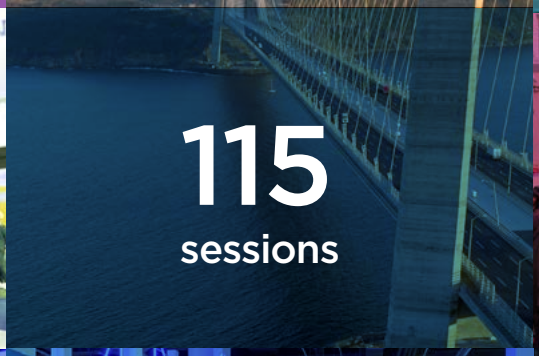
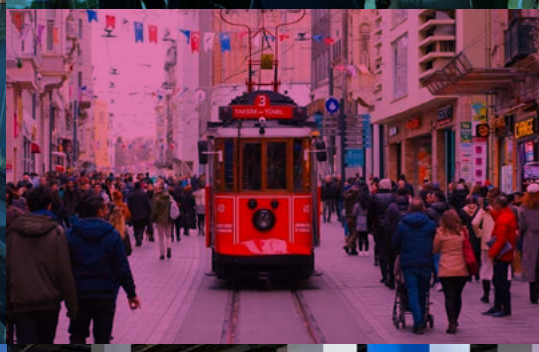
ERTICO
ITS EUROPE

EUROPEAN CONGRESS
ISTANBUL
27-29 APRIL 2026

17TH ITS EUROPEAN POST-CONGRESS REPORT

Bridging Innovation: Integrated, Safe and Seamless Mobility.



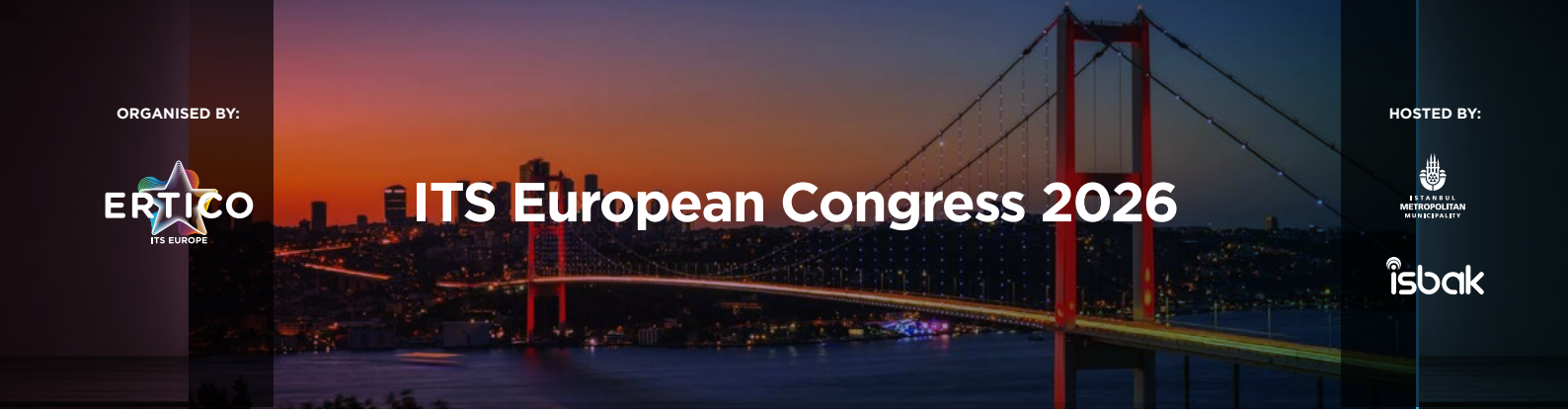


ORGANISED BY: ERTICO ITS EUROPE

IN COLLABORATION WITH:

HOSTED BY: İSTANBUL METROPOLITAN MUNICIPALITY, isbak

SUPPORTED BY: REPUBLIC OF TÜRKİYE MINISTRY OF TRANSPORT AND INFRASTRUCTURE, TBB, AUSTÜRKİYE ITS TÜRKİYE



ORGANISED BY:

HOSTED BY:

ITS European Congress 2026

Organised by ERTICO – ITS Europe and hosted by İSBAK and the Istanbul Metropolitan Municipality, in collaboration with the European Commission and with the support of the Ministry of Transport and Infrastructure of the Republic of Türkiye, the Union of Municipalities of Türkiye (TBB), and ITS Türkiye, the Congress served as a strategic platform for industry leaders, policymakers, public authorities, and researchers from across Europe and beyond, marking a defining moment for intelligent transport.

View the Highlights

"I would like to thank ERTICO and all its partners for organising this Congress and for creating a space for dialogue, exchange and cooperation. It is through discussions like this one that we will move closer for smarter, safer and more sustainable mobility systems."

Apostolos Tzitzikostas,
European Commissioner for Sustainable Transport and Tourism

"This Congress is a historic opportunity to consolidate Istanbul's place in the global arena as a technology brand and to prepare the ground for new international collaborations."

Erdem Samut,
CEO, ISBAK

Photo gallery

Day 1 | Day 2 | Day 3

YouTube Playlist

Congress at-a-glance

Mobility at Megacity Scale

"This 17th ITS European Congress showed that delivering seamless mobility is scaling up. Technology, policy and dialogue are essential building blocks."

Joost Vantomme
CEO,
ERTICO-ITS Europe

"Bringing the ITS European Congress to Istanbul would not have been possible without the strong commitment of our hosts and partners. On behalf of ERTICO - ITS Europe, I extend my heartfelt thanks to Istanbul Metropolitan Municipality, İSBAK, the Ministry of Transport and Infrastructure of the Republic of Türkiye, AUS Türkiye (ITS Türkiye), the European Commission, and everyone involved in delivering such an inspiring and successful event."

Didier Gorteman
CFOO,
ERTICO-ITS Europe

2,700
attendees!

140+
exhibitors!
showcasing the latest in Intelligent Transport Systems

54
countries!
GLOBAL PARTICIPATION

800
opening ceremony attendees

400+
international speakers

115
sessions

1,100
knowledge pass holders

DEPLOYMENT IN ACTION

6
exclusive technical visits:
Istanbul as a live example of multi-modal mobility at scale

6
live demonstrations and additional vehicle displays
showcasing innovation in motion

The People Shaping Mobility Across Regions and Systems

Audience Breakdown

60%
Host Region

36%
Rest of Europe

4%
Rest of the World

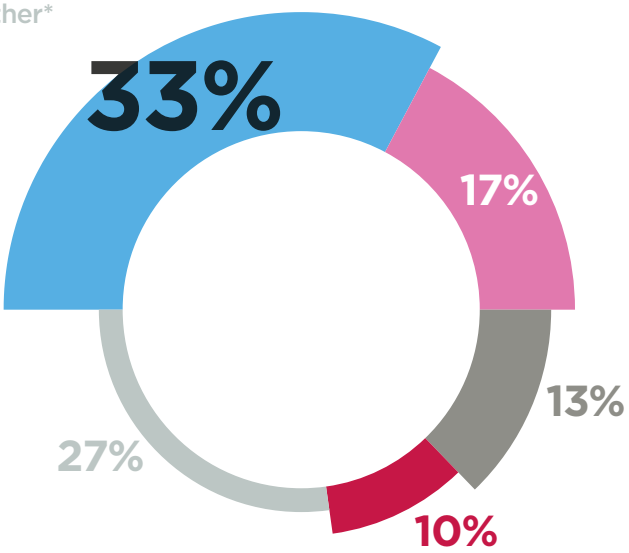
Public vs Private Sector Representatives

Private Sector
58%

Public Sector
42%

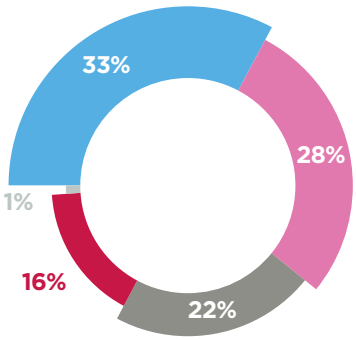
Industry Breakdown

Traffic and transport Industry
Research
Service Provider
Vehicle Manufacturers and Suppliers
Other*



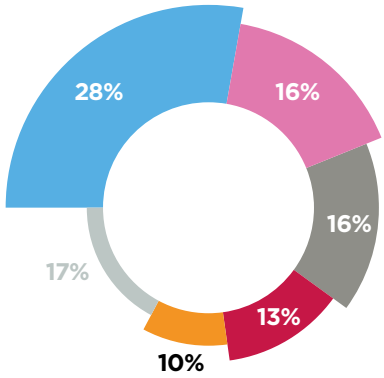
Participant Categories

Knowledge Pass
Innovation Pass
Exhibitor
Speaker
Student



Participant Profile

Director and Executive
Middle Management
Experts and Advisors
City Officials (Mayors, Councillors)
Academia
Other



From cities and policymakers to industry leaders and researchers, participants met the full ITS community shaping the future of mobility.

* Connectivity industry, Users, Other

Policy Shapers, City Voices, Industry Experts United in Istanbul

Opening with Unity

Setting the Direction for Integrated Mobility

The Congress opened with high-level speeches from **Nuri Aslan**, Acting Mayor, Istanbul Metropolitan Municipality, **Dr. Angelos Amditis**, ERTICO Chairman, European Commissioner for Sustainable Transport and Tourism **Apostolos Tzitzikostas**, Acting Head of the EU Delegation to Türkiye **Jurgis Vilcinskas**, and Deputy Minister of Transport and Infrastructure, **Dr Ömer Fatih Sayan**, setting a strong call of collaboration to advance integrated and sustainable mobility.

Nuri Aslan
Acting Mayor
ISTANBUL METROPOLITAN MUNICIPALITY (IMM)

Dr Angelos Amditis
ERTICO Chariman
ICCS

Jurgis Vilčinskas
Acting Head of Delegation to Türkiye
EUROPEAN EXTERNAL ACTION SERVICE

Dr Ömar Faith Sayan
Deputy Minister
MINISTRY OF TRANSPORT AND INFRASTRUCTURE

"Events like the ITS European Congress are key because they turn policy into implementation. They bring together public authorities, industry and financiers to align standards and regulations, accelerate deployment of smart and green mobility solutions and generate concrete, investable projects."

Jurgis Vilčinskas
Deputy Head of Delegation, European Union Delegation to Türkiye

High-Level Plenary session

One Journey: How do we Make Mobility Truly Seamless

The plenary highlighted how intelligent systems can evolve into the backbone of seamless, connected mobility.

Joost Vantomme
CEO
ERTICO - ITS EUROPE

Dr Pelin Alpkökin
Deputy Secretary General
ISTANBUL METROPOLITAN MUNICIPALITY (IMM)

Sarah-Jayne Williams
Director, Global Product Partnerships
GOOGLE MAPS

Dr Axel Volkery
Head of Unit Innovation and Urban Mobility
DG MOVE - EUROPEAN COMMISSION

"As Istanbul Metropolitan Municipality, we are pleased to host the 17th ITS European Congress, demonstrating how international cooperation and local government leadership can come together to produce powerful results. The knowledge gained and the connections established here will help shape global progress toward smarter and more sustainable cities."

Pelin Alpkökin
Deputy Secretary General, IMM

Discover More Speakers

From Ministers to Mayors, industry leaders to transport authorities, the Congress brought together voices shaping the future of mobility. Discover featured speakers.

Discover Featured Speakers

Driving Value for our Partners

Our Commercial Partners play a pivotal role in ensuring the success of the Congress. They provide stakeholders with an unparalleled platform to engage with industry influencers, exchange ideas and initiatives, and explore the latest trends in ITS and smart mobility.

Exhibitors' satisfaction rate

86%

value beyond transactions:

connections, visibility, partnerships

1,751

connections through the app

500+

contacts exchanged through QR code

"The value of attending the ITS European Congress in Istanbul was in the networking opportunities. As autonomous driving is a multidisciplinary industry, we met individuals from many organisations with whom collaboration is essential for project success."

Berzah Ozan
Chief Functional Engineer of ADAS,
Ford Otosan

Hear from our Exhibitors and Commercial Partners

Partnership Highlights

ITS Nationals, Associations, Organisations, Media Partners

Congress in the Press

29 associations/ organisations represented

18 ITS Nationals partners

20 media partners

50+ media and press on-site

"The ITS European Congress is an excellent platform to bring the mobility and transport community together and discuss current trends and future plans."

Dr Colin Wilcock
Chair of the Governing Board, 6GIA

"These congresses create a rare meeting point. They act as a catalyst for turning innovation into deployment by facilitating knowledge exchange, strategic collaboration, and cross-sector dialogue."

Ms Hanne Nettum Breivik
Chief Executive Officer, ITS Norway

"From our conversations in Istanbul, there is as strong a sense of the importance of cooperation – between companies, organisations and sectors – as we've ever seen in the ITS industry."

ITS International,
Main Media Partner
www.itsinternational.com

"This year it was exciting to see the ITS European Congress pushing new boundaries with its first ever edition in Türkiye, in the city of Istanbul... a location that literally straddles continents and opened up new opportunities for ITS suppliers."

TTi, Main Media Parter
www.traffictechnologytoday.com

Why Did They Join?

Programme Highlights

Smart Mobility Summit of Cities and Regions

Accelerating the transition to integrated and sustainable mobility through city leadership.

35 cities & regions

80+ public leaders

"Events like this are important for comparing solutions adopted in other cities, for networking, and for learning from the experiences of other countries."

Mr Emilio Robotti
Deputy Mayor,
Genoa, Italy

Read the Summit Outcomes

ITS Arena

Deployment in Action

30+ ITS Arena sessions

73 speakers representing the full ITS deployment ecosystem

Supported by:

42 industry and tech providers

18 cities and public authorities

7 research and academia

6 EU organisations

and many more

"Once again, the ITS Arena brings stakeholders together to discuss key deployment challenges, latest advancements, and the support of standardised solutions."

Barbara Pareglio
Senior Technical Director, GSMA

Technical Programme

Expertise and knowledge exchange across the ITS ecosystem.

115 expert-led sessions

400+ speakers and contributors

The programme showed that real progress in mobility comes from connecting innovation, deployment and collaboration to turn ideas into integrated solutions that work at scale.

The Power of Co-Creation

Uniting stakeholders to align ambitions and jointly shape solutions within and beyond the ITS ecosystem.

8 co-created sessions

38 cross-sector speakers

11 public authorities & cities

13 EU institutions and associations

8 industry and operators

6 research and user organisations

"In the co-created session with Eurocities, bringing all governance levels together helped build a shared understanding of what is needed to align decisions and deploy ITS at scale."

Peter Staelens
Head of Mobility, Eurocities

Public Authorities' Experience

Read the Congress Programme Summary

Stay tuned!

The full Programme Report is on its way.

What the Community Values

Attendee satisfaction

82%
of attendees were very satisfied

→ **86%** exhibitors

→ **81%** speakers

→ **77%** delegates

> ***"It is an important networking opportunity across all relevant aspects of digitalisation in mobility with deep dives and debates on emerging concepts."***
>
> **Martin Russ**
> Managing director,
> AustriaTech

Voice from Participants

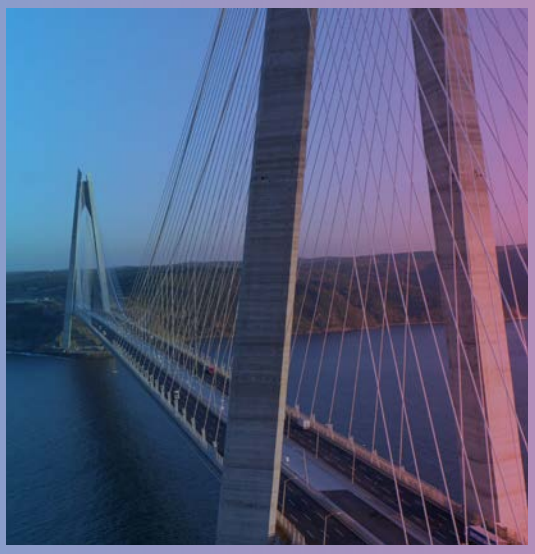
75%
of respondants would recommend the event to a colleague

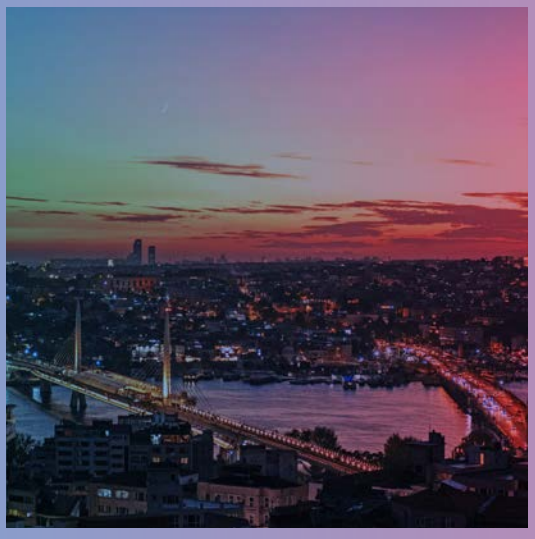
70%
of exhibitors would definitely exhibit again

Top reasons for satisfaction

1. **High-value networking and connections**
2. **Strong programme content and insights**
3. **Quality of organisation and delivery**

PROGRAMME INTRO





The Congress's principal theme "Bridging Innovation: Integrated, safe and seamless mobility" was chosen to focus on the pressing need for transport solutions that are sustainable, adaptable, and technologically integrated. It also played on the Istanbul city geography as a bridge between East and West Europe. As cities continue to grow and demands for mobility increase the importance of a cleaner environment, adaptability to counter disruptions, and seamless connectivity for quality user experience become evident. This theme aimed to show how intelligent transport systems can help both passenger and freight services meet current and future challenges.

The Congress was organised around **FOUR** key Topics:

The European Programme Committee, chaired by Joost Vantomme, appointed rapporteurs for each topic tasked with capturing the key messages and outcomes from the Congress, the exhibition and the demonstrations. The headline theme was addressed by a wide range of different types of session, over 100 in total – Plenary, Special Interest, Strategic Futures, Technical, Research – as well as specialised workshops and the Smart Mobility Summit of Cities and Regions.

Part 1 captures the key discussions from the Plenary Sessions, while Part 2 highlights the innovative Co-Created Sessions. Part 3 explores the Technical and Research paper Sessions, together with the Special Interest and Strategic Future Sessions. Finally, Part 4 summarises the proceedings at the Smart Mobility Summit o Cities and Regions.

I give my profound thanks to the marvellous team of rapporteurs who helped me so much and without whom this report would not happen:

Topic 1
Risto Kulmala
Sven Maerivoet
Ibrahim Öztürk

Topic 2
Carol Schweiger
Patrizia Franco
Stefania Pesavento

Topic 3
Tim Morris

Topic 4
Andrew Winder
Chris Brown

My thanks also to **Bart van Arem** our Scientific Director and the moderators & rapporteurs of the Cities and Regions Summit.

My colleagues from **ERTICO and MCI** all deserve grateful mention for their quick and cheerful handling of my numerous enquiries and questions.

PROFESSOR ERIC SAMPSON
CHIEF ***RAPPORTEUR***

THIRSK UK JUNE 2026

PART 1
PLENARY SESSION

Plenary Session:
ONE JOURNEY: HOW DO WE MAKE MOBILITY TRULY SEAMLESS?

MODERATOR	Joost Vantomme	ERTICO Belgium
SPEAKER	Sarah-Jayne Williams	Google Maps, UK
SPEAKER	Axel Volkerry	DG MOVE, European Commission, Brussels
SPEAKER	Pelin Alpkökin	Istanbul Metropolitan Municipality, Türkiye

This plenary session examined whether intelligent mobility systems can finally deliver seamless, connected and sustainable transport across modes, cities and borders. Bringing together perspectives from the **European Commission, Istanbul Metropolitan Municipality and Google Maps** the discussion highlighted a striking conclusion: the primary barriers to seamless mobility are no longer technological. Instead, they lie in user behaviour, fragmented digital ecosystems, inconsistent implementation of existing frameworks and the challenge of building trusted data-sharing environments.

From the city perspective, **Pelin Alpkökin** challenged the assumption that better infrastructure automatically leads to better mobility outcomes. Istanbul had invested heavily in integrated transport networks, transfer hubs and new metro lines, yet actual usage had often fallen below demand forecasts. The gaps lay not in planning methodologies but in understanding and influencing human behaviour. Travellers made decisions based on convenience, habit and personal preferences rather than transport models. For rapidly growing cities facing geographical, historical and capacity constraints, future mobility improvements will depend less on building new infrastructure and more on using technology, data and behavioural insights to maximise the performance of existing assets.

Sarah-Jayne Williams argued that journey planning was increasingly a solved problem. Users can now create sophisticated multimodal journeys within seconds using digital tools. The real friction occurred during journey execution. Booking tickets, unlocking bikes, reserving parking spaces and accessing different mobility services still required navigating multiple disconnected platforms. The result was a fragmented user experience in which travellers performed the integration themselves. The missing layer was not route planning but a connected digital ecosystem capable of delivering seamless end-to-end journeys. Looking ahead, agentic AI could fundamentally change this model by automating many of the decisions and transactions currently managed by users.

Axel Volkery emphasised that Europe already possessed many of the necessary policy foundations through the ITS Directive, the TEN-T framework, Sustainable Urban Mobility Plans (SUMPs) and the emerging European mobility data space. The challenge was not so much creating new frameworks but implementing existing ones effectively and at scale. Building trust between public authorities, mobility operators and technology providers was critical. Data owners must retain control while enabling interoperability, data discovery and service integration. He also highlighted the importance of new urban mobility indicators that will provide more consistent and comparable mobility data across European cities.

