



THE
CONVERSATION
CONTINUES



THE
MOBILITY
R-EVOLUTION

9-10 November 2020

VIRTUAL ITS EUROPEAN CONGRESS

POST-SHOW REPORT

The numbers of the Virtual ITS European Congress 2020

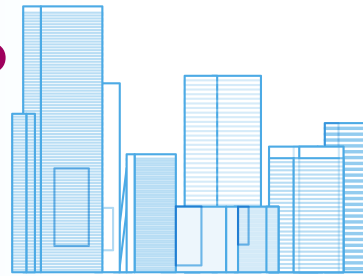
623
participants

SECTORS



Public

60%
40%



Private

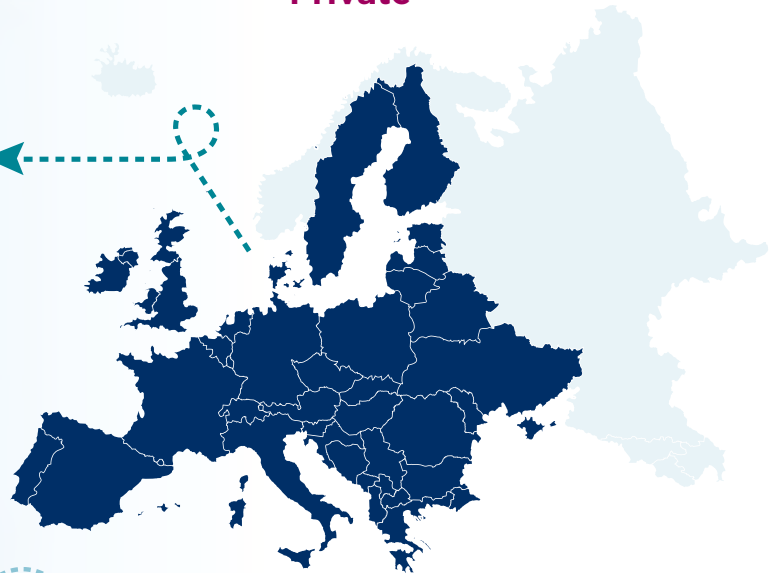
COUNTRIES

39
total countries

87%
Europe



13%
Non-Eu



20 high level
Speakers and Keynote



160 speakers
focusing on Resilience,
New, Green and Vision



14
partners
& exhibitors



26.185
papers downloaded
out of **169** papers



5 satellite
events or discussions

EVENT SUMMARY

Resilient Mobility

Discussions inevitably focused on the impact so far of COVID-19 and the possible implications for future travel. In many ways the pandemic has been a stress-test of transport resilience and illustrated the need to interpret 'Resilience' as the capacity to recover from unexpected disruption and not as an unattainable security goal. A concept of '100% resilient' was not meaningful - resilience was a spectrum and the goal should be the fast identification of disruption and rapid recovery from it.

The pandemic has prompted rapid growth of telecoms demand from e-mail traffic and videoconferencing; by and large the sector has coped. The need to strengthen cyber-testing and increase anti-hacking processes has been addressed at an early stage. This was an important lesson as the V2V and V2I traffic expected from connected and automated vehicles would increase these demands and faster responses would be required. However network managers were less familiar with understanding traveller behaviour changes so were correspondingly slower to react in many cases.

Using digital twins (sometimes described as 'digital playgrounds') could considerably help resilience planning and also live incident management by enabling the rapid testing and trialling of analytic and corrective tools. This was especially true for cities and urban conurbations where a well-designed twin could also explore the impacts of weather and non-transport incidents. But digital twins are fundamentally models and depend on fast open access to real-time data; slow progress with their deployment is not a consequence of technology limits but a lack of data sharing.

From a user's personal standpoint journey resilience is enhanced if multi-modal real-time information is available on all travel options, timetables and prices. Different mobility stakeholders have different end goals but without better public-private collaborations on data access neither sector will get maximum benefit. An on-line poll of congress participants showed that over 90% believed the responsibility for mobility resilience was a public-private shared duty.

Much of today's infrastructure has fairly modern equipment, but it is based on old design philosophies and additional investment is needed now to deal with the expected growth of connected and automated vehicles. In addition to the V2V and V2I traffic expected from the CAVs there would be growth in what is currently a quieter sector, business-to-business and business-to-government. This would be particularly so for freight traffic rather than passenger where even in normal times the argument for freight resilience is stronger than that for passenger.

