tania Dukic Willstrand[1], Anna Anund[1], Marta Pereira Cocron[2], Stefan Griesche[3], Niklas Strand[1], Sonja Troberg[4], Luca Zanovello[5]
[1]VTI, Sweden; [2]Technical University of Chemnitz; [3]DLR; [4]Scania; [5]Ducati

Dementia on the Move: Preliminary Results Based on a Participative Qualitative Research Project Focusing on the Daily Mobility Patterns of People with Dementia
Bente Knoll[1,3,4,5], Birgit Hofleitner[1,4], Elisabeth Reitinger[2], Barbara Pichler[2], Barbara Egger[2]

[1]B-NK GmbH, Consultancy for Sustainable Competence, Vienna, Austria; [2]IFF - Institute for Palliative Care and Organizational Ethics, University of Klagenfurt, Vienna, Graz, Austria; [3]Vienna University of Technology, Austria; [4]University of Graz, Austria; [5]UAS, University of Applied Sciences, Technikum Wien

Expectations Towards the Self-Driving Car: Results from a Survey of Use-Intentions and Demand Responses in the Adult Danish Population.

Thomas A.S. Nielsen, Uffe Æ. Christiansen
Danish Road Directorate, Denmark

Impact of Waiting Times on Pedestrians' and Car Drivers' Behaviour at Signalized Intersections

Nicolas Speisser[1], Christophe Damas[2], Samuel Lab[1]
[1]Cerema Est, France; [2]Cerema Territoires et Ville, France

Socio-Economic and Cultural Differences in Attitudes Towards Speeding

Katrien Torfs, Uta Meesmann, Peter Silverans Vias Institute, Belgium

Traditional and Participatory Methods Assessing Autonomous Driving

Robert Braun, Elisabeth Frankus
Institute for Advanced Studies, Austria

User Experience in Public Transport as Versatile and Flexible Key Factor

Merja Hoppe, Martin Winter
Zurich University of Applied Sciences, Switzerland

DAY 4 - Thursday 19 April 2018 - 08:30 - 10:00
ST52 12.3: Cost of Infrastructure
Socio-Economics, Innovation and Policy

LEVEL 1
SCHUBERT 5+6

Chair: Paola Chiarini, EC DG MOVE

Internalization of External Costs of Transport in Flanders

Eef Delhaye, Griet De Ceuster, Sven Maerivoet, Filip Vanhove
Transport & Mobility Leuven, Belgium

Sustainable Development Analysis and Extended Cost Benefit Analysis – A Promising Approach to Include Social Impacts and External Effects in Appraisal Procedures for Transportation Measures and Infrastructure Investments

Gerd Sammer
University of Natural Resources and Life Sciences Vienna, Austria

Can we Link ANSP Performance and Ownership?

Eef Delhaye[1], Nicole Adler[2], Adit Kivel[2]
[1]Transport & Mobility Leuven, Belgium; [2]HUJI

Are Railways Ready for Technologically Capable Societies?

Susana Moretto[1], Antonio Moniz[1,2], Rosario Macario[3], Douglas Robinson[4,5]
[1]CICS.NOVA, Faculty for Sciences and Technology, Universidade Nova de Lisboa, Portugal; [2]Institute for Technology Assessment and Systems Analysis, Karlsruhe Institute of Technology, Germany; [3]Instituto Superior Técnico de Lisboa, Portugal; [4]Teqnode, France; [5]Université Paris-Est Marne-la-Vallée, LATTS, ESIEE Paris, France

Mapping-Based Solutions for an Improved Accessibility in SNCF Railway Stations

David Sanz, Céline Durupt, Caroline Guerin, Coralie Reutenauer, Nicolas Renoir, Patrick Ung
SNCF, France

Posters
Level 0 CONGRESS CENTER

A Panel Data Approach to Analyze the Impact of EU Financial Support to Road PPPs in Spain

Laura Garrido[1], Thais Rangel[1], María de los Ángeles Baeza[2], José Manuel Vassallo[1]
[1]Universidad Politécnica de Madrid, Spain; [2]Universidad de Granada, Spain.

An Empirical Analysis of External Marginal Costs for Passenger and Freight Transport: the Paris Case Study

François Combes[2], Martin Koning[2], Nicolas Coulombel[1]
[1]Ecole des Ponts ParisTech, France; [2]IFSTTAR

Digital Mobilities to Regenerate Transport? Need for Innovative Engineering Design

Dominique Laousse[1,2], Milena Klasing Chen[1]
[1]SNCF, France; [2]Paris Sciences & Lettres/ Mines ParisTech

Lessons on Multi-Level Governance Learned from the Bottom-Up Corridor Projects in the Baltic Sea Region

George Panagakos, Harilaos Psaraftis
Technical University of Denmark, Denmark

Multicriteria Decision Making for Waterdromes Allocation in Greece

Charalampos Nikolaos Roukounis, Karambas Theophanis, Georgios Aretoulis
Aristotle University of Thessaloniki, Greece

Road User Characteristics and their Willingness-to-Pay for Road Safety Improvement

Mohamed Mouloud Haddak[1,2,3]
[1]Université de Lyon, Lyon, France; [2]IFSTTAR (French Institute of Science and Technology for Transport, Development and Networks), UMRESTTE (Epidemiological Research and Surveillance Unit in Transport, Occupation and Environment), France; [3]Université Lyon 1, UMRESTTE, France

The RINGO Project, Identifying Research Infrastructure Needs and Gaps to Foster Innovation in Aeronautical Research in Europe

Sarina Brautmeier[2], Eike Stumpf[2], René van Paassen[3], Reynald Bur[4], Martin Streichfuss[5], Reiner Suikat[1]
[1]DLR, Germany; [2]RWTH Aachen, Germany; [3]TU Delft, The Netherlands; [4]ONERA, France; [5]Roland Berger, Germany

INVITED SESSIONS

DAY 4 - Thursday 19 April 2018 - 08:30 - 10:00
INV20: Beyond R&I Grants - From Research to Implementation

LEVEL 1
SCHUBERT 2+3

Research is essential in promoting excellence in the European transport sector – provided research results are implemented. How can research funders ensure that this happens?
This Session attempts to answer this question by considering two European research funding programmes which have distinctive but complementary goals – and both try to identify what framework can enable maximum implementation and deployment of research results. Horizon 2020 supports R&I projects which contribute to the major EU policy priorities. The CEDR Transnational Research Programme responds to the specific needs of European road administrations and seeks to provide an effective framework for individual road authorities to operationalise research results on their own networks.
Together, both programmes are vital for supporting the development of a transport network that is safer, more efficient and more sustainable. By considering their shared challenges, this Session will identify possible steps to ensure a seamless transfer from research funding to innovation to implementation and deployment of results.

Organisers:

Maria-Cristina Marolda, European Commission
Ronan Cunniffe, Conference of European Directors of Roads - CEDR

Moderator:

Dirk Beckers, INEA

Panellists:

Pieter De Winne, Flemish Roads Agency, CEDR Working Group Innovation (Chair)
Tiina Jauhiainen, Finnish Transport Agency, CEDR Working Group Innovation
Lutz Pinkofsky, BASt, CEDR Working Group Innovation
Martin Boehm, AustriaTech
Claire Depre, Director General, DG Mobility and Transport, European Commission, invited
Tom Warras, EUREKA/TEKES, invited
Mario Dogliani, SEA Europe, invited

DAY 4 - Thursday 19 April 2018 - 08:30 - 10:00
INV21: Sustainable Multimodal Door to Door Travel

LEVEL 0
STOLZ 2

Overall, transport users are embracing digitalisation and the use of smart phones, mobile web applications and social media in order to make their travel planning or schedule their trips. New technologies, linking existing services coupled with big data, real-time information on demand and supply and appropriate combination of different transport modes are supporting new shared mobility and transport business models, services and transport market which will collectively lead to more sustainable and seamless mobility. All indicators point towards a future where all forms of transportation are integrated into a single passenger interaction to make a complete door–to-door journey a reality. The aim of this session is to present and discuss progress made in the area of multimodal/intermodal transport, with a focus on research and innovation activities, related to solutions that respond to passenger needs to support anytime, anywhere door-to-door intermodal journeys encompassing all transport modes and other applications such as travel planning, ticketing, etc..

Organisers:

Maria Carbone, European Commission
Georgios Sarros, INEA
Patrick Mercier-Handisyde, European Commission

Moderator:

Torsten Klimke, European Commission

Keynote Speaker:

Tom Voege, International Transport Forum

Panellists:

Monica Giannini, International Road Tranport Union - I.R.U.
Martin Müllner, Traffic Information Austria
Keir Fitch, European Commission
Sicco Santema, TU Delft
Andrea Detti, University of Rome
Takis Katsoulakos, INLECOM

DAY 4 - Thursday 19 April 2018 - 08:30 - 10:00

INV22: European Road Safety Policy: Towards Evidence-Based Decision Making, Especially for Vulnerable Road Users

LEVEL 0
LEHAR 1+2

At more than 25,000 annual deaths, European roads claim a death toll considerably higher than all other transport modes combined – and the decline in fatalities over the past decades has now stalled. Road safety has therefore been addressed by two recent EU research projects: SafetyCube developed a web-based Road Safety Decision Support System which gathers all available evidence on risks and countermeasures from scientific literature and in-depth databases. InDeV developed a toolbox to better understand accident causes of Vulnerable Road Users (VRU) and an assessment framework for socio-economic cost evaluation of VRU accidents. In the session, results of the projects and implications for road safety policies and decision making will be presented in a novice format including a pub quiz involving the whole audience.