A recurring theme throughout the discussion was the **growing importance of digital infrastructure**. Participants stressed that investments in roads, railways and public transport must be accompanied by investments in data governance, digital systems and real-time information. If new infrastructure was not reflected accurately in digital platforms users could not be guided towards sustainable choices and cities could not fully realise the benefits of their investments. Technology should support decision-making, not replace it, helping travellers make informed choices while maintaining trust and transparency.
The discussion concluded that seamless mobility required a shift from technology-centred thinking to user-centred implementation. Success depended on collaboration between cities, policymakers and industry, supported by trusted data ecosystems, behavioural insights and scalable digital services.

KEY TAKEAWAYS

1. The greatest challenge is behavioural change, not technology, as travellers do not always act in line with mobility plans and forecasts.
2. Journey planning tools are mature, but ticketing, payment, booking and service integration remain fragmented.
3. Europe's priority should be implementation and interoperability rather than creating additional regulatory frameworks.
4. Trusted, real-time and interoperable data is the foundation of seamless mobility and effective transport management.
5. Cities must invest in digital infrastructure alongside physical infrastructure to maximise mobility benefits.
6. Agentic AI could become a major enabler by automating journey coordination and reducing complexity for travellers.

PART 2
CO-CREATED SESSIONS

The Istanbul Co-Created Sessions featured for the first time in a Congress. The new format aimed to encourage a shift towards more collaborative and participatory programme design by bringing together key ERTICO partners and in-house experts to create interactive platforms for alignment and problem-solving, addressing topics such as:

- **Connecting local priorities with European and global mobility frameworks.**
- **Expanding mobility beyond the road, including aviation and emerging systems.**
- **Strengthening international collaboration and cross-sector partnerships.**
- **Embedding societal and user perspectives into system design.**

The sessions were developed with organisations such as POLIS Network, Eurocities, 6G Infrastructure Association (6GIA), CEDR, ITS Nationals, CILT Türkiye, the European Passengers' Federation and PAVE Europe to bring together complementary expertise from across a range of ITS sectors.

Co-Created 1

FROM SMART SYSTEMS TO SMART GOVERNANCE: ALIGNING POLICIES FOR INTELLIGENT URBAN MOBILITY

MODERATOR	Peter Staelens	EUROCITIES, Belgium
SPEAKER	Christopher Brown	Transport for West Midlands, United Kingdom
SPEAKER	Gintare Janusaitiene	Ministry of Transport and Communications, Lithuania
SPEAKER	Gemma Schepers	City of Amsterdam, The Netherlands
SPEAKER	Axel Volkery	DG MOVE, European Commission, Brussels

This session examined how mobility policies can be governed more effectively through stronger collaboration across local, regional, national and European levels. Moderated by Peter Staelens, the discussion explored the barriers to multi-level governance and the mechanisms needed to ensure that mobility innovation, regulation and implementation remained aligned with users' needs and public policy objectives.

A central theme was the importance of both vertical and horizontal cooperation. Effective governance requires coordination between cities, regions, national governments, European institutions and international partners, while also ensuring collaboration across different policy areas and stakeholder groups. Participants agreed that the complexity of modern mobility challenges made isolated decision-making increasingly ineffective.

Axel Volkery outlined the European perspective, highlighting the role of the ITS Directive as the foundation of the EU's intelligent transport strategy. The Directive was developed through extensive consultation across governance levels, providing a shared framework for action. However, implementation remained uneven. Cities often faced practical challenges when balancing competing policy objectives, such as improving traffic flow while meeting environmental and air quality targets.

Gintare Janusaitiene focused on cross-border mobility, particularly efforts to improve ticketing and payment systems for international rail services. Progress had depended on ensuring that data and access arrangements were based on open, internationally recognised standards, enabling interoperability and reducing barriers for travellers.

Christopher Brown described the creation of the West Midlands Combined Authority which brought together seven transport authorities under a single governance structure. This approach simplified the implementation of national policies at the regional level while improving the ability to assess the social impacts of transport investments and service changes.

Gemma Schepers highlighted challenges facing cities such as Amsterdam, where rapid technological change often outpaced existing governance structures. City authorities increasingly needed to manage both physical infrastructure and digital systems simultaneously. Emerging issues, including the growing use of electric bicycles, require swift responses that can be difficult to achieve within slower national and European regulatory processes. This pointed to a need for stronger links between local experience and higher-level policymaking.

The panel also discussed the challenge of standards development. While industry-led standards could be adopted more quickly they might well lack broad stakeholder ownership. Conversely, formal European standardisation processes often produced more widely accepted outcomes but required significantly more time. Participants suggested that more bottom-up approaches, allowing practical solutions to emerge before formal standardisation begins, could help accelerate progress.

Throughout the discussion, there was strong agreement that governance must remain focused on users. Open decision-making processes, future-focused scenario planning and practical testing environments can help build understanding, trust and acceptance among citizens while ensuring that mobility systems evolve in line with societal needs.

KEY TAKEAWAYS

1. Effective mobility governance depends on strong collaboration across local, regional, national and European levels.
2. Open standards and interoperable data systems are essential for seamless cross-border mobility services.
3. Governance frameworks must adapt more quickly to technological change and emerging urban mobility challenges.
4. User involvement, transparency and trust are critical to successful policy development and implementation.

Co-Created 2

DIGITALISATION AND AUTONOMOUS VEHICLES: TRANSFORMING THE WORKFORCE AND SKILLS LANDSCAPE

MODERATOR	Louison Duboz	PAVE, Belgium
SPEAKER	Nourie Boraie	EINRIDE, France
SPEAKER	Cornelia-Madalina Suta	Cambridge Econometrics, Belgium
SPEAKER	Ada Taskoparan	ADASTEC, Türkiye
SPEAKER	Guy Van Hyfte	Bruges Metropolitan Area, Belgium

This session examined how digitalisation and autonomous vehicle technologies are reshaping employment, skills requirements and workforce planning across the mobility sector. Bringing together perspectives from industry, research, local government and worker representatives, the discussion focused on how technological change can be managed in a way that promotes inclusion, diversity and workforce resilience.

The discussion began with recognition that automation and digitalisation are no longer future concepts but are already transforming mobility systems and the jobs that support them. While these developments offered opportunities to create new roles and improve productivity, they also raised important questions about access to employment, workforce diversity and the skills needed for the next generation of mobility services.

Cornelia-Madalina Suta highlighted the growing demand for new technical and digital competencies across the transport sector. Traditional occupational categories were evolving as data management, digital systems and automation became increasingly important. While many existing jobs would remain they were likely to require higher levels of digital literacy and analytical capability. Skills required for system design and development differed from those needed for deployment, operations and governance, creating challenges for workforce planning. There was concern that roles previously accessible to individuals with lower levels of formal education might become less available without targeted reskilling efforts.

Ada Taskoparan described how automation, electrification and intelligent software were being applied to freight and logistics to address driver shortages, reduce accidents and improve traffic management. Emerging roles such as remote vehicle operators were presented as examples of how automation can create new employment opportunities, particularly when supported by retraining programmes and collaboration between public and private sectors.

Nourie Boraie discussed the deployment of autonomous and electric freight ecosystems, including vehicles, control systems and charging infrastructure. Unlike passenger transport freight and logistics faced long-standing labour shortages that were expected to worsen as experienced drivers retired. In this context automation was viewed as a tool to maintain supply chain continuity while creating new technical and operational roles.

Guy Van Hyfte reflected concerns expressed by workers and end users. While technological change was already underway, public confidence in autonomous systems remained mixed and many employees were uncertain about the future of their jobs. Participants agreed that stronger dialogue was needed between technology developers, authorities, regulators, workforce representatives and users to ensure that deployment strategies address both social and economic concerns.

Audience discussions highlighted cybersecurity, digital risk awareness and systems integration as particularly important future skill areas. Participants also noted that reskilling efforts must address all levels of organisations, including managers and decision-makers. Industry was seen as responsible for addressing immediate workforce needs, while governments and education providers must adapt training systems to anticipate future demand.

KEY TAKEAWAYS

1. Automation and digitalisation are transforming mobility jobs, increasing demand for digital and analytical skills.
2. New roles will emerge, but significant investment in reskilling and workforce transition is required.
3. Cybersecurity, systems integration and digital risk management are becoming critical competencies.
4. Successful workforce transformation depends on close cooperation between industry, government, educators and workforce representatives.

Co-Created 3
ON THE ROAD AND BEYOND FOR A TRULY MULTIMODAL FUTURE

MODERATOR	Steve Phillips	CEDR Belgium
SPEAKER	Alv Oidvin	ITS Norway
SPEAKER	Arne Beck	Nahverkehrsverbund Schleswig-Holstein GmbH, Germany
SPEAKER	Jerome Delmeulle	SESAR 3 Joint Undertaking, Belgium
SPEAKER	Ralf-Charley Schultze	International Union for Road-Rail Combined Transport, Belgium

This session explored how Europe can develop a seamless, sustainable, resilient and connected transport system by strengthening mobility beyond the road. Moderated by Steve Phillips the discussion brought together perspectives from maritime, air, rail and combined transport sectors, with a strong focus on shifting from modal thinking towards user-centred mobility.

A central theme was that travellers and freight customers are not primarily interested in individual modes but in reliable, efficient movement from origin to destination. **Alv Oidvin** highlighted the challenges for the maritime sector, where infrastructure problems are less visible than road congestion and therefore harder to translate into investment priorities. ITS can help by making mobility challenges visible, identifying bottlenecks and supporting the move from demonstration projects to routine deployment.

Jerome Delmeulle described work linked to the Single European Sky where long-term policy goals depend on technical solutions, deployment support and high-quality information services. Effective multimodal mobility requires integrated tools for planning, booking, payment and real-time journey management across transport modes.

Arne Beck focused on the needs of users in Schleswig-Holstein where a mix of geography and demographics requires flexible mobility solutions. The emphasis should be on understanding passenger preferences rather than designing services around the priorities of individual operators. Digital systems and data management can support more flexible service models and improve connectivity.

Ralf-Charley Schultze highlighted the importance of road-rail combined transport, particularly at terminals where modes connect. combined transport can improve resilience, competitiveness, accessibility and sustainability, while rail can also help address truck driver shortages. Progress depends on cooperation between stakeholders, open data platforms and interoperable standards.

The panel identified commercial, technical and regulatory barriers as key reasons why multimodality remains underdeveloped. Many organisations still defined themselves by mode rather than as mobility providers. Public procurement could help by setting outcome-based tenders that allow flexibility in the choice of delivery mode, although balancing scale and competition remained difficult.

Participants also stressed the need to update older regulatory frameworks and create a fairer basis for competition between modes, particularly when external costs are considered. While autonomous vehicles may simplify some multimodal services in future, certain services will still require public support because of their wider social value.

KEY TAKEAWAYS

1. Multimodal transport must be designed around user and freight needs, not individual transport modes.
2. Data, interoperability and open platforms are essential for seamless planning, booking and operations.
3. Public procurement and regulation can help shift organisations away from modal thinking.
4. Stronger cooperation between operators, authorities and sectors is needed to unlock multimodal benefits.

Co-Created 4

WHO IS IN THE DRIVER'S SEAT? GOVERNING AUTOMATED MOBILITY

MODERATOR	Karen Vancluysen	POLIS Network, Belgium
SPEAKER	Endre Angelvik	Ruter AS, Norway
SPEAKER	Serap Çetinkaya	Istanbul Metropolitan Municipality, Türkiye
SPEAKER	Lea Decker	New Mobility Solutions Hamburg GmbH, Germany
SPEAKER	Eric Kenis	Flanders Department of Mobility & Public Works, Belgium
SPEAKER	Laura Babio Somoza	Smart Mobility Lead, POLIS Network, Belgium

This session examined how cities and regions can ensure automated mobility supports public policy goals rather than being driven solely by technology or commercial interests. Bringing together public transport operators, city authorities and regional governments, the discussion focused on governance, regulation and the conditions needed for large-scale deployment.

A key theme was that the question is no longer whether automation will happen, but how it will be implemented and whose priorities will guide it. Participants agreed that cities and regional authorities must lead the process, with success measured by accessibility, sustainability, safety and social benefit—not technology alone.

Laura Babiou highlighted ongoing efforts by POLIS and Eurocities to strengthen the role of local and regional authorities in shaping automated mobility policies. She argued that deployment should be aligned with public needs and mobility objectives, ensuring that automation contributed positively to wider urban and societal goals.

Endre Angelvik highlighted the potential of shared autonomous mobility to strengthen public transport. He noted that automation should support more efficient shared mobility, reducing car dependency and vehicle travel, while warning that widespread private ownership could increase congestion through empty vehicle movements

Lea Decker described Hamburg's approach to integrating automation within a broader sustainable mobility strategy. Automated services were viewed as a tool to enhance public transport and shared mobility rather than replace them. She stressed the need to establish governance structures, data-sharing requirements and regulatory frameworks before large-scale commercial deployment occurs. Coordinated approaches across cities and regions were identified as essential to avoid fragmentation and support market development.

Eric Carton broadened the discussion beyond passenger transport, highlighting opportunities in logistics, freight and shared mobility. Automation could help address labour shortages, improve operational efficiency and create new service models. However, larger-scale deployments were needed to better understand impacts, validate business cases and inform future regulation.

Serap Çetinkaya emphasised the importance of testing automated mobility in real-world urban environments. Issues such as public acceptance, workforce implications, safety and data governance must be addressed alongside technical performance. For large cities, automation could help reduce congestion and parking demand when integrated into shared and demand-responsive transport services.

Participants agreed that Europe should build on its strengths in public transport, shared mobility and public governance. Effective deployment will require strong regulatory frameworks, access to operational data, scalable business models and a clear commitment to delivering societal value.

KEY TAKEAWAYS

1. Automated mobility should be guided by public policy objectives rather than technological readiness alone.
2. Shared autonomous services offer greater societal benefits than widespread private ownership models.
3. Strong governance, regulation and data access frameworks must be established before large-scale deployment.
4. Europe's competitive advantage lies in combining automation with strong public transport and shared mobility systems.

Co-Created 5

BEYOND SILOS: ADVANCED CONNECTIVITY FOR MULTIMODAL MOBILITY

MODERATOR	Edwin Fischer	Deutsche Telekom AG, Germany
SPEAKER	Georges Aoude	DERQ, United States
SPEAKER	Ultan Mulligan	ETSI, France
SPEAKER	Barbara Pareglio	GSMA, United Kingdom
SPEAKER	Colin Willcock	6G-IA, Belgium

This session explored the role of connectivity and digitalisation in enabling multimodal mobility, with a particular focus on the alignment required between the transport and telecommunications sectors. Moderated by Edwin Fischer, the discussion highlighted the growing interdependence of mobility services, communications networks and digital technologies, as well as the need for stronger collaboration in shaping future standards and infrastructure.

The panellists represented organisations active in mobile communications, standards development, connected mobility and next-generation network technologies. While their areas of focus differed a common message emerged: connectivity is a fundamental enabler of intelligent transport systems but its successful deployment depends on long-term cooperation between technology providers and mobility stakeholders.

Barbara Pareglio noted that the telecommunications sector primarily serves all categories of mobile users, with transport representing one of many application areas. **Georges Aoude** discussed the use of connectivity in traffic management and safety systems, particularly in road transport, where solutions increasingly rely on data-driven services that can operate across multiple transport modes. **Ultan Mulligan** highlighted the importance of standards, including those specifically developed for Cooperative ITS as well as broader frameworks covering areas such as cybersecurity. **Colin Willcock** focused on the development of 5G and 6G technologies, emphasising the lengthy process required to establish robust and globally accepted standards.

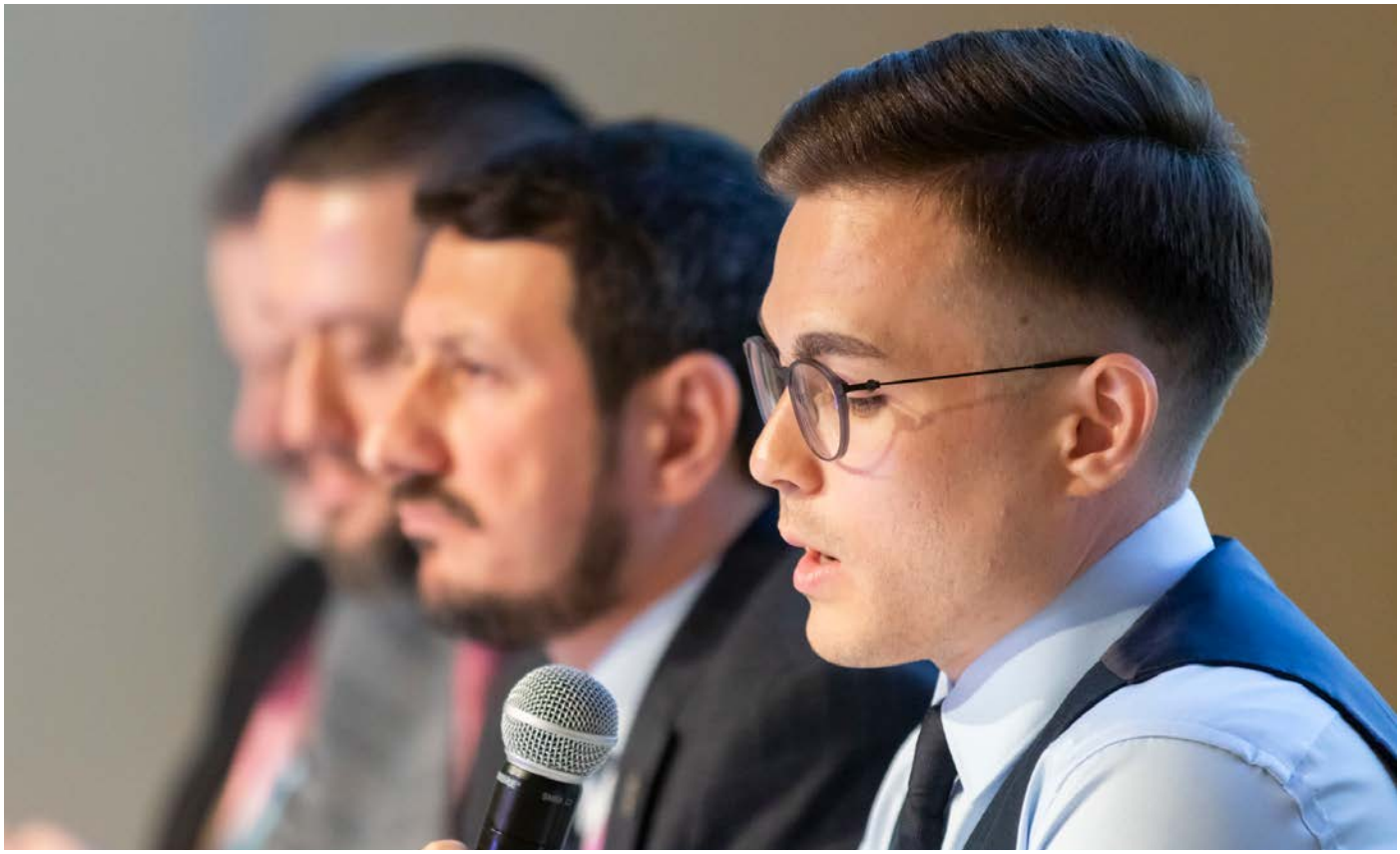
A key theme was that future connectivity solutions cannot be developed through a simple customer-supplier relationship in which transport stakeholders define requirements and telecommunications providers deliver them. Instead, the complexity of mobility applications, differing operational environments and varying product lifecycles require continuous collaboration throughout the development process. This is particularly important for 6G, where many future use cases remain under development and commercial deployment remains several years away.

The discussion also highlighted the challenge of aligning technology development with regulatory and legislative frameworks. Long-lived transport systems often depend on communication technologies that evolve more rapidly, creating potential gaps between policy requirements and technological reality. The experience of eCall was cited as an example of legislation struggling to keep pace with the decline of older communications standards.

Participants also examined the role of AI in future networks, both as a tool for improving network efficiency and as a service delivered through connected infrastructure. While still at an early stage AI offers opportunities to enhance performance and simplify system compatibility. Looking ahead, the integration of non-terrestrial communications, including satellite connectivity, was expected to become a seamless component of future 6G networks, supporting emerging mobility services such as aerial transport

KEY TAKEAWAYS

1. Effective multimodal mobility depends on close collaboration between transport and telecommunications sectors.
2. Standards development remains critical for ensuring long-term interoperability, security and scalability.
3. Regulatory frameworks must evolve alongside communications technologies to avoid creating barriers to innovation.
4. Future 6G networks will combine terrestrial and non-terrestrial connectivity while increasingly incorporating AI-driven capabilities.



Co-Created 6
NATIONAL AND CROSS-BORDER PROJECTS ACROSS EUROPE

MODERATOR	Joost Vantomme	ERTICO, Belgium
SPEAKER	Markus Wartha	ITS Germany e.V., Germany
SPEAKER	Steve Schneider	ITS mobility GmbH, Germany
SPEAKER	Angelos Amditis	ITS Hellas, Greece
SPEAKER	Sanni Remonen	ITS Finland
SPEAKER	Hanne Kristin Nettum Breivik	ITS Norway

The session examined how ITS National organisations can support smarter, more resilient and better-connected transport systems across Europe. Moderated by Joost Vantomme of ERTICO, the discussion focused on cross-border challenges, multimodal integration, Cooperative ITS and the role of national innovation networks in helping public and private actors collaborate more effectively.

