PTV GROUP

Public Transport Trends Report 2022

Changes | Challenges | Opportunities | Tech

Insights and ideas from over 700 industry professionals
brought to you by PTV Group

The main findings

Public transportation is going through unprecedented times. Passengers, operators, planners – all face the challenges of health concerns, rising energy prices and competition from new modes of mobility. At the same time, a range of opportunities arises: From greater awareness of sustainability, through better inter-modality, to modern ways of sharing information. The **Public Transport Trends Report 2022** aims to answer some of the most pressing questions of the industry – as seen by its professionals and experts.

Challenges

- **80% or more** say main challenges are improving service quality, punctuality, and accessibility.
- Just **one third** optimized their services for people with disabilities.

Changes

- **33%** are adopting ride-sharing and ride-pooling services.
- **Over 60%** work on the topic of CAV, or plan to do so soon.

Opportunities

- **81%** believe rising energy prices will enhance the role of public transport.
- Around **90%** say switching to Public Transportation (PT) will increase with better accessibility, frequency, and multimodal integration.

Technology

- **More than half** use software for demand & supply planning, and **43%** for network planning & optimization.
- **Over 30%** expect to be affected by technologies for green energy and multimodal planning.
- **Cloud services** are seen as good for flexibility and collaboration, but concerns persist over data protection and costs.

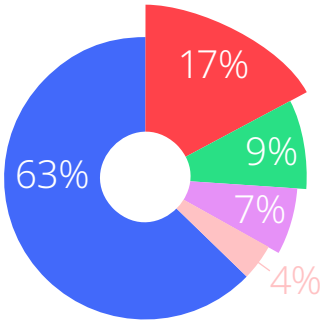
Who took part in this survey?

The Public Transport Trends Survey was conducted between April-June 2022, by PTV Group. It was answered by **702** PT professionals and experts from **63** countries.

The people answering this survey are...

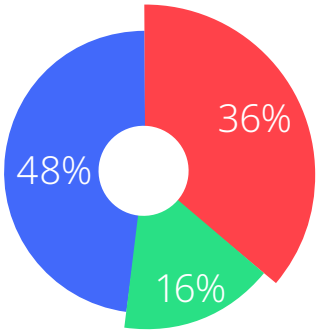
...from these regions

- Europe
- Middle East-India-Africa
- Asia-Pacific
- Central & South America
- North America

