# ACTION POINTS



# ADVANCING DIGITAL TRANSFORMATION IN PUBLIC TRANSPORT WITH A DIGITAL MINDSET

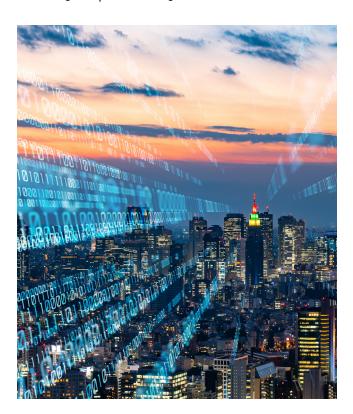
JUNE | 2025

# INTRODUCTION

This paper is a follow-up of the May 2024 action points publication 'Capturing Digital Value Within Public Transport', which addresses and demonstrates the value and opportunities of digitalisation by providing different use cases and arguments in favour of it.

In today's market, we believe that the value of digitalisation no longer needs to be justified, because customers in all sectors are asking for it, organisational efficiency depends on it, and, to a certain extent, the survival of many companies is tied to their ability to implement and successfully use digital solutions.

Public transport (PT) is no exception to this reality. Elements like journey planning, ticketing, real-time information, passenger counting, wayfinding, asset management, maintenance, operations planning, and service delivery are all elements that are digitally driven. The big challenge for businesses is to have a critical process that enables them to leverage digital technologies to enhance operators' and passengers' experience. This process is often referred to as 'digital transformation' or 'digitalisation' - which must be accompanied by a certain attitude and commitment we call 'digital mindset'. The following action points aim to provide insights and ideas on how to shape and transform the mindset of your organisation and staff to successfully deploy and maximise the value gained from the deployment and usage of different digital solutions, including artificial intelligence (AI).



We begin at the top of the organisation and work our way down. We start this paper by putting the emphasis on the importance of the engagement of top management towards digitalisation. Without C-level executive involvement, digitalisation is impossible to implement, because there will not be adequate resources and organisational commitment to ensure success.

The second critical aspect is the deployment of a digital governance team. Such a team is the best demonstration of the C-level promotion of digitalisation, as it brings together key players to push digitalisation in the organisation forward. This team will ensure there is the expertise and credibility needed to support, govern, and organise efficient development of a digital mindset.

The third and most critical section is 'Digital knowledge and experience throughout the organisation'. The real benefit of the digital mindset comes into play when the whole organisation is undergoing a transformation to leverage the benefits of the digital world. This means that the whole organisation is focused on using the capabilities of digital tools with proper cybersecurity practices to the greatest extent possible.



Belo Horizonte, Brazil, people waiting at a bus shelter

# C-LEVEL EXECUTIVES MUST BE OPEN AND PROMOTE DIGITALISATION (RISKS AND OPPORTUNITIES)

C-level executives must buy into and believe in digitalisation. The first action they must take is learning what it is. A formal training on digitalisation for executives is the first key step towards reaching the full potential of digitalisation. It is important to ensure that the executive team effectively supports this massive change, demonstrates solid engagement, and has a good understanding of digitalisation's possibilities.

The aim is to get C-level executives, especially the chief financial officer (CFO), to think of digitalisation projects more as an investment than a cost. Digitalisation is essential to ensure the survival and pertinence of many organisations, including those in public transport.

By knowing what digitalisation is and what it can do, C-level executives can develop a digital mindset: a set of attitudes and behaviours that enable them to see how data, digital transformation, and AI open new possibilities in a business landscape increasingly dominated by dataintensive and intelligent technologies. Among those possibilities is making their companies more attractive to digital talent.

# DIGITALISATION MAKES THE COMPANY ATTRACTIVE FOR TALENT

In a sector undergoing rapid digital transformation, creating an environment that attracts and retains top talent is critical. Here are five key aspects needed to achieve this:

#### Fostering a future-ready work culture

Digital transformation is people-centric, requiring a culture that emphasises adaptability and learning. Offering proper training and mentorship programmes ensures employees develop skills to help them tackle future challenges. Encouraging employees to participate in innovation projects boosts their confidence and aligns personal growth with organisational goals.