A central theme was that transport systems do not operate within political borders. Infrastructure is usually installed where operational needs exist, while users expect services to remain seamless across regions and countries. This makes cross-border functionality essential, particularly for connected vehicle services, logistics corridors and multimodal journeys. **Steve Schneider** highlighted the importance of common standards as a foundation for multinational deployment, enabling systems and services to work reliably beyond national boundaries.

Markus Wartha presented the AIAMO project in Germany which applies AI-based environmental and mobility management to improve efficiency, safety, resource use and responsiveness to user needs. The project demonstrates how large-scale data collection, processing and application can support both urban and rural mobility challenges.

Hanne Kristin Nettum Breivik underlined the collaborative role of ITS Norway, particularly in bringing organisations together around complex mobility problems. Shared projects allow partners to distribute costs, reduce risks and exchange learning. Safe, sustainable and seamless travel cannot be delivered by one organisation alone, making ITS Nationals important platforms for joint action and knowledge transfer.

Angelos Amditis described ITS Hellas as a bridge between public and private sectors, especially as Greece grows in strategic importance as a logistics hub. In a changing geopolitical context, ITS organisations can help governments understand the value of intelligent transport systems and create conditions for innovation, deployment and market development.

Sanni Remonen focused on the practical value of ITS Nationals for SMEs. National ITS societies can help smaller companies access regulators, understand markets, build partnerships and gain trust in new regions. This support is particularly important where government structures are fragmented or where companies lack the resources to navigate international expansion alone.

The panel concluded that joining a national ITS organisation provided access to wider European knowledge, lessons from other countries and valuable networks. Although smaller ITS Nationals may face funding challenges, the broader network strengthened their ability to make the case for investment and coordinated action.

KEY TAKEAWAYS

1. Cross-border cooperation is essential because mobility services must remain seamless beyond national boundaries.
2. Common standards are critical for connected vehicle services and multinational ITS deployment.
3. ITS Nationals act as bridges between public authorities, private companies, SMEs and research communities.
4. Shared networks reduce risk, spread knowledge and help scale innovation across Europe

Co-Created 7

DIGITALISATION OF LOGISTICS AND MOBILITY: FROM VISION TO WORKFORCE

MODERATOR	Semra Ozcan	Chartered Institute of Logistics and Transport, Türkiye
SPEAKER	Mohammad Ismail Brai-wish	United Arab Emirates
SPEAKER	Tobias Brzoskowski	New Mobility Solutions Hamburg, Germany
SPEAKER	Ioannis Kanellopoulos	ICCS, Greece
SPEAKER	Ozgur Soy	Ozgur Soy
SPEAKER	Alev Taskin	Yildiz Technical University, Türkiye

This session examined the organisational, technological and workforce challenges associated with digital transformation in transport and logistics. Discussions centred on how cities and mobility providers can move beyond isolated digital solutions towards integrated, scalable mobility platforms while ensuring that institutions and workforces are prepared for rapid technological change.

Opening the discussion, moderator **Semra Ozcan** highlighted that successful transport investment depended not only on technology deployment but also on governance structures, regulatory frameworks, institutional capabilities and workforce skills. As automation and intelligent systems become increasingly important, organisations must develop the competencies required to manage data, oversee digital systems and make informed operational decisions.

Ozgur Soy described Metro Istanbul's experience as one of the world's largest urban rail operators. Increasing passenger demand and changing mobility patterns had encouraged the adoption of AI-based technologies under the Mobility 5.0 concept, automating core operational processes and transforming data management practices. However, integrating AI into established business structures required significant organisational adaptation and could not be achieved overnight.

Mohammad Ismail Braiwish focused on the challenges of managing mobility in Dubai, where organisational silos often limited data sharing and collaboration. While different departments pursued local objectives, broader corporate goals could be overlooked. A common, open data warehouse supported by shared analytical tools was identified as a practical solution for improving coordination and decision-making across organisations.

Alev Taskin outlined research initiatives linking digitalisation, AI and logistics. Her work promoted data-driven decision-making, operational efficiency and sustainability while maintaining strong cooperation between academia and city authorities.

Tobias Brzoskowski highlighted Hamburg's efforts to meet ambitious sustainability targets, noting that electrification alone would not be sufficient. Achieving long-term goals required wider behavioural change, including greater use of public transport, cycling, walking, micromobility and shared mobility services.

Ioannis Kanellopoulos presented experiences from European collaborative projects, including the ALICE technology platform. While designing integrated systems and governance models was relatively straightforward, implementation was often constrained by challenges with organisational change management.

A recurring theme was that technology is rarely the main barrier to transformation. Success depends on leadership, stakeholder alignment, workforce adaptation and clear governance. Participants agreed that AI-driven change must be supported by strong leadership, transparent planning and ongoing investment in workforce skills.

KEY TAKEAWAYS

1. Digital transformation requires equal attention to technology, governance, organisational structures and workforce capabilities.
2. Breaking down data silos and establishing shared platforms are essential for integrated mobility management.
3. Change management remains one of the greatest barriers to scaling AI and digital innovations.
4. Future mobility strategies must combine technological innovation with workforce reskilling, leadership commitment and measurable social value.

Co-Created 8

INCLUSIVE BY DESIGN: APPLYING UNIVERSAL DESIGN PRINCIPLES IN TRANSPORT & ITS

MODERATOR	Delphine Grandsart	European Passengers' Federation, Belgium
SPEAKER	Esen Köse	Mpact vzw, Belgium
SPEAKER	Emilio Robotti	Comune di Genova, Italy
SPEAKER	Jolien Vandoorne	IFP– International Federation of Pedestrians, Belgium

The session explored how transport systems can be designed according to universal design principles, ensuring they are usable by the widest possible range of people without requiring adaptation or specialised solutions. The discussion was framed by the European Pillar of Social Rights, which recognised high-quality transport not only as a goal in itself but also as an enabler of broader outcomes such as health, employment and social participation. Participants emphasised that inclusivity should be embedded as a core design principle rather than treated as an afterthought.

The need for this approach was underlined by data showing that around 24% of the EU population lived with some form of disability, while more than 40% faced barriers in using modern digital technologies. Universal design principles were presented as a means of addressing these challenges through equitable use, flexibility, ease of understanding, low physical and cognitive effort, accessible interfaces and tolerance for user error.

Emilio Robotti highlighted mobility as a fundamental human rights issue rather than simply a technical challenge. Drawing on experiences from Genoa, he stressed that accessibility considerations must be incorporated from the outset of projects as retrofitting solutions later is often more difficult and costly.

Jolien Vandoorne emphasised the importance of public space design noting that nearly every journey begins with walking. Accessible public spaces supported not only mobility but also wider social benefits, including health, education and economic participation. She also pointed to gaps in current mobility planning, particularly regarding the needs of teenage girls and children travelling independently.

Esen Köse focused on the social dimensions of innovation, warning against designing services around the "average user". She advocated for social justice audits that examined resource distribution, participation in decision-making and whose perspectives were represented. The discussion reinforced the value of co-creation, involving diverse stakeholders from the earliest stages of project development to ensure services respond to real user needs rather than technological possibilities alone.

The panel also considered the economic case for universal design. While social benefits could be difficult to quantify, participants agreed that inclusive planning reduced the risk of project failure, improved adaptability and supported more effective long-term outcomes. The importance of post-project evaluation was highlighted to capture lessons learned and continuously improve future initiatives.

KEY TAKEAWAYS

1. Universal design should be integrated from the start of transport projects, not added retrospectively.
2. Accessibility extends beyond mobility, creating benefits for health, education, employment and social inclusion.
3. Co-creation with diverse user groups is essential to avoid designing solely for the “average user”.
4. Digital exclusion remains a significant challenge, making simple, user-centred solutions more valuable than technology-driven complexity.

PART 3

DISCUSSION AND PAPER SESSIONS BY **TOPIC**

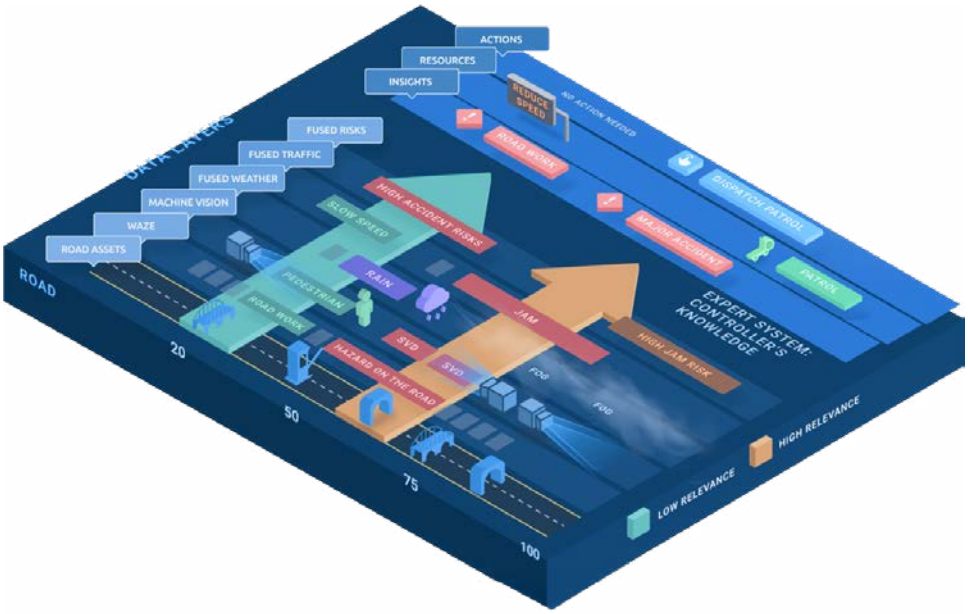
TOPIC 1
SAFETY AND RESILIENCE THROUGH INTELLIGENT SYSTEMS

THE OVERALL SITUATION WITH THE TOPIC
What was popular, what was not?

Topic 1 attracted more papers and sessions than the other topics with a focus on development, deployment, and use of Connected, Cooperative and Automated Mobility (CCAM) technologies and data analytics. V2X communication, Cooperative-ITS (C-ITS), infrastructure support to CCAM, pilots, and simulation environments featured strongly and are central to the EU's long-term safety and automation strategies.

Multi-sensor data from sensors, cameras, LIDAR, traffic information platforms and more fused into AI -powered solutions allowed traffic management operators to take data-based proactive safety-related decisions. Presentations also included AI-powered safety intelligence framework that enables cities to shift from traditional analysis methods to big-data and AI-driven risk prediction, advanced clustering techniques, multi-factor risk assessment, geospatial analytics, and operator centric perspectives. Concerns were expressed about the impact of the European AI Act on traffic management business and operations.

At the same time, discussions indicated that AI integration in traffic management is not always fully done: information is in some cases still largely collected centrally and routed to the appropriate services, rather than being embedded in a genuinely AI-supported operational process.



Situational Awareness
Kelvin Choi in SFS 1

Software-Defined Vehicles (SDVs) were discussed in a number of sessions. They were regarded, coupled with open data exchange standards and full system interoperability, as the key to unlocking socially inclusive electrification and addressing urban and peri-urban mobility deserts with affordable, connected transport, and critical aspects such as interoperability, scalability, and cybersecurity.

In contrast several contemporary road safety solutions, including ADAS technologies, EV-related safety challenges, and broader road safety interventions, were not strongly represented. Despite their relevance to today's transport systems and near-term safety outcomes, these areas attracted fewer contributions.
This suggests that while foundational and future-oriented CCAM technologies continue to receive attention, more immediate safety technologies and operational safety challenges may be underexplored within the Congress submissions.

There was also a focus on smart infrastructure and operational systems, including automated proactive traffic management using variable

message signs, sensor networks for real-time monitoring, and cooperative systems combining perception, communication, and control. Applications included vulnerable road user protection through AI and V2X communication, infrastructure mapping using ground-penetrating radar and augmented reality, and real-time passenger information systems. Some of the policy discussions focused on the integration of all of the above mentioned developments into Sustainable Urban Mobility Plans (SUMPs).

New Ideas

Several emerging concepts and innovative methodologies illustrated the evolving landscape of safety and resilience through ITS. One group of contributions introduced new safety-enhancing applications, including developments in Hazard-Aware Infrastructure and hardware-in-the-loop evaluation, enabling testing of cellular V2X functions. There was a marked shift toward more critical and analytical approaches to advanced driver assistance. Research explored the robustness and limitations of Advanced Driver Distraction Warning and Driver Drowsiness and Attention Warning systems, highlighting the need for improved reliability, calibration, and human–machine interaction.

Several contributions moved beyond generic V2X concepts and specified operational requirements for safety services, including sub-100 millisecond communication needs for alerting and warning, real-time emergency vehicle localisation relative to the ego vehicle, end-of-traffic-jam communication to upstream vehicles, and the integration of V2X Day 1 services into Euro NCAP in a technology-neutral way.

A new paradigm for resilient road infrastructure management combined GNSS/EGNSS high-accuracy positioning with AI-based detection, mapping, and classification of road wear to create digital road twins that support predictive maintenance, safety monitoring, and integration with connected and automated mobility (CCAM) systems. A related idea was predictive, data-driven infrastructure management with integration of V2X connectivity, AI-based analysis and projections, and digital twins. This would enable ADAS performance assessment, adaptive maintenance workflows, low-cost safety interventions, and proactive risk warning, among others.

Eduardo Lopes in SIS 2

An interesting idea was to take an operator-centric view on how modern traffic control and intelligent systems can transform control rooms into resilient, 24/7 decision hubs drawing on real deployments in European motorway and urban corridors. This would enable the integration of incident detection, C-ITS/V2X services, and playbook-based workflows into unified operational environment that supports coordinated response and operational continuity for traffic and specifically incident management.

Several studies proposed novel data-driven methods for safety analysis including the use of large connected-vehicle datasets to identify emerging risk hotspots or to calculate surrogate safety measures. These looked particularly promising for proactive safety management at scale.

New approaches combined artificial intelligence with operational traffic systems, including agent-based AI that interacts with real-time data sources, historical logs, and external tools to support incident validation and decision-making. These systems replicate elements of human operator reasoning and are evaluated against real control centre actions.

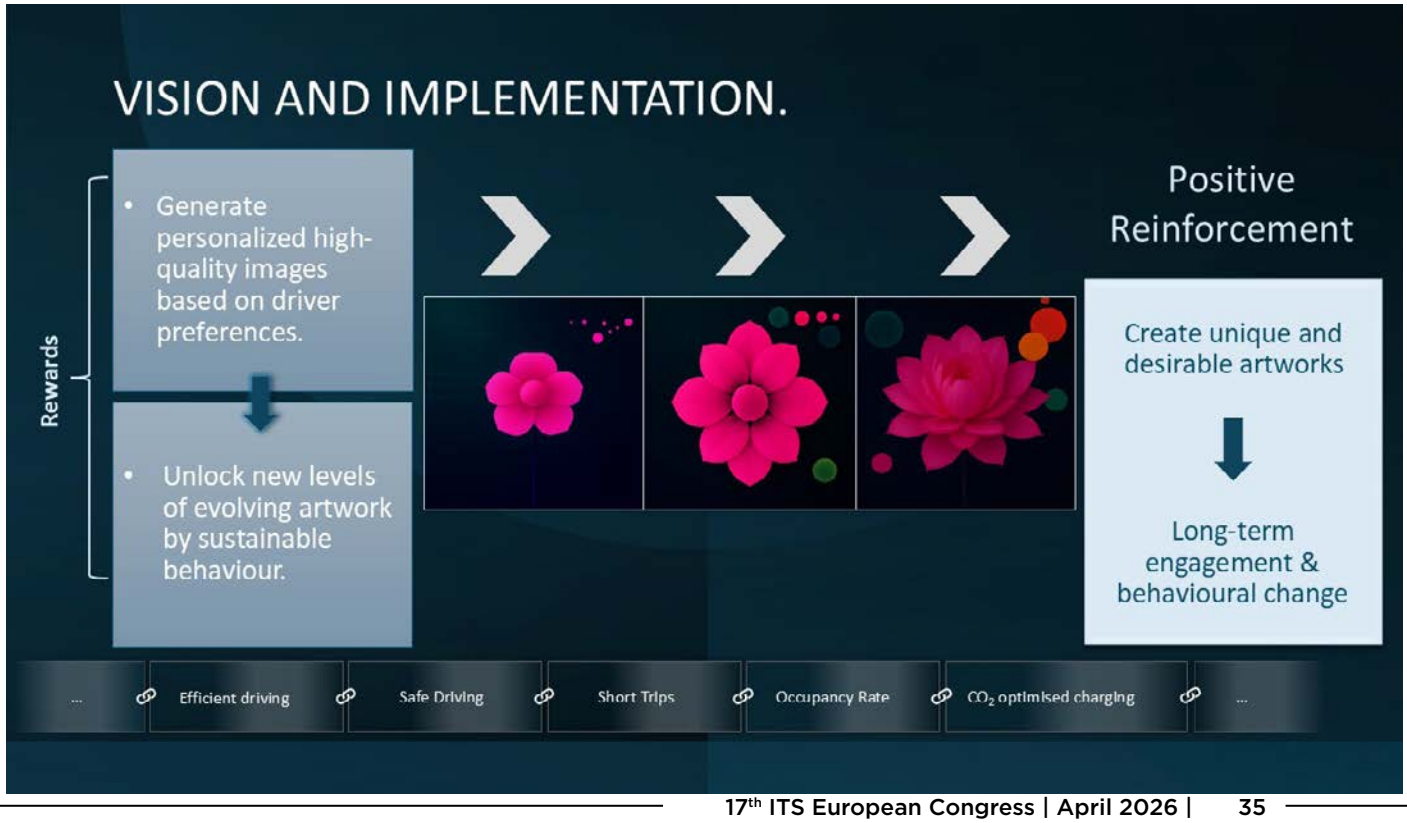
New data architectures and governance concepts were proposed, including bidirectional feedback loops for road data exchange, multi-criteria methods to assess data quality for AI applications, and privacy-preserving approaches such as federated learning, homomorphic encryption, and differential privacy to mitigate risks in connected vehicle environments.

Innovative system designs also emerged at the application level, including integrated AI and V2X solutions for vulnerable road user protection, unified multi-task perception models for autonomous driving, and digital twin–based platforms combining predictive analytics, simulation, and coordinated response across transport and logistics systems.

Drone-based trajectory collection was presented as a way to acquire surrogate safety KPI data for all traffic participants, including Vulnerable Road Users, and to support proactive risk detection and intersection redesign.

Many experts were concerned about how to encourage people to behave in an optimal manner thereby benefiting the common good. A novel concept was trialled – achieving a sustainable long-term change in driving behaviour through artistic instead of e.g. economic incentives. The pilot succeeded in improving EV charging behaviour by giving users more attractive visual rewards via gamification utilising CO2 impact forecast data.

Jörg Hetterich in SIS 10



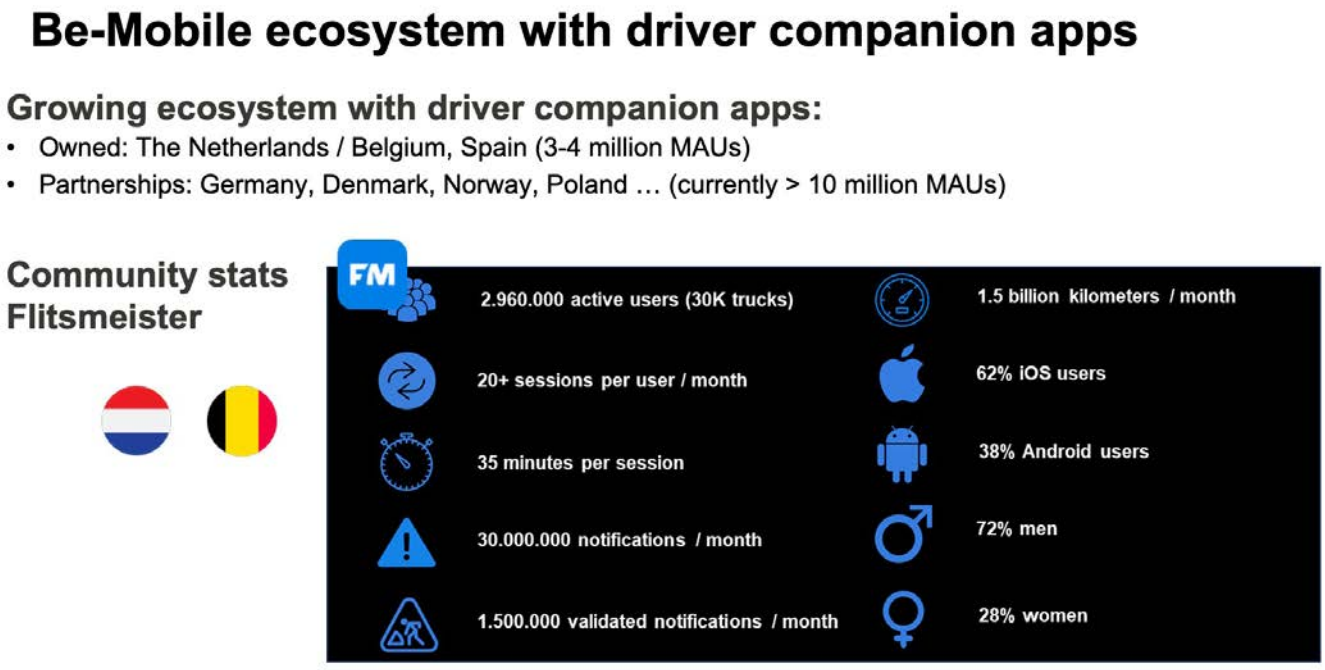
FORWARDS VS CONSTRAINED

Key "Forward" Issues

We saw strong forward momentum in the field of safety and resilience through intelligent systems:

- Many contributions demonstrated practical steps toward deploying ITS, particularly through CCAM and V2X-based applications including upgrading roadside and digital infrastructure to support cooperative and automated functions as well as to enhance road network operation services
- Factors behind Europe's C-ITS deployment were reviewed including strategies in policy, data sharing, and technology, highlighting how trusted and authoritative data can enhance the operational management of automated vehicles and unlock the full benefits of connected transportation
- The transformative potential of advanced roadside sensing including multimodal sensor fusion, predictive maintenance, and real-time safety interventions to create intelligent road networks that actively support both human drivers and autonomous vehicles featured frequently.
- Automated traffic management systems are being deployed that dynamically calculate and apply optimal speed limits based on real-time traffic conditions, reducing operator workload and improving traffic flow.
- Real-time multimodal platforms are being implemented that combine mobility data with environmental indicators (e.g., air quality) to assess the broader impacts of congestion and disruptions.
- Real-time disruption detection and automated passenger information systems were demonstrated in live public transport operations, enabling immediate communication of route changes.