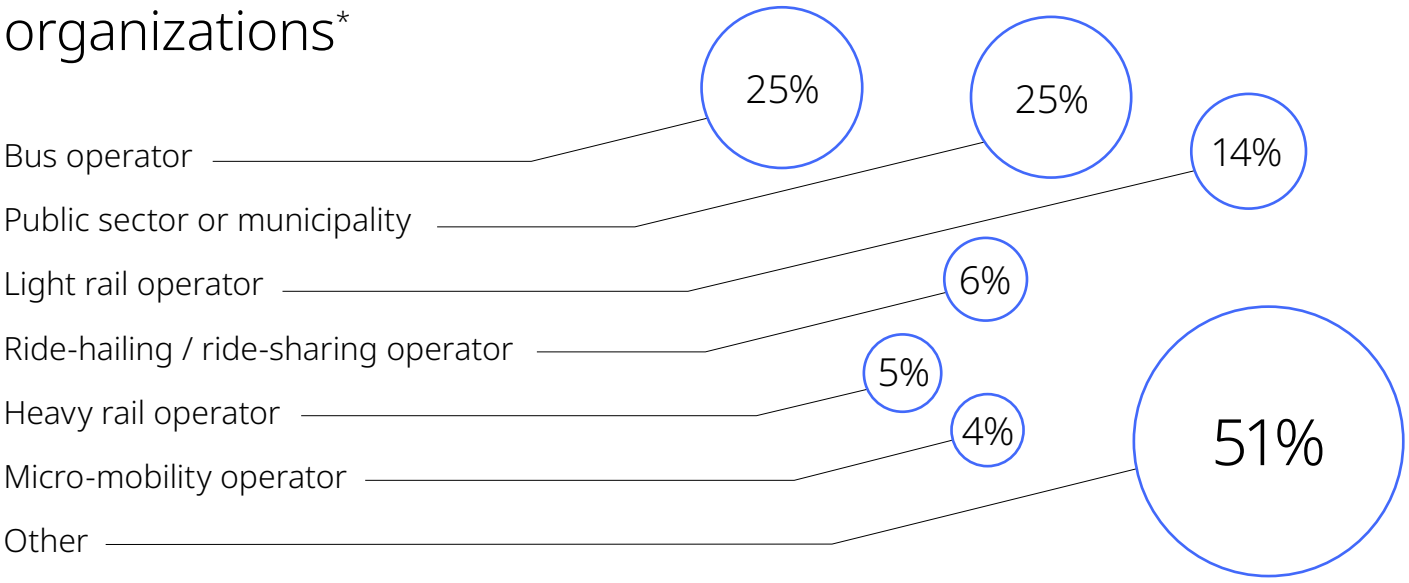


...working in these positions

- Planner / Operator
- Manager / Decision-maker
- Other



...employed by these organizations*



* Participants could choose multiple answers

The Challenges

Public transportation is at crossroads. Climate change and rising energy prices are increasing the public's awareness of its critical role.

At the same time, operators and planners face an uphill battle to adjust themselves to **new realities**, such as emissions regulations, competition (and collaboration) from new mobility services, and fast-changing behavior of passengers.

The results of this survey point out the most acute challenges being in improving **quality of service**, as well as punctuality, coverage, and accessibility. On the other hand, **improving profitability** is seen as the least pressing challenge, and somewhat surprisingly – so are staff shortages.

And despite decades of progress, most organizations have not yet implemented steps to become **fully accessible** for persons with disabilities.

How important are these challenges to your business?

Challenge	Level of concern		
	Important / very important	Less important	Unsure / irrelevant
Increase service quality	88%	3%	9%
Fulfilment of punctuality	80%	11%	9%
Increase coverage and accessibility	80%	10%	10%
Return passenger numbers to pre-pandemic levels	78%	6%	16%
Decarbonization (e-busses, renewable energy, etc.)	75%	16%	9%
Increase efficiency in operational service planning	74%	14%	12%
Fleet modernization	72%	15%	13%
Staff shortages	64%	17%	19%
Increase profitability by optimizing fare structure	56%	24%	20%

How active is your business in the following aspects?

	Already imple-mented solutions	Working on strategy, not yet imple-mented	Aware of issue, no strategy yet	No plans to address this	Unsure
Optimizing PT services for people with disabilities	33%	20%	21%	9%	17%
Adjustment of infrastructure or services for people with special needs	25%	23%	24%	11%	17%
Creating barrier-free transfers between all modes of transportation	19%	36%	21%	11%	13%

Voices of the industry

Participants were asked about the biggest challenges they face. Here are some of the answers:

"Integration with multimodal transportation."

Participant, **Germany**

"Capacity expansion and service improvement, so private companies don't cannibalize public transport."

Manger, public sector, **Germany**

"Availability and reliability. Not all routes are available after hours and on weekends."

Participant, **South Africa**

"Public resistance to lowering car dependence."

Planner / operator, **Iceland**

"Hiring enough staff to keep the budgeted service on the street."

Operator of bus services, **United States**

"Seamless integration with micro-mobility services."

Planner / operator, **United States**

"Heterogeneity of ticketing systems."

Manager / decision-maker, **Italy**

"Last-mile connectivity."

Micro-mobility operator, **India**

"Budget. Sometimes planning takes so much time that projects lag demographic changes."

Planner / operator, **Pakistan**

"Communicating the latest technical innovations to transport companies."