#### Promoting transparency and trust

Employees value transparent communication from leadership about company direction and the role of digitalisation in achieving strategic objectives. Involving people in decision-making processes and sharing success stories fosters trust, loyalty, and a sense of belonging among existing staff. This, in turn, also makes the company more appealing to potential hires.



Digital screen with real-time information in a bus in Zhuhai, China

#### Enhancing workplace flexibility

Flexibility has become non-negotiable for attracting talent. Digital tools that enable remote work reduce dependency on local labour markets, allowing companies to tap into a global talent pool. Flexible work arrangements also improve employee satisfaction and productivity.

#### Duilding an authentic employer brand

A strong employer brand signals a company's alignment with digital trends and values. Highlighting innovative projects, sustainability initiatives, and employee success stories attracts digital natives and tech-savvy professionals. Delivering on promises made during recruitment helps ensure long-term retention.

#### Providing job security through continuous development

Modern job security goes beyond employment stability and includes opportunities for professional growth. Clear career paths, ongoing skill development, and possibilities to work with modern tools to stay relevant in a fast-moving work market are key.

#### Improving gender balance and equal opportunities

We believe that the development of a digital mindset should have a positive impact on gender balance. With younger digital professionals, this imbalance tends to decrease; thus, the digital transformation can also contribute to reducing gender imbalance in PT companies and foster equal opportunities.

# C-LEVEL EXECUTIVES NEED TO INFLUENCE EACH OTHER TO PROMOTE DIGITALISATION

Collaboration among C-level executives is crucial to driving digital transformation in PT. The following five aspects related to collaboration should be considered when rolling out digitalisation:

#### Achieving strategic alignment

Aligning digitalisation with strategic plans is essential for public transport operators (PTOs) and public transport authorities (PTAs) where their investment plans are focused on enhancing transport services, prioritising passenger needs, and achieving sustainability goals. A shared vision among top management leaders ensures that digital initiatives align with operational goals and policy frameworks. This alignment helps avoid fragmented efforts and maximises the impact of digital transformation on organisational objectives.

#### Optimising resources through collaboration

Joint decision-making among executives ensures efficient resource allocation, preventing duplication and fostering shared services. Examples include collaborative cybersecurity systems and shared app development between different company branches or even PT companies and cities, which reduce costs and enhance service quality.

#### Building stakeholder trust

Unified leadership demonstrates commitment to digitalisation, inspiring confidence among stakeholders like passengers, government agencies, and technology partners. Collaborative transparency enhances public trust, driving support for large-scale digital projects.

#### Leveraging knowledge and agility

Regular exchanges among C-level leaders keep organisations informed about emerging trends and tools. This shared knowledge enables quicker adaptation to market shifts and technological advances, ensuring competitiveness and innovation.



Digital OCC Control Centre, Hamburg, Germany, HOCHBAHN

#### Forming cross-industry partnerships

Engaging with external industries broadens the scope of innovation. By learning from sectors like retail, hospitality, and finance, PT leaders can implement strategies for improved customer satisfaction, seamless payment systems, and advanced data security. Public-private partnerships further streamline procurement and foster rapid digital solutions. However, to remain in charge of their destiny, it is crucial for PT organisations to have key personnel on board with proper digital skills to ensure those partnerships are not a threat, but rather an opportunity.

The various actions mentioned above require good coordination within the whole organisation to have the greatest impact. This is where a digital governance team can be useful.

# SECTION 2 DIGITAL GOVERNANCE TEAM

To promote the digital mindset throughout a whole organisation, a proper approach is required. Embedding this responsibility within the business operations team ensures the identification of realistic and high value projects and maximises acceptance. On the other hand, the operations team's focus is always on ensuring the smooth operation of standard business processes, which includes reacting to many unforeseen events. Transformation projects embedded in this team end up being deprioritised due to operations-related emergencies, which leads to delays and sometimes project failure. Furthermore, modern technologies offer many possibilities that are often unknown to the operations team due to a lack of knowledge and/or knowhow in this domain.

