TRA2022

Conference Overview

Outline

I.   Programme

II. Conference Themes

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I. Programme

Plenary Session (1 Session, 1h00/1h15)

Addressing some of the cutting-edge issues related to the prospects/trends of the transport system, close to the central theme of the day, and having as protagonists personalities of different sectors (Industry, Academia, Policy agencies, Administration).

Strategic Sessions (3 paralel sessions, 1h30)

Will foster the know-how exchange among industry representatives, researchers and policymakers by addressing the major challenges for transport innovation. All these linked to the day's main theme.

Technical & Scientific Sessions (several parallel sessions two times in the day, 1h30+30mn-poster)

Related to the Conference themes are sessions where experts will present their research work and/or application in the transport sector, either orally or as posters. The selection will result from the call for submissions reviewing process.

Invited Sessions (several parallel sessions coordinated with the time frame of T&S sessions)

Proposed and organised by the transport community, decided within an "open call", will offer topics of their interest that are not covered by the programme.

Interactive Sessions and Side Events

II. Conference Themes

Theme 1 – Smart Solutions and Society

Theme 2 – Green Mobility and Decarbonisation

Theme 3 – Innovative Infrastructure for Europe 2030

Theme 4 – Policies and Economics for a Competitive Europe

II. Conference Themes

Theme 1 – Smart Solutions and Society

Advances in digitalization are creating the ground for more performant ITS solutions. MaaS, already a reality, big data and AI techniques are providing authorities and transport operators with powerful tools to design and operate more flexible, resilient and smarter forms of mobility.

1.1 – User-focus and inclusive mobility

Keywords: Accessibility; Behaviours and mobility patterns; Co-creation of services and citizen engagement; Gender issues in mobility; Mobility as a Service (MaaS); Mobility information for citizens; On-demand mobility; Smooth and active modes; Social inclusion and societal issues in mobility; Transport poverty; Travel guidance and route planning; Vulnerable to exclusion citizens.

1.2 – Connected and automated multimodal mobility

Keywords: Automated mass transit; Automated terminal operations; Automated vehicle; Automation in urban logistics; CCAM – cooperative, connected and automated mobility; Connectivity (V2V/V2I, ITS-G5, 4G/5G); Inter-modality; IoT and smart infrastructures; New business models; Sensoring and real-time information; Sharing and pooling; Urban air mobility; Urban planning and transport.

1.3 – Innovation and the use of data, ITS and AI

Keywords: Big data; Co-creation of mobility services; Cyber-security and data privacy; Data sharing and ownership; Digitalization in mobility; Information for the public ITS; Mobility knowledge management; New business models; Ticketing and payment systems; Transport services and sustainable cities; Travel guidance and route planning.

1.4 – Efficient and Innovative logistics

Keywords: Automation in urban logistics; Collaboration in logistics; E-commerce; Clean energy vehicles in urban logistics; Environmental impacts of logistics; First mile / last mile; New business models in logistics; Physical internet; Synchro-modality; Urban logistics.

II. Conference Themes

Theme 2 – Green Mobility and Decarbonisation

Reducing 90% of greenhouse emissions from transport by 2050 is a global challenge addressed by the European Green Deal. The path to carbon-neutral and sustainable mobility of people and freight requires multiple and integrated transport solutions, through land, waterborne or air transport, involving all the critical elements of the system.

2.1 – Carbon neutrality and zero-emission vehicles

Keywords: Carbon footpath; Climate-neutral economy; Climate responsiveness; Global warming; Low and zero-emission areas; WTW analysis; Zero-carbon cars; Zero-emission aircraft; Zero-emission airports; Zero-emission heavy vehicles; Zero-emission maritime vessels; Zero-emission ports; Zero-emission powertrains.

2.2 – Energy efficiency, electrification and alternative fuels

Keywords: Batteries; Bi-directional charging; Charging infrastructures; Clean hydrogen; Clean energy engines; e-mobility; Networks integration; Private and public charging; Renewable and low- carbon fuels; Renewable energy; Smart charging grids.

2.3 – Sustainable interurban and urban mobility

Keywords: Air quality; Circular economy; Clean mobility options; Clean public transport; Equitable and universal access; Health and quality of life; Impacts of health measures in mobility; Micromobility; Multimodal transport; Parking; Re-design of urban space for active mobility; Sustainable cities and communities; Traffic efficiency; Traffic noise and vibrations mitigation.

2.4 – Greening freight transport

Keywords: Autonomous intercity road freight transport; City logistics; Combined transport; Drones freight distribution; e-commerce; Freight intermodality; Green logistics; Inland waterways freight; Rail freight; Shor-sea and deep-sea shipping; Transhipment infrastructures; Zero-emission urban freight transport.

Theme 3 – Innovative Infrastructure for Europe 2030

Infrastructure systems should be upgraded to cooperate with novel transport and logistic needs, namely through sustainable construction and maintenance works and actively exchanging data to accommodate new vehicles and energy needs. These goals should be attained in an operational safety, secure and efficient environment for the whole chain.

3.1 – Single market for TEN-T and the wider Europe

Keywords: Cross border information integration and interoperability; Cross border investments and projects; Cross border planning; Data collection, management and sharing; Efficient and cross border coordinate use of Infrastructure; Industry and technologies constrains; Maintaining competitiveness.