New Mobility

The question here was to discover what needed to be done to ensure that the best mobility innovations were retained whilst providing an open market for future developments. It is important to remember that 'mobility' should be seen as the ability to move or be moved freely and easily so it was not just the transport element: it was the whole chain of physical access to services; information; ticketing & payment; safety, in the sense of fewer accidents, but also perceived safety. Another aspect was supplying services that added to users' liveability.

'New Mobility' was essentially digitally-based and interoperable across borders and products. This was not yet the position everywhere and many cities did not have clear policies or strategies for accommodating innovation. Innovation did not happen on a blank canvas so it needed to happen within a relaxed legislative framework to let disruption settle down and new behaviour patterns to emerge. A well-designed digital twin could enable experiments to test the impact of new services. Good data was essential for building good services and this rested on both public-private collaboration and recognition by all stakeholders that open data standards and interoperability interfaces were essential. Potential new players must accept that legacy systems could not be abandoned. The future for mobility was options and for travellers that had to mean no proprietary solutions and inclusion of all modes not just car travel.

User accessibility to mobility needs to be carefully planned – it was not necessary to be 'digitally savvy' if user interfaces were carefully designed to conceal the digital systems behind them. Service quality goals should also be much the same for the passenger and freight domains. In the background to service quality there was a challenge for the traditional traffic industry – it was used to operating with a predominantly business-to-government business model, but this was already changing and the future model was a more complex mix of data flows between business, government, user and infrastructure. It was helpful to think of traveller management rather than traffic management.

With the strong global trend to urban living, governments need to give more thought to ensuring that there were no major differences between urban and rural services, and between freight and passenger services particularly in cities. Similarly cities needed to give more thought to their frameworks for encouraging mobility provision and innovation. All policies must protect the availability and use of open data and open standards.

Collaborative working was vital – governments did not like to change and often could not change quickly but they needed to recognise that the mobility provision and mobility management sectors were both changing rapidly. Industry also needed to acknowledge that local and national governments must retain control of high level mobility management. The key stakeholders needed to work together to understand and accept each other's plans and problems.

A session on the same theme revealed that citizens and driverless mobility needs to involve the main future users and affected stakeholders – citizens – to discuss requirements and impacts with them before planning deployment. To create a frame and conditions for the dialogue it was essential to build trust between all stakeholders, not just citizens. EU guidelines on sustainable urban mobility plans offered an established framework for doing this. Another session aimed to identify the barriers to wider adoption of MaaS. Deploying the underpinning technologies (multi-modal information, journey planners, seamless ticketing and payment) was usually straightforward; the issues slowing progress were service providers' reluctance to modify business models, cities and governments slow to set policy goals especially for competition and pricing, weak monitoring of performance levels and quality, and reluctance to open public data to the private sector and vice versa.

A key action for MaaS schemes is the ease of adding a new mode or service provider and smart cards are increasingly being recognised as an efficient and effective way to do this. A session had an interesting debate on the relative benefits of 'closed loop' cards or open devices such as a bank card. The key conclusion was that simplifying payment through one device and digitising ticketing were both essential for developing MaaS.

Green Mobility

The European Green Deal 2050 offers a commitment to be climate-neutral by 2050 – an economy with net zero greenhouse gas emissions. Although transport is one of the two main emitters it is believed that targets are achievable, provided there was early movement to set the strategies needed to comply. The solution was not a simple process of eliminating combustion engine vehicles as the energy generation aspects of electric vehicles needed to be factored into policies. Delivering the 2050 goals needed action now to generate the universal political will, revise governance regimes and introduce a mix of incentives and penalties to support the behavioural changes needed.

It is also necessary to ensure that COVID19 is not used as an excuse to delay action. The pandemic has helped in some way mobility planning as it has shown that air quality can be improved very quickly, has provided motivation for reallocating road space, and has demonstrated that traveller behaviour can be changed if the underlying reasons were clearly explained. It has also illustrated what a future mobility world of 2030/2040 might look like and has revealed that we are less resilient than we think.