The alternative is to have a dedicated, independent team that is separate from normal operations, staffed with people who have up-to-date and efficient skills and know-how related to digital technologies. This ensures that such a team's focus is not disrupted by operational emergencies and that they have the required knowledge to maximise the benefits of digitalisation. It also allows for highly specialised roles and profiles that maintain technology awareness to identify applicable solutions. Gender balance should also be considered in order to optimise the team's performance of the team. Other key aspects like strategic alignment, risk management, change management, cultural integration, data integrity, and sustainability should also be taken into consideration by this team.

Having a group composed of the operations team and a technology expert is not sufficient. The digital governance team must be composed of various members of the organisation with distinct areas of expertise: technology, business, project management, change management, data governance, risk management, cybersecurity, etc. It must have a balance of strategic decision makers, subject matter experts, and cross-functional leaders.

One of the initial tasks of this team is to make sure that the organisation's digitalisation efforts are aligned with its mission, vision, and strategy. The organisation should have a strategy that considers digitalisation as one of the key ingredients to achieve its mission and vision, highlighting realistic and high value projects, along with the technologies required to achieve it.

The digital governance team is there to help identify the key elements of digitalisation that will be needed to realise the organisation's mission and vision. By bringing together technology experts with business experts, you maximise your chances of success. But you will also need to ensure that technologies are properly deployed with the appropriate access.

An improperly deployed technology will expose your organisation to many risks, such as data theft and reputational damage. That is where the dimension of risk management comes into play. There is a need to identify and manage the risks and issues linked to digitalisation, and the digital governance team can take the lead in identifying, listing, and properly addressing these risks.

There are several challenges in rolling out digitalisation that can be addressed by the digital governance team. One major difficulty lies in identifying realistic, high-value digital transformation opportunities, a task that requires deep operational understanding. Such insights can only come from individuals with detailed knowledge of the day-to-day realities within the organisation. This is why it is crucial to embed experienced internal experts with different backgrounds and skills into the digital governance team from the beginning. These individuals must also stay actively connected to the evolving operations to avoid becoming detached over time. Another potential challenge is resistance to change. When digital initiatives are seen as external or imposed from above, operational teams may perceive them as lacking credibility or relevance. To overcome this, the digital governance team must not act as isolated promoters of change, but rather as integrators who collaborate closely with departments, translate strategy into practice, and exemplify the digital mindset themselves. Their role is not just to introduce change, but to cultivate a culture that supports it. Ultimately, the mission of the digital governance team is to act as both facilitator and catalyst - ensuring that digital knowledge is embedded across the organisation and a digital mindset takes root in every layer. When they are designed and positioned correctly, these teams are indispensable to driving transformation from within, not from the outside.

# SECTION 3 DIGITAL KNOWLEDGE AND EXPERIENCE THROUGHOUT THE ORGANISATION

# DEFINITION OF DIGITAL MINDSET AS PART OF MISSION/VISION/STRATEGY

#### **Digital readiness**

PTOs are increasingly integrating digital automation technologies to improve service delivery and place passengers at the centre of their operations. These solutions include Integrated operational control centres with real-time monitoring, intelligent fleet and asset performance management systems, digital twins for smart operations, and smart ticketing systems, among others. By adopting these technologies and incorporating AI, operators aim to enhance service quality and optimise operations to meet passenger and commercial needs.

Leveraging data from various digital automation systems enables the optimisation of traffic flows, resource allocation, and operational planning. For instance, business intelligence tools and big data analytics support PTOs in improving efficiency, considering real passenger demand while reducing operational costs.

The readiness of PTOs to implement the digital transformation heavily depends on clear and achievable targets, data availability and usability, and internal digital knowledge, skills, and experience. Conducting a complete analysis of digital readiness is essential to identify gaps in skills, technologies, or processes that could impede progress. Based on this analysis, organisations will understand where to invest - whether in technology, training programmes, or workforce development - to address these gaps and foster a culture of technological readiness that embraces the digital transformation, spreading the digital mindset throughout the organisation.

To enable the acquisition and implementation of advanced digital solutions, PTOs must align their procurement processes with their digital strategic goals. This alignment ensures that resources and budgets are allocated effectively based on the most appropriate business model that will support the PTO in purchasing the digital solution. Collaboration with suppliers and leveraging on digitalisation economics are critical to achieving this goal.