Manager / decision-maker, **Germany**

Expert view

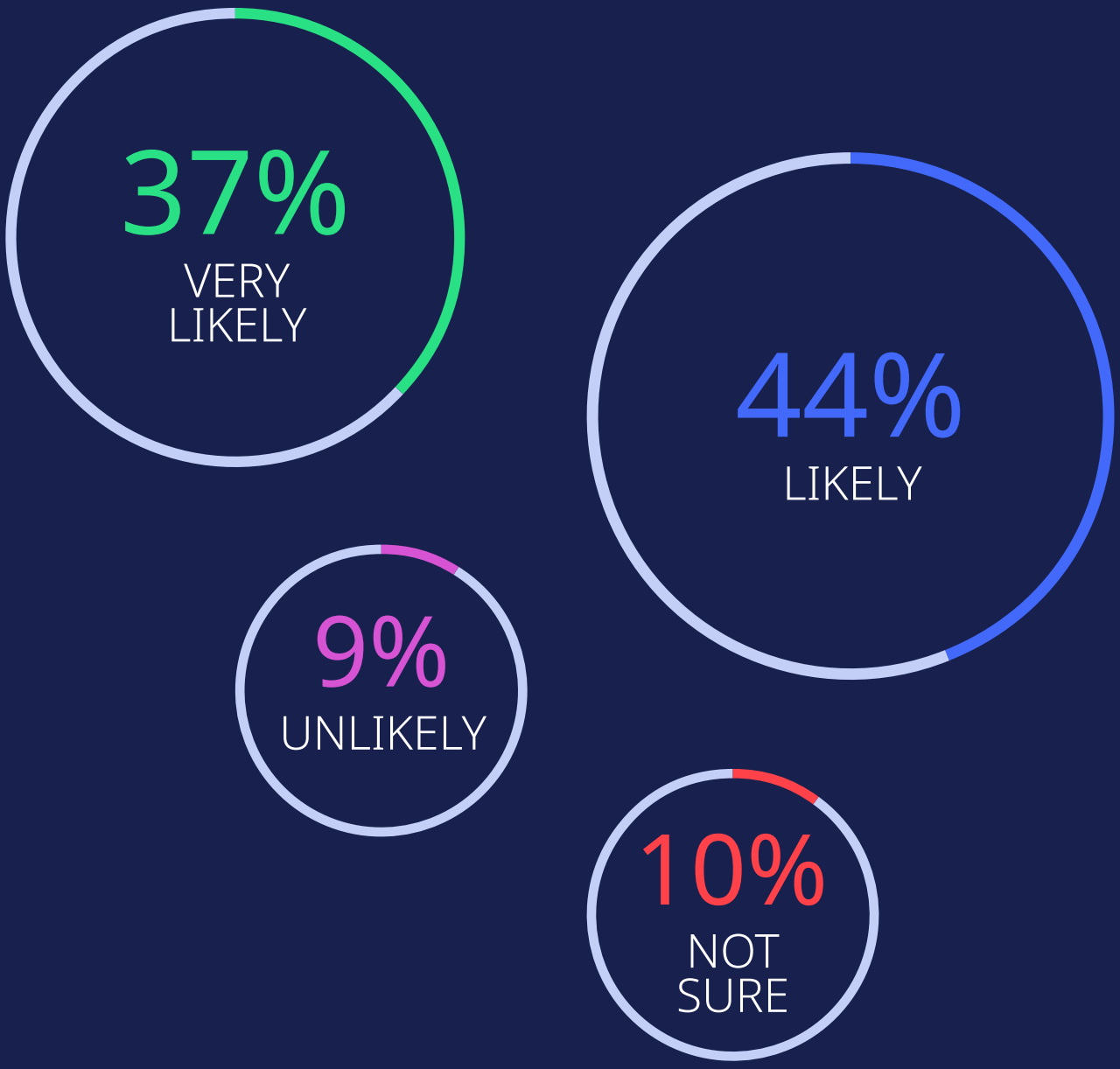
"Optimizing the triple-bottom-line – the social, environmental, and economic benefits of getting people from A to B – requires understanding and analyzing a lot of information. Transport modeling and what-if analysis continues to be of great assistance in this regard."

Ben Stabler
VP Product Management Mobility,
PTV Group

The opportunities

Most participants are optimistic that rising fuel and gas prices will push people to use public transportation. They also say that more people will choose public transport if accessibility, frequency, and integration with other modes are optimized.

Will the increasing prices of gas and fuel **enhance** the role of public transport?