Taken together these trends indicated a sector committed to maturing technologies and preparing for broader deployment. The Congress also gave evidence of large-scale use of such services in a number of countries as shown below



Bart Lannoo in SIS 1

Electric mobility was more visible than at earlier Congresses with discussions on integration of renewable energy and smart grids, V2G systems, and the use of artificial intelligence and Internet of Things (IoT) solutions as well as innovative financing and governance models that support zero-emission transport.

Although simulation still dominated there was a clear movement toward incorporating more comprehensive real-world datasets, enabling more robust and context-aware validation. Real-world exposure is necessary to understand human behaviour, cultural expectations, and the practical constraints cities and transport systems face – especially amid fragmented regulations, diverse ODDs and varying levels of digital infrastructure.

Several papers highlighted the emergence of next-generation digital twins designed to integrate real-time data and provide higher-fidelity modelling for safety-critical use cases.

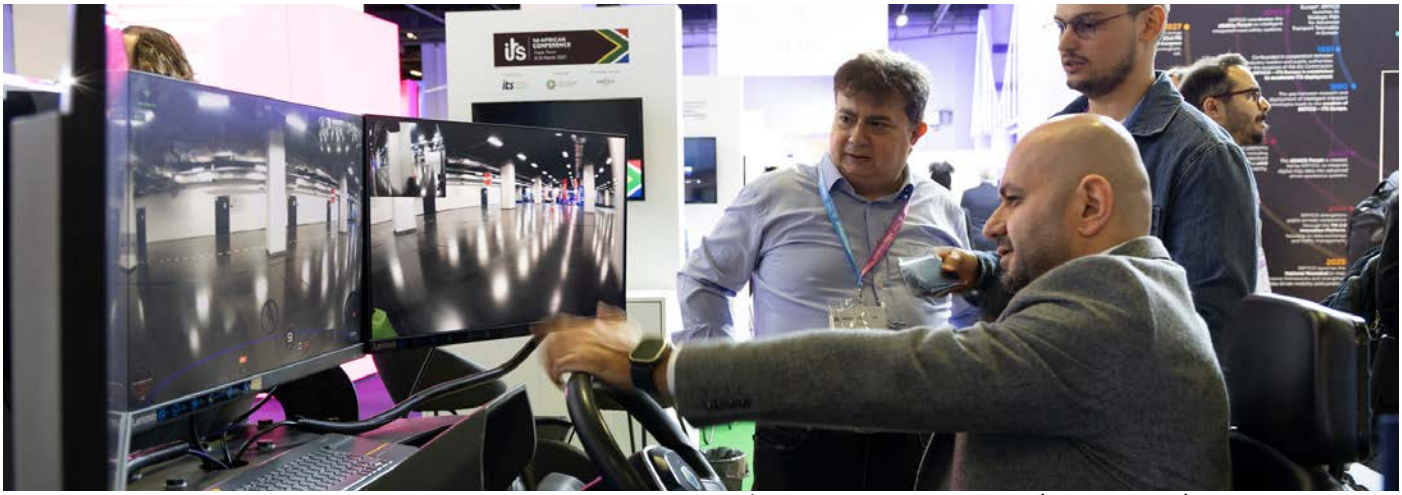
Key "Constrained" Issues

Communication and sensing technologies and their performance comparisons received very little attention as has been the case for the last few years with the evolution of 6G a marked exception here. The applications of space-based systems, particularly accurate global navigation satellite systems (GNSS) and satellite telecommunications, were not extensively addressed.

HMI, cybersecurity, legal, and ethical issues received less attention in this Congress than in the previous ones; acceptance and impact assessment studies seemed more constrained than previously, despite road user attitudes and behaviours frequently being emphasised as a challenge.

One recurrent constraint, frequently emphasised, was the lack of a viable business model for large-scale deployment funding. This was framed particularly strongly for the SDV/AIDV (AI Defined Vehicle) and V2X ecosystem: without a real business case, technology will not be adopted, even if it is technically ready.
In CCAM, the global attention was on robotaxi deployment and operation in bigger cities, as well as the related remote supervision issues. These were thinly addressed in the congress.

Persistent data coverage gaps and fragmentation remained evident, for example due to blind spots in sensor and camera networks and the difficulty of reconstructing continuous traffic states from incomplete observations. In addition, significant privacy and cybersecurity risks were associated with connected vehicle data and in-vehicle systems, including vulnerabilities to re-identification, behavioural profiling, and attacks on communication and key management processes. These risks were further illustrated by identified weaknesses in anonymisation techniques, the potential misuse of detailed location and behavioural data, and vulnerabilities in processes such as digital key provisioning and in-vehicle network communications.



THE KEY MESSAGES FOR THE SECTOR ACTORS

What needs to change?

In discussions it became clear that several strategic shifts were required to accelerate progress in safety and resilience through intelligent systems:

- Many solutions remained confined to controlled or small-scale environments. There was a need to move from isolated pilots to deployment-ready scale and the sector must emphasise scalability, robustness, and integration into real-world, mixed-traffic conditions. In addition, CCAM readiness should be treated as a multidimensional deployment issue, not just as technology readiness. Fragmentation, implementer capacity, user acceptance and trust, and vehicle availability needed to be resolved together. The gap was explicitly framed as Europe being strong in innovation but weaker in implementation and actual deployment.

- Current research often focused heavily on technical capability with behavioural, organisational, and operational realities receiving less attention. Integrating human factors, societal readiness, and infrastructure/geographical constraints is essential. We need to better understand and to improve user acceptance for ITS services. Although this was reiterated across different sessions, there seemed to be a need for more concrete approaches and methodologies to address this need.

- In order to improve road safety, technology should be adapted to how real people behave on the road. This would involve moving beyond synthetic data or data generated in isolated instances and adopting a more holistic approach to increase the efficiency and external validity of the systems being developed.

- High-quality, real-world data remained limited. More investment was needed in shared, accessible datasets that captured the complexity of road environments and user behaviour. Limited access to large, high-quality datasets was slowing the validation of ADAS and CCAM safety functions.

- Engagement with road users, local communities, and vulnerable road users needed to shift from peripheral involvement to central participation to ensure realistic deployment.

- Safety validation of automated vehicles needed to resolve how to balance virtual validation with real-world pilots when risk, liability, and performance benchmarks must align across public and private sectors?

- Road operators needed a shared framework agreeing on minimum quality levels and KPIs, and exploring common positions on use of vehicle-based data,
- Traffic management operations should further integrate automation to support operators, allowing systems to handle routine decisions while humans focus on complex or unforeseen situations.

- Infrastructure management practices needed to improve the accuracy and accessibility of asset data (e.g. underground utilities) to prevent disruptions and enhance operational safety.

- Passenger information systems needed to be more responsive and automated, ensuring that real-time disruptions were immediately communicated to users to reduce uncertainty and improve reliability.

- Stronger collaboration was needed with standards organisations, type-approval authorities, and vehicle manufacturers to ensure interoperability and compliance pathways. Although some communication had taken place, further active engagement and clarification of roles and responsibilities are needed.

Uttara Thakre in SIS 16

Who needs to deliver changes?

Some of the necessary changes to accelerate deployment required coordinated engagement across the whole system and included:

- Policy makers and public authorities should set expectations for interoperability, data governance, and societal involvement;
- Standards organisations and type-approval authorities should clarify the paths for certifying safety-critical CCAM and ADAS functions;
- Infrastructure owners and road operators needed to lead data-sharing;
- Funding bodies should incentivise work on scalability, cross-sector collaboration, and long-term datasets rather than single-use pilots.
- Technology providers and data platform operators should move quickly to implement secure, privacy-preserving data processing methods and feedback-loop architectures that enable trusted data exchange across stakeholders.
- Implementation bodies, city authorities, operators, and training providers should also be named explicitly, because deployment depends on available implementation capacity and reskilling for new CCAM-related job profiles.

Are Regulatory changes needed?

- Early regulatory engagement was needed, even where major regulatory reforms would be premature. Regulators must gain visibility of emerging technologies to anticipate future safety and compliance requirements.

- Harmonisation of standards for V2X communication, cooperative perception, and automated driving functions will be essential to ensure interoperability across manufacturers, countries, and system implementations. The recent EuroNCAP steps to include ADAS in their classification was largely regarded as a valuable step forward.

- Clarifying pathways for AI-driven safety mechanisms was becoming increasingly important especially where decision-making was automated or semi-automated.

- Frameworks for data governance, cybersecurity, and privacy will need to evolve as connected vehicle datasets become larger and more sensitive. Cybersecurity should be described as a regulatory transition rather than only a technical concern: the discussion highlighted a move from voluntary guidance toward mandatory, risk-based legal requirements, with Europe, China, and the US following different regulatory logics.

- Europe should critically reconsider the regulatory barriers for higher levels of automated driving and consider moving towards the US type of “partial self-regulation” of Automated Driving System operated vehicle providers and manufacturers.

- Regulatory support was needed for implementing structured data feedback mechanisms between private data providers and public authorities to improve data quality and consistency. This was particularly relevant for TN-ITS-type authoritative road-attribute updates, where standards and technology already existed but validated feedback loops were still missing.

- With regard to CCAM, the regulations should not only cover the Automated Driving System / Vehicle but also the whole urban ecosystem and should be clear on the responsibilities of each party involved.

- Clear requirements should be defined for the quality, reliability, and representativeness of transport datasets used in AI-based applications, including criteria for bias monitoring and data provenance.

- Stronger and more harmonised cybersecurity obligations were required for in-vehicle systems and digital access mechanisms (e.g. digital keys), including lifecycle security and vulnerability management requirements.

- For V2X data stored in roadside units, GDPR compliance should be operationalised through data minimisation, retention periods, consent arrangements, and impact assessment rather than treated only as a general privacy concern.

Peter-Paul Schackmann in SIS 23

IMPLICATIONS FOR POLICY MAKERS AND RESEARCH PLANNERS

Policy Issues

The papers presented under Topic 1 highlighted several key policy priorities necessary for advancing safety and resilience through ITS. First, policymakers must facilitate the shift from isolated CCAM and V2X pilots toward scalable, interoperable deployments supported by upgraded digital and physical infrastructure. A stronger human-centric approach was also needed, ensuring that user behaviour, human–machine interaction, and societal readiness are embedded in both research and regulatory processes. Infrastructure readiness remained a central policy area, requiring continued investment in roadside digitalisation, cooperative-capable communication environments, and next generation digital twins. The move from isolated vehicle intelligence to orchestrated intelligence (a mobility ecosystem where infrastructure, vehicles, edge nodes, and cloud platforms collectively sense, reason, and respond) was generally regarded as a necessity for a safe and resilient mobility system.

This also implied that the safety policy for CCAM cannot be limited to vehicle systems: city infrastructure digitalisation is part of the safety system itself. However, the collective-intelligence model also raised a governance gap: while the technology may be ready, the surrounding ecosystem and allocation of responsibility when systems fail were not yet sufficiently clear. Finally, the complexity of mixed-traffic environments and automated systems demanded greater interdisciplinary and cross-sector collaboration, bringing together technology developers, road authorities, manufacturers, human factors experts, behavioural researchers.

Research planning

- Engineering solutions must be complemented by behavioural science, human factors, ethics, and policy research to understand real-world implications.
- More studies must examine how vehicles (and drivers) with different levels of automation interact/communicate over time, including behavioural adaptation and system resilience.
- Research programmes should invest in open, longitudinal datasets that represent diverse traffic conditions and multi-lab studies.
- Research should include co-design with road users, communities, and professional operators; not only testing with them at the end.
- More research was needed on privacy-preserving data processing techniques (e.g. federated learning, homomorphic encryption) to enable the use of sensitive mobility data without exposing raw data.
- Research should further develop and validate integrated multi-source data platforms that combine mobility, environmental, and infrastructure data for real-time monitoring and decision-making.

Future ITS Congresses

A key observation was made that focused on transferability instead of replicability: **“Don’t give me a fish. Teach me how to fish!”**. The ITS Congresses are an important tool for knowledge transfer and the Congress organisers should ensure that participants learn during the sessions how to better carry out their daily activities. Transferability was especially to deal with policy models and processes rather than products or technology.

TOPIC 2
MULTIMODEL MOBILITY SYTEM MANAGEMENT

THE OVERALL SITUATION WITH THE TOPIC

Topic 2 presented as a mature but still evolving field, expanding beyond conventional ITS and traffic control toward a wider "system-of-systems" view connecting mobility as a service (MaaS), active mobility, AI, digital twins, CCAM, data governance, public-private collaboration, and inclusive planning. The overall picture was one of progress, but with persistent fragmentation in governance, implementation, and data exchange. The main shift since Seville was from isolated tools and pilots toward integrated, platform-based, and data-driven mobility ecosystems. As in the past technology on its own is not enough. Trials were often not yet delivering transformational change in everyday transport with local authorities needing to be involved earlier to enable innovation is to move beyond demonstration into sustained operational practice.

At the same time, institutional, regulatory, and business model maturity continued to lag behind technical development with tensions between efficiency and equity, innovation and trust, and automation and public acceptance. Across applications, success increasingly depends not only on performance, but also on usability, inclusiveness, and governance. There was enthusiasm for more advanced and connected systems, but also clear concern about data trust, safety, fragmented delivery, legal uncertainty, and the risk of replicating current inefficiencies through new technologies.

CCAM discussins showed transformative potential for mobility systems but its successful implementation requires addressing significant challenges related to inclusivity, trust, and accessibility. The development of structured methodologies is a step toward creating user-centred CCAM services that cater to the diverse needs of vulnerable populations. However, more research and stakeholder engagement was needed to ensure widespread acceptance and equitable benefits.

The digitalisation of road operations was a timely and critical topic, with significant potential to improve road transport systems. However, National Road Authorities (NRAs) faced challenges related to data complexity, trust, security, and collaboration with third-party data providers. A proposed data strategy and roadmap provided a structured approach able to address these challenges, enabling NRAs to transition into digital road operators and leverage data for better road management and transport outcomes.

The overall situation with multimodal traffic management reflected the growing complexity of urban transportation systems and the need for innovative solutions to address challenges such as congestion, sustainability, and resilience. However the successful implementation of such systems required overcoming challenges related to data integration, privacy, and stakeholder collaboration. The ongoing real-world validation of the toolbox in diverse case study areas will provide valuable insights into its practical applications and effectiveness.

There was promising evidence of 5G's technical capabilities for real-time traffic management and its potential to improve bus schedule adherence. However operational challenges and inconsistent results highlighted the need for more sophisticated algorithms, broader data collection, network-wide traffic management strategies, and optimised operational policies to fully realise the benefits of this technology. We heard about different approaches to addressing the challenges of integrating PT and Shared Mobility services.

By combining strategic planning, personalised trip planning, and behavioural incentives a proposed framework aimed to create a seamless, multimodal mobility ecosystem that supported sustainable urban transport. However, successful implementation will require ongoing testing, optimisation, and adaptation to local contexts.

Overall, the topic highlighted the EU's efforts to adapt legal frameworks to the digital age, ensuring that future vehicles are not only mechanically safe but also digitally secure and compliant with data protection and AI regulations. However the complexity of the

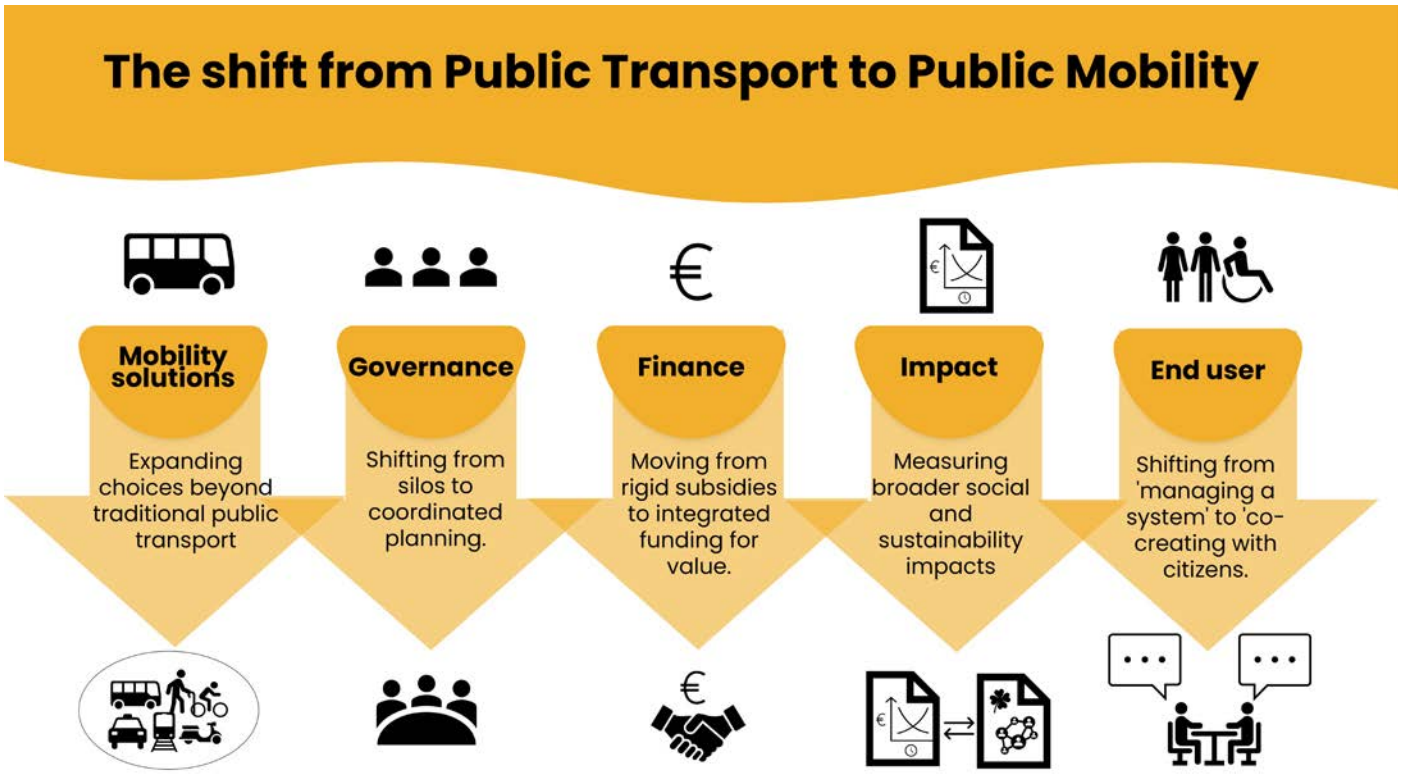
regulatory environment poses challenges that require further harmonisation and clarity to support innovation and industry growth.

The electrification of buses and coaches was a promising solution for reducing greenhouse gas (GHG) emissions and improving urban liveability. However significant challenges remain, particularly in long-distance operations and infrastructure development. Addressing these challenges will require a combination of technological innovation, policy support, and systemic changes to maximise the benefits of electrification.

The importance of understanding public attitudes and expectations towards automated driving systems (ADS) and other significant ITS technologies was presented as critical to ensure successful adoption of the technologies. While there is significant enthusiasm in some countries, scepticism remains high in others particularly the wealthier nations. Bridging the gap between user priorities and perceived performance gains, addressing cost concerns, and tailoring strategies to local contexts are critical for the widespread acceptance and deployment of ADS

What was popular, what was not?

Papers and sessions across the Congress on this topic reflected a broad spectrum of mobility and transport technologies, innovations and challenges. Nevertheless the dominant emphasis remained on technical development, innovation, and system-level optimisation. This trend highlighted the sector's strong engineering capability and its readiness to push the boundaries of intelligent transport technologies.



Philippa Bernard & Giel Mertens in SIS 40

The most popular topics:

- Digitalisation, data ecosystems, artificial intelligence (AI), and multimodal orchestration.
- Multimodal integration, including mobility as a service (MaaS) – it was surprising that MaaS was covered as much as it was in this Congress since its popularity and actual implementation has gone way down over the past few years.
- AI and automation continued to be major themes, both in network management and in the deployment of connected, cooperative, and automated mobility systems. However several "AI applications" were existing ITS solutions tagged as having "AI" even though it was not used.
- Equity, inclusion, accessibility, and affordability with user behaviour was mentioned more than it has been in the past.
- ITS to manage climate change and achieve climate neutrality was mentioned more than in previous European Congresses including a focus on resilience in relation to disruption management, climate adaptation, and stress-testing transport technology systems.