Discussion of adapting users' behaviour noted that mobility was crucial to the functioning of many other societal activities so improving the sustainability of the sector was a priority task. It is necessary to look at transport pricing where it can be argued that too many aspects are under-priced. The prices of electric vehicles do not represent the full economic lifetime cost of making them and their component parts. Road users do not meet full social costs and the retail sector aims to influence customer choice with free deliveries for on-line purchases, which conceals the full costs of behaviour from users. It is vital to have good measurement of the costs of transport and ensure that these are clearly visible to users.

It was agreed that nearly all the ITS technologies and processes required for a more sustainable lifestyle were available now although some (eg batteries and storage technologies) needed further development. MaaS linked to integrated ticketing and payment and a part of integrated space planning provided a robust foundation to change. The space planning aspect was important; the needs of housing, business leisure and transport were closely linked and should not be looked at in isolation.

Panellists were asked to sketch the path towards the 2050 goal. It was necessary to start to plan and implement the change processes now even though 2050 might seem a long way away. The various stakeholders had to work more closely together, do more to share knowledge, and accept challenges to the traditional ways of doing things. This needed to be seen as a global team effort there would be no gain if Europe's obsolete internal combustion engine vehicles were redeployed to, say, Africa. and it was beyond the reach of just one city.

Visionary Mobility

The preceding three themes considered the different developments and challenges, but they fitted the common objectives of mobility that was sustainable, smart, safe and efficient. It was also possible to identify common barriers: it was difficult to persuade or incentivise individuals to avoid choosing the personal car, a point emphasised by COVID 19 safety concerns. While it was certainly possible to make mobility greener without loss of efficiency it was a task for collective, not individual, action.

Mobility planning usually focuses on the passenger mode, but the freight sector is equally significant. Digitalisation is helping the movement of goods to be more sustainable which in turn helps the efficiency of a long and complex supply chain. However the logistics industry is somewhat conservative and often regards what would be a small evolutionary change for passenger travel as a more revolutionary step.

There was widespread agreement that all stakeholders needed to work more closely together, but it was often the case that valuable solutions were already deployed but in a different mode and encouraging this 'lateral learning' was difficult. For example cybersecurity in the rail world was little different from cybersecurity on roads but the sectors tended not to overlap at planning meetings or congresses.

Future mobility, especially in a post-COVID world, would require modified societal models to relate to a variety of new solutions enabled by the growth of digitalisation. This in turn would mean local and national governments would need to modernise their regulatory and governance frameworks. All stakeholders needed to recognise that governance and regulatory regimes could sustain or constrain changes in both supply and demand of mobility. Cities in particular needed to do much more to involve all stakeholders and users to work together on targets, problems and solutions.

Another key development for cities was changing from the traditional model of accepting levels of demand and trying to respond to them. COVID has enabled experiments with changing the supply – for example reallocating road space to active modes such as cycling and walking and, to a lesser extent, micro mobility services. The pandemic has catalysed more joint stakeholder working and has brought lessons on making changes with little if any disruption.

Panellists were invited to comment on likely changes and challenges across the next five years. The expected changes included traveller behavioural changes with more purposeful planning; continued growth in digitalisation; and faster rate of innovation bringing with it new types of stakeholders. The challenges were convincing travellers that public transport was a safe choice after some over-reaction to COVID; ensuring city authorities, regulators, service providers and users all work together for a common good; users being able to adapt

behaviour to new mobility frameworks; implementing innovatory services and blending the new with the legacy products; and maintaining interoperability.

A session on mobility network management described the shift from simple traffic management to mobility network management where the goal was optimising travellers' experiences. Achieving this rested on integrating traditional road network operation and its associated traveller services with multi-modal mobility services and suppliers using simplified user interfaces. This in turn required competing commercial organisations to work together with each other and the public sector, a collaborative process termed 'co-opetition'.

Transforming vehicles and systems using 5G and AI emphasised the synergy from the combination. If the engine is a vehicle's heart then AI is the brain and 5G the nervous system. AI tools were increasingly deployed within vehicles, in network management generally but also for incident and edge detection and situation perception. The amalgamation with 5G delivered rapid real-time data transfer allowing a range of new services such as cooperative perception of the environment while travelling.

Many cities have the same targets – implementing safer, more efficient, more sustainable mobility and improved air quality, often based on a shift from personal cars to public transport, active transport, and sharing services. Mobility on demand or demand-responsive transport (it could also be seen as mobility without timetables) was increasingly seen as a key fourth ingredient in the new mobility world. Delivery of all these changes involved digitalisation combined with sensitive regulation, open data and open standards regimes.