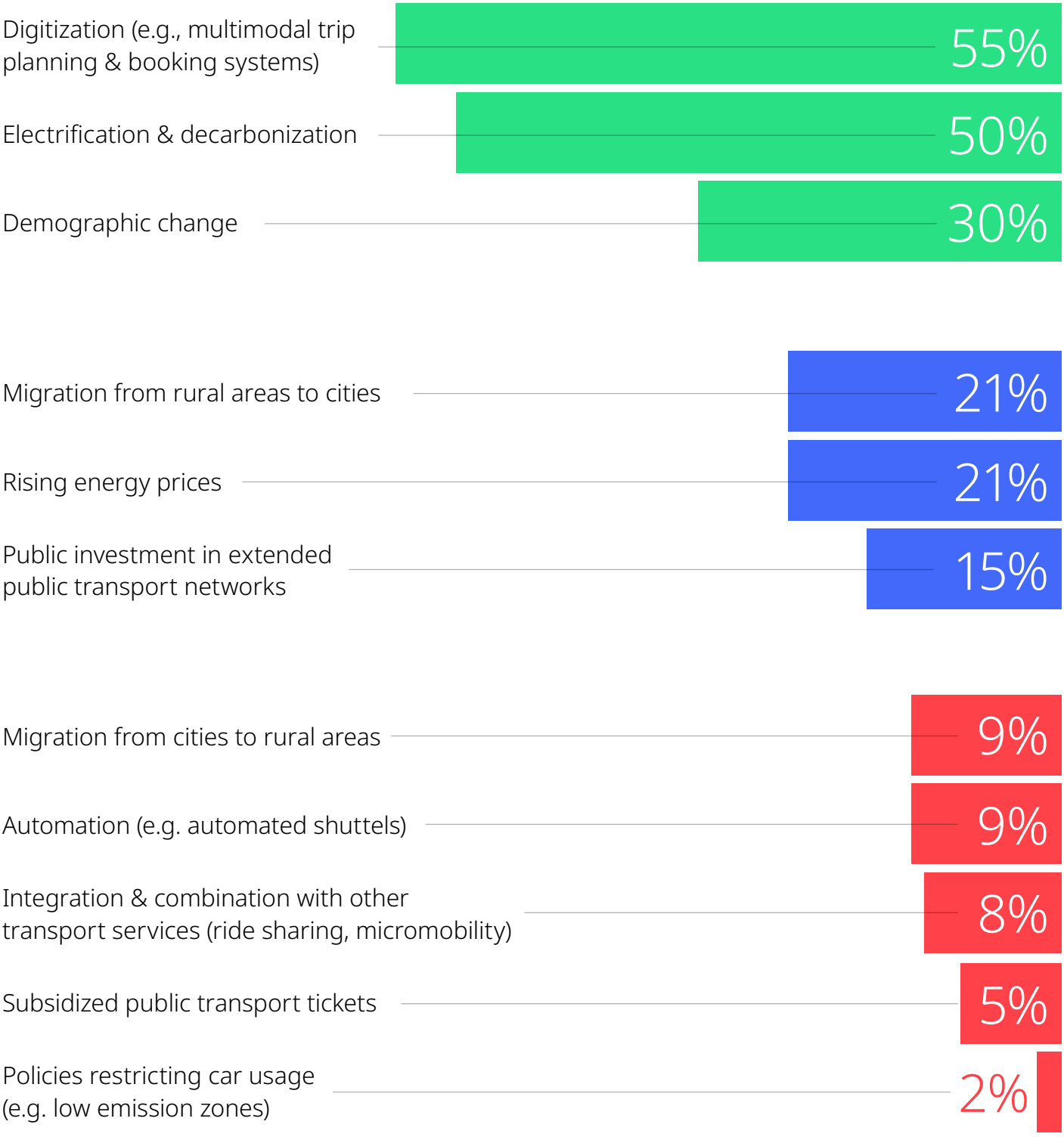


Which incentives are most likely to convince people to use public transport?

	Very likely	Likely	Unlikely	Unsure
Better accessibility: Optimized network & demand planning	65%	30%	1%	4%
More frequent service & on-demand services	64%	31%	3%	3%
Integration with other mobility services (e.g., mobility hubs)	43%	44%	7%	6%
Better digital integration: trip planning, booking, payment, etc.	38%	48%	8%	6%
Cost-attractive fare systems	27%	57%	10%	6%
User experience: modern vehicles, Wi-Fi, air conditioning, etc.	29%	51%	12%	8%
Price reduction	26%	46%	18%	10%

Which trends and developments will affect public transport in the near future? Here participants anticipate that technology and sustainability, as well as demographic changes, will play the biggest roles.

Which factors will influence public transport in the next 5 years*?



* Participants could choose multiple answers

Voices of the industry

Where do you see the greatest potential for public transport in the coming years?

"Better appealing to older age groups."

Operator of bus services, **Germany**

"With fuel and gas price increase, the public will tend to rely on feasible public transport."

Planner of rail services, **India**

"Taking over the car industry due to energy crisis and decarbonization policies."

Planner / operator, **Croatia**

"Electrification and automation."

Micro-mobility operator, **Indonesia**

"Reduce access barriers through better information and end-to-end ticketing."

Participant, **Austria**

"Service improvements, parking space management and cost clarity."

Planner, **Germany**

"Social and political tailwind from climate change, energy transition and prices."

Operator of bus & light rail, **Germany**

"Dedicated lanes, restricted areas in city centers."

Manager / decision-maker, **Romania**

"Simplification of the price structure."

Operator of bus & light rail, **Germany**

"Being an answer to climate change problems."