Several areas within the topic were noticeably under-represented:

- Engagement with end-users, including behavioural insights, and community participation,
- Papers and sessions with a policy focus tended to address regulatory or strategic matters in isolation rather than adopting a holistic view that integrated societal, environmental, and governance dimensions.
- Traditional stand-alone traffic engineering solutions were less prominent in the programme unless reframed through AI, sustainability, resilience, or multimodal integration.
- Purely hardware-led ITS topics were also less visible than software, data, governance, and interoperability issues.
- There was relatively limited evidence of large-scale and mature deployments. Many contributions focused on concepts, pilots, frameworks, simulations, and early operational testing rather than long-established systems in full commercial or public service use.

The gaps suggest that while the ITS sector excels technically, the human, social, and policy components of multimodal system transformation continues to require stronger emphasis to support meaningful real-world sustainable deployment.

FORWARDS VS CONSTRAINED

The topic covered a wide range so the Congress papers and sessions contained both exciting new ideas and descriptions of trials and pilot programmes. A significant proportion of papers reported on trials, pilots, prototypes, demonstrations, and incremental improvements to existing technologies rather than fully-operational systems at scale. Many of these focused on real-world trials, system performance evaluation, or adaptations of established methodologies in new contexts.

Overall the body of work reflected a maturing field where technical innovation continued but much of the activity centred on refining, testing, and validating known concepts rather than introducing fundamentally new ideas. Most were at early deployment stages rather than full operational maturity. Trials were not yet delivering transformational change at the pace needed and adoption in everyday transport remained slower than technological maturity would suggest. Several novel concepts and applications were covered including:

- AI-based applications showcasing new use cases across traffic prediction, multimodal optimisation, and decision support. These contributions demonstrated that AI is rapidly becoming a central agent in the design and management of future mobility systems.

- Using "backcasting" – a future-oriented planning approach that starts from a desired future scenario and works backwards to identify how to achieve it.

- Federated and resilience-oriented digital twins for passengers and freight through the DELPHI (FeDerated nEtwork of pLatforms for Passenger and freigHt Intermodality) project.

- A data driven platform to improve air quality by stimulating sustainable travel behaviour

- Operator-model frameworks for multimodal logistics platforms

- The SMARTIN project, an integrated digital twin combining operational and environmental data.

- The FUSION project combining GNSS data and user lifestyle and habits with transport behaviour and disruption response, helping move the field from traffic management toward demand and behaviour management.

- Maintaining and sharing the digital road infrastructure, improving the use of third-party data by National Road Authorities (NRAs), and the integrity and authenticity

- A unique 5G-enabled traffic signal priority system integrated with Urban Traffic Management and Control (UTMC) addressing the communication latency performance of 5G technology, its integration characteristics with UTMC systems, and the operational impact on bus schedule adherence

- A new approach to integrating public transport (PT) with shared mobility (SM) services that models the impact of new services on the existing network; includes a multimodal trip planner and a behavioural incentive application that rewards users to encourage modal shift.

- Viewing the electrification of bus and coach transport through two complementary ways - traffic flow and energy flow – is a novel way of assessing how best to use ITS and vehicle automation to improve energy efficiency of electric bus operations.

- The ZEV-Up project from Bee Mobility, which explored frugal, affordable, modular robot vehicles for urban last-mile delivery

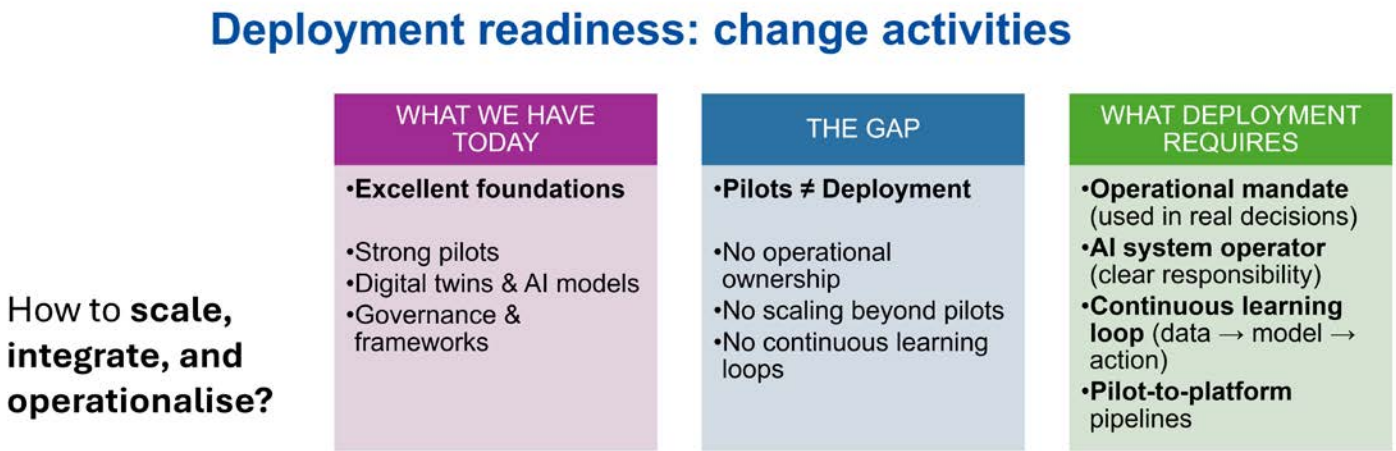
The topic was advancing through innovation in architecture, governance, modelling, and evidence generation rather than through widespread mature deployment. The field was moving beyond concept papers but was still more characterised by pilots and structured experimentation than by routine, large-scale system operation. Some papers stood out by advancing methodology in established areas, such as simulation calibration under data-constrained conditions or comparative multi-city evidence on shared electric mobility hubs.

Predictive, integrated, multimodal, and user-centric mobility management was very visible with a strong shift from single-mode optimisation toward ecosystem orchestration, with tighter links between planning, operations, climate goals, resilience, and inclusion. However, progress remained constrained by structural barriers such as poor interoperability across systems and jurisdictions, fragmented data landscapes, weak data sharing arrangements, lack of common standards, institutional fragmentation, incomplete regulation, uneven implementation capacity, and trust-related concerns as the main structural barriers, and commercial sensitivity around access to data. Institutional and regulatory fragmentation also slows development.

Automation provided an especially clear example of both movement and constraint with the legal environment and liability framework for Level 4 automation still not sound. The SAKURA project showed that automated vehicles were not yet able to intervene reliably, while SCART illustrated the scale of testing and assurance still required. The robotaxi example from Hamburg also showed that fragmented deployment risks reproducing inefficiency rather than solving it.

Scale limitation indicated that while the sector was moving forward it remained constrained by challenges related to integration, interoperability, and large-scale implementation. Key barriers that could be faced by the field may include:

- Fragmentation across operators, platforms, and data sources
- Low user awareness
- Mismatch between public priorities and expected performance
- Regulatory complexity and legal uncertainty
- The absence of interoperable and harmonised standards
- Limited mechanisms for scaling from pilot to citywide deployment
- Limited trust, public acceptance and uncertainty, particularly in AI-supported decision-making
- Insufficient engagement with citizens and local communities to ensure societal readiness
- Skills, resources, and institutional readiness not matching the ambition of advanced digital mobility approaches.



Tamara Djukic in SIS 13

The path forward will need to address not only technical capability, including predictive, integrated, multimodal and user-centric mobility management, but also organisational coordination, governance frameworks, data infrastructure, and user-centred design. We saw a strong direction of travel towards ecosystem orchestration rather than single-mode optimisation, with tighter links between planning, operations, climate goals, and inclusion. Integration with public transport, public-interest objectives, and coordinated governance was shown to be becoming more important than stand-alone innovation.

SFS 7 gave an excellent example of a variety of stakeholders working together within the sort of collaboration framework rarely used in ITS projects. The Knowledge-Interest-Social (KIS) Graph was presented as an advanced decision-support and network visualization framework that maps how communities, groups, and individuals intersect by tracking their shared knowledge, mutual interests, and social dynamics to build decentralised networks. Another idea presented in SFS 7 was using generative AI to facilitate accessible urban planning using a natural language interface that invites users to 'tell' the system what they want and an 'AI brain' to generate designs instantly, check for accessibility compliance, and calculate the cost of the design.

THE KEY MESSAGES FOR THE SECTOR ACTORS

Many sessions identified the key priority now as system integration rather than isolated service improvement. The most valuable innovations have been those that connect modes, organisations, data sources, and user needs into coherent systems. Technology alone will not deliver change; there must be better governance, clearer responsibilities, stronger trust frameworks, and more effective public-sector leadership. The decisive barriers were interoperability, trusted data sharing, standards, scale-up models, institutional coordination, and user acceptance. New services and technologies should therefore be assessed not only on performance, but on whether they improve accessibility, inclusion, resilience, affordability, sustainability, and integration with public transport.

What needs to change?

A central theme emerging from the papers and across the multimodal mobility community was the need to move beyond early-stage demonstrations toward scalable, higher impact deployments. While small-scale pilots and isolated case studies remain valuable, they offer limited insight into system-level integration, governance complexity, or the realities of large-scale operational environments. To enable this transition several changes in approach are necessary:

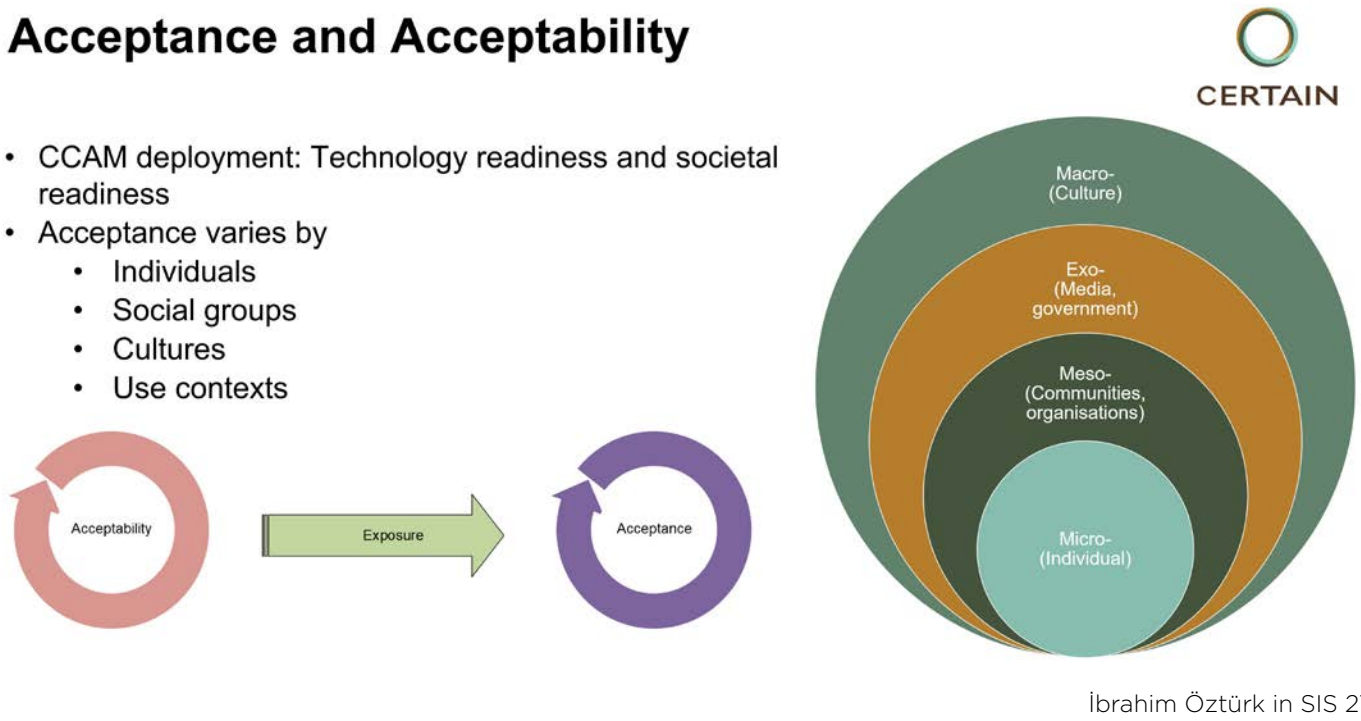
- Early engagement not only improves acceptability and adoption but can also identify risks, usability concerns, and potential failure points much earlier, reducing long-term costs and increasing the likelihood of successful deployment.

- Recognising and addressing scalability constraints – many projects limit to a narrow set of modes or tightly defined contexts due to practicalities. Such constraints must be explicitly acknowledged and incorporated into planning, evaluation, and development pathways.

- Rebalancing technical and societal priorities is needed. Technical excellence alone does not guarantee real-world impact. Future multimodal solutions must integrate behavioural, equity, accessibility, and governance considerations from the outset.

- Transport governance needs to avoid silos with coordinated development of planning, information services, and digital systems across modes, institutions, and territories.

- Embedding societal involvement from the earliest stages. A shift toward co-design and participatory innovation, where citizens, communities, and broader societal actors are part of the problem-framing and solution-design phases, is essential.



İbrahim Öztürk in SIS 27

- Measuring how well ITS projects consider equity is essential. While there are multiple frameworks that measure the equity of systems none of them can be easily applied to an ITS environment – they tend to be highly specialised (e.g. use by persons with disabilities).
- The sector should shift from reactive to predictive management, making greater operational use of AI, digital twins, simulation, forecasting, and real-time platforms for proactive intervention and scenario planning.
- Evaluation frameworks need to broaden beyond traffic efficiency to include accessibility, inclusion, affordability, behavioural impact, resilience, and sustainability.
- Pilots should be designed for scale-up and replication with stronger links between deployment, procurement, institutional readiness, and operational workflows. Trials alone do not deliver transformational change – technology may be mature, but institutionalisation was lagging.
- Deployment strategies for emerging services need to be better integrated.
- Analytics and modelling tools need to be more operationally actionable, with better treatment of uncertainty, disrupted conditions, validation, and human intervention mechanisms.

Who needs to deliver changes?

Change must be delivered jointly by public authorities, transport operators, infrastructure managers, technology providers, platform operators, researchers, and standardisation and regulatory bodies. Multiple sessions argued that authorities were not involved early enough, which was the reason why central orchestration and a holistic approach were missing. Public authorities at all levels need to set objectives, standards, governance expectations, and fair rules for integrated ecosystems. Operators and infrastructure managers need to support operational integration and interoperable data exchange. Technology providers needed to build systems not locked into proprietary silos but able to function within transparent governance structures.

The transformation of multimodal mobility systems cannot be delivered by any single actor. Progress requires coordinated commitment across the ecosystem, including:

- Funding bodies
- Project evaluators and reviewers
- Project managers and consortia leaders ensuring that user involvement, co-design, and interdisciplinarity are built into the project logic rather than treated as optional add-ons
- Public authorities, regulatory bodies and transport operators, at local, regional, national and European levels
- Private industry, technology providers, platform operators and standardisation organisations who can support open standards and deliver interoperable, secure, explainable systems
- Researchers and data specialists who must strengthen evidence generation, including validation, transferability, representative behavioural data, and long-term impact assessment
- Transport providers must lead on operational integration, interoperable data exchange, and participation in collaborative operating models
- Cities, regions, and hub operators need to provide testbeds and model regions that support experimentation, co-development, and scaling.

Ultimately, change must emerge from collaborative effort, not isolated innovation.

ARE REGULATORY CHANGES NEEDED?

The innovations presented across the Congress showed Multimodal Mobility System Management as a rapidly evolving and inherently dynamic domain. Both the system-level management tools and the individual mobility components, vehicles, infrastructure, platforms, and data environments have been undergoing continuous transformation. With this pace of change, regulatory evolution was inevitable. However, the sector appeared to be at an early stage of innovation maturity. Immediate, large-scale regulatory reforms may not yet be essential, and premature regulation could unintentionally constrain innovation. Early regulatory visibility and involvement would be more useful, ensuring that policymakers understand the direction of innovation and can proactively shape frameworks that support safe, scalable, and equitable deployment. This includes work on data governance, multimodal interoperability, safety assurance for AI-based decision-making, and public accountability.

Regulators must therefore engage early but regulate proportionately, preserving space for experimentation while preparing for future large-scale adoption. The following identifies what subtopics require attention, and how these changes can support innovation, safety, and sustainability in mobility and digital transformation. Further, the following highlights both broad themes and specific examples:

- Clearer rules are needed for trusted data exchange, including privacy-compliant sharing, access control, standards, and platform neutrality. The National Access Point discussion and the concerns about data trust and standardisation showed this clearly. Regulatory support is also needed for multimodal and flexible services, which often do not fit well.
- Automation is a particularly urgent area as the legal environment and liability framework for Level 4 automation are still not sound. The SAKURA Project and SCART examples underline the continuing need for safety assurance, human oversight, testing protocols, and legal clarity.
- Accessibility and inclusion may also require stronger regulatory or procurement requirements

to ensure that new services, hubs, and digital systems serve broader user groups rather than only the most digitally confident or commercially attractive users.

- Greater legal clarity is required for automated and AI-enabled mobility, covering approval, liability, transparency, safety, accountability, and operator authority.

- Regulatory mandates are essential to ensure inclusivity and user engagement in CCAM deployments, preventing technical and commercial priorities from overshadowing user needs.

- Enhanced guidance and standards are needed for modelling and simulation, particularly for calibration, validation, and safe data reuse.

- Regulatory changes provide the legal certainty and trust needed for the digital transformation of road operators, including collaboration, data protection, and safe innovation among road operators, private partners, and users.

- Harmonising digital/data laws with vehicle type-approval rules will reduce legal uncertainty and streamline compliance for connected and automated vehicles.

- Adaptive, collaborative regulations are needed for zoning, data sharing, infrastructure, and operational standards to optimise micromobility and support sustainability.

- Regulatory changes are critical for the electrification of public transport, particularly in the areas of Infrastructure investment, operational improvements using ITS, setting fleet electrification targets, and unlocking new energy management opportunities.

IMPLICATIONS FOR POLICY MAKERS AND RESEARCH PLANNERS

Policy issues

The review of contributions under the Multimodal Mobility System Management topic revealed several policy priorities that will shape the sector's trajectory over the coming years. These priorities reflected both the technical progress demonstrated at the Congress and the structural gaps that continue to limit large-scale impact. Public authorities will have a central role in shaping these policies, including digital and autonomous mobility ecosystems, public-interest objectives, standards, integration requirements, and regulatory safeguards, while private actors will be contributing technology, platforms, and fleet operations.

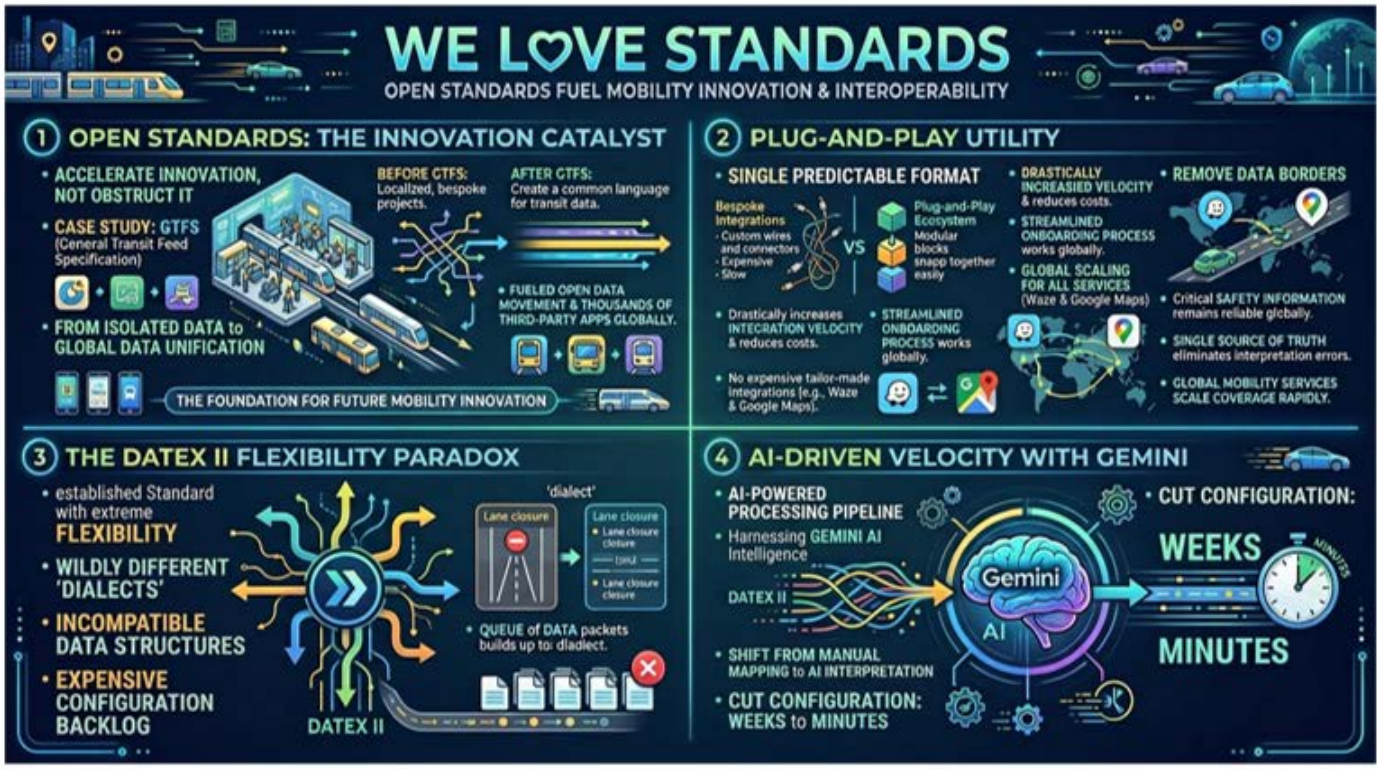
- Many innovations showcased remained at small or medium scale, often confined to specific corridors, hubs, or controlled pilots. Policy frameworks should therefore encourage scaling pathways from research pilots to operational, citywide deployments and promote integration across multiple mobility modes, rather than isolated demonstrations.