Organiser and Moderator:

Klaus Machata, KFV (Austrian Road Safety Board)

Panellists:

William Bird, European Commission
Rune Elvik, Institute of Transport Economics - TOI
Pete Thomas, Loughborough University
George Yannis, National Technical University of Athens - NTUA
Wouter van den Berghe, VIAS Knowledge Center
Susanne Kaiser, KFV (Austrian Road Safety Board)
Aliaksei Laureshyn, Lund University
Mette Kathrine Larsen, Aalborg University - AAU
Anatolij Kasnatscheew, Federal Highway Research Institute, BASt
Kris Brijs, Hasselt University

STRATEGIC SESSIONS

DAY 4 - Thursday 19 April 2018 - 10:15 - 11:45
STR4.1: Enabling and Implementing Research and Innovation Strategies

LEVEL 0
LEHAR 1+2

The session will gather representatives of all transport-related ETPs (ERTRAC, ERRAC, WATERBORNE, ACARE, ALICE, ECTP) and PPPs (S2R, HFC, EGVIA, SESAR, CS) to present their views on future research programmes and approaches to strengthen their coherence between modal and systemic strategies, discuss continuity and synergies of different funding programmes (e.g. FP and CEF), ways to improve the dissemination of research information, and ensure maximization of the impact of EU projects in society. The panel conversation will also consider the enhancement of the dialog between researchers and business/industrial stakeholders in order to ensure smoother deployment of results and improve citizen involvement and public understanding of research and innovation initiatives.

Organisers:

Andrea Gentili, European Commission
Maria-Cristina Marolda, European Commission
Fernando Liesa, Secretary General, ALICE
Ingrid Kernstock, Austrian Federal Ministry for Transport, Innovation and Technology, ACARE
Nicolas Furio, Head of UNIFE Technical Affairs Unit, ERRAC

Moderator:

Andrea Ricci, Vice President, ISINNOVA

Opening Remarks:

Clara de la Torre, Transport Director, DG Research and Innovation, European Commission

Panellists:

Stephan Neugebauer, Director Global Research Corporation, BMW, ERTRAC, EGVIA
Andy Doherty, Chief Rail Technology Officer, Networkrail, ERRAC
Henk Prins, Manager R&D, Maritime Research Institute Netherlands, WATERBORNE
Uwe Möller, Head of Office Brussels, DLR, ACARE
Sergio Barbarino, Chair ALICE
Donato Zangani, R&D Manager, RINA Group, ECTP
Carlo Borghini, Executive Director, Shift2Rail
Bart Biebuyck, Executive Director, Fuel Cells and Hydrogen Joint Undertaking
Florian Guillermet, Executive Director, SESAR Joint Undertaking
Tiit Jürimäe, Executive Director, Clean Sky

DAY 4 - Thursday 19 April 2018 - 10:15 - 11:45
STR4.2: European Transport Research in a Competitive World

LEVEL 0
STRAUSS 1-3

Global transport challenges benefit from global solutions. With most of future transport growth occurring outside of Europe, access to knowledge and to new markets will become increasingly important.
This session will provide an overview of international research and innovation cooperation opportunities in transport, based on current experiences from the EU's Horizon 2020 program, its International Flagship initiatives and related policy actions. Furthermore, it will provide a chance to comparatively discus other similar transport research programs. This session will also present key success stories of ongoing international research and innovation transport cooperation activities and discuss the necessary steps forward. Multilateral exchanges with international key partners on transport R&I strategies, policies and investment priorities will also be discussed. Finally, the session will also examine possible future transport research and innovation opportunities for cooperation with third countries.

Organisers:

Patrick Mercier-Handisyde, Policy Officer, DG Research and Innovation, European Commission
Maria Carbone, Policy Officer, DG Mobility and Transport, European Commission
Guy Gallic, CEO, Guy Gallic Conseils, ACARE
Frank Smit, Policy Officer, DG Research and Innovation, European Commission

Moderator:

Jacki Davis

Keynote Speech:

Dr. Gereon Meyer, Head of Strategic Projects, Dept. Future Technologies and Europe, VDI/VDE Innovation + Technik GmbH

Round Table Discussion:

Signe Ratso, Deputy Director General, DG Research and Innovation, European Commission
Jean-Luc di Paola-Galloni, Corporate Vice-President for Sustainability and External Affairs, Valeo Group
Gioia Venturini, Vice-President, International Cooperation and Public Affairs R&T and Innovation SAFRAN
Aron Sørensen, Head of Maritime Technology & Regulation, BIMCO
Carl Andersen, Acting Director, Office of Corporate Research, Technology, and Innovation Management, Federal Highway Administration (FHWA), United States Department of Transportation
Toshihiro Sugi, Director of Automated Driving Planning Office, National Police Agency, Japan

DAY 4 - Thursday 19 April 2018 - 10:15 - 11:45
STR4.3: Skills and Professions for Future Transport

LEVEL 0
LEHAR 3+4

The current and forthcoming changes in the transport sector will have a profound impact on the transport related jobs: some will disappear, others will change significantly, and new jobs will emerge. This will require new competences – and hence also an adaptation of the education and training provision for the transport sector.

This session includes a presentation on the expected changes in transport jobs, the associated changing skill requirements and the challenges for the education and training provision in the transport sector. It is followed by presentations on various innovative approaches in different countries, for different transport modes. These examples illustrate some of the challenges ahead but also how they might be addressed.

Organisers:

Wouter Van den Berghe, Research Director, VIAS Knowledge Centre
Alistair Greig, Professor University College London, UK

Moderator:

Alistair Greig, Professor University College London, UK

Panellists:

George A. Giannopoulos, Transport Planner, Professor Emeritus Aristotle University of Thessaloniki
Nathalie Amirault, Head of Unit Expertise Development, Union Internationale des Chemins de fer
Ilse Harms, Advisor Human Factors, Connecting Mobility
Linda Napoletano, DeepBlue Italy
George Smyrnakis, Secretary General, WEGEMT

INVITED SESSION

DAY 4 - Thursday 19 April 2018 - 11:45 - 12:45
INV23: Inclusion, You Said?

LEVEL 1
SCHUBERT 5+6

The session, in the form of a Pecha Kucha (6-minutes presentations), should focus on different aspects of social and economic inclusion where transport plays a prominent role. Presentations will focus on measures to ensure full access to mobility services for vulnerable road users, physical or mental disabled persons or migrants, of less wealthy areas with insufficient public services, and for a large group of users that are not familiar with the use of innovative technologies to fully benefit from the services provided.
The presentations will address:

- How to ensure perceived safety to migrant women and children in public transport
- Will digital divide exclude a population group from sustainable mobility?
- How to ensure technologies are deployed for the full benefit of all citizens?
- Ensuring sustainable mobility in remote/rural areas
- Circular Economy: is it affordable enough for people and businesses?

Organiser and Moderator:

Maria-Cristina Marolda, European Commission

Panellists:

Ariane Dupont, French Institute of Science and Technology for Transport
Floridea Di Ciommo, cambiaMO
Andrea Ricci, ISINNOVA
Natasha Merat, University of Leeds
Laurie Pickup, Vectos
Fabienne Goyeneche, Michelin

PLENARY SESSION 4

DAY 4 -Thursday 19 April 2018 - 12:45 - 14:15
Plenary 4: Shaping Future Transport Research in Europe

LEVEL 0
STRAUSS 1-3

There is a need for long-term oriented research programmes – within Europe as well as national. Innovation, research and development and their facilitation enable an adequate response to challenges like climate change, digitalisation, securing and improving social welfare, ensuring competitiveness and coping with the generally accelerating dynamics across all fields. To guarantee an actively shaped and sustainable European transport system it is important to establish clear defined objectives and back up structured approaches financially and with specific monitoring indicators. Innovative and unconventional research methods like living labs, urban mobility labs, open innovation and co-creation approaches contribute to the establishment of new principles of governance, technologies and organisations. To improve innovation dynamics, Plenary Session #4 offers the possibility to discuss the future outline of transportation research and to define the contribution of different research and funding approaches for the transport system of the future. Challenges and problems, already up for discussion within the previous plenary sessions, will be addressed as well.

Speakers:

Sergio Barbarino, Chariman of ALICE
Anne Berner, Finnish Minister for Transport
Jean-Eric Paquet, Director General, DG Research and Innovation, European Commission (tbc)
Neil J. Pedersen, Executive Director, Transportation Research Board
Hans Joachim Schellnhuber, Director of the Potsdam Institute for Climate Impact Research (PIK) Senior Research Fellow at the Stockholm Resilience Centre

CLOSING

DAY 4 - Thursday 19 April 2018 - 14:15- 15:00

LEVEL 0
STRAUSS 1-3

TRA2018 Conclusions

Mark Robinson, President of ECTRI

Closing Address

Representatives of TRA2018

Handing Over Ceremony

Chairs of TRA2018

Welcome to TRA2020 in Helsinki

Anne Berner, Finnish Minister for Transport

MARKETPLACE POSTER DAY 4

DAY 4 - Thursday 19 April 2018 - 08:00 - 19:00

Deployment of Clean Fuels and Vehicles in Cities
Umberto Guida, Marta Van den Bergh, Michele Tozzi, Aida Abdulah, Yannick Bousse
UITP, Belgium

Green-Driving and U-SAVE: Smart Information Systems to Reduce Fuel Consumption from Vehicle Use
Vincenzo Arcidiacono[1], Lorenzo Maineri[1], Stefanos Tsiakmakis[2], Georgios Fontaras[1], Christian Thiel[1], Biagio Ciuffo[1]
[1]European Commission Jointe Research Centre, Italy; [2]Aristothele University of Thessaloniki

Predicting CO2 Emissions on Driving Dataset
Andrei Karpau
Institute of Technology, Blanchardstown, Dublin

Advanced Industry 4.0 Concepts for the Flexible Production of Urban Electric Vehicles
Gregorio Iuzzolino[1], Pietro Perlo[1], Sergio Pozzato[1], Marco Grosso[1], Gioele Sabato[1], Davide Penserini[1], Marco Biasiotto[1], Massimo Ippolito[2], Pietro Cultrona[2], Manfred Hucke[3], Michael Gepp[4], Ambra Cala[4], Nils Weinert[4], Ricardo Silva Peres[5], Andre Dionisio Rocha[5]
[1]I-FEVS, Italy; [2]Comau, Italy; [3]Xetics, Germany; [4]Siemens, Germany; [5]Uninova, Portugal

Unique Laboratories and Test Benches of Competence Center of Rail Vehicles
Miloslav Kepka
University of West Bohemia in Pilsen, Czech Republic

Seat Certification Tests of Passenger Vehicles
Serhat Akçay, Samed Erbil
TOFAŞ Türk Otomobil Fabrikasi A.Ş., Turkey

Performance of EV Charging Infrastructure: a Decision Support Tool Based on Charging Data.
Simone Maase, Xiomara Dilrosun, Jurjen Helmus
Amsterdam University of Applied Science, The Netherlands

