



VIENNA 2018 **TRA**
TRANSPORT RESEARCH ARENA
A digital era for transport
solutions for society, economy and environment

Transport Research Arena 2018 Conclusions

Mark Robinson - ECTRI

Be part of THE European Research and Technology Conference on Transport and Mobility

Hosted and organised by:



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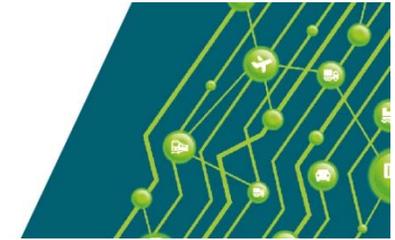
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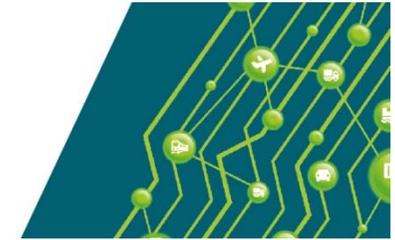


A Digital Era for Transport

Digitalisation, Automation and Decarbonisation are major trends that will drastically change the way we live, work and use mobility and transport in the future.

The Transport Research Arena 2018 has explored, discussed and demonstrated these major paradigm shifts specifically directed at important areas of our life, such as transport, mobility, logistics and industrial production.

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Objectives and Scope of TRA 2018

- TRA 2018 is an arena for researchers, companies and public authorities active in the field of transport.
- Together they discuss new ideas, research results, technological solutions and new business models.
- Together they experience and shape the future of transport and mobility for people and goods.

Key focus areas:

- 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

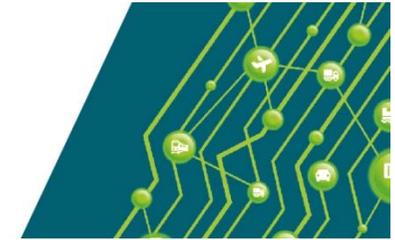
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A wealth of sessions and opportunities in:

- Opening and closing sessions
- Keynote by Futurist Gerd Leonhard –
“Autonomous, On-demand, Sustainable, Intelligent and Fluid”
- *NEW: High Level Industrial Round Table*
- 4 Plenary Sessions
- 12 Strategic Sessions
- 23 Invited Sessions
- 52 Scientific & Technical Sessions with more than 650 papers
- 2 TRA Visions Awards for young and senior researchers
- Focus on Women in Mobility & Talents with various sessions and events
- *1815 minutes of conference programme in 4 days*

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TRA 2018 Exhibition

- 7000m² *Exhibition Area*
 - with over 90 Exhibitors
 - 26 external technical tours all around Vienna
- All new *Interactive Zone* with a Networking-, Demo- and Startup-Zone, presenting first-hand research and business insights including
 - 17 Interactive Presentations & 10 Startups
 - 40 Indoor & Outdoor Demonstrations
- *Marketplace*
 - featuring more than 100 application-oriented Marketplace posters
 - and a place for additional presentations and B2B networking

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TRA 2018 Associated events

- *Project workshops and final events*
 - INFRALERT, HubHarmony, SocialCar, Harmony, AutoCITS, AM4INFRA, REWARD, DIEPER, EMPOWER, XCYCLE, FUTURE-RADAR, eCAIMAN, SPICY, FIVEVB, FAIRSTATIONS, DESTINATE
- *Committee and organization meetings:*
 - CEDR, ACARE, Shift2Rail, EGVIA, ECTRI...
- *Associated conferences:*
 - Interactive Symposium on Research & Innovation for Connected and Automated Driving in Europe, 19-20 April 2018 in Vienna, starting right after the end of TRA
 - Connecting Europe: TEN-T days in Ljubljana, 25-27 April 2018

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Shaping the New Mobility Landscape - a Vision for Transport & Mobility for Europe

- Time of exponential change, hyper-connectivity, business as usual is dead, data is the new oil
- Future smart transport infrastructure is not only physical, but also made of data/networks/services, how to benefit from citizen participation and citizen engagement, consent and trust
- Smoother relationship between research and policy makers, in both directions
- Transport Sectors (ETPs) working together with other stakeholders (IT, Energy) for fully integrated transport systems
- Digitalisation is a concept with many dimensions: not only technological, but also cultural, social (new interaction schemes among people), and political
- There can be a change in our traditional transport planning approach: digitalization provides us with improved information and knowledge. Overcome the traditional demand vs. supply approach
- Could there be a new transport paradigm ahead? Beyond our current sustainable mobility paradigm, the perspective of full ownership of the transport system by citizens.