#### Breakthrough digital technologies

Digital technologies are continuously evolving to meet PT needs. UITP's Action Paper 'Capturing digital value within PT', published in May 2024, outlines the latest-generation digital solutions that enhance operations, maintenance activities, and passenger experience. Breakthrough digital solutions are currently available to help PTOs with:

- Al and Internet of Things (IoT) technologies to enhance operations and maintenance (O&M) activities, leading to more efficient and user-friendly PT systems, by predicting maintenance needs, optimising routes, reducing delays, offering services based on actual passenger demand, and linking O&M activities to improve the handling of unexpected incidents. These improvements can cut costs and provide passengers with more reliable services, strengthening their loyalty to public transport.
- Service offering focused on passenger needs: Digitalisation enables the development of solutions that enhance the passenger experience, such as simplified payment systems and Mobility as a Service (MaaS), including provision of real-time information about multimodal transport services and incidents, ensuring that mobility services are accessible, safe, and comfortable for all users. Digital platforms and mobile applications equipped with real-time updates and personalised features significantly enhance passenger experience.

Moreover, digital solutions can contribute to sustainability by optimising energy efficiency, facilitating the adoption of electric buses, and improving traffic flow management, thereby reducing PT's environmental impact. Innovations like autonomous vehicles and blockchain for secure ticketing can help PTOs remain competitive.

Collaborative partnerships with startups or technology firms can ensure the integration of cutting-edge technologies. Digital transformation facilitates strategic alliances with other industries, enabling new business models and revenue streams. For example, partnerships with fintech companies can provide seamless payment solutions, while cooperation with technology giants can drive advancements in Al and IoT applications. Of course, these kinds of partnerships must be implemented with caution - you do not want your organisation to depend on them. This means that you must understand the implications of the partnership and have skilled people in your own organisation that can assess the opportunities and risks of a specific potential partnership on an organisational, legal, and technical level.



Virtual assistant Tracy in an MTR station, Hong Kong, Hong Kong SAR China

# INTRODUCTION OF DIGITAL KNOWLEDGE IN THE ORGANISATION

#### What change management means technically

Change management plays a pivotal role in the successful adoption of digital technologies in PT organisations. It bridges the gap between theoretical knowledge of technical tools and their practical application, ensuring that employees are adequately trained and informed. Effective communication strategies are essential to translate complex digital concepts into actionable tasks that align with operational objectives. When implementing new digital technologies, tailored training programmes are necessary to confidently embrace new systems and processes (for example, to design digitalisation programmes that seek quick wins, leverage early adopters to demonstrate value, and course correct. Identify where to push first, as it is not always useful for change management to face the biggest obstacles head-on in the beginning).

Beyond technical training, integrating soft skills such as communication, leadership, and critical thinking is essential. These skills will empower employees to adapt to evolving requirements, collaborate effectively, and make informed decisions when using digital tools. PTOs should ensure there is a balanced workforce capable of managing both the technical and human aspects of digital transformation, including strategic workforce planning. Upskilling and change management have limits. There is a point where you might need to think about how the evolving roles, required skillset, etc. will necessitate changes in the workforce. Resistance to change remains a significant obstacle in many organisations. Addressing this requires a clear articulation of the vision and benefits of the digital transformation. By fostering a culture of inclusivity and aligning transformation goals with individual roles, employees are more likely to engage with and support change initiatives. Transparent communication and success stories from similar initiatives can build trust and reduce resistance. People are more receptive when they can see themselves in the transformation. Do not treat everything as cookie cutter; invest in a digitalisation approach that is tailored to the organisation's needs.

# Introduction of digital transformation to be aligned with the continued evolution of market needs

As the PT market evolves, PT organisations must adopt flexible strategies to stay competitive and address emerging challenges. Employees should be encouraged to develop a proactive mindset, raising operational challenges and proposing innovative (digital) solutions. This collaborative approach can allow the digital governance team to align strategic objectives with technological advancements, ensuring the organisation remains agile and responsive to change. Continuous feedback mechanisms, including real-time surveys and internal communication platforms, are essential to foster a dynamic organisational culture. These tools not only provide valuable insights to decision makers but also empower employees to contribute actively to the organisation's digital transformation journey. Such mechanisms create a two-way communication channel that ensures operational needs are heard and addressed effectively.