Mobility Convergent Model for Evaluation and Comparison of the Performance of the Urban Transport Systems (UTS)
Asad Karisik
EU Green Way Sarajevo, Bosnia and Herzegovina

Low-Clearance Rapid Transit: an Innovative, Cost-Efficient Urban Public Transport Solution
Harald Buschbacher
Harald Buschbacher e.U., Austria

e-CMR as a Business Service
Iraklis Stamos
IRU Projects, Belgium

What Market Can Bear on the 1520mm Rail with Primarily Freight Transportation?
Justina Hudenko[1,2], Maris Andins1, Remigijs Pocs[2]
[1]LatRailNet, Latvia; [2]Riga Technical University

Research of the Processes for Rational Management of Railway Rolling Stock by the Infrastructure Operator
Lomotko Denis, Arsenenko Danil, Smorkis Igor
Ukrainian State University of Railway Transport, Ukraine

Testing the Quality of Traffic Signs and Road Markings: Republic of Croatia Case Study
Darko Babić, Mario Fiolić, Dario Babić
Faculty of Transport and Traffic Sciences, University of Zagreb, Croatia

Homogenisation Layer – A Green and Innovative Answer For Reconstruction Of Old Cement-Concrete Roads via Their Adaptation to the Asphalt Road Focuses on Maximising of Reuse of Local Material
Zsolt Boros
TPA Spoločnosť pre zabezpečenie kvality a inovácie s.r.o., Slovak Republic

flyMETRICS: The Rise of Resident Drone Systems and their Scalable Smart Networks
Mauro Morana, Malgorzata Zofia Goraczek
flyMETRICS

A Unified Framework for Distributed Acoustic Sensing
Christoph Wiesmeyr[1], Günther Neunteufel[2]
[1]AIT Austrian Institute of Technology GmbH, Austria; [2]nbg-fosa GmbH, Austria

Development of Camera based Algorithms for Drowsiness Detection based on Facial Gesture Analysis and Classification
Begoña Mateo[1], Noelia Rodriguez[2], José Laparra[1], José Solaz[1]
[1]IBV, Spain; [2]FICOSA International

Driver's Dashboard - Using Web & Social Media Data as Additional Information for Motorway Operators
Robert Neuhold[1], Heimo Gursch[2], Michael Cik[1]
[1]Graz University of Technology, Austria; [2]Know-Center GmbH - Research Center for Data-Driven Business & Big Data Analytics, Austria

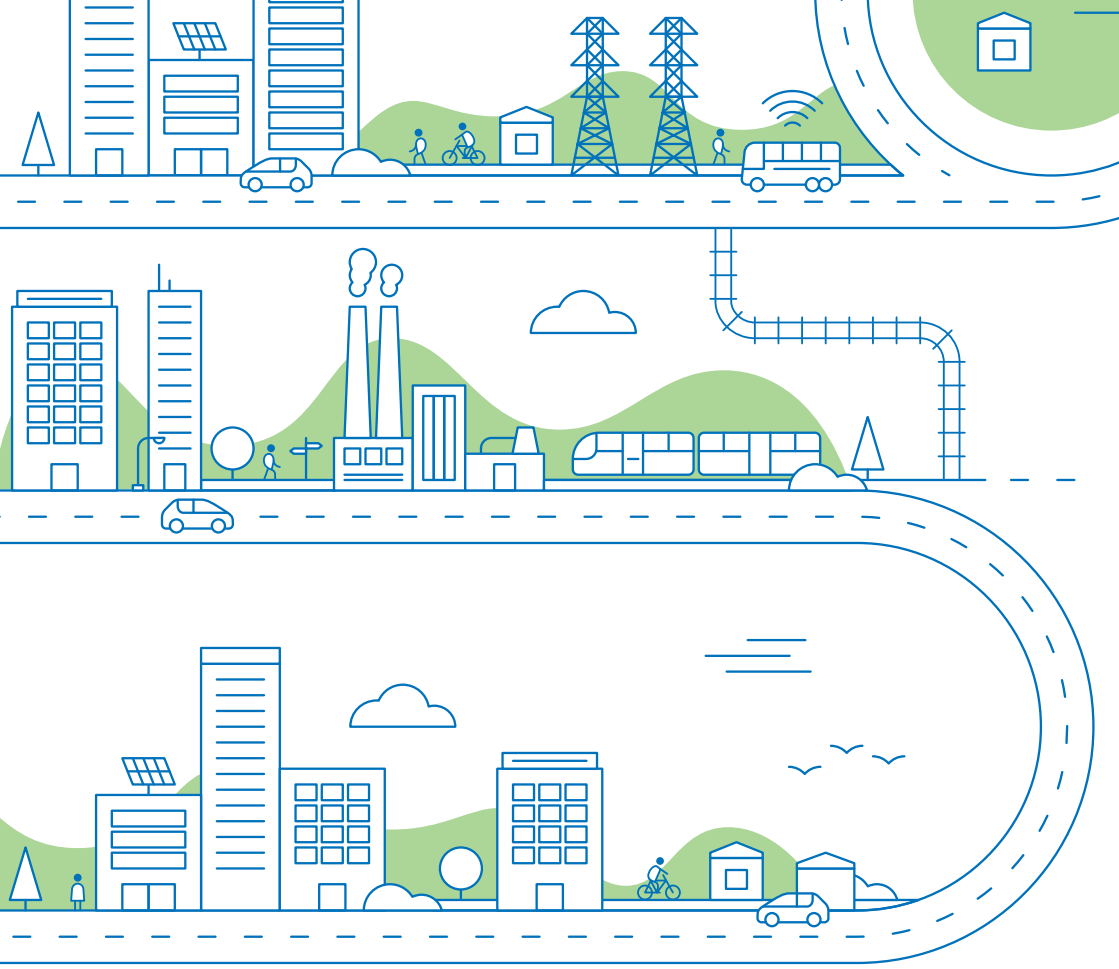
Implementation of Advanced Technologies into Aeronautic Integrated Maintenance Concept - Use of Virtual Reality in Ground-Floor Training Maintenance Execution
Nelson Matos[1], Pedro Gamito[1], Margarida Pinto[1], Joel Ferreira[2], Luis Oliveira[2]
[1]ISQ, Portugal; [2]TAP Portugal - ME, Portugal

SPOT+RIDE: Open Mapping and Tagging Applications for the Interactive Visualization of Hazard and Crash Data for Bikers
Flora Strohmeier
SYNYO GmbH, Austria

Future Business Models in Aviation: Free-Floating Sharing Model for Short-to-Medium Range Passenger Aircraft
Kay Olaf Ploetner
Bauhaus Luftfahrt, Germany

Decarbonizing the Transport Sector
Barbara Lah, Oliver Lah
Climate Action Implementation Facility, Germany

Factors Affecting Transport Capacity at a Ferry Crossing
Gisle Solvoll, Finn Jørgensen
Nord University, Norway



Enabling the transformation

TRA 2020 HELSINKI

Transport and mobility (r)evolution
for smart, green and integrated society

#TRA2020
#IWishIWasInHelsinki

26–30 April 2020

Welcome to Helsinki, the Nordic capital of Cool!
Please come to meet us on booth C01!

Side Events

It is a tradition for TRA to host General Assemblies, Private Meetings, Project Final Conferences and Workshops during the course of the conference. This year's "Side Events" are organised by stakeholders of the European transport community and are mostly closed to the public. If the Side Event is marked as an "open event", this means that the organisers invite all conference visitors to come and join them at their event.

Mon-Thu, April 16th – 19th 2018

CEDR Business Room (closed event)

Gallery
1+2

Mon, April 16th 2018

09:00-12:30 INFRALERT project consortium: INFRALERT Final Meeting (closed event)

Gallery
9+10

13:30-17:00 INFRALERT project consortium: INFRALERT Advisory Board Meeting (closed event)

Gallery
9+10

14:00-18:00 Shift2Rail: Shift2Rail Scientific Committee (closed event)

Gallery
5+6

14:00-16:00 University of Natural Resources and Life Sciences, Vienna / Institute of Production and Logistics: HubHarmony final event
(open event)

Lounge
1-4

Tue, April 17th 2018

08:30-12:00 Comparison of batteries and fuel cells for electric vehicles (open event)

Club
Room

09:00-12:45 CEDR: Governing Board Plenary meeting (closed event)

Lounge
1-4

13:45-17:30 CEDR: Governing Board Workshop – Open Data (invited participation)

Lounge
1-4

10:00-15:00 INFRALERT project consortium: INFRALERT open workshop (open event)

Gallery
9+10

15:15-16:30 INFRALERT project consortium: EAB meeting (closed event)

Gallery
9+10

09:00-12:30 University of Deusto: Workshop on real time ITS services towards a safer and more efficient road transport (with TIMON, HIGHTS and ROADART H2020 projects) (open event)

Gallery
5+6

13:00-17:00 TTS Italia: Social car final conference #RideMyRoute (open event)

Club
Room

14:00-16:00 AUTOCITS: 2nd international Workshop (open event)

Gallery
5+6

15:15-17:30 Meeting of the US/TRB International Cooperation Committee (open event)

Gallery
3+4

16:00-18:00 HARMONY: 1st international Workshop (open event)

Gallery
5+6

09:00-15:00 ACARE Strategy and Integration Board Meeting (open event)

Gallery
3+4

Wed, April 18th 2018

09:00-12:00 FEHRL: AM4INFRA project final event (open event)

Lounge
1-4

09:00-18:00 AVL and Manager Uniresearch: REWARD and DIEPER midterm / final project meeting (open event)
Club
Room

10:00-14:00 Shift2Rail States Representative Group: 8th meeting of the States Representative Group of Shift2Rail (closed event)

Gallery
9+10

14:00-17:00 XCYCLE Consortium: XCYCLE EU project dissemination (open event)

Lounge
1-4

15:00-17:00 AVL and Manager Uniresearch: FUTURE RADAR General Assembly (closed event)

Gallery
9+10

13:15-16:45 EMPOWER: Using ICT and positive incentives to shape the future of mobility (open event)

Gallery
5+6

Thu, April 19th 2018

08:00-15:00 AIT, AVL, TU Munich: project final workshop of eCAIMAN, SPICY, FIVEVB (open event)

Lounge
1-4

Technical Tours (registration required)