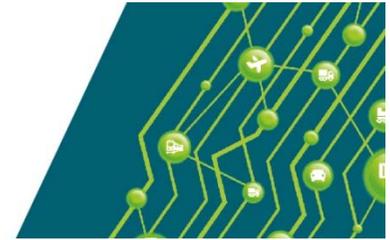
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How Digitalisation is Transforming the Transport & Mobility System

- *Digitalisation is more than a vision – digitalisation is becoming reality*
 - But we are lacking an environment of trust, where we can share and use data across stakeholders
 - We can only imagine the overall potential with digitalisation
 - We need to ensure that the traveller is the key beneficiary of digitalising the mobility system
 - Social and economic dimension and impacts of new technologies needs to be emphasised
- *Digitalisation is supporting policy goals*
 - As digitalisation is key for several new services it forms the basis for active contribution to reach the policy goals (safety, efficiency, environment)
 - Commitment to a digital transport infrastructure is key
 - But digitalisation is faster than governance - how will the roles of transport operators and service providers evolve? Who is responsible for doing what? How to finance a digital transport infrastructure?
- *Digitalisation is the tool for living multimodality*
 - The traveller expects a convenient and informed trip – this especially when he goes multimodal
 - When speaking about multimodal services, integrated traffic management is key

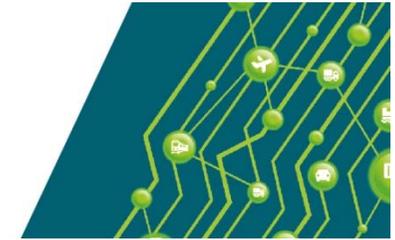
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Decarbonisation & Future Growth

- *A Systems approach*
 - Efficient, low or zero emission vehicles and decarbonized fuels
 - Shift to public transport and low-emission/soft modes
 - Make freight trains as easy to use as trucks
 - Flexible shared mobility coupled with efficient traffic management
 - Low-carbon supporting infrastructure
 - Avoiding unnecessary mobility demand
 - Electrification of road traffic needs coordinated action
- *Decision making*
 - Transparency – what are the real costs of the mode you are using (micro- vs. macroeconomics)
 - Thinking of carbon budgets instead of emission targets - Paris targets will be tough to achieve!
 - New taxation models, internalize external costs
 - Infrastructural investment needed but reducing CO₂ often saves you money – makes business sense
 - Price and convenience still main factors for decision-making

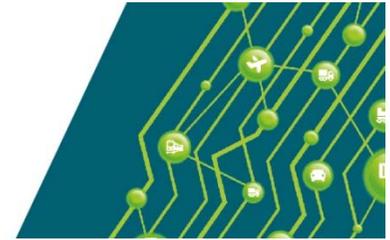
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Shaping Future Transport Research in Europe

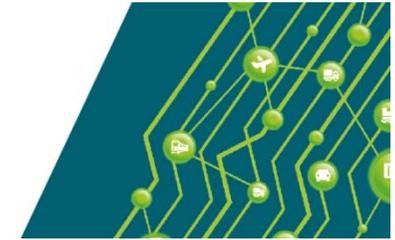
- Multimodality is the only way to address current problems – break the mode silos and put the citizen (users) at the centre
- Transport is the backbone of the economy, vital we have a functioning transport system
- As the Vision of the new multimodal transport system is realised the nature of work will change and we will need new skills and training
- An holistic approach to providing the means of decarbonising transport
- Standards for validation and regulation of automated systems
- Sharing information between modes in real time along with integrated payment and ticketing
- Integrated open data frameworks – data is the new oil
- The zero carbon transport footprint
- Fully integrated physical transport networks and mobility systems
- A resilient transport network due to automated inspection and predictive planned maintenance
- Seamless network and transport integration including cross-border
- Deliver a cohesive and coordinated approach to multimodal transport substantially funded research and innovation strategies in Europe with the full collaboration of the transport sectors (ETPs) and other stakeholders