Demographic challenges further underline the need for innovative approaches to service delivery in public transport. The sector must ensure consistent or enhanced service quality with fewer specialised staff, leveraging on digital tools to simplify operations and make information more accessible to operators and passengers. This shift can also help to attract younger talent by offering roles centred around technology and flexibility while retaining experienced employees through targeted engagement and training initiatives.

Encouraging employees to experiment and adopt new digital tools can foster innovation and operational efficiency. Organisations should provide the resources and support needed for employees to identify gaps and propose solutions, ensuring the digitalisation process is sustainable and aligned with strategic goals. Experiments are risky; top management should embrace the risks of experimenting with digital and innovation solutions, accepting the fact that sometimes these will fail. Experimenting is necessary to change the PT organisation culture, as well allow them to evolve to become more efficient (consequently attracting more passengers) and attract digital talent.



Ticketing mobile app, Brussels, Belgium, STIB

# CONTINUED MAPPING OF TECHNOLOGICAL TRENDS TO ALIGN INNOVATIONS WITH OPERATIONAL BENEFITS

#### Tracking and evaluating technological trends

The rapid advancement of technology necessitates continuous monitoring of emerging digital innovations such as AI, IoT, and cybersecurity, among others. PTOs must stay informed about these trends to maintain their competitive advantage and must align innovations with their strategic objectives. Monitoring can ensure that these advancements support PTOs in addressing immediate challenges, guaranteeing efficient PT services.

Prioritising innovations is essential to maximise their impact. Technologies should be evaluated based on their ability to address specific operational or customer-focused challenges. For example, real-time information platforms can significantly improve passenger satisfaction, while enhanced cybersecurity measures protect sensitive data and operational integrity.

Furthermore, operators must analyse how these technologies contribute to long-term goals, particularly in O&M. Predictive analytics, enabled by IoT and AI, can identify potential system failures before they occur, reducing downtime and maintenance costs. Autonomous driving systems, while still emerging, have the potential to revolutionise operations by optimising resource utilisation to implement on-demand services when drivers are not available.

### From insights to implementation

Transforming insights from technological trends into actionable solutions requires a structured approach; a digital governance team can help develop such an approach. Feedback from employees, passengers, and other stakeholders must be systematically analysed to identify areas for improvement. This trend analysis should enable the design of digital upgrades, ensuring they address both operational needs and strategic priorities.

A critical challenge in this process is the linguistic and operational gap between PTOs and technology suppliers. Misaligned expectations can lead to dissatisfaction with product delivery, increased costs, and inefficiencies. To address this, operators must clearly articulate their operational requirements as digital specifications. This alignment not only ensures successful implementation but also fosters stronger collaboration with suppliers. In order to achieve this, operators need to have qualified personnel who can communicate with digital technology providers on any level.



Trams, buses, and metro meet at a busy intersection in Warsaw, Poland

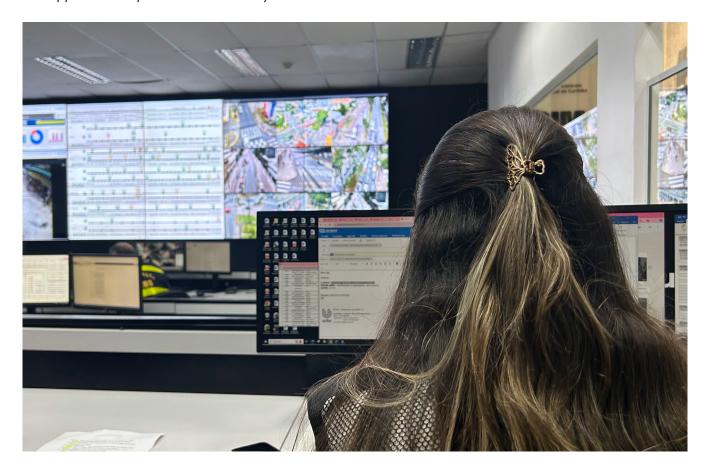
# CONCLUSION

# THE POWER OF THE DIGITAL MINDSET IN TRANSFORMING PUBLIC TRANSPORT

In today's rapidly evolving world, a digital mindset is not just an asset but a necessity for PT operators, authorities, and associations. It serves as the foundation for innovation, growth, and sustainability in a sector facing unprecedented challenges and opportunities. By embracing digital transformation, organisations can attract top talent, improve operational efficiency, and deliver exceptional customer experiences that align with modern expectations.