VIRTUAL VEHICLE Automated Driving Experience
Tue, April 17th 10:15 – 12:15 (Departure: 9:45) and 13:15 – 15:15 (Departure: 12:45)

ThinkPort Hafen

As one of the first companies in Austria, the Graz Research Center VIRTUAL VEHICLE received the official approval to carry out test drives with autonomous vehicles on public roads. The center drives for the development and testing of automated driving systems. On a test drive, you'll experience how the system recognizes pedestrians and vehicles and initiates appropriate evasive maneuvers. In addition an ADD Onboard Monitor shows what HD cameras, radar sensors and object analysis detect. Furthermore we demonstrate how Advanced Control, Driving Monitoring, Collision Detection and Self-Diagnostic work.
www.v2c2.at/

Aspern.mobil LAB - Seestadt Aspern
Tue, April 17th 17:30 – 19:00 |Wed, April 18th 08:00 – 09:30
Thu, April 19th 09:30 – 11:00, 15:30 – 17:00

Seestadt Aspern

This tour provides an interactive insight into the operation method of the aspern.mobil LAB in the Seestadt in Aspern. The so called aspern.mobil LAB is one of five urban mobility labs in Austria. Its goal is to enable an implementation-driven research within the mobility sector through an intensive relationship between the residents, companies, science, politics and the administration.
All visitors are invited to experience already existing innovations on-site (for example the automatical Cargo Bike Sharing System) as well as some attractive public spaces giving room to modes of active mobility.
www.mobillab.wien

Think Port Vienna - ThinkPort Hafen
Wed, April 18th 10:15 - 12:15, 13:15 - 15:15

ThinkPort Hafen

Experience tour: thinkport VIENNA and Port of Vienna: smart urban logistics lab - urban freight logistics innovations. Urbanization, digitalization, decarbonization and virtualization shape the city and logistics of the future: from optimization through automation to augmented reality - city-relevant logistical topics will be presented. Service logistics, craftsman logistics, micro logistics - the supply of the city and the associated challenges from the perspective of technology, processes and services will be presented and also live experiences will be possible.
In addition: be part of a real test drive with an autonomous vehicle at the VIRTUAL VEHICLE Driving Experience.
www.thinkportvienna.at

Smart Mobility Vienna - Inner City of Vienna
Wed, April 18th 15:00 – 18:00 |Thu, April 19th 15:00 – 18:00

Inner City of Vienna

The Smart City Vienna has been following its path for an integrated approach to transport politics with the focus on an eco-friendly public transport system and alternative offers for a long time.
The tour presents latest questions, challenges and solutions for a Smart Mobility in Vienna on the basis of specific examples. Furthermore some projects, currently in the planning stage, and some innovative future strategies will be presented.
Starting at the Messe Wien, tour stops will be the Karlsplatzpassage (example for a redesign of a pedestrian passage from the 70ies), Getreidemarkt (building structurally separate cycle paths), Gumpendorfer Strasse/Rahlgasse (examples for traffic calming measures), Mariahilfer Strasse (redesign for a meeting zone and pedestrian zone), Neubaugasse (redesign for a shopping street).
www.urbaninnovation.at/en

Climatic Wind Tunnels - Rail Tec Arsenal
Tue, April 17th 13:30 – 14:30, 14:45 – 15:45, 16:15 - 17:15

Rail Tec Arsenal

Rail Tec Arsenal (RTA) is an independent research and testing institute. It operates the two largest climatic wind tunnels (CWT) worldwide for testing rail and road vehicles, aviation and new transport systems. This tour will present the highlights of the facilities and the new Austrian Icing Strategy for Aviation initiated by the Federal Ministry of Transport, Innovation and Technology. Following a brief introduction to RTA's activities, participants can get a look behind the scenes of the Icing Wind Tunnel in the large CWT. Austrian companies will demonstrate their aviation research and products such as 3D scanning of ice shapes or innovative de-icing systems. There will also be the opportunity to attend a real-life truck test in the small CWT.
www.rta.eu/en

ZAB – Zentrum am Berg – research@ZaB, Eisenerz
Fri, April 20th 11:00 – 14:00 (Departure from Vienna at 7:15)

Zentrum am Berg Eisenerz

Zentrum am Berg - research@ZaB is an independent research infrastructure providing real underground conditions for science, industry and rescue organisations in a 1:1-scale. The unique tunnel system offers full-featured road and railway tunnels enabling research, development and training on topics covering the whole life cycle of underground infrastructures - from construction to operation - including safety issues.
http://zab.unileoben.ac.at/en/3681

Zero Emission Locomotives - Premises Vienna Liliput Train
Mon, April 16th - Thu, April 19th 11:00 – 12:30, 13:00 – 14:30, 15:00 – 16:30

Premises Vienna Liliput Train Prater

Austrian railways are continuing their early stage learning with HFC technology with the aim of converting non-electrified last-mile-services to zero emission technology.
Whereas the "real" standard gauge shunting loco (video presentation at TRA interactive zone) was designed and constructed by HET Hochleistungs- Eisenbahn- und Transporttechnik Entwicklungs-GmbH together with ÖBB Technische Services GmbH, the rolling stock power units shown on this excursion are designed and constructed by Railway Competence and Certification GmbH together with TEMO GmbH with friendly support of ÖBB Infrastruktur AG and Rail Cargo Austria AG.
The Vienna Liliput Train is a park rail system operating in regular, albeit seasonal revenue service. In 2018 it celebrates the 90th year of operation and has decided to also allow a "sneak peek" of the future by demonstrating hydrogen fuelled hybrid powered propulsion in its 15inch (381mm) track workshop.
www.liliputbahn.com/liliput.htm

MARKETPLACE

TRA 2018 offers an arena for researchers, scientists and engineers, companies and public authorities active in the field of transport. It welcomes policy makers and stakeholders framing research and transport policy. To this end, a **MARKETPLACE** will take place **at the Exhibition Area (Hall A)**. Here, throughout the whole duration of TRA, you will find animation and interactive events

A. Mon, April 16th – Thu, April 19th: Marketplace Posters

Selected through a dedicated Call, Marketplace Posters (MPP) will show innovations and solutions with high market relevance and implementation potential. For the whole duration of TRA2018, you can enjoy them and learn more about. Go to Marketplace booth (Stand Number B02, Hall A) and you will find them around its walls.

B. Mon, April 16th at 12:30: SME-Instrument – Business Acceleration Services Event

Find new financial and business partners at the networking and pitching sessions offered by the SME Instrument Business Acceleration Services! As part of the European Innovation Council pilot, the SME Instrument supports top-class innovators and small businesses in bringing breakthrough innovations on the market, with substantial funding and business acceleration support. The programme will bring world-class innovation companies for dedicated matchmaking and networking with financial and business. For the detailed agenda, please see the programme online.

B. Mon, April 16th at 12:30: SME-Instrument – Business Acceleration Services Event

The EU-funded project ETNA 2020 will organise – jointly with Enterprise Europe Network (EEN) – a Networking and Brokerage event focusing on topics covered by the Horizon 2020 Transport Work Programme 2018-2020.

- If you are looking for partners to apply to the Transport Work Programme 2018 calls, you will have the opportunity to present your organisation and ideas for project proposals either through a pitch or by participating in bilateral meetings (B2B);
- You will have the opportunity to learn about how to take advantage of the ETNA 2020 Partner Search Services and get familiar with the system through personalised hands-on session;
- You will have also the opportunity to attend the ETNA 2020 Workshop on international cooperation 'Taking advantages to expand your Transport R&I activities outside of Europe'.

ASSOCIATED EVENT

Interactive Symposium on Research & Innovation for Connected and Automated Driving in Europe
Thu, April 19th 15:30 - 20:00 | Fri, April 20th 08:30 - 13:15
Tech Gate, Donau-City-Straße 1, 1220 Vienna

The CARTRE and SCOUT initiatives are co-organising an Interactive Symposium on Research & Innovation for Connected and Automated Driving in Europe. The event is supported by the European Commission as well as the ERTRAC European Technology Platform. It will start after the closing ceremony of TRA. Complementary to the Connected & Automated Transport topic stream at TRA, it aims to delve deeper into R&I activities in Europe. This event is targeted at public and private stakeholders in road transport, interested in exchanging views on how to shape the future of connected and automated driving in specific thematic areas. Registration for the Symposium is free of charge.

Find more information and registration details here: https://connectedautomateddriving.eu

EXHIBITION

The TRA Exhibition Area is open to all conference attendees. Hall A of the Reed Messe Vienna offers 7.000 m2 to showcase the latest projects, products and services of governmental and professional organisations, public and private research organisations and industrial companies.

The exhibition hall houses the Exhibition Area, the Interactive Zone, the Austrian Village – a special area focused on Austrian companies - and the Marketplace – an arena for researchers, scientists and engineers, companies and public authorities working in the field of transport.

Throughout the entire TRA, visitors will find information, animations and interactive events in Hall A.

All exhibitors look forward to welcoming the visitors of the TRA 2018 in Vienna!