The rapid evolution of electric cars and the strong recent growth in lighter vehicles – reinforced by the constraints of the COVID epidemic – has established electro-micromobility as a flourishing sector. The current problems were a mix of regulatory regimes and no agreement on payment options or physical charging infrastructure across Europe. Action on these points is urgently needed. There were a number of common threads in the various discussions – the gains from combining different functional modules through open standards and interoperability platforms; the benefits to users from simple access to services from a single registration; the need for competing commercial organisations to work together with each other and the public sector. Innovation was accelerated by a light regulatory regime but as operational experience was gained by service providers open standards and more closely specified regulation (perhaps better seen as 'orchestration' of stakeholders) were needed to protect market access, competition, interoperability and trans-Europe roaming. The governance frameworks for all aspects of ITS needed to involve users from the beginning – they are stakeholders and co-decision takers in the Mobility R-Evolution.

Eric Sampson,
Independent Transport Strategy Advisor

FROM SOME OF OUR SPONSORS AND EXHIBITORS

"For us in the West Midlands, it was great to see our colleague Prabs Johal talking about how our Future Transport Zone is encouraging the use of green connected and autonomous vehicles in the 'Using connectivity and automation to deliver sustainable mobility' session"

John Paddington, Transport for West Midlands



"The ITS (UK) team found that the Virtual ITS European Congress was the perfect platform and opportunity to build and create new relationships with key mobility players and influencers albeit in a virtual format. We were pleased to be actively involved in the process of pushing forward the digital evolution and inspiring further sustainable mobility and transport solutions."

Jennie Martin, ITS UK





FROM SOME OF OUR SPONSORS AND EXHIBITORS

“The team at Connected Places Catapult were delighted to participate in the Virtual ITS European Congress. The platform selected by ERTICO made networking relatively easy for a virtual event, which combined with a strong speaker line and an engaging interactive exhibition made for an overall successful and worthwhile experience. The virtual event cannot replace the physical event, but there are some features and functions from the platform that could be added to future congresses that would enhance attendee involvement and participation.”

Gill Butcher, Connected Places Catapult.



“I was very pleasantly surprised by the quality of the platform which facilitated exchanges with participants and displayed an outstanding design and high-end conferences with interesting speakers.”

Nathalie Deguen, PARIFEX Sales Manager.



FROM OUR MAIN PARTNER: T-SYSTEMS

For T-Systems, the ITS Congress Europe 2020 was an exceptional event in many regards: the first completely Virtual Congress ever led by ERTICO on the professional congress platform Meetyoo, combined conference and exhibition elements with great networking facilities.

Being the major ITS Congress partner, T-Systems participated with four conference speakers as well as a large virtual booth, presenting the complete Connected Mobility product and service portfolio.

During the two conference days, T-Systems was present in various sessions: In the first High Level Session on “**Delivering resilience to the transport sector**” Oliver Bahns, Head of Connected Mobility, underlined that connectivity is essential to make a transport system resilient against external factors.

Connecting all elements such as cars, the different modes of transportation and the traffic infrastructure allows to create a digital representation of the dynamic status of the system.

This digital twin is the foundation for services which increase traffic safety, sustainability as well as the robustness of the system and our responsiveness to unexpected changes.

Dr. Johannes Springer focussed in the session “**Transforming vehicles and transport systems with 5G and AI**” on the presentation of different innovative activities in the 5GAA association, e.g. how 5G mobile Edge Computing enables local dynamic maps with AI services and AI in the traffic infrastructure.