Manager / decision-maker, **Poland**

"Better frequency and bus lanes, electrification, fare capping, integration with bike/scooter share services."

Planner / operator, **United States**

Expert view

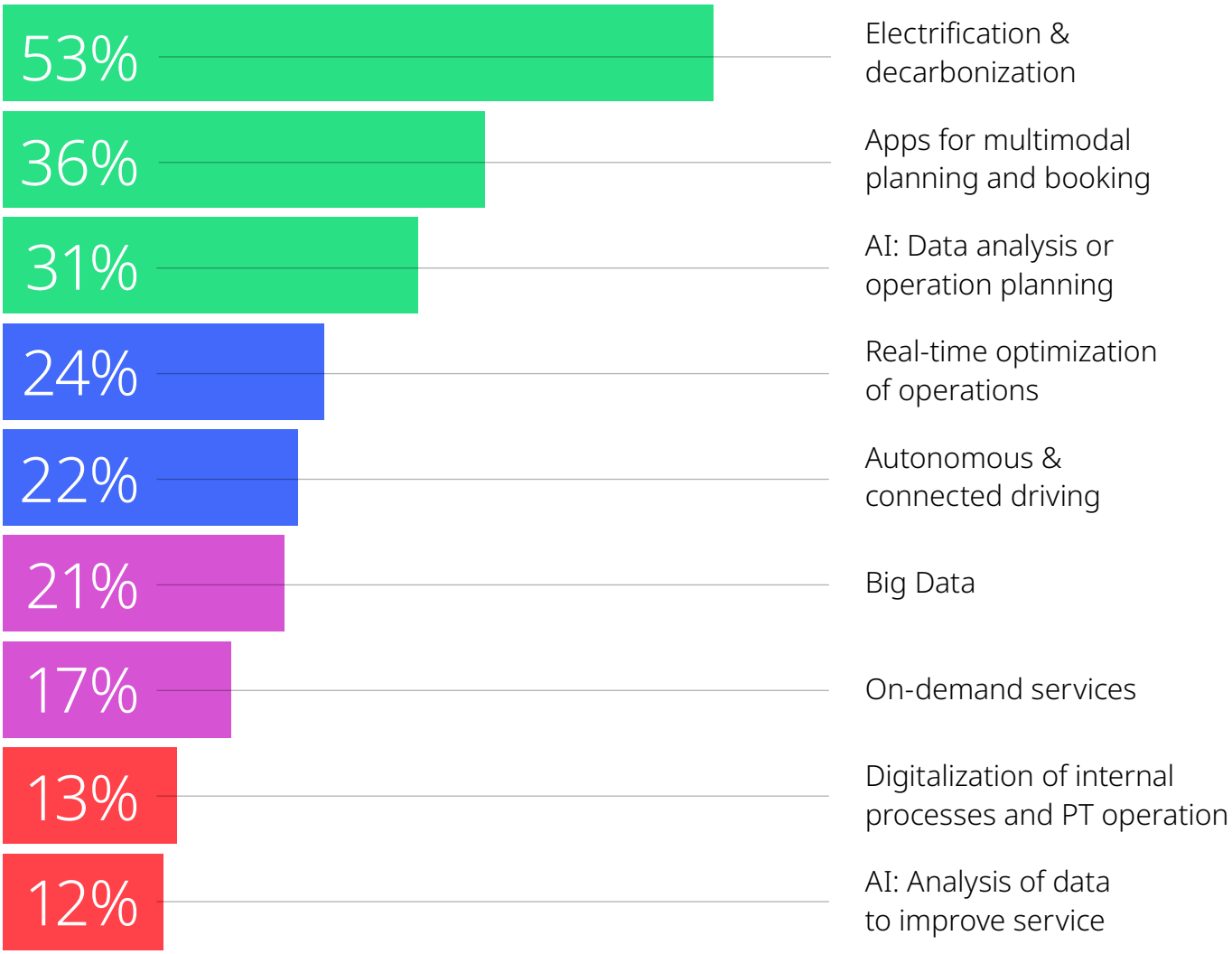
“The attractiveness of public transport often depends on small steps that improve its quality: Providing comfort to passengers, in comparison to driving cars; Shorter transfer times between modes; And government subsidies to shield commuters from rising energy prices. Operators can find the right steps by using software to analyze different scenarios.”

Chang Shen
Managing Director China,
PTV Group

The technology

Every mode of public transit involves technology and is supported by digital means. Increasingly, the planning processes also rely on tech, namely software. We asked the participants* how they use tech in their work, and how they expect to benefit from it in the coming years.