EXHIBITORS

A3PS – Austrian Agency for Alternative Propulsion Systems
STAND: E04
Austrian Village - Non-governmental organization - AUSTRIA

AIT Austrian Institute of Technology GmbH
STAND: F02
Exhibitor - Research institution / university - AUSTRIA

ALICE A.I.S.B.L.
STAND: G02
Austrian Village - Others - AUSTRIA

ALP.lab
STAND: E04
Austrian Village - Others - AUSTRIA

Ansaldo STS SpA
STAND: A02
Exhibitor - Industry and economy - ITALY

ANTAREX
STAND: B03
Sharer - EU Project - SLOVAKIA

EXHIBITORS

AERTEMIS IA
STAND: A06
Exhibitor - Industry and economy - NETHERLANDS

ASFINAG Autobahnen- und Schnellstraßen-Finanzierungs AG
STAND: G12
Exhibitor - Transport infrastructure manager / operator - AUSTRIA

Austrian Federal Ministry for Transport, Innovation and Technology
STAND: E06
Exhibitor - Public authority - AUSTRIA

AustriaTech
STAND: E06
Sharer - Public authority - AUSTRIA

AVL List GmbH
STAND: G08
Exhibitor - Industry and economy - AUSTRIA

Beak Consultants GmbH
STAND: H01a
Exhibitor - Industry and economy - GERMANY

Bionic Aircraft
STAND: E02
Sharer - EU Project

BMW Austria GmbH
STAND: G06
Exhibitor - Industry and economy - AUSTRIA

Bundesministerium für Verkehr und digitale Infrastruktur
STAND: C02
Exhibitor - Public authority - GERMANY

EXHIBITORS

CAPITAL
STAND: A08
Sharer - Others - BELGIUM

CEDR
STAND: D02
Exhibitor - Public authority - BELGIUM

City of Vienna, Administrative Group for Urban Planning, Traffic & Transport, Climate Protection, Energy and Public Participation
STAND: E04
Austrian Village - Public authority - AUSTRIA

Clean Sky 2 - CS2JU
STAND: E02
Sharer - EU Project

DLR German Aerospace Center
STAND: B01
Exhibitor - Research institution / university - GERMANY

DORA
STAND: E02
Sharer - EU Project

DownToTen
STAND: E02
Sharer - EU Project

DYNATEST A/S
STAND: A10
Exhibitor - DENMARK

E-ferry
STAND: E02
Sharer - EU Project

EXHIBITORS

EARPA (European Automotive Research Partners Association aisbl)
STAND: H03
Exhibitor - Non-governmental organization - BELGIUM

eCAIMAN
STAND: B06+E02
Sharer - Others

ECTRI European Conference of Transport Research Institutes
STAND: A17
Exhibitor - Non-governmental organization - BELGIUM

EfficienSea2
STAND: E02
Sharer - EU Project

ELSEVIER Ltd
STAND: A01
Sharer - AUSTRIA

EMBERS
STAND: A12
Exhibitor - EU Project

ERTICO – ITS Europe
STAND: A08
Exhibitor - Non-governmental organization - BELGIUM

ERTRAC Road Transport Research Council
STAND: G04
Exhibitor - Research institution / university - BELGIUM

ESPRIT
STAND: E02
Sharer - EU Project

EXHIBITORS

EU-LIVE
STAND: E02
Sharer - EU Project

EUCAR – European Council for Automotive R&D
STAND: H06
Exhibitor - Industry and economy - BELGIUM

European Commission
STAND: E02
Exhibitor - Public authority - BELGIUM

European Inland Barging Innovation Platform
STAND: A07
Exhibitor - Non-governmental organization - NETHERLANDS

FEV Europe GmbH
STAND: H04
Exhibitor - Industry and economy - GERMANY

FFG – Austrian Research Promotion Agency
STAND: E06
Sharer - Others - AUSTRIA

FiveVB
STAND: B06+E02
Sharer - EU Project

Forschungsgesellschaft Strasse – Schiene – Verkehr
STAND: E04
Austrian Village - AUSTRIA

Greenrail
STAND: E02
Sharer - EU Project

EXHIBITORS

Holding Graz
STAND: E04
Austrian Village - AUSTRIA

Hungarian Public Road Nonprofit PLC
STAND: A03
Exhibitor - Public authority - HUNGARY

Indra Sistemas
STAND: A09
Exhibitor - Industry and economy - SPAIN

InnaLabs®
STAND: H01
Exhibitor - Ireland

interACT
STAND: E02
Sharer - EU Project

International Transport Forum
STAND: A05
Exhibitor - Others - FRANCE

IT4Innovations
STAND: B03
Sharer - Research institution / university - SLOVAKIA

ITS Vienna Region
STAND: E04
Austrian Village - AUSTRIA

ITS World Congress Copenhagen 2018
STAND: A08
Sharer - DENMARK

EXHIBITORS

Joint Research Centre
STAND: E02
Sharer - EU Project

Kapsch TrafficCom
STAND: D04
Exhibitor - Transport infrastructure manager / operator - AUSTRIA

Klima- und Energiefonds
STAND: E06
Sharer - Public authority - AUSTRIA

LOWBRAYS
STAND: E02
Sharer - EU Project

Lynceus2Market
STAND: E02
Sharer - EU Project

MAGNA STEYR FAHRZEUGTECHNIK AG & CO KG
STAND: G10
Exhibitor - Industry and economy - AUSTRIA

MMTech
STAND: E02
Sharer - EU Project

ÖBB-Holding AG
STAND: H05
Exhibitor - AUSTRIA

PARSIFAL
STAND: E02
Sharer - EU Project

EXHIBITORS

Pavemetrics
STAND: A11
Exhibitor - Others - CANADA

PEMs-4-Nano
STAND: E02
Sharer - EU Project

Plasser & Theurer
STAND: D06
Exhibitor - Industry and economy - AUSTRIA

Prominent
STAND: G02
Sharer - Research institution / university - NETHERLANDS

RESOLVE
STAND: E02
Sharer - EU Project

SENIORS
STAND: E02
Sharer - EU Project

SESAR
STAND: E02
Sharer - EU Project

Shift2Rail Joint Undertaking
STAND: A04
Exhibitor - BELGIUM

Siemens AG Österreich
STAND: E04
Austrian Village - Industry and economy - AUSTRIA

EXHIBITORS

Smart Eye AB
STAND: A00
Exhibitor - Industry and economy - SWEDEN

SMS
STAND: E02
Sharer - EU Project

SocialCar
STAND: E02
Sharer - EU Project

SPICY
STAND: B06+E02
Sharer - Others

Springer
STAND: A17
Sharer - AUSTRIA

STC Group
STAND: H08
Exhibitor - Research institution / university - NETHERLANDS

SUREAL-23
STAND: E02
Sharer - EU Project

SWARCO
STAND: E04
Austrian Village - Industry and economy - AUSTRIA

Sygic
STAND: B03
Sharer - SLOVAKIA

EXHIBITORS

Telereal
STAND: C05
Exhibitor - Public authority - AUSTRIA

TRA 2020
STAND: C01
Exhibitor - Research institution / university - FINLAND

TransformingTransport
STAND: A15
Sharer - EU Project - LUXEMBOURG

Tritem Microsystems GmbH
STAND: A13
Exhibitor - Industry and economy - GERMANY

Ubimet
STAND: E04
Austrian Village - AUSTRIA

UITP
STAND: D07
Exhibitor - Non-governmental organization - BELGIUM

UNIFE
STAND: C04
Exhibitor - Non-governmental organization - BELGIUM

Urban Innovation Vienna
STAND: E04
Austrian Village - Others - AUSTRIA

viadonau – Österreichische Wasserstraßen-GmbH
STAND: H12
Exhibitor - Public authority - AUSTRIA

EXHIBITORS

voestalpine
STAND: D01
Exhibitor - Industry and economy - AUSTRIA

Volkswagen Aktiengesellschaft
STAND: H02
Exhibitor - Industry and economy - AUSTRIA

WATERBORNE TP
STAND: H10
Exhibitor - BELGIUM

Wiener Linien
STAND: D08
Exhibitor - Transport infrastructure manager / operator - AUSTRIA

INTERACTIVE ZONE

TRA2018 in Vienna will have a special focus on hands-on demonstrations and live showcases. For that purpose, the Interactive Zone has been newly created and will complement the classic exhibition and the scientific conference to demonstrate the importance of research, especially the relevance and the impact of current research activities. Furthermore, up-to-date findings and developments of current research activities will be presented within the Interactive Zone, which will be divided into three parts:

- Showcases & Demonstration Zone: experience research results and initiatives in six thematic fields
    - Automated & Connected Transport
    - Aviation
    - Infrastructure & Asset Management
    - On Track
    - Multimodal Mobility & Services
    - Traffic Management & Digital Infrastructure
- Startup Zone: dedicated to Austrian Startups exhibiting innovative solutions in mobility and transport. Pitching Events on the Stage in the Networking Zone of those startups and in the Marketplace will complete the Startup programme of TRA
- Networking Zone will be part of the Interactive Zone, where you will find a generous networking area and a stage hosting exciting and interactive demonstrations and presentations of different companies and projects, Austrian Startups and the Women's Reception.

Monday April 16th

12:30 - 13:40	Opening Exhibition & Interactive Zone
16:45 - 17:45	ERTRAC Presentation of new ERTRAC Strategic Research Agenda for FP9
18:30 - 19:30	Receptions

Tuesday April 17th

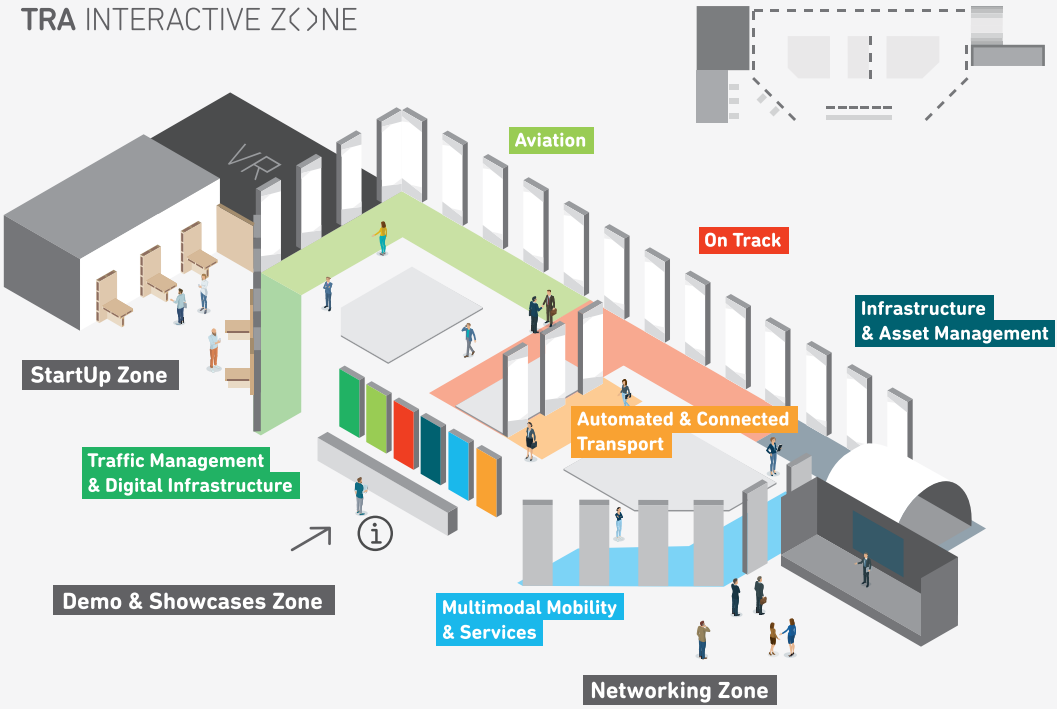
08:30 - 09:30	Demo & Showcases Breakfast
09:30 - 10:30	CODECS C-ITS Deployment - Strategic Issues
10:30 - 12:00	Science Center Network
12:00 - 13:00	StartUps Lunch Pitch Spotlight on StartUps
14:00 - 15:00	VIA DONAU Digital Infrastructure management of the Danube waterway - Status quo, potentials and benefits
15:00 - 16:00	ÖBB Holding AG Business as Unusual! - Transforming Mindsets: From Oh, well to Oh, WOW!
17:00 - 18:00	Austrian Society for Traffic and Transport Sciences Award Ceremony 2018