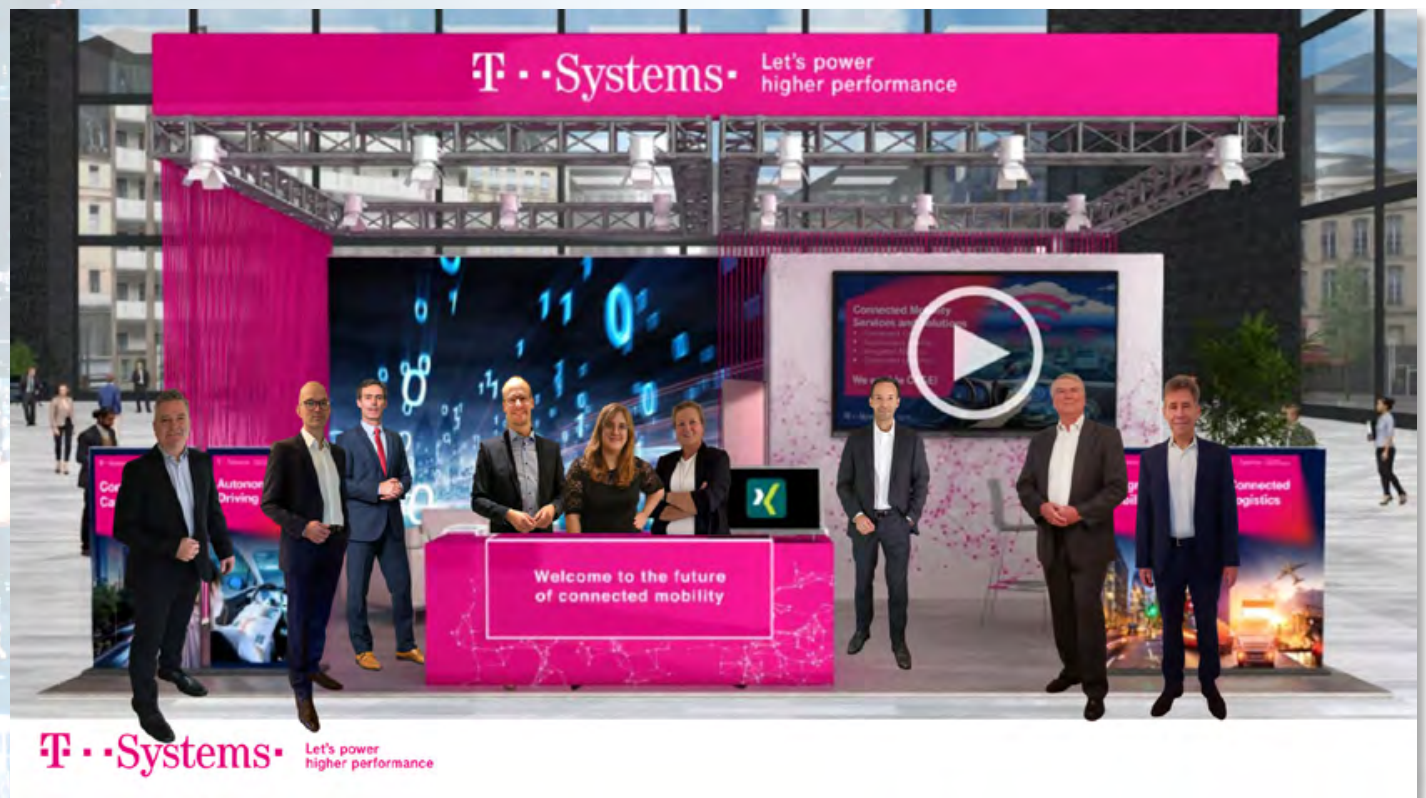
With regards to the upcoming Green Deal initiative of the European Commission, Joachim Klink, Head of Autonomous Driving and Integrated Mobility, and Ralf Willenbrock, Program Manager I.T.S., organised a “**Satellite Symposium on Sustainable Traffic Management**” (STM) including the ISO-23795 Standard on Low Carbon Mobility Management (LCMM).

Solutions built on this standard were found in the Horizon 2020 AEOLIX project to cut down emissions caused by road transport and logistics of up to 30%. During the Satellite Symposium, the relevance of STM and LCMM was discussed to be compliant with the strict air quality regulations on city level and to reduce emissions caused in logistics hubs such as airports and ports as addressed in the Green Deal Initiative.

Special focus sessions for this topic were **“Using connectivity and automation to deliver sustainable mobility”** moderated by Joachim Klink and **“Making Ports Greener through I.T.S.”** where Ralf Willenbrock showed how Germany’s ports implement innovative services in the logistics domain.

Despite of the difficult Covid-19 circumstances, the virtual Congress is considered a great success by T-Systems and an excellent preparation for the upcoming World Congress in 2021 in Germany in the City of Hamburg.

Great thanks to the ERTICO ITS team and all the organisers of the event. Let’s meet in Hamburg and continue with the market deployment of Intelligent Transport Systems for the benefit of mobility and environmental protection.



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