- A consistent theme across the papers was the lack of early-stage engagement with citizens, communities, and broader societal stakeholders. Policy should incentivise/require co-design and participatory methods in mobility innovation and recognise users not as "end-users" but as co-creators who shape design priorities and highlight feasibility risks early.

- Equity, inclusion, accessibility, and social readiness are core policy requirements and evaluation criteria rather than secondary or optional considerations. Equitable access to mobility services should be ensured by addressing digital exclusion, mobility challenges, and affordability. Mobility systems are expected to serve diverse users, including people with disabilities, older people, vulnerable road users, and residents of suburban and rural areas, while reflecting actual traveller behaviour and needs.
- It was very clear that data is now treated as core transport infrastructure. National Access Points, Multimodal Travel Information Services, open data ecosystems, and secure public-

private data sharing are increasingly seen as foundational for planning, operations, and service integration. National Access Point are supported not only by metadata but also by a shared data dictionary, so that all actors use a common language for exchanged data.

- Effective multimodal management depends on seamless data flows, harmonised and interoperable standards, and coordination across diverse transport providers. Policy actions should advance open data standards and APIs, and shared definitions across mobility services. This should facilitate data sharing and integration across cities and platforms, and support secure, privacy-preserving data governance frameworks to enable collaboration between public and private actors. However most cities are not prepared to handle the volume and complexity of the large data collections.



Sarah-Jane Williams in SIS 21

- Data governance, sovereignty, and trust are required, especially where sensitive operational data must be shared across multiple actors. Data Owners who are clearly responsible for how data is used must facilitate trust among stakeholders. Data sovereignty, neutrality, and governance models were major policy concerns, especially where multiple public and private stakeholders must share sensitive operational data. Clear ownership, access rights, decentralised control, and neutral or consortium-based governance structures are important for trust and balanced decision-making.

- Interoperability, and standardisation were central policy priorities. Harmonised data semantics, common technical standards, secure exchange mechanisms, and interoperable platforms are necessary to enable collaboration across actors and territories.

- Regulation in this domain must evolve alongside innovation, given the pace of technological development, especially in AI-based systems. Policy priorities include early involvement of regulators in research and innovation projects to build understanding of emerging technologies and the development of flexible, adaptive regulatory frameworks that support experimentation while safeguarding safety and public interest.

- The future of multimodal mobility is not exclusively a technical challenge. Inclusivity, accessibility, affordability, and user-centricity are core policy requirements rather than

secondary considerations. Policy should promote interdisciplinary research bridging engineering, behavioural science, human factors, governance, and ethics with stronger collaboration among transport authorities, technology developers, operators, and societal partners.

- A shift is needed from short-term pilots towards long-term system-level planning. Policymakers should support modelling, digital twins, and predictive tools that help analyse and validate multimodal system interactions and solutions at scale and encourage research into long-term behavioural adaptation and societal impacts.

- Trust, safety, and privacy of new mobility technologies (e.g. Connected, Cooperative, and Automated Mobility [CCAM], automated driving systems [ADS]) should be addressed through targeted awareness, safety measures, and transparent data practices.

- Resilience and disruption management are key policy goals. Multimodal systems must be able to anticipate, absorb, and respond to shocks such as climate events, congestion, port disruption, cyber risks, and network failures through coordinated and secure system management.

- Public authorities have a central role in shaping digital and autonomous mobility ecosystems, and that shared, electric, and automated mobility should complement public transport rather than replace it. Robotaxi testing in Hamburg also reinforced the policy caution that automation should not simply reproduce fragmentation or inefficiency, and that European sovereignty in mobility services remains an important concern.

- Shared, automated and electric vehicle services should be integrated as complements to multimodal systems rather than stand-alone substitutes, especially in support of feeder services and first- and last-mile access. Further, the deployment of these services should be tailored to the local context.

- ITS and digital mobility tools are increasingly expected to support broader strategic goals, not just operational efficiency. Policy links them to long-term planning, sustainability, accessibility, service quality, and system-wide optimisation.

- To address sustainable and climate-neutral mobility, policies should promote electrification of public transport (e.g. battery-electric buses), integration with renewable energy, and reduction of GHG emissions. Further, policies should encourage a modal shift from private cars to public, shared, and active mobility (public transport, walking, cycling, micromobility), and better integration of active and shared modes.

- Multimodal mobility policy is moving from isolated modal management to integrated, user-centred system management, enabled by digitalisation, interoperability, and coordinated planning across all mobility services. This includes strong emphasis on first- and last-mile connections, multimodal hubs, and cross-border continuity.

Recearch Planning

Several key changes were identified to ensure research plans remain effective and relevant in the evolving landscape of multimodal mobility and transportation digitalisation. They are grounded in the need for broader impact, real-world applicability, and alignment with societal and operational priorities. In summary, to address the complex and evolving challenges of digitalisation in transport, ensuring research delivers real-world impact and supports successful digital transformation.

- Increase Societal involvement and participatory methods; foster interdisciplinary collaboration.
- Make Equity, Accessibility, and Trust Core Themes
- Emphasise scalability and system integration.
- Prioritise long-term and large-scale evaluation.
-
- Address Governance, Interoperability, and Business Models.
- Focus on outcomes for disadvantaged groups and ensure digital solutions are inclusive.
- Enhance simulation and modelling for resilience and disruption.
- Shift to holistic, system-level investigations away from fragmented, user-focused studies to research that assesses broader behavioural and systemic impacts.
- Focus on public acceptance factors. Research should address safety, reliability, cost, and local adaptation to drive public acceptance.

TOPIC 3
SMART AND SUSTAINABLE LOGISTICS IN THE DIGITAL ERA

THE OVERALL SITUATION WITH THE TOPIC

As has often been the case with Congresses the topic of smart and sustainable logistics in the digital era featured a lower number of sessions and associated papers than other topics. However this had the effect of making the key contributions of interest more prominent, bringing focus on challenges demanding urgent attention, and identifying where ITS thinking and solutions can make a real difference.

The constraints and pressures that an increase in e-commerce deliveries is placing on urban transport networks was covered as part of the theme of last-mile solutions. A regional level European assessment of readiness levels to adopt sustainable logistics solutions was presented, allowing authorities to determine gaps in regulatory and infrastructure foundations to enable deployment of clean and efficient last-mile delivery systems.

It was clear that more needed to be done to transition freight movement away from highways, with 75% of transport emissions coming from road vehicles. Trucking costs were stated as also accounting for 43% of total costs in the global logistics industry (2020 figures), with diesel still the predominant fuel. Policy needs to shift focus to viable alternatives to road haulage, whilst making the first and last-mile journey sections that are difficult to remove from the supply chain more efficient than they are today.

What was popular, what was not?
Popular subjects included:

- Sustainable last-mile logistics
- Freight decarbonisation & sustainable powertrain solutions
- AI, digital twins and electric truck design and operations
- Technology & policy challenges of multimodal inland freight routes
- European heavy logistics charging projects
- Smart logistics platforms

Digital multimodal management platforms were often seen as a panacea to a multitude of coordination and disruption management challenges so it was no surprise to see them taking centre stage at this year's Congress. Efficiency, sustainability and resilience were the much-touted triumvirate of both drivers and intended outcomes, and it was positive to see further work on the platform structure fundamentals needed to deliver value creation in a secure and neutral way, with regards to data sharing.

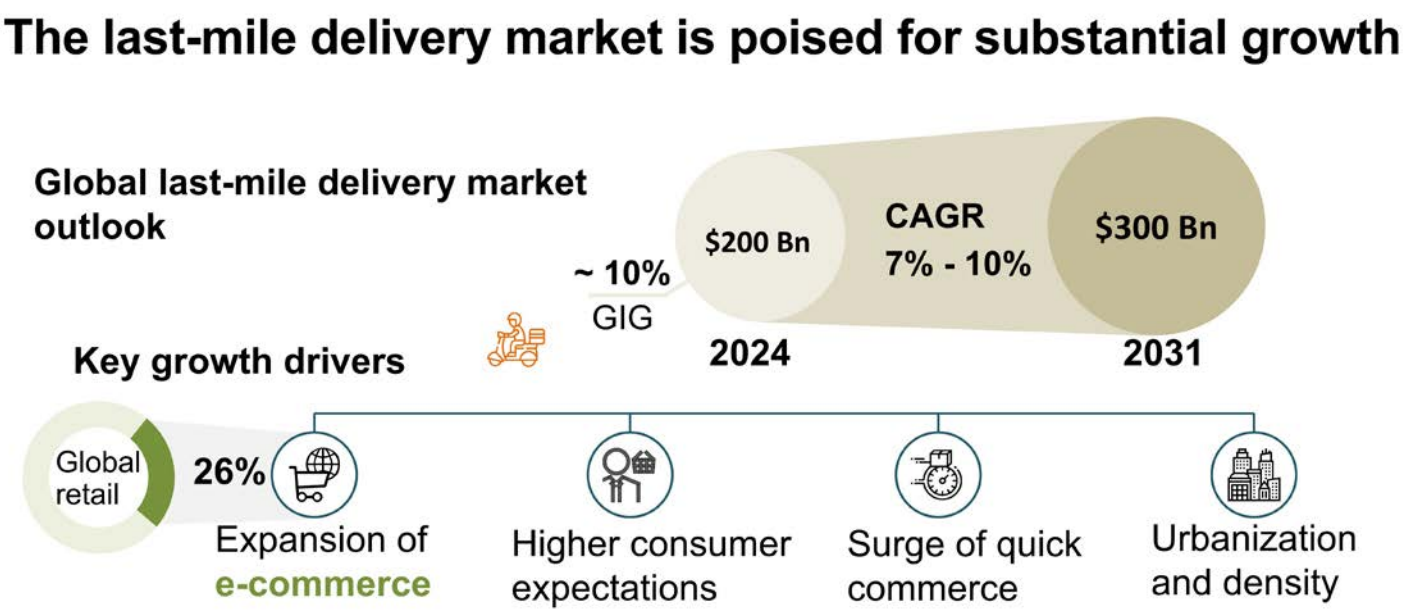
New Ideas

Analysis tools and frameworks for the assessment of cost-benefit outcomes for heavy vehicle charging infrastructure were on display at the Congress. The output used a € per kilometre measure of capex and opex costs combined, to determine variations in energy consumption across different scenarios, to inform prioritisation of future freight corridor applications.

The transformational value of AI was discussed in the theme of regulatory innovation and digital transformation in logistics. With most, if not all, industries looking at how to create, deliver and capture value from AI greater exploration of the business model innovation AI can underpin, in addition to the more common outcome of improved operational efficiency, was a theme promoted as worthy of greater attention. Actionable insights on how organisations can design, implement, and scale AI-enabled business models, while informing policymakers with guidance on governance, regulation, and accountability to support responsible use of AI in energy sector, were some of the practical processes on display.
A focus on logistics operations in the agriculture domain featured a concept that leveraged Large

Language Models to improve B2B commerce, by acting as an independent central counterparty between sellers and buyers assuring the regulatory compliance and trust among stakeholders. This is an area of logistics that could offer growth potential for ITS, with the need for IoT and edge sensors to support the digital marketplace.

A fresh approach to managing autonomous last-mile deliveries was on show, with a smart urban logistics framework that combined electric autonomous delivery vehicles with event-triggered remote assistance. The approach integrates uncertainty-aware autonomy and human-in-the-loop support to ensure safety and operational continuity in complex pedestrian environments. The system architecture includes multi-sensor perception, low-latency communication, and an explainable human–machine interface for transparent operator interventions. Tests show benefits for traceability and regulatory readiness, paving the way for scalable, zero-emission deliveries – a critical step toward regulation-ready automated logistics for perishable goods.



Ioannis Minis in HS4

Another new area of focus was a call for a project looking at the transportation of animals and animal products, where zero-trust in agriculture supply chains combined with zero trust systems architecture fosters a triangular zero-trust model connecting producers/sellers, buyers/facilitators and authenticators in a secure marketplace. Featuring LLM enhanced interactions and Retrieval-Augmented Generation the model provides real time monitoring aid transparency for producers and buyers – thereby filling gaps in digital trade. A future scenario will look at bringing context aware services in the marketplace.

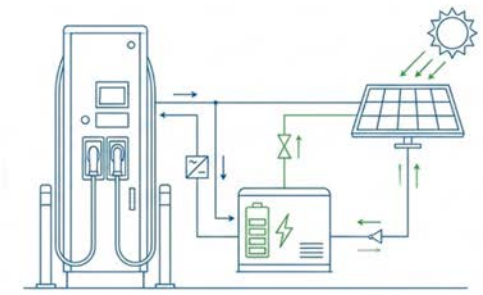
In the decarbonisation theme energy management featured strongly. A framework for assessing solution feasibility for rule-based Energy Management Strategy was put forward, with validation undertaken using real-world European freight routes, that demonstrated fuel efficiency improvements up to 16% compared to baselines.

There was a focus on innovative EV charging systems, highlighting the potential for EV batteries to be given an extended, and new, lease of life as an energy storage solution, suitable for AC and DC charging applications. In addition to longer lifetime, the advantages are higher safety and thermal stability, using LLM integration to synthesise real-time telemetry and research data. The use of AI and ML models to optimise charging was an indication of how digitalisation and intelligent control techniques are increasingly going hand in hand with energy infrastructure management, to extend the useful life of renewable energy.

Advancing Sustainable EV Charging using Second-Life Batteries and Machine Learning

Description:

- EV Charger with Second-life Battery Energy Storage System
- AI /ML based SoX/RUL optimization
- Functional Safety Analysis



Hasan Oksak in TP 5

The role of ambient temperatures was viewed as a key factor in increased energy consumption rates for EVs. Smart insulated containers were presented as an alternative to energy intensive refrigerated units, using embedded sensors and IoT technologies for tracking.

Accurate classification of freight vehicles was explored, highlighting the importance of this feature of ITS for applications like tolling, bridge access and weigh in motion systems. A study presented comparative analysis of classical machine learning and advanced deep learning methodologies for accuracy in heavy vehicle classification, finding new ways of interpreting LiDAR data for improved accuracy in real-time applications.

Sustainability assessments featured prominently. One example, in the form of a well-to-wheels study of battery electric trucks operating along the Türkiye–Germany long-haul corridor, uncovered significant seasonal increases on energy grid impact, demonstrating the need for considered governance to manage the effects of climate change.

Innovation in autonomous transport for goods fulfilment was a promising development, with the Netherlands leading a pilot that is developing interoperability between small autonomous vessels and micro mobility deliveries for the last mile, leveraging existing inland waterways. The use of existing infrastructure with digital tech and design principles for sustainable logistics seems a win-win solution.

FORWARDS VS CONSTRAINED

Key "Forward" Issues

Progress was clearly being made in the field of digital platform development for the management of both freight and logistics services, and the sustainable energy solutions needed to power them. Digital transformation remains a prime development area for the transport sector broadly, and there was a view that this is shifting industry architectures from asset-based structures toward multilayer digital ecosystems. In this evolving environment it can be difficult to capture and convey the value digital solutions enable.

Increasingly, organisations rely on control points to create and capture value across interconnected layers of connectivity, cloud data, energy systems, digital platforms, and physical assets. By identifying distinct control points across ecosystem layers and analysing how incumbents, diversifying entrants, and new digital actors position themselves around them, actionable insights can be derived for managers seeking to navigate digital disruption and for policymakers designing regulatory frameworks that support interoperability, fair competition, and sustainable mobility transitions.

On the topic of decarbonising inland and rail logistics with automation, it was suggested green options face challenges from poor digital systems, silos in data sets and approached to digitalising information, but that the application of automation, data-driven systems, common data models and regulatory cooperation can ease the way forward. This was resonant of the view that the effect of technology is often overestimated in the short term, and the effort required to embed it successfully is frequently underestimated in the long-term. The HOLOGISTICS project brought together 22 partners to address this paradox, promoting the physical internet as a mechanism to reduce emissions in high TRL demonstrator projects.

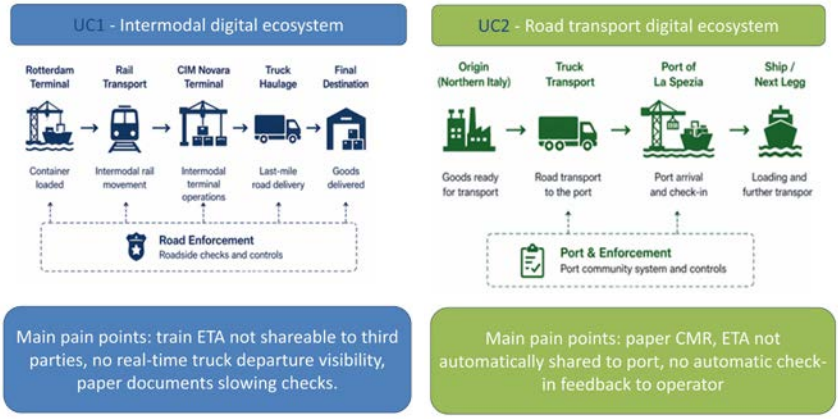
Key "Constrained" Issues

The lack of interoperable data sharing across European transport and logistics chains remained a key barrier to efficiency and sustainability. A federated network of platforms, enabling Business-to-Business (B2B) and Business-to-Administration (B2A) data exchange, focusing on interconnecting existing systems rather than creating new centralised solutions, was one proposed approach. This was implemented in the FENIX project – Europe's first "Platform as a Service" across nine TEN-T corridors and four Motorways of the Sea, supporting shippers, logistics providers, infrastructure operators, cities, and authorities. This approach, based on systems integration rather than innovative solutions has also gained support at the International Maritime Organisation's digital development sessions and could be worthy of greater exploration.

A more fundamental constraint was the number of manual paper checks still in operation for freight processes. This was estimated at around 70% in countries where processes are non-digital, resulting in poor interoperability. An API that uses common data libraries was viewed as a way to overcome manual process and interoperability constraints, addressing the pain points shown below. There are still clear challenges to implementing long-haul freight movement with electric trucks, with a majority view that long-haul over 500 km is not yet feasible. Partly this is a business case problem in that it is simply not viable for many deliveries, and there is a need to find additional supporting measures to increase the attraction of the sustainability measures. The Nordics seem to be leading the way on a lot of this work.

Two pilots, one interoperability logic

Lorenzo Valetta in SIS 22



In a look at Building the Future of Sustainable and Interoperable Logistics, there was a focus on creating a semantics framework allowing partners to access data models easily to develop new services. But it was clear there is still uncertainty about the economic value of data centric initiatives in real terms. Shared resources and shared data may be a benefit for creating economic value but the difficulty of encouraging logistics operators to adopt solutions remains challenging, as the ROI is still not fully clear. It could be that early adopters, or making adoption mandatory, are the optimum ways to grow penetration of common data services.

A good example given of market constraints was that of the 1 man 1 truck model. How can solutions bring individual operators together in an ecosystem, and overcome inherent fragmentation? This is similar to shipping sector, where many vessel types and cargo operations are not considered in current standards, and there is little financial incentive for them to invest in solutions.

IMPLICATIONS FOR POLICY MAKERS AND RESEARCH PLANNERS

What Needs To Change?

As a starting point accepting change was promoted as a key factor to adapting new logistics business models. If providers are open to new business models they may be more willing to change their approach to operations too. Though maybe the customer is the missing link in driving change – is there a greater role for them to play in influencing the value chain toward positive change? Port ecosystems have been commonly viewed as closed, yet the role they play at the interface of land-based and marine based transport modes is undeniably linked to a need for greater coordination.

One of the challenges shared equally by ports and multimodal transport operators was the need to decarbonise transport operations. The deployment and scaling of autonomous vehicles was seen as one way to unlock sustainable transformation of port traffic and logistics operations, and work to understand the relationship of emissions models in evaluating autonomous vehicle integration was a welcome research area at the congress.
It was positive to see reference to Motorways of the Sea routes, under the Connecting Europe Facility, looking at efficiency and reduced environmental impact of connected maritime corridors by testing the interface between nationally operated Maritime Single Windows and regional Port Community systems.

In electric truck charging development new business models were seen as fundamental to achieving faster transition to e-HGVs and supporting EV infrastructure. A possible model put forward was Charging as a Service, with opportunities for HGV operators to become energy providers. Fleet as a Service was also touted, with recognition that to be resilient and sustainable models need to be scalable and replicable. Change was happening with high power charging being developed to extend range and reduce costs, compared to 1st generation technology. Norway and Denmark now have the biggest uptake of E-Trucks with truck charging infrastructure now deployed roadside in Denmark. However there was caution that both carrot and stick are needed to make scalability work.

With commercial freight increasing, and EU climate goals presenting great challenges to operators, the application of Digital Twins and Software Defined Vehicles is gaining importance in all stages of industrialisation. Value is shifting from hardware to software, and maybe we need a mind shift to make the shift faster and more permanent. There was a call to industry to exploit these tools in operational process, with increasing AI support for efficient and cost-effective truck transport, to help embed this mind shift.
Though, on one hand the opportunity is clear, there is still a lack of data-driven tools to support fleet electrification decisions at scale. AI, Digital Twins and SDVs, working in harmony to optimise decisions in a whole system approach, combining infrastructure, vehicle services and digital tools, was seen as a key to unlock the business case.