Wednesday April 18th

08:30 - 09:30	CODECS C-ITS Deployment – Interoperability
09:30 - 10:30	Science2Society Open Innovation applied in Europe – How to create and foster interaction between University, Industry & Society
12:00 - 13:00	StartUp meets Industry Startups! Pitch & Connect
13:00 - 14:30	Wirtschaftsagentur Mobility Solutions Made in Vienna
15:00 - 17:00	Climate and Energy Fund Smart City Hopping - the smart cities game of the Climate and Energy Fund hosted at the TRA Conference
17:30 - 19:00	Austrian Ministry for Transport, Innovation and Technology Women's Reception - Let's Network! Success criteria for the Establishment of sustainable Networks

Thursday April 19th

08:30 - 09:30	CODECS C-ITS Deployment - Use Cases and Roadmaps
09:30 - 10:30	SilkRoad Adventure. Meets. Technology.
11:45 - 12:45	Warp Innovation The Warp-Innovation launch stage



Additionally two Outdoor Areas will be part of TRAs Interactive Zone. Outdoor Area A features static demonstrations, whereas Outdoor Area B will feature driving demonstrations.

More Details to all showcases, the exhibiting Startups and the events in the Networking Zone can be found in the Interactive Zone Guide.

Come and experience European research in the Interactive Zone!

PRACTICAL INFORMATION

Location

The 7th Transport Research Arena takes place at the Reed Messe Vienna (Messeplatz 1, 1021 Vienna).
The Reed Messe Vienna is centrally located, with just 10 minutes by metro to the heart of Vienna with all its lovely things to see and do.
For more information about the city of Vienna please visit: https://www.wien.info/en

The Reed Messe Vienna can easily be reached by metro, with a metro station right in front of the building and it is only a 40-minute drive from the airport. There are excellent restaurants and hotels in the near vicinity and it is only a short walk to the local recreation area "Gruener Prater".

How to access the Reed Messe Vienna

By Public Transport

Metro line U2 to „Messe/Prater"
Bus No. 11A to „Krieau"
Bus No. 80B to „Krieau"

Public transport tickets

To make TRA2018 an eco-friendly event and save costs at the same time, seize the opportunity to order the public transport tickets with a special 10% discount.

1 Day Public Transport Ticket	7,20 euros
4 Days Public Transport Ticket	18,00 euros
Airport transfer (return ticket, both ways)	17,10 euros

https://shop.wienerlinien.at/index.php/special_customer/1818/join/rpd$maEfnc

Please follow the link or the QR-Code.
Switch to English language at the top of the page. Choose the preferred ticket. The discount will automatically be subtracted in the second step. Your ticket is only valid in combination with a valid Photo ID.

By Citybike Wien

There is a station of the Citybikes Wien next to the Reed Messe Vienna (close to the U2 metro station "Messe/Prater").
For more information please visit: https://www.citybikewien.at/en/

By Car

From the South, East or West: Highway A23 direction Praha/Brno – Exit "Handelskai/Messezentrum"
From the North: Highway A22 - Exit "Reichsbruecke", direction City Centre.
Several parking places (fee required) are available next to the venue.

TRA2018 Green Event

TRA2018 is planned as a Green Event. A "Green Event" is characterised by higher energy efficiency, avoidance of waste and environmentally-friendly travel of the guests to and from the event. Aspects of local added-value and social responsibility are also considered. This includes local food that is in season, eco-friendly give-aways, a Viennese cultural programme and much more.
Thank you for being a part of this TRA2018 Green Event! Find more information here: www.traconference.eu/infos/tra-as-green-event/

Useful Information

Tourist Information:
+43 1 24 555
info@wien.info

Country Code: +43
City Code Vienna: 01

Emergency numbers:

European Emergency Number - 112
Fire - 122
Police - 133
Ambulance – 144

Registration and Badge pick-up

The registration desk will be open throughout the conference. Please collect your Badge personally, the personnel on site may request showing an ID. Exhibitor Badges allow access to the Exhibition only, 30 minutes before opening and after closing. Conference Badges allow access to the Conference and the Exhibition (including the Marketplace and the Interactive Zone).

Sunday, April 15th	17:00 - 19:00
Monday, April 16th	08:00 - 19:00
Tuesday, April 17th	08:00 - 19:00
Wednesday, April 18th	08:00 - 19:00
Thursday, April 19th	08:00 - 12:00

Speaker Ready Room (Level 1)

The Speaker Ready Room is located on level 1 of the Congress Center. Authors were requested to upload their presentations into ConfTool prior to the conference. During the whole conference the Speaker Ready Room will be available for authors to make last minute checks and adjustments if needed. Possible formats for the presentations are PPT and PPTX.

Lunch

Warm lunch will be served in the Exhibition Hall only; with the exception of the Lunch Sessions which will be held in the Congress Center during the lunch breaks.
Come and take the opportunity to use the Lunch Break to visit the Exhibition and the Interactive Zone!
The Lunch Area is sponsored by our partner VOESTALPINE.

voestalpine
ONE STEP AHEAD.

Coffee Breaks

Hot drinks will be served in the Conference Area and in the lunch area of the Exhibition. Coffee breaks are sponsored by our partner ASFINAG.

ASFINAG

ACKNOWLEDGMENTS

Transport Research Arena 2018 is hosted by:

Austrian Ministry for Transport, Innovation and Technology

AIT Austrian Institute of Technology

AustriaTech

Special acknowledgments to TRA 2018 Member Organisations

The Austrian hosts of the 7th edition of the Transport Research Arena conference wish to thank the organisers for their support and their guidance

Special acknowledgments to the European Commission

ACKNOWLEDGMENTS

The host and the organiser of the 7th edition of the Transport Research Arena conference wish to express their gratitude to the sponsors

PLATINIUM SPONSORS

GOLD SPONSORS

SILVER SPONSORS

BRONZE SPONSORS

Supporting Partner

City of Vienna

Special acknowledgments to our Press Partners

The host and the organiser of TRA 2018 wish to thank their press partners:

MEDIA PARTNERS

IMPRINT

Publisher:

AustriaTech - Gesellschaft des Bundes für technologiepolitische Maßnahmen GmbH, as Chair of the TRA 2018 Organising Committee,

Raimundgasse 1, A-1020 Vienna,

Phone: +43 1 26 33 444,

E-Mail: office@austriatech.at

Layout:

Teamwork, F-75011 Paris, www.teamwork.fr.

Printer:

Druckwerkstatt Handels GmbH, A-1120 Vienna, www.druckwerkstatt.at

UITP ADVANCING PUBLIC TRANSPORT

LEADING RESEARCH & INNOVATION TO ADVANCE PUBLIC TRANSPORT

UITP IS ENGAGED IN MORE THAN 20 EU CO-FUNDED PROJECTS:

ASSURED

EBSF 2 EUROPEAN BUS SYSTEM of the FUTURE 2

eLIPTIC electrification of public transport in cities

GALILEO FOR MOBILITY

INOVE Unlocking Large-Scale Access to Combined Mobility through a European MaaS Network

ZeEUS Zero Emission Urban Bus System

AND MANY MORE!

VISIT US AT THE UITP STAND!

Stand D07 – next to the Austrian village

DAY 1 MONDAY 16 APRIL 2018

08:00 - 09:00	Registration		
09:00 - 09:45	Press Conference & Questions		
10:00 - 10:30	**OP**	Opening	LEVEL 0 STRAUSS 1-3
10:30 - 10:50	**KEY**	Keynotes	LEVEL 0 STRAUSS 1-3
10:50 - 12:00	**SP**	Special High Level Industrial Round Table	LEVEL 0 STRAUSS 1-3
12:00 - 12:30	**TRV**	TRA Visions Young Researchers	LEVEL 0 STRAUSS 1-3
12:30 - 13:40	/ EXHIBITION OPENING		
13:40 - 14:40	**P1**	Shaping the New Mobility Landscape – a Vision for Transport & Mobility for Europe	LEVEL 0 STRAUSS 1-3
14:40 - 15:00			
15:00 - 16:30	**STR1.1**	User-Centric Mobility Systems	LEVEL 0 STRAUSS 1-3
	STR1.2	Towards a Truly Integrated Transport System	LEVEL 0 LEHAR 1+2
	STR1.3	Innovative Governance Enabling Sustainable Urban Mobility	LEVEL 0 LEHAR 3+4
16:30 - 17:00			
17:00 - 18:30	**ST1: 5.1**	New Apps and New Mobility services	LEVEL 1 SCHUBERT 2+3
	ST2: 5.2	Mobility as a Service and Mobility Management	LEVEL 0 LEHAR 1+2
	ST3: 9.1	Big Data Enhancing Mobility Services	LEVEL 0 LEHAR 3+4
	ST4: 4.1	Innovative Urban Freight Developments	LEVEL 1 SCHUBERT 4
	ST5: 12.1	Social aspcts of innovative mobility	LEVEL 1 SCHUBERT 1
	ST6: 8.1	Automated Transport: Enabling Methods and Technologies	LEVEL 0 STOLZ 1
	ST7: 4.2	New Urban Mobility Services	LEVEL 1 SCHUBERT 5+6
	INV1	How to Enable Interoperable and Seamless Cross-Border C-ITS Services in Europe	LEVEL 0 STOLZ 2
	INV2	Aviation as an Integral Part of the Multimodal Transport System – Addressing Future Challenges Together	LEVEL 0 STRAUSS 1-3
18:30 - 19:30	RECEPTION		