A strong digital mindset fosters collaboration, enabling C-level management to align strategies, optimise resources, and drive innovation through shared vision and purpose. It empowers organisations to harness cutting-edge technologies like Al, IoT, and blockchain, creating smarter, more reliable systems that adapt quickly to passenger needs and market changes. Moreover, it paves the way for new revenue streams, strategic partnerships, and cross-industry collaborations that redefine and thus strengthen the role of public transport in urban mobility. Without a commitment to digital transformation, PTOs risk losing relevance in an increasingly competitive landscape. Conversely, those who prioritise a digital mindset will lead the way in shaping the future of mobility—offering sustainable, inclusive, and forward-thinking solutions that not only meet but exceed the demands of the digital era. Now is the time to act. The journey to digital transformation starts with a mindset shift at the highest levels, driving success for organisations, employees, and the communities they serve.

The stakes are high, and the deployment of certain technologies or tools could be ineffective or not produce the intended effects if improperly managed, like AI. AI will not deliver much to an organisation that does not have a digital mindset in place. So, in our view, it is not a question of AI or digitalisation – it's both! To exploit the full potential of AI, you need to have a great digital mindset in the organisation; otherwise, you are just wasting your time and money! This will also be true for any future digital technologies and tools.



# SECTION 4 QUOTES FROM UITP MEMBER PTO/PTA CXOS



# ROBERT HENRICH, CEO, HAMBURGER HOCHBAHN:

"Digitalisation in public transport is a necessity. It enables us to make our operations more efficient, increase our capacities, and improve services, all of which lead to higher customer satisfaction in the end. A public transport company also needs to take advantage of the opportunities offered by digitalisation to contribute to a sustainable future."



# NICOLAS GIRARD, GENERAL MANAGER, RTC QUEBEC:

"Everything is digital now, and everyone expects it our customers for planning their trips and using our services, our employees for performing their tasks, and our providers for supporting us. Without an efficient digital mindset, we face greater risks in this environment. That's why adopting one is key."



# CRISTIANE GOMES, CIO, GRUPO CCR:

"At Grupo CCR, we have witnessed the transformative power of digitalisation in improving our mobility services. By keeping our leadership team updated on the latest advancements through digital literacy and establishing a digital governance process, we ensure that initiatives are aligned with our strategic goals.

Moreover, it is essential to understand digitalisation as an investment in our future rather than just a cost. This perspective allows us to allocate resources effectively and adopt new technologies that can offer long-term value."



# ALEXANDRA REINAGL, CEO, WIENER LINIEN:

"As a transport company, we need a digital strategy to provide modern, customer-focused, and individualised service. We also recognise the need to attract younger employees accustomed to digital tools and remote work. In 2017, I launched the 'Digital Transition' initiative; digital tools are now widely used across the company, though efforts to enhance technology adoption continue. I remain a strong supporter of digital transformation in public transport, with a focus on innovation and continuous improvement, and will keep fostering a digital mindset throughout the company to the best of my ability."



# JEFFREY SIM, GROUP CEO, SBS TRANSIT LTD:

"SBS Transit's purpose is to move people safely, reliably, and sustainably. Embracing a digital mindset, we leverage technologies such as artificial intelligence and video analytics to drive operational excellence and enhance passenger experience. Smart solutions employed include autonomous robots that improve the speed and accuracy of train inspections, while digital concierges assist with passengers' travel enquiries and translate announcements into sign language for passengers with hearing loss. We also optimise energy use by synchronising train timetables to maximise the transfer of regenerative braking energy from arriving to departing trains. And we continue to explore other smart solutions to redefine urban mobility standards of moving people in a safe, reliable, and sustainable way."