Strategic Session Highlights



- Digitalisation is the glue, once we are connected we are vulnerable, there needs to be responsibility for data security, the hacker is always first
- Specific issues of transport: vehicles were not designed as cybersecure systems in the past, today: start with securing the gateways, building trust, securing only communications is not enough, create interoperability layers
- Success story in Vienna: 40% of modal share for public transport
- Helsinki: open interfaces for ticketing, deregulated taxis, initiate two way digital dialogue with users, important that what users say has impact
- Make mobility easy to use, data exchange between regional and international Apps needed
- Artificial Intelligence as a enabler of future mobility – keep humans at the centre
- Inclusive, what about persons without smartphones – digital divide, improve services for all, we take our habits along as we age
- Establish a joint working group to discuss cross-cutting research needs. This would monitor multimodal and user-centric transport research projects and their impacts on ETPs programmes.

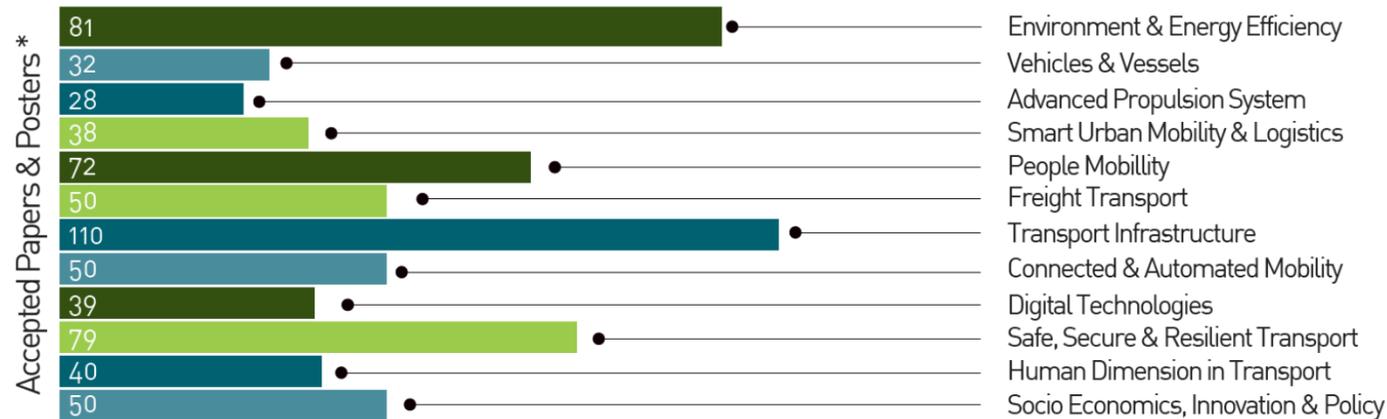
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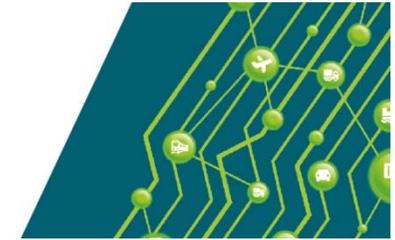
TRA 2018 Statistics

- More than 3500 visitors
- 12 topics with more than 650 scientific and technical papers* presented as podium presentations and posters in 52 sessions
- Authors from more than 40 different countries

■ 12 topics covering all modes of transport



*multiple countings per submitted abstract in more than one topic category possible



“Dream, manifest and deliver”

Prof. Mark Robinson - ECTRI
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Conclusions – Concluded
Thank you for your attention