COFFEE BREAK SPONSORED BY ASFINAG

LUNCH BREAK SPONSORED BY voestalpine

PLENARY
STRATEGIC
OPENING
EXHIBITION
SCIENTIFIC/TECHNICAL
INVITED
MARKET PLACE
Posters + SME Instrument event (12.00-17.30)

DAY 2 TUESDAY 17 APRIL 2018

08:00 - 08:30	Registration	
08:30 - 10:00	**ST8: 8.2** Automated Transport: Scenarios, Fundamentals, Regulation	LEVEL 0 STRAUSS 1-3
	ST9: 5.4 Data Management and Demand Analysis	LEVEL 0 LEHAR 1+2
	ST10: 10.6 Policy, Data, Knowledge & Decision Making in Road Safety	LEVEL 0 LEHAR 3+4
	ST11: 4.3 ICT, Data and Modelling Approaches to Enhance Urban Transport	LEVEL 0 STOLZ 1
	ST12: 7.4 Transport Infrastructure:Technology Testing and Assessment	LEVEL 0 STOLZ 2
	ST13: 1.4 Improvement of Energy Efficiency in Transportation Systems Including Intermodal	LEVEL 1 SCHUBERT 2+3
	ST14: 12.4 Mobility Planning	LEVEL 1 SCHUBERT 5+6
	INV3 The New Urban Mobility Ecosystem, CCAV and Urban Planning - Between Vision and Managing Disruption	LEVEL 1 SCHUBERT 1
	INV4 Transport Safety: Societal Challenges, Research Solutions - The Way Forward	LEVEL 1 SCHUBERT 4
10:00 - 10:30		
10:30 - 12:00	**P2** How Digitalisation Is Transforming the Transport & Mobility System	LEVEL 0 STRAUSS 1-3
12:00 - 13:15	/ **INV5** Digitalisation - Opportunities for Start-ups?!	LEVEL 1 SCHUBERT 5+6
13:15- 14:45	**STR2.1** New Digital Technologies Impacting Transport	LEVEL 0 LEHAR 3+4
	STR2.2 Safe and Efficient Transport through Connectivity and Automation	LEVEL 0 LEHAR 1+2
	STR2.3 Transport and Data Security in a Digital Era	LEVEL 0 STRAUSS 1-3
14:45 - 15:15		
15:15 - 16:45	**ST15: 9.2** Digitizing the Transport Systems	LEVEL 1 STRAUSS 1-3
	ST16: 6.2 Systems and Technologies towards the Physical Internet	LEVEL 0 LEHAR 1+2
	ST17: 8.3 Automated Transport: Modelling, Evaluation, Validation & Testing	LEVEL 0 LEHAR 3+4
	ST18: 7.1 Transport Infrastructure: Application of Machine Learning	LEVEL 0 STOLZ 1
	ST19: 10.3 Risk Assessment, Accident Analysis & Models, Crash Mechanics & Reconstruction	LEVEL 1 SCHUBERT 4
	ST20: 3.1 New Concepts of Advanced Propulsion Systems: Design & Demonstrators	LEVEL 1 SCHUBERT 2+3
	INV6 Digital Mobility – Where Is The Human?	LEVEL 1 SCHUBERT 1
	INV7 Automated Vehicle Testing on European Public Roads	LEVEL 0 STOLZ 2
	INV8 Modal Synergies for Future Mobility	LEVEL 1 SCHUBERT 5+6
16:45 - 17:00		
17:00 - 18:30	**ST21: 8.4** Automated Transport: Concepts, Applications, Results	LEVEL 0 STRAUSS 1-3
	ST22: 10.5 Safety on Vulnerable Road Users	LEVEL 0 LEHAR 1+2
	ST23: 7.6 Transport Infrastructure: User Centric Capacity Planning and Management	LEVEL 0 LEHAR 3+4
	ST24: 11.1 Driving Behavior and Safety of Road Users	LEVEL 0 STOLZ 1
	ST25: 5.5 Local Accessibility, Active Mobility, Bikes and Soft Modes, Cable Car, On-Demand	LEVEL 1 SCHUBERT 4
	ST26: 1.7 Improvement of Emissions and Efficiency of Electric and Fuel Cell Vehicles, Busses and Trains	LEVEL 1 SCHUBERT 2+3
	ST27: 1.1 Life Cycle Assessment in Transportation	LEVEL 1 SCHUBERT 1
	INV9 Managing the Transition Towards Higher Automation	LEVEL 0 STOLZ 2
	INV10 Deep Impact of Transport Research and Funding? How Can We Better Understand Societal Impacts to Foster Responsible Research and Innovation in Transport?	LEVEL 1 SCHUBERT 5+6
19:30	GALA DINNER & TRA VISIONS Senior Researchers Awards TRA Visions Senior Researchers Awards	

COFFEE BREAK SPONSORED BY ASFINAG

LUNCH BREAK SPONSORED BY voestalpine ONE STEP AHEAD.

PLENARY
STRATEGIC
OPENING
EXHIBITION
SCIENTIFIC/TECHNICAL
INVITED
MARKET PLACE
Posters + ETNA 2020's event (10.00-17.00)

DAY 3 WEDNESDAY 18 APRIL 2018

08:00 - 08:30	Registration	
08:30 - 10:00	**ST28: 1.5** Reduction of Pollutant Emissions and Improvement in Air Quality from Road, Rail and Marine	LEVEL 0 STRAUSS 1-3
	ST29: 10.2 Response to Extreme Events & Climate Change	LEVEL 0 LEHAR 1+2
	ST30: 7.2 Challenges on the Electrification of Infrastructure	LEVEL 0 LEHAR 3+4
	ST31: 12.2 Impacts of Innovation on Citizens and Society	LEVEL 0 STOLZ 1
	ST32: 2.2 Chassis and Vehicle Dynamics	LEVEL 1 SCHUBERT 1
	ST33: 11.2 Mobility and Modal Choice	LEVEL 1 SCHUBERT 5+6
	INV11 Infrastructure as a Service	LEVEL 0 STOLZ 2
	INV12 How to Speed-Up Transition towards Sustainable Urban Mobility Schemes?	LEVEL 1 SCHUBERT 2+3
	INV13 Achieving a Zero-Emission Ship - Electrification, Alternative Fuels, Green Retrofits and Newbuilds	LEVEL 1 SCHUBERT 4
10:00 - 10:30	☕	
10:30 - 12:00	**P3** Decarbonisation & Future Growth: How to Change Our Mobility System & Remain Competetive	LEVEL 0 STRAUSS 1-3
12:00 - 13:15	🍴 / **INV 14** Hidden Aspects of Autonomous Drinving	LEVEL 1 SCHUBERT 5+6
13:15 - 14:45	**STR3.1** Decarbonisation for a Competitive European Industry	LEVEL 0 STRAUSS 1-3
	STR3.2 Optimising Logistics - Environmental and Economic Benefits	LEVEL 0 LEHAR 1+2
	STR3.3 Infrastructure and Decarbonised Transport	LEVEL 0 LEHAR 3+4
14:45 - 15:15	☕	
15:15 - 16:45	**ST34: 2.3** Technologies for Clean, Efficient and Safe Vehicles	LEVEL 1 STRAUSS 1-3
	ST35: 6.1 Intermodal Freight Transport and Synchromodality	LEVEL 0 LEHAR 1+2
	ST36: 7.7 New Materials, Constructions & Techniques for Infrastructure	LEVEL 0 LEHAR 3+4
	ST37: 1.6 Reduction of CO2 Emissions and Improved Fuel Economy	LEVEL 0 STOLZ 1
	ST38: 7.5 Transport Infrastructure Safety	LEVEL 0 STOLZ 2
	ST39: 1.2 Battery Technology for Hybrid and Electric Vehicles	LEVEL 1 SCHUBERT 2+3
	ST40: 2.1 Marine and Railway Engineering	LEVEL 1 SCHUBERT 1
	INV15 Clean & Digitalised Logistics: Opportunities for Sustainable Growth and Jobs	LEVEL 1 SCHUBERT 5+6
	INV16 Fuelling Clean Transport - Europe-Wide Alternative Fuels Projections in 2030 by the JEC Research Collaboration Including Reports on Three European Projects on Batteries for EVs	LEVEL 1 SCHUBERT 4
16:45 - 17:00	☕	
17:00 - 18:30	**ST41: 6.3** Decarbonization and Sustainability of Freight Transport and Logistics	LEVEL 0 STRAUSS 1-3
	ST42: 7.3 Transport Infrastructure: Asset Management and Life Cycle Analysis	LEVEL 0 LEHAR 1+2
	ST43: 5.3 Travel and Transportation Planning	LEVEL 0 LEHAR 3+4
	ST44: 1.3 Road Surface, Traffic Effects on Noise Pollution and Fuel Consumption	LEVEL 1 SCHUBERT 1
	ST45: 10.1 Road Infrastructure Analysis, Management & Improvements	LEVEL 0 STOLZ 2
	ST46: 12.5 Socio-Economic Aspects of Electrification	LEVEL 1 SCHUBERT 2+3
	INV17 Horizon Prizes on Engines – Results of the Horizon Prize on the Cleanest Engine Retrofit & Presentation of the Horizon Prize on the Cleanest Engine of the Future	LEVEL 0 STOLZ 1
	INV18 Legal Framework in a Dynamic Technical Environment	LEVEL 1 SCHUBERT 5+6
	INV19 Circular Economy and Sustainable Processes in the Automotive and Transport Value Chain	LEVEL 1 SCHUBERT 4

☕ COFFEE BREAK SPONSORED BY ASFINAG

🍴 LUNCH BREAK SPONSORED BY voestalpine ONE STEP AHEAD.