Who needs to deliver changes?

In digital freight and logistics the practical implementation of the eFTI (electronic Freight Transport Information) Regulation (EU) 2020/1056 began in August 2020, with the DG MOVE eFTI team, Member States, and expert groups preparing the necessary Implementing and Delegated Acts. Under the regulation Member States must be ready

to receive digital freight information by July 2027, while the regulation enables economic operators to adopt fully digital solutions. National deployment requires open innovation to shared challenges, and to support national deployment, the EU funded projects, providing reference implementations, testbeds, and production support for Gate-to-Gate and platform-to-Gate operations. To achieve the 2027 deadline Member States will need to work closely with economic operators.

This need for greater cooperation between member states was also picked up in conversations on National Access Points (NAPs). They may enable access – but equally they demonstrate the difficulty of regulatory compliance between multiple member states, often creating complex and overlapping reporting obligations. Greater use of federated mobility data can result in more streamlined data exchange. So far, over fifty standards have been integrated into the ecosystem which seems like good progress.

Looking to the future there was consensus that change is needed in the ecosystem – but who will lead the new ecosystem? Truck operators are often seen as conservative and resistant to radical change but the 'Nokia example' was offered as an insight to demonstrate what can happen if major players are not prepared to adapt their business models. At the core of the ecosystem vehicles will always be required, unless we get to teleportation! So do we need to focus more on overhauling the OEM supply chain? Organisational change was also seen as important, with the emergence of ridesharing and robotaxis, attitudes could be changing toward taking trips in AVs. Perhaps perception is the key to adopting new tech – but once the novelty wears off is the customer still willing to pay for a premium product or service?

ARE REGULATORY CHANGES NEEDED?

Across Europe, the logistics and transport ecosystem remains affected by significant regulatory, operational, and technological fragmentation. This complexity frequently limits the adoption of interoperable digital systems and hampers the shift towards sustainable and efficient transport operations. Harmonised governance of data standards and operational requirements are key to addressing this challenge, and it was proposed that, by developing an integrated digital ecosystem and providing evidence-based recommendations to support harmonised governance across Europe, it is possible to translate pilot results and stakeholder insights into usable guidance for public authorities and logistics operators.

Furthermore, offering operational and governance-focused solutions to promote cross-border collaboration will potentially ease the adoption of digitalisation, and fortify a cohesive European framework for transport digital governance. The FENIX federated ecosystem was again shown to be leading the way on open standards, with governance features, including federated ID systems and management and common recognition of credentials.

Scaling from pilots to fully deployed use cases was a constant theme in the logistics pillar. So, what are immediate actions? Could it be that regulation is currently stifling progress? One suggestion was the introduction of 'regulatory fast lanes', to fast-track innovation. For AV in logistics there is the challenge of each country developing their own approach. Standardisation is key for wider deployment, and scale is seen as vital to progressing and evolving technology. One view highlighted that Chinese tech is about ten years ahead of European tech currently, and this gap could quickly expand without greater coordination in development cycles.

Changes Needed in Research Plan

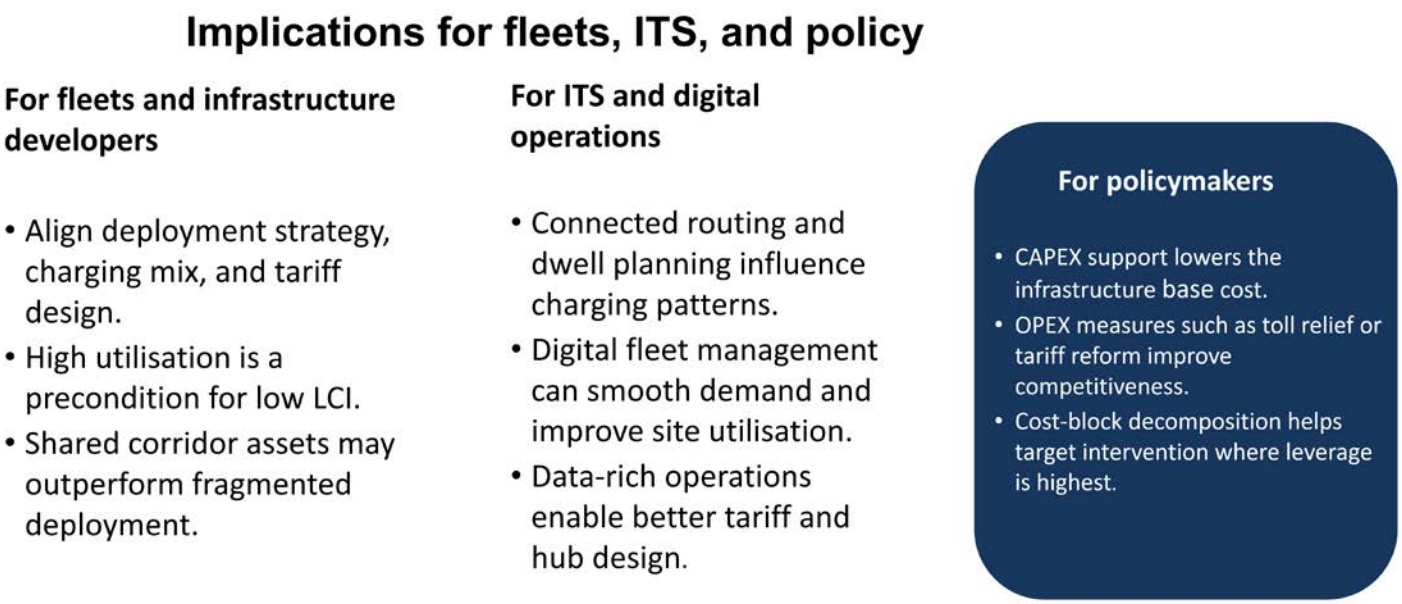
Digital Twins are a common feature in ITS to foster sustainable mobility and liveable communities across airports, urban areas, and living environments. However measuring and comparing performance outcomes across different regions and transport networks has been a challenge. Interoperable, secure, and inclusive Digital Twins, aligned with the New European Bauhaus and the G20 Digital Infrastructure Framework, could offer a new direction in research for cities to measure, track, and enhance performance through data-driven decision-making, supporting sustainable urban planning, energy management, noise reduction, and smart infrastructure deployment. Fostering research collaboration through open-source, scalable, and interoperable implementations, it may be possible to advance digital inclusion, sustainability, and innovation, offering a replicable model for European and international

smart cities to improve logistics.

To drive scaled automation in fleets there was a view that the application needs to be aligned more to the purpose. The example of driver shortages was put forward, but also the thought that that could be solved by simply paying drivers more. Overall, a clear impetus toward bringing the user experience more in to the technology solution is fundamental to driving uptake. Some ideas offered included, making electric trucks more exciting for the driver, and rest areas for long-distance transport, combining welfare with charging facilities – merging the ecosystem, with charging and fleet as a service together forming transport as a service.

A possible challenge in moving projects from pilot to scaled solutions was that the research and development in many projects seem inaccessible to non-experts. To convince public authorities and commercial industry investors to be more willing in supporting scaling, the value offer perhaps needs to be made more succinct, to be heard over some of the technical detail and complexity.

The adoption challenge of E trucks, due to costs of both trucks and supporting infrastructure, was highlighted. Some common gaps included weak treatment and utilisation of the charging split for long-distance trips, and, crucially, limited linkage between CAPEX to OPEX policy levers. A possible end goal to unlock adoption challenges was a standard logistical framework that all government authorities and users can adopt.



Ahu Ece Hartavi Karci inTP5

TOPIC 4
ENHANCING TRANSPORT AND MOBILITY BEYOND THE ROAD

THE OVERALL SITUATION WITH THE TOPIC

This topic was unexpectedly small – almost the least of the four for both papers and organised sessions with no Strategic Futures Sessions. Nevertheless a wide range of work was presented and a number of key issues identified.

There was overlap between all four topics especially between this topic and Topic 2: Multimodal mobility system management. The reports from these two topics should therefore be read together as areas with limited or no coverage in Topic 4 are in some cases covered in Topic 2 instead.

Several papers reviewed shortcomings with existing regulatory systems regarding enhanced mobility. However it was unclear how the proposed solution of another regulatory measure was a productive step forward. Discussions led to the question whether there was a need to look at data regulation in the round. Many papers had an automotive focus within this topic which triggered the thought that the transport policy community struggles to think "beyond the road".

There was little discussion about integration between different modes for example public willingness to use automated buses for trips connecting with rail. This kind of multimodal connectivity should perhaps be a theme for future Congresses.

Many presentations seemed to address topics afresh with limited focus on historical context and learning from the past. There is a strong case for sessions or papers about the adoption of new technology beginning with an examination of why similar products haven't taken off in the past.

What was popular, what was not?

Areas covered by the organised sessions, technical and research papers included:

- The evolution of what is covered in ITS, including aspects such as sustainability, electromobility, governance and equity – not central themes of ITS a decade or two ago.
- Multimodality, covering system management, seamlessness, roaming, use of space technology, Connected, Cooperative and Automated Mobility (CCAM) in public transport.
- Data and indicators, including probe vehicle data, traffic regulation, use of data in eco-routing, AI for mobility management and the role of Data Spaces.
- ITS for public transport, for cycling and – in the automotive space – for battery electric vehicles.
- Safety, including emergency response and AI for airport safety management, and resilience, including bi-directional V2X EV charging which contributes towards grid resilience.
- Away from land transport, there were sessions on maritime ITS and innovative aerial services and papers on airports, Urban Air Mobility (UAM/IAM) and electric inland waterway transport.

Among areas not covered or only lightly covered were:

- Rail automation and digitalisation for freight and passenger mobility considering innovations in long-distance travel
- Business cases and best practices for seamless interworking between different

There were no papers or sessions on rail automation. The ITS Congresses are still not fully on the radar of researchers and deployers in the rail sector. Relatively few covered waterborne and air transport. This is not to say that these areas are inadequately addressed, rather that they are mostly disseminated in other events. There is also relatively little on Energy and transport infrastructure requirements for future air, rail, waterborne, and ports.

There was a lack of content (under both this topic and the Multimodal mobility system management topic) on road infrastructure pricing and providing a level playing field between modes, also on the organisational and governance side of managing the networks of different modes in a coherent and integrated manner.

FORWARDS VS CONSTRAINED

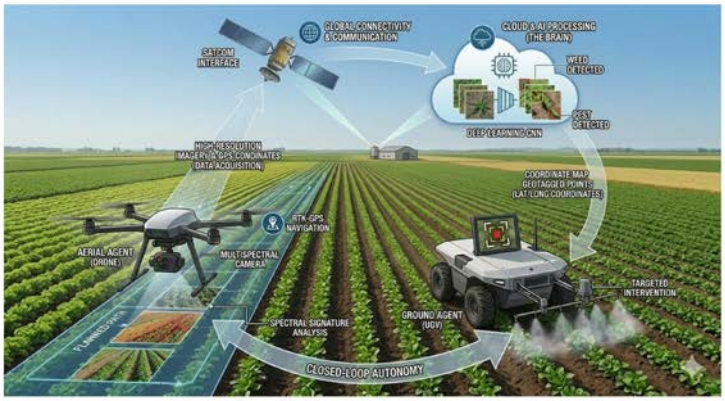
Key "Forward" Issues

There were strong contributions on the application of ITS in cycling. The Bicycles and ITS (BITS) and MegaBITS projects in Europe reported on ways to make cycling safer, more convenient and attractive using transport technology. The interventions tested include real-time warnings at intersections, and dynamic route-planning guidance. This "digital layer" may help policy makers to improve the attractiveness of cycling once car reduction policies and safe routes have been implemented.

Researchers have used a range of sources to examine micromobility services in UK cities. They concluded that policy makers should implement: Universal Design, community engagement, affordability and subsidies, training and awareness, accessible information, integrated transport solutions, and monitoring and evaluation. Progress with the deployment of shared micromobility in Türkiye was highlighted through the TAZI scheme, and Konya's position as European Capital of Cycling in 2026.

The Congress also explored the opportunity of ITS to encourage the choice of active travel through more advanced journey planning tools. This included the MOBILAIR project, which applied AI to combine spatial, sensor, and meteorological datasets to produce more granular air quality predications and provide users with routes options based on likely pollution exposure. We heard about implementing automated waterborne seaport hinterland transport via an economic appraisal of a battery-electric service on the Rhine between Duisburg and Antwerp. The service can support EU-wide transport goals by providing a 24/7 service demanded by freight operators and therefore unlock mode shift from road to water, while providing a strong (over 20%) rate of return and enabling zero-emission operation.

In the areas of Intelligent Air Mobility a Turkish contribution looked at legal aspects and challenges in the country, as well as opportunities. Use cases studied concentrated on aerial transport of people, for medical reasons as well as premium passenger services in urban areas like Istanbul, but not so much in terms of resilience, safety or infrastructure inspection/maintenance applications. Research from Izmir was presented, investigating the opportunity to apply drones in agricultural for the treatment of fields using satellite-enabled drones, coupled with land-based autonomous vehicles. Intelligent Air Mobility in Coventry was presented including the ambition to monitor traffic at football matches using autonomous aerial vehicles, and to strategically deploy 'in-a-box' monitoring drones at high-traffic or high-collision locations to provide early information to blue-light services.



Ashweeni Beeharee in SIS 19

Izmir Space Enabled Autonomy for Agriculture (ISEAA)

Move from "blanket treatment" of fields to **precision intervention**. By coordinating different autonomous agents to maximize efficiency and minimise resource waste.

Aerial Agent (Drone): Rapid large-scale reconnaissance.

The Bridge (SatCom & Intelligence): Data transmission and intelligent processing.

Ground Agent (UGV): Precise, localised action.

A number of papers examined the application of ITS to the operation of public transport services. Workers in Spain described the need to remove reliance on proprietary systems for monitoring battery health within bus fleets by trialling an open-source approach enabled by 'internet of things' sensors and AI. More generally policy makers may need to intervene to avoid dependence on closed, proprietary systems as we move from mechanically-enabled to computerised vehicles and infrastructure. Proprietary systems must be avoided so that measures from different manufacturers can be compared.
Researchers in the UK looked at public perceptions of self-driving buses via a survey of users. They found "higher willingness to use SDBs for routine leisure or shopping trips, whereas critical journeys, such as healthcare, elicited significant resistance due to concerns over punctuality and safety", and propose that policy makers consider gradual deployment of automation, communicate clearly about safety procedures, and target investment towards improvements in road infrastructure and connectivity.

Technical papers explored the wider applications of ITS in the automotive space. A team in Turkey explored the application of drone technology to access real-time parking availability to reduce congestion and emissions while cruising for parking. They used a drone-in-a-box system within a university campus to test the application. Policy makers should consider how using ITS technology for this use case compares with more conventional infrastructural and regulatory interventions (e.g. reduction in overall parking supply, improvement of public transport accessibility).

The UK demonstrated the rollout of its digital traffic regulation order (DTRO) product, now available in public beta. It aims to provide a single, reliable national data portal mandated under the UK's Autonomous Vehicles Act. The platform offers clear benefits in terms of standardisation and the creation of a "one-stop-shop" approach for traffic regulation data, supporting greater interoperability, the future deployment of CAV, better kerbside management, and stronger road safety interventions. Norway highlighted the complexity of digitalising traffic regulations, particularly in urban areas with time-based restrictions, and in special cases like the platooning of vehicles in rural areas during winter.

An international team examined the development of a new generation of battery-electric vehicle designed for short-distance urban trips using swappable batteries as a means to overcome range anxiety and charging wait times. Also on electro-mobility, vehicle-to-grid and vehicle-to-everything (V2G, V2X) bi-directional charging was covered in terms of its potential to balance the grid and increase resilience.

The community highlighted the potential to use ITS to unlock decarbonisation and other efficiencies in maritime freight transport, where 15% of ships' greenhouse gas emissions are associated with port operations. This included the DYNAPORT project, which investigated the potential to integrate digital systems and decision making to enable 'just-in-time' arrivals, demanded both by the public as a means of climate-impact reduction and by operators in order for waterborne freight to be a viable alternative to road-based transport. Also on the maritime side, autonomous vessels are being trialled which can operate with smaller workforces, greater safety and efficiency, with a greater percentage of uptime. Office-based remote operating crews do not necessarily carry out operations but intervene where required. 100% connectivity is essential for this to be viable; one new ship being built has 16,000 sensors. Multiple levels of redundancy are required.

Sergio Fernández Balaguer in SIS 4

Key "Constrained" Issues

We did not see enough work on technologies to anticipate future safety and compliance requirements.

Papers on aviation looked at the needs of the sector from a few different angles. An Italian team explored the role of vertical take off and landing (VTOL) in supporting progress towards the four-hour door-to-door objective from the European Commission's Flightpath 2050 strategy. They used the Catalan Pyrenees and the La Gomera – Tenerife sea corridor as case studies. As with much research into conventional public transport they found that strong timetable integration that reduced waiting times was critical for passenger experience.

A Turkish team examined the social, legal and technical considerations associated with the future expansion of urban aviation in the national context. A critical issue they identified was that the legal framework for property ownership might impede the potential for logistics and passenger use cases that rely on low-altitude flights.

The discussions also highlighted that progress better integration and the adoption of 'beyond the road' decision-making is constrained by the need for non-ITS infrastructure. For example, in Patras, a proposal to move the railway to the port underground in order to increase the reliability and speed of the intermodal connection to the port and unlock more of the public realm within the city was recently not approved. Elsewhere, researchers highlighted the risks to safety posed by mixing battery-enabled micromobility with other more conventional forms of transportation on traditional infrastructure.

A workshop on cross-border passenger transport highlighted persistent challenges associated with user experience and ticketing, constraining users from choosing lower-carbon land-based modes over aviation. It highlighted the need for open, standardised, and high-quality timetable, pricing, and live status data, so that customers can be provided with a seamless experience. Current tools too often stop at the border.

In the maritime sector it was noted that there is still not full use of the satellite functionalities available. This, together with legacy practices, equipment and legislative framework in what is an industry with a long history, can sometimes constrain the adoption of new technologies such as vessel automation.

THE KEY MESSAGES FOR THE SECTOR ACTORS

What Needs To Change?

UK Researchers found that fewer than 10% of Local Authorities had been involved in CAM/CCAM projects. This could mean that LAs ended up with CAV deployments that did not align with LA priorities. On the other hand, it could present a big barrier for operators seeking to set up CAV schemes, given the broad control LAs have over local highway networks. The parties involved need to move closer together.

Regarding data on cycling, although there are an increasing number of sources (bicycle barometer, counting cameras, floating bike data using sensors or cycle hire data, and BikeSim – simulation tool), data is still the missing link for public authorities to effectively plan and deploy cycling infrastructure and address problematic spots. It was noted that modern cars are full of data, but bikes are not. A single product or system for cycle planning and data collection is not enough.

More broadly, on the subject of CCAM, despite many trials and demonstrations very few real-life revenue-earning services exist which provide an added-value to the traveller and to society. The business case remains unproven and there was still a feeling among some that CCAM is a technical solution looking for a problem to solve. Longer term operations are needed to prove feasibility (financial as well as technical), also integrated into the wider public transport system.

One session summarised the three main barriers to seamless mobility:

1. **Fragmented data ecosystem**
2. **Untapped cross-border potential**
3. **Need for sustainable infrastructure**

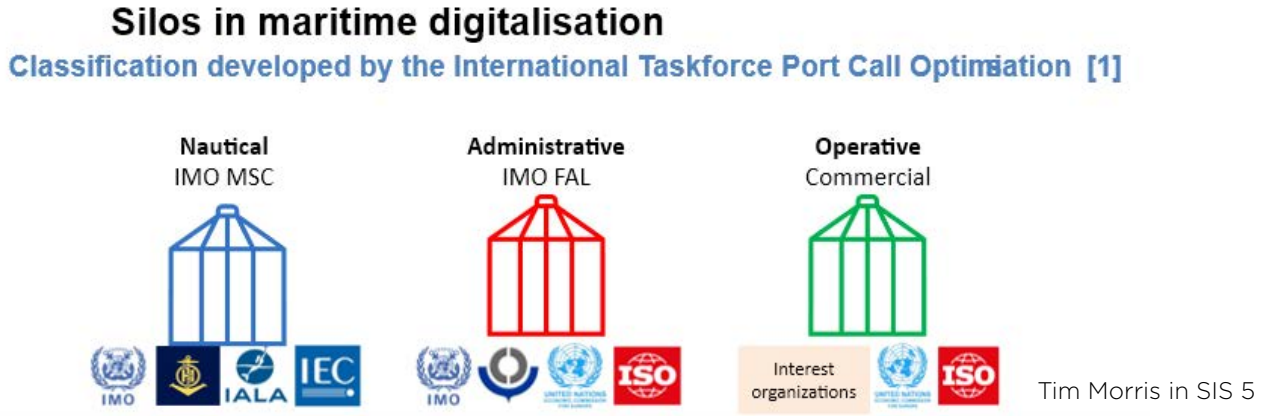
Stefanie Federl in SIS 45

One of the key constraints across the ITS domain is public awareness and acceptance. While the potential of V2X bi-directional charging of vehicles is increasingly recognised among fleet operators, "selling" this concept to private EV drivers is more challenging. One issue is the availability of compatible vehicles ("chicken and egg" situation, where some manufacturers are reluctant to build in such compatibility – especially with AC charging – until they see there is a clear demand); another is lack of knowledge among drivers as to what it is, and for those who are aware, lack of trust that there would be enough charge in their car for when they need it. Regulatory frameworks also impeded selling power back to the grid in many countries.