# SECTION 5 RECOMMENDATIONS

	RECOMMENDATION					
	L	Ш	Ш	IV	V	VI
Recommendation	Keep main decision makers updated on the evolution of digital technologies.	Create a digital governance team.	Deploy digi- tal knowledge and experience throughout the organisation.	Foster strategic partnerships.	In terms of financ- ing digitalisation in general, digitalisa- tion has to be seen as an investment, not just a cost.	Use a digital mindset to attract talent.
Description	C-level execu- tives within PTOs and PTAs must actively champion a digital mindset. Without a clear digital mindset and decisive action to embed technology across the organ- isation, efforts to improve service quality, efficiency, and innovation will fall short—and risk leaving public transport behind in an increasingly connected world.	Create an independent, multidisciplinary team—reporting directly to C-level management—to lead the digital transformation. Combining field expertise, infor- mation technology (IT) skills, and di- verse, gender-bal- anced profiles, the team will drive organisation-wide digital adoption.	Embed digital knowledge in the entire organisa- tion to enhance performance and drive innovation. Leverage targeted initiatives such as training pro- grammes, industry conferences, mentoring, and knowledge-sharing platforms to build digital capabilities at all levels.	Establish strate- gic partnerships with players in the digital world to promote the use of PT. A new approach towards procure- ment should be considered and advanced to align with the agile and incremental real- ities of the digital mindset.	Digitalisation should be treat- ed as a strategic investment—not a cost—critical for increased effi- ciency, reduced operational costs, and enhanced service quality— ensuring PT stays relevant in a digital economy.	<ul> <li>Use digitalisation to push elements like:</li> <li>Fostering a future-ready work culture.</li> <li>Promoting transparency and trust.</li> <li>Building an authentic employer brand.</li> <li>Providing job security through continuous development.</li> <li>Improving gender balance.</li> </ul>
Target audience	C-Level	C-Level	Everyone in the organisation	C-Level and Board	C-Level and Board	C-Level and global management
Objectives	<ul> <li>Get top management to adopt a com- mon view.</li> <li>Train executives on digitalisation.</li> </ul>	<ul> <li>Structure and organise.</li> <li>Promote digital mindset.</li> </ul>	<ul> <li>Spread digital mindset.</li> <li>Get most out of digital tools.</li> <li>Ensure the establishment of a cybersecure culture.</li> </ul>	Promote inno- vation by using digital tools.	<ul> <li>Prepare for the future.</li> <li>Help ensure organisations stay relevant.</li> </ul>	Promote usage of digital tools.

# ACKNOWLEDGEMENTS: MAIN AUTHORS & EDITORS

- > Christian Lebeuf, RTC Quebec (work lead)
- > Wolfgang Mularzyk, HADAG
- > Wellington Toapanta, Hitachi Rail
- > Roch Muraine, Alcatel-Lucent Enterprise
- > Rebecca Bissell, TfL
- > Fabio Portela Rodrigues, Grupo CCR
- > Claus Dohmen, VDV
- > Nils Zeino-Mahmalat, VDV ETS
- > Paolo Ferrara, ATM Milan
- > Carlo Cafasso, ATM Milan
- > Roberto Speicys Cardoso, Scipopulis
- > Mohab Abla, GIRO
- > Victoria Markewitz, INIT
- > Ralph Gambetta, Calypso Networks Association
- > Efe Usanmaz, UITP

We would like to thank all members of the Information Telecommunications Technology (ITT) and Information Technology and Innovation (IT&I) Committees for their continuous support, collaboration, and ideas provided for this publication. We also extend our gratitude to UITP Prescom and Policy Board for their support, useful feedback, and endorsement.



Digital screen in a bus in Shezhen, China

This is an official Action Point of UITP, the International Association of Public Transport. UITP has more than 1,800 member companies in 100 countries throughout the world and represents the interests of key players in this sector. Its membership includes transport authorities, operators, both private and public, in all modes of collective passenger transport, and the industry. UITP addresses the economic, technical, organisation and management aspects of passenger transport, as well as the development of policy for mobility and public transport worldwide.

This Action Points document was prepared by the Information Telecommunications Technology (ITT) and Information Technology and Innovation (IT&I) Committees.





#### JUNE | 2025

Rue Sainte-Marie 6, B-1080 Brussels, Belgium | Tel +32 (0)2 673 61 00 | Fax +32 (0)2 660 10 72 | info@uitp.org | www.uitp.org