PLENARY
STRATEGIC
OPENING
EXHIBITION
SCIENTIFIC/TECHNICAL
INVITED
MARKET PLACE
Posters + ETNA 2020's event (10.00-17.00)

DAY 4 THURSDAY 19 APRIL 2018

08:00 - 08:30	Registration	
08:30 - 10:00	**ST47: 9.3** Intelligent Traffic- and Transport-Management	LEVEL 0 STRAUSS 1-3
	ST48: 7.8 Infrastructure as a Part of the Mobility/Society System	LEVEL 1 SCHUBERT 4
	ST49: 3.2 New Concepts of Advanced Propulsion Systems: Deployment & Assessment	LEVEL 0 LEHAR 3+4
	ST50: 10.4 Security, Resilience and Crisis Management	LEVEL 0 STOLZ 1
	ST51: 11.3 Driver Needs and Expectations	LEVEL 1 SCHUBERT 1
	ST52: 12.3 Cost of Infrastructure	LEVEL 1 SCHUBERT 5+6
	INV20 Beyond R&I Grants - From Research to Implementation	LEVEL 1 SCHUBERT 2+3
	INV21 Sustainable Multimodal Door to Door Travel	LEVEL 0 STOLZ 2
	INV22 European Road Safety Policy: Towards Evidence-Based Decision Making, Especially for Vulnerable Road Users	LEVEL 0 LEHAR 1+2
10:00 - 10:15		
10:15 - 11:45	**STR4.2** European Transport Research in a Competitive World	LEVEL 1 STRAUSS 1-3
	STR4.1 Enabling and Implementing Research and Innovation Strategies	LEVEL 0 LEHAR 1+2
	STR4.3 Skills and Professions for Future Transport	LEVEL 0 LEHAR 3+4
11:45 - 12:45	/ **INV23** Inclusion, You Said?	LEVEL 1 SCHUBERT 5+6
12:45 - 14:15	**P4** Shaping Future Transport Research in Europe	LEVEL 1 STRAUSS 1-3
14:15 - 15:00	**Closing**	LEVEL 1 STRAUSS 1-3

COFFEE BREAK SPONSORED BY ASFINAG

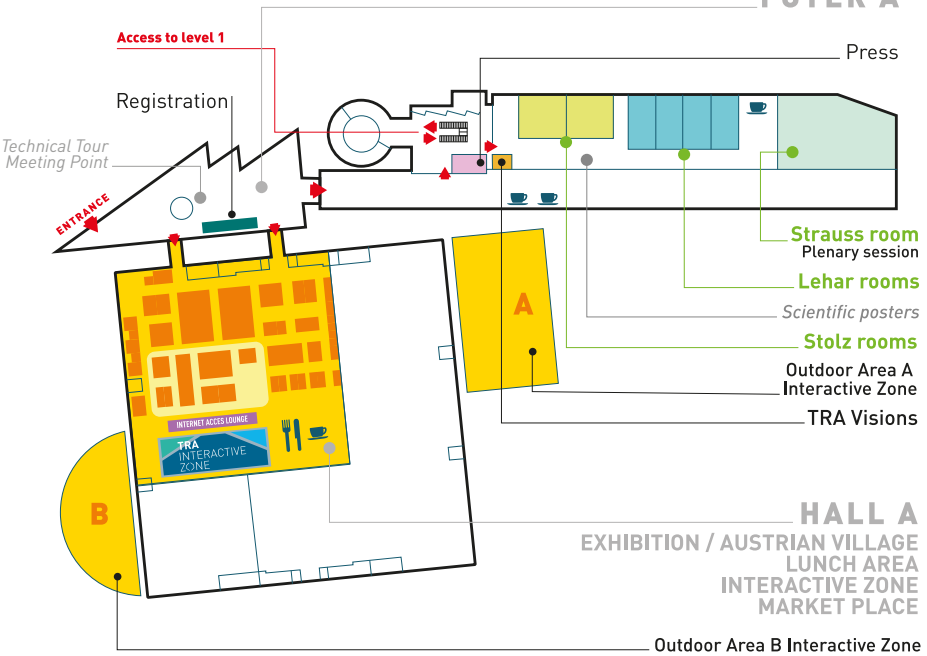
LUNCH BREAK SPONSORED BY voestalpine

PLENARY
STRATEGIC
OPENING
EXHIBITION
SCIENTIFIC/TECHNICAL
INVITED
MARKET PLACE
Posters + ETNA 2020's event (10.00-12.30)

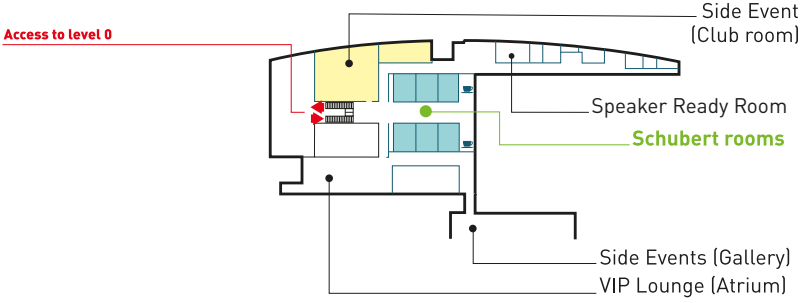
GENERAL PLAN

LANDMARK

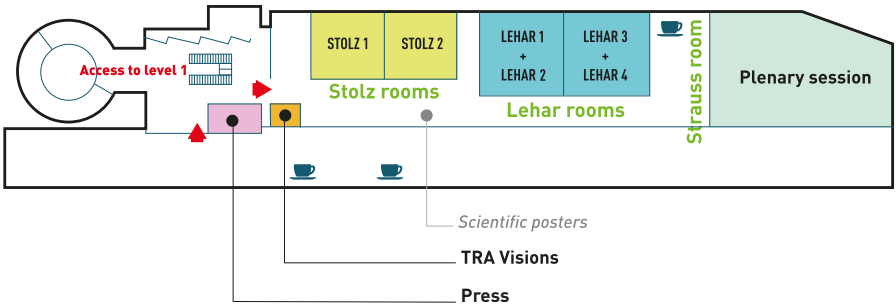
LEVEL 0



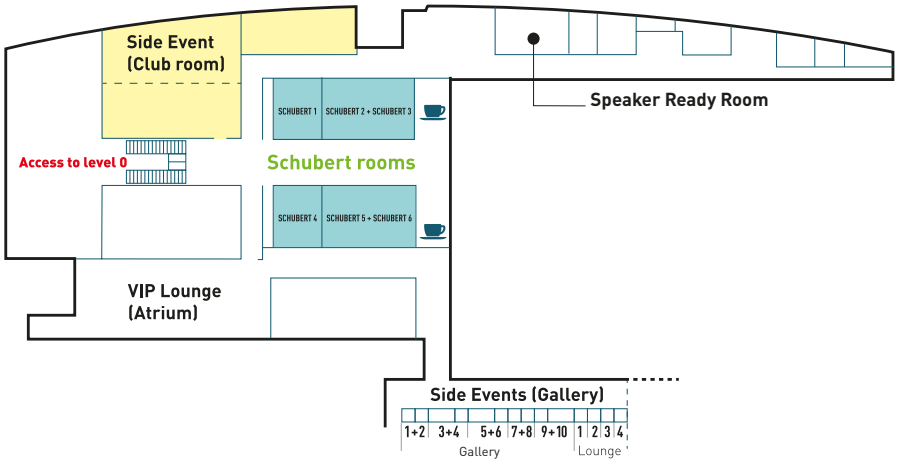
LEVEL 1



LEVEL 0 CONGRESS CENTER



LEVEL 1 CONGRESS CENTER



EXHIBITION AREA PLAN

LIST OF EXHIBITORS

E04 A3PS – Austrian Agency for Alternative Propulsion Systems
F02 AIT Austrian Institute of Technology GmbH
G02 ALICE A.I.S.B.L.
E04 ALP.lab
A02 Ansaldo STS SpA
B03 ANTAREX
A06 ARTEMIS IA
G12 ASFINAG Autobahnen- und Schnellstraßen Finanzierungs AG
E06 Austrian Federal Ministry for Transport, Innovation and Technology
E06 AustriaTech
G08 AVL List GmbH
H01a Beak Consultants GmbH
G06 BMW Austria GmbH
C02 Bundesministerium für Verkehr und digitale Infrastruktur
A08 CAPITAL
D02 CEDR*
E04 City of Vienna, Administrative Group for Urban Planning, Traffic & Transport, Climate Protection, Energy and Public Participation
B01 DLR German Aerospace Center
A10 Dynatest A/S
H03 EARPA (European Automotive Research Partners Association aisbl)
B06 eCAIMAN
A17 ECTRI European Conference of Transport Research Institutes
A01 ELSEVIER Ltd
A12 EMBERS
A08 ERTICO – ITS Europe
G04 ERTRAC Road Transport Research Council
H06 EUCAR – European Council or Automotive R&D
E02 European Commission*
A07 European Inland Barging Innovation Platform
H04 FEV Europe GmbH
E06 FFG – Austrian Research Promotion Agency
B06 FiveVB
E04 Forschungsgesellschaft Strasse – Schiene – Verkehr
E04 Holding Graz
A03 Hungarian Public Road Nonprofit PLC
A07 INDanube
A09 Indra Sistemas
H01 InnaLabs®
A05 International Transport Forum
B03 IT4Innovations
E04 ITS Vienna Region
A08 ITS World Congress Copenhagen 2018
D04 Kapsch TrafficCom
E06 Klima- und Energiefonds
G10 MAGNA STEYR FAHRZEUGTECHNIK AG & CO KG
H05 ÖBB-Holding AG
A11 Pavemetrics
D06 Plasser & Theurer
H08 Prominent
A04 Shift2Rail Joint Undertaking
E04 Siemens AG Österreich
A00 Smart Eye AB
B06 SPICY
A17 Springer
H08 STC Group
E04 SWARCO
B03 Sygic
C05 Telereal
C01 TRA 2020
A15 Transforming Transport
A13 Tritem Microsystems GmbH
E04 Ubimet
D07 UITP
C04 UNIFE
E04 Urban Innovation Vienna
H12 viadonau – Österreichische Wasserstraßen-GmbH
A07 VNF – Voies navigables de France
D01 voestalpine
H02 Volkswagen Aktiengesellschaft
H10 WATERBORNE TP
D08 Wiener Linien

** Full list of EU-funded projects presented at the EC Stand and programme of CEDR events available online*

TRA

TRANSPORT RESEARCH ARENA

Hosted and organised by:

bmvit

AIT AUSTRIAN INSTITUTE OF TECHNOLOGY TOMORROW TODAY

austriatech

Co-organised by:

European Commission

Together with:

ACARE

alice

CEDR

ECTP

ERRAC

ERTRAC

EFRA

WATERBORNE