Ongoing public acceptance challenges were also highlighted in the domain of unmanned aerial vehicles. Otherwise, progress may be constrained to domains with high acceptance like emergency services in the medium term. Researchers encouraged the sector to better understand public pain points, and that membership of collaborative platforms like IDI can help to pool learning from the relatively small number of trials that are taking place.

There remained a continuing need to break down silos between actors in the supply chain, and concern that the "use of digital systems doesn't deliver an intelligent system". In maritime transport there was persistent fragmentation between nautical, administrative, and operational components of the system. In order to develop the intermodal alternative to road-based freight transport that allows progress 'beyond the road', we need to begin integrating freight corridors all the way from the product sources to end users.

There was also a need to break down borders between countries for international passenger transport. Data, ticketing, and operational integration may help customers to choose lower-carbon modes like rail for long-distance trips. Actors could adopt an end goal that "ticketing is just a button you press when you want to travel", rather than relying on passengers to navigate complicated arrays of applications and fares. Direction could also be taken from schemes like the Deutschland ticket, where fares for individual journeys are removed from the picture entirely.



Tim Morris in SIS 5

Whow needs to deliver changes?

During the Congress there was not very much discussion about integration between different modes. Passenger service providers appear to think of themselves as an airline, a rail operator, and not a provider of mobility – as a city would tend to think. The position for freight is very different.

A number of problems pointed to the need to embed societal involvement into planning programmes at the earliest stages. Current practices often treated users purely as end-users, involved only during validation or acceptance testing. A shift toward co-design and participatory innovation, where citizens, communities, and broader societal actors are part of the problem-framing and solution-design phases, is essential.

ARE REGULATORY CHANGES NEEDED?

Some papers highlighted big changes being led by industry that aren't being effectively regulated. A range of providers was offering purportedly societally-optimal "Eco routing" journey planning algorithms, but without any standardisation of factors like the consideration of road safety or particulate emissions. And most of the regulatory processes for AI don't account for the fact that these systems 'learn as they go', and therefore develop new knowledge that hasn't been tested as part of certification.

These points emphasise the need for early Regulator engagement when planning trials, even if actual regulation reforms would be premature. Regulators need to understand the emerging technologies to anticipate future safety and compliance requirements. And more generally Regulators need to accept a higher degree of uncertainty, of risk.

A Special Interest Session on V2X charging highlighted the need for regulatory changes in the energy market to allow fleet operators and individuals to sell electricity from their vehicles back to the grid. Double taxation should be avoided so that the user is not taxed extra to recharge their car after having fed energy back to the grid.

Regarding remote operation of ships, it was noted that the shipping industry is one of the oldest in the world (400-500 years old), hence there is a complex web of national and international regulations. These, as well as acceptance and trust by operators, clients and ports, need to be tackled to advance ITS deployment in the maritime sector.

IMPLICATIONS FOR POLICY MAKERS AND RESEARCH PLANNERS

Policy issues

Work in the UK argued that local authorities need the benefits of CAV to be aligned with the barriers being faced by people considering public transport adoption. The authors reasoned that exploiting CAM relies on the development of a holistic national strategy that fully considers the likely effects of the automation of both public and private transport.

Other papers explored intelligent systems in public transport and automotive safety. Work looking at in-car emergency response calling highlighted the upcoming end to support of 2G and 3G networks in new vehicles from January 2027 for satellite-enabled services. Policy makers need to explore whether there are other such systems in the ITS sector that may become unreliable in poorly connected areas as a result of regulatory changes around which networks communications systems should be required to use.

A French group examined, Dutch, German and French data portals. On the one hand they found that standards were becoming generalised. On the other they found fragmentation of parking data, lack of access to urban logistics data, strong demand for real-time passenger and crisis information, and a need for tools that can be used by non-experts. The authors joined calls that the "open as default" principle should be "applied systematically to all public datasets", and argued that several strategic reference datasets should be produced, including a national roads database with counts and speeds.

A Belgian team reviewed progress with the implementation of mobilityDCAT-AP, a metadata standard designed for transport data in Europe. They presented the fully compliant reference case of Belgium, and found that compliance in Denmark, Germany, Austria, and Sweden tended to be uneven poor. The

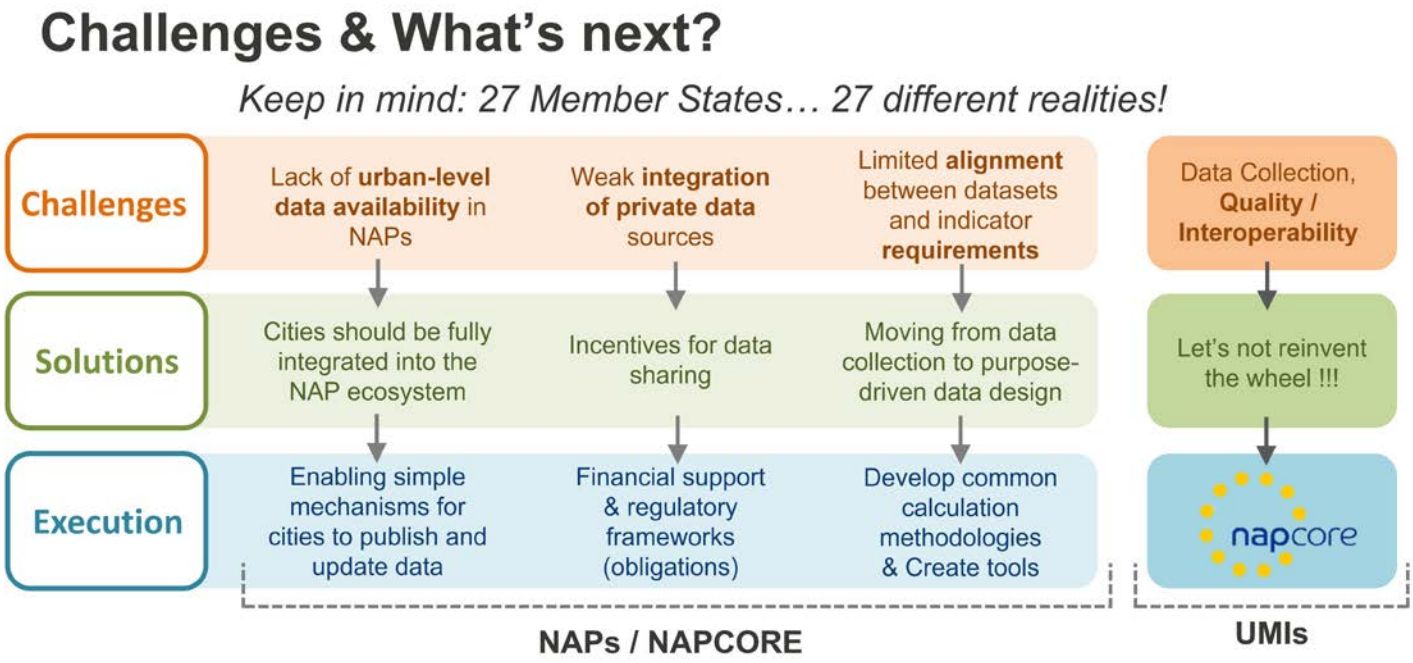
authors argued that policy makers should note the constraints this lack of compliance represents for cross-border automated trips, public transport services, and passenger information. Policy makers should also consider whether regulatory agencies should explore implementation tools as well as the production of new regulations (e.g. validation pipelines).

A Special Interest Session looked at ITS in traffic management and tackling congestion. In urban areas, reducing road capacity for cars in order to enable modal shift can be successful in many cases (as in Paris), but challenging in other cities. Public acceptance is key, which includes making the traffic situation more reliable and visible rather than just increasing capacity which then gets filled due to induced demand.

Pricing is another management technique but was not discussed in the urban context at sessions within this Topic. Tolling on interurban motorways was covered and permits infrastructure operators to deliver a higher level of service, including safety and reliability. Acceptance remains an issue, with the need to convince drivers of the value of tolls, and the fact that no road is truly "free".

Indicators and data are key to policy development and implementation. The European Mobility Data Space is at the core of mobility data sharing. Dataspaces are federated marketplaces to facilitate voluntary sharing on a trust-based approach, with evolving data exchange practices and complementing digital twins. On the logistics side, an SIS highlighted the role of the European Digital Infrastructure Consortium (EDIC) in strengthening dataspaces. This contributed to policy by building common rules and interoperability frameworks for cross-border services and providing a standard mechanism to national authorities for pooling resources and aligning investments.

The EDIC for Mobility and Logistics brings together public and private actors in this field to one table. The EU-funded NAPCORE project identified challenges including the lack of urban level data availability in National Access Points, weak integration of private data sources and limited alignment between datasets and indicator requirements.
The need to deliver on the Management of Electronic Traffic Regulations (METR) work package within NAPCORE was also highlighted, in order to overcome the considerable legal, institutional, and technical challenges involved in delivering harmonised DTRO services in Europe.

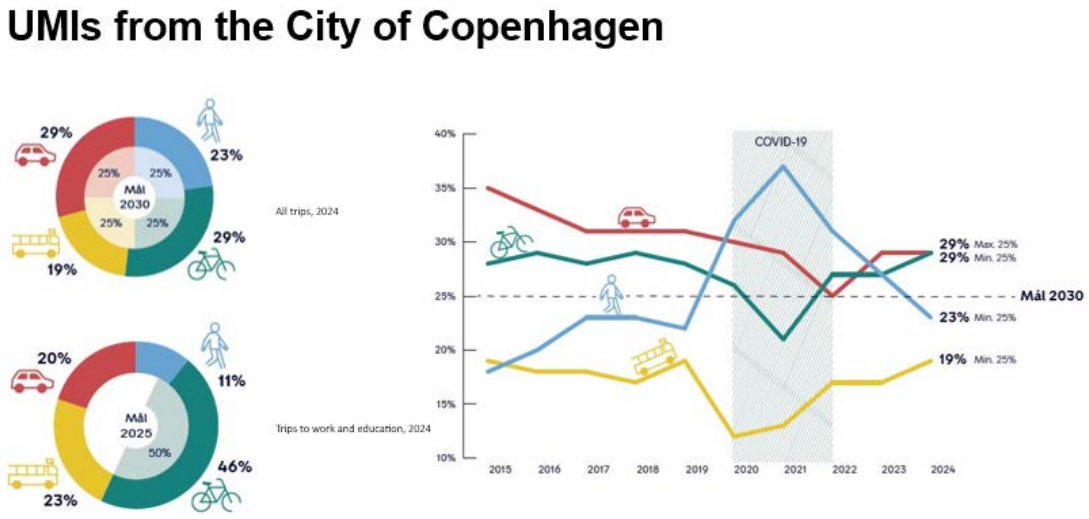


Rodolfo Da Silva in SIS 50

Progress was being made to harmonise indicators for urban mobility, whereby 431 urban nodes identified in the Trans-European Transport Network (TEN-T) are required to adopt a Sustainable Urban Mobility Plan (SUMP) for passenger and freight transport across the functional urban area by 2027. Joint key indicators will assist city authorities and the EU to track the effectiveness of mobility policies over time, avoiding "reinventing the wheel" in each city. EU Member States shall submit data per urban node through the TEN-Tec platform from the end of 2027.

On cycling, policy development requires more data on cycling and soft measures to nudge people into taking up this mode of transport for shorter journeys. Once not really considered a mode where ITS can add value, there are now numerous ITS tools, from cycling apps (giving points according to trips or distance covered, usable with partners e.g. a free coffee), smart bike parking, green traffic light adaptation including for cycle couriers (cargo bikes, detected by AI), floating bike data and related tools for evidence-based implementation.

Although there is no universal blueprint for success, such tools can be used to enact ambitious targets, e.g. Copenhagen which has a 30% bicycle mode share target for 2030, coupled with 25% each for walking and public transport.



Christina Mose in SIS 50

Recearch Planning

Currently some major cities (e.g. Paris and Barcelona) are undergoing a transformation towards "beyond the road" transport but these case studies were not brought to the Congress. It would be interesting for delegates to have input from research exploring how ITS is being applied in cities undergoing a revolution, and whether there are unexploited opportunities for improving safety, adoption, or user experience.

Researchers from S Korea described a new design of controller for underground metro station gate lines to reduce platform crowding. Using microsimulation they found that the new approach could reduce crowding by almost a quarter. This suggests that more generally new interventions might be available for improving safety at high density stations justifying a research initiative.

There was little on costs and benefits of different solutions, including materials and lifecycle, willingness to use and willingness to pay. More papers describing evaluations of real-life long-term operations and deployments (as opposed to trials) would be welcome in future. Costs, user acceptance and integration of new services with existing ones should all be looked at. It was found in several sessions that user confidence, acceptance and trust were more critical for scalability and mass deployment of solutions than technical issues. Research should focus more on real user acceptance, including co-design and familiarisation of diverse population segments. Behavioural change is also key, with soft "nudging" as well as incentives more widely used in research demonstrations as well as the resultant policies and deployments.

PART 4

THE SMART MOBILITY SUMMIT OF CITIES & REGIONS

This was ERTICO's eighth Mobility Summit, an open forum where invited influential public authority representatives have shared smart mobility-related best practices, successes, and existing and emerging gaps, and discussed potential solutions with their peers from a range of other sectors. The Summits have focused on supporting local and regional authorities' agendas for innovating and implementing ITS solutions for public benefit. The Istanbul Smart Mobility Summit of Cities and Regions took place as usual on the opening day of the Congress and brought together Mayors, Deputy Mayors, Councillors, and Heads of Transport from 33 cities and regions across Europe. They were joined by National and European policymakers to discuss the ***'ITS agenda for liveable, resilient and prosperous urban nodes'.***

As part of the EU's broader climate and smart mobility agenda the TEN-T regulations have strengthened the role of cities as vital enablers of sustainable, efficient, and multimodal transport. In the EU the 431 cities designated as urban nodes have specific requirements to promote seamless traffic flows. The underlying challenges and ambitions are shared well beyond EU borders, including in the Congress host country Türkiye, where major international transport corridors intersect and cities play a critical role in connecting regional and global mobility networks.

With cities and regions positioned as orchestrators of complex mobility ecosystems the focus of the Summit was on automation, electrification, multimodal hubs and societal aspects. Each of these topics was discussed in simultaneous roundtable discussions among peers in a close 'upon-invitation-only' session. The central question discussed was: how can cities translate ambitious mobility goals into implementable, scalable systems?

From Technology to System Transformation

The Summit reinforced the view that addressing mobility transition is much more than a technological problem. Cities across Europe are largely aligned on transport and mobility goals: cleaner fleets, smarter traffic management, and more efficient multimodal systems. The real challenge, however, lies in delivery. The discussions repeatedly pointed to institutional fragmentation, regulatory complexity, and limited financial readiness as the main barriers. In the host city of Istanbul, for example, the deployment of charging infrastructure was shown to be constrained not by technology but by overlapping responsibilities related to land use, grid connections, safety regulations, and permitting processes. Even well-prepared projects can stall if these elements are not aligned.

The current broader thinking was that electrification, automation, digitalisation and social inclusion must be embedded within integrated urban systems that connect mobility, energy, and digital infrastructure. Intelligent Transport Systems (ITS) play a central role in this systemic perspective by enabling real-time traffic management, data-driven planning, and improved coordination across modes and stakeholders.

Building investable systems beyond electric fleets

The roundtable discussion on Beyond fleet electrification: powering investable Urban Mobility systems highlighted that electrification is about more than vehicle replacement and requires a system-wide transformation. Experiences shared illustrated the diversity of challenges depending on local context.

For instance, Izmir's deployment of electric buses demonstrates that success depends on operational redesign, route planning, charging strategies, and energy management, rather than procurement alone. Meanwhile, Muğla's tourism-driven mobility patterns reveal the complexity of installing even a limited number of charging stations in geographically dispersed areas with seasonal demand peaks.

A key theme was the need for integrated energy-mobility planning. Charging infrastructure, depot design, and grid capacity must be developed together to avoid new bottlenecks. Participants also noted a lack of suitable financing models, with innovative approaches such as charging-as-a-service still largely underutilized.

From Technology Aligning CCAM Innovation With Urban Reality

Another roundtable topic was Cities' readiness for deploying Cooperative, Connected and Automated Mobility (CCAM), which explored

the preparedness of cities to integrate automation into real-world environments. Although technology is progressing rapidly deployment in European cities faces unique challenges. Unlike the grid-based layouts of many US cities European urban environments are often dense, historic, and highly complex. This creates additional hurdles for automated vehicles, particularly in mixed traffic conditions. Participants identified a number of gaps in communication infrastructure such as the deployment of 5G connectivity and the need for stronger standardisation and interoperability frameworks.

Beyond infrastructure societal factors also emerged as critical. Public acceptance, trust in automated systems, and cultural attachment to private car ownership all influence the pace of adoption. At the same time economic considerations, including the cost of infrastructure and the implications of reducing driver-based jobs, require careful management. Despite these challenges the discussions identified clear opportunities. CCAM applications such as first and last-mile connections, on-demand services in low-density areas, and automated logistics were seen as offering tangible benefits. Cities are increasingly looking at how these solutions can complement public transport networks rather than compete with them, ensuring that automation supports broader sustainability goals.

Integration of Multimodal Hubs in Practice

The roundtable discussion looking to the Evolution of multimodal hubs by 2030 highlighted their role as anchors of integrated mobility systems. Examples from cities such as Stuttgart, Belfast, Patras and Katowice illustrated both progress and persistent challenges. One of the key issues discussed was the mismatch between infrastructure planning and actual mobility needs. In some cases hubs had been developed where space was available rather than where demand was highest, leading to underutilisation. This reinforces the importance of data-driven planning, using insights on travel patterns and traffic flows to guide investment decisions.

Governance and cooperation were also identified as major barriers. Multimodal hubs require coordination between multiple stakeholders – public authorities, private operators, and different levels of government. However, cities often lack the regulatory tools or leverage to align these actors effectively. Emerging governance models, such as regional transport authorities in the UK or data standardisation efforts in the Netherlands, were highlighted as promising approaches.

Funding remains a persistent challenge. While multimodal hubs were recognised as critical for the performance of wider transport networks financial support at both European and national levels is not always aligned with policy ambitions. This creates a gap that must be addressed through new funding mechanisms and stronger public-private collaboration.

Towards Human-Centric Mobility Systems

The concept of a just transition emerged as a guiding principle in the roundtable on the social dimension of mobility. Cities are increasingly aware that the benefits of smart mobility must be anchored in principles of fairness, inclusiveness, and accessibility. People's mobility needs differ significantly depending on age, gender, income, disability, and location requiring a shift from a "one-size-fits-all" approach towards more tailored and user-centric planning.

A key insight was that inclusive mobility starts with inclusive processes. Cities are experimenting with more participatory planning approaches, from large-scale citizen surveys informing mobility services, e.g. in Tallinn where a significant share of the population has been engaged in shaping MaaS solutions, to more immersive formats such as "walkshops" in cities like Kifissia, where planners and residents explore urban spaces together. These approaches help ensure that lived experience informs decision-making and that policies reflect real needs rather than assumptions.

Digitalisation is reshaping how inclusion is addressed. Tools like digital twins and digital wallets offer new opportunities to personalise and optimise mobility services, but they also risk excluding those with limited digital access or limited digital skills if not designed carefully. For instance, to ensure digital mobility solutions remain accessible Oxfordshire is concentrating efforts to collect more inclusive, intersectional feedback, particularly from younger and more vulnerable groups.

Cities appreciate the need to align social and environmental objectives and are actively working towards this integration. This shift in approach was reflected in multiple ways whether it was Rzeszów rebalancing its transport system towards public transport, or Konya expanding cycling infrastructure. For sustainable mobility benefits to be shared more equitably connectivity must improve in city centres and also in peripheral areas, and disproportionate impacts on vulnerable groups in terms of cost or accessibility must be avoided.

Converging Lessons and Call for Action

Across the different roundtables several common conclusions stood out:

- The transition to smart mobility is inherently system-based. Electrification, automation, and multimodal integration cannot succeed as standalone initiatives. They require coordinated planning across mobility, energy, and digital domains.

- Data is a foundational enabler. Whether in optimising electric bus routes, planning multimodal hubs, managing automated mobility services, or provisioning accessible and inclusive mobility options, data-driven decision-making is essential for both operational efficiency and investment readiness.

- Governance and institutional capacity are critical. Fragmentation across authorities, sectors, and stakeholders remains one of the biggest obstacles to implementation. Stronger coordination mechanisms and clearer allocation of responsibilities are needed at both local and regional levels.

- New financing and delivery models are essential. Cities must move beyond asset-based procurement towards performance-based, system-oriented approaches that can attract private investment and support long-term sustainability.

- Social inclusiveness must be embedded throughout the transition. Mobility systems should be designed with diverse user needs in mind, ensuring equitable access, affordability, and participation, while aligning digital and green transitions with the principles of a just transition.

The future of urban mobility depends on the ability to integrate, finance, and govern the emerging innovation effectively. Cities are ready to move forward but unlocking this transition will require a step change in how mobility systems are planned, delivered, and funded.

Thank You for Being Part of ITS Istanbul 2026

We extend our sincere thanks to all attendees, partners, sponsors and participants for contributing to a Congress that brought together diverse perspectives and advanced the dialogue on integrated, safe and seamless mobility.

Thank you message from Angelos Amditis,
Chairman of ERTICO - ITS Europe

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