3.2 – Intelligent, resilient and cooperative infrastructure systems

Keywords: Infrastructure for connected, cooperative and automated mobility (CCAM); Innovative materials and construction processes; Integration of networks and services; Intelligent asset management systems; IoT and Smart Infrastructures, Life-cycle assessment; Materials recycling and re-use for sustainable and resilient infrastructure; Resilience to extreme weather events; Risk mitigation and design for uncertainty; Traffic noise and vibrations mitigation; Transports-Buildings energy synergy and flexibility.

3.3 – Innovative hubs

Keywords: Integrating transport systems and business models; Intermodal hubs; New control technologies; Reliable and seamless connectivity for passengers and freight; Stations as multimodal and services hubs; Sustainable and integrated airports; Sustainable and integrated operations; Sustainable and integrated ports.

3.4 – Safety and security

Keywords: Active mobility; Cross border integration; Data ownership, sharing, privacy and cyber security; Ensuring non-intrusive security; Human behaviour and human-machine integration; Integration of cyber-physical threats; Passive and active safety; Risk and uncertainty from automation; Security of new transport systems; Traffic calming; Urban transport safety; Vulnerable users.

Theme 4 – Policies and Economics for a Competitive Europe

Economic recovery and resilient transport require transformative policies, collaborative planning frameworks and enhanced financial tools for sustainable and smart mobility. In addition, innovative governance and business models will be called to support the emerging concepts and technology.

4.1 – Transport Planning and Policy for Recovery and Resilience

Keywords: Collaborative planning and co-creation; Collective transport and accessibility; European strategic planning; Gender issues; Integrated transport, land use and health planning; Multimodal/ Intermodal transport; Non-motorised mobility and micromobility; Resilient transport and cities; Social equity; Sustainable and intelligent mobility; Sustainable urban and regional mobility plans; Transport poverty and vulnerable users.

4.2 – Innovative Business and Governance Models

Keywords: Ex ante and ex post evaluation; Fair and affordable transport; Green transport investments; Intelligent mobility management platforms; Mobility-as-a-Service (MaaS) and integration of networks/services; Multimodal Trans-European Transport Network (TEN-T);Multimodal transport governance; Open science in transport research; Performance indicators; Product-as-a-Service (PaaS) or Product-Service business models; Public-Private Partnerships (PPPs) & Public-Private-People Partnerships; Risk sharing and stakeholders' engagement; Shared mobility and CCAM; Socioeconomic and financial sustainability.

4.3 – Internalisation of Transport Externalities and Pricing Carbon

Keywords: Air pollution emissions (PM 10, PM2.5, etc.) from motorized transport; Biodiversity impacts (in transport corridors); Carbon emissions and carbon trading; Discrete-choice / Behavioural modelling; Economic values; Financial & socioeconomic sustainability; Green taxation; Impact assessment; Internalisation policies and marginal costs; Life-cycle Analysis; Traffic noise and vibrations.

4.4 – Supporting Competitiveness & Industrial Policy

Keywords: Circular economy and value chains; Competition policy, regulation and liberalisation of services; Data governance/Single market for data; Entrepreneurship and cross-modal cooperation; Human and value-centred Industry 4.0 / Industry 5.0;Industry & transport innovation; Market competitiveness and efficiency; Reducing freight costs; Socioeconomic and gender issues; Stakeholders (public and private); Sustainable commercial procurement; Transition pathways and cross-modal cooperation; Transport labour market; new skills and education/training; World corridors and the EU (e.g. the Belt and Road Initiative, The Bella Cable project).

III. Call for Submissions

Submission of abstracts (until 30 November 2021)

- Contributions should be aligned with the themes of the Conference. Contributions can be of different nature, presenting scientific work and research results or reporting applications and innovation experiences (best practices and case studies). The abstracts should be submitted using the TRA2022 Abstract Template to the TRA2022 Ex Ordo Conference Platform.

Notification of the abstracts' reviewing results (no later than 31 January 2022)

- If the abstract has been "accepted", the work can be presented at the conference, either as a podium communication or as a poster, depending on a later decision of the reviewers.

Submission of the conference papers (until 15 April 2022)

- If the abstract has been "accepted", the authors may submit a complete "conference paper", following the proceedings specifications to be announced in due time. If the authors do not do this submission, the presentation of the work at the conference will be only guaranteed as a poster.

Notification of the conference papers' reviewing results (not later than 30 June 2022)

- The authors of accepted papers will be invited to submit a final version for the Conference Proceedings (incorporating the revisions requested by the reviewers). They will also be informed if the work will be presented as a poster or as a podium communication. Finally, the acceptance of this decision by the authors has to be confirmed by following the specifications for the conference registration.

Submission of the final versions of the conference papers (until 15 July 2022)

- The final versions will go through a fast "checking" process before they are definitively accepted for publication in the Conference Proceedings.

Journal submissions

- Selected papers in line with the scope of Special Issue of the Journals coordinated with the Conference (the final list of Special Issues will be announced soon) will be invited to submit to those Special Issues. The specific conditions for submission will depend on the journal and will be disclosed in due time. As usual, a paper submitted to one of these special issues will be either rejected or accepted (possibly with the need for revisions) by the journal editors.

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