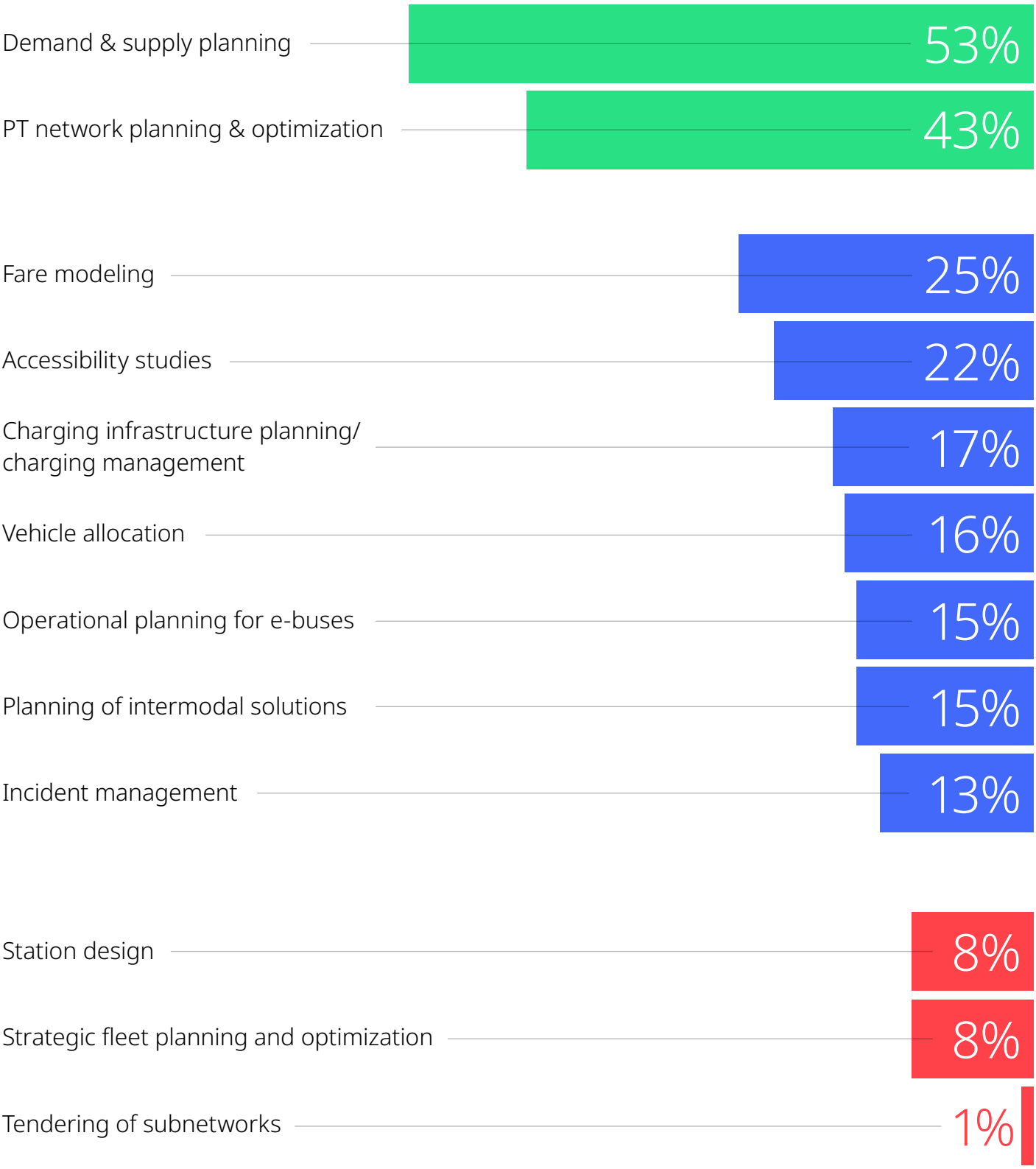
Which technologies will affect your business the most in the next 5-10 years*?



* Participants could choose multiple answers

Software usage

% of participants* already using software to tackle the following aspects of mobiliy planning:



* Participants could choose multiple answers

Some participants also let us know where they would welcome more support from software:

"Disruption analysis for unexpected events."

Participant, **Italy**

"Accessibility studies and intermodal solutions."

Manager / decision-maker, **United Arab Emirates**

"Operational planning for buses, fare modeling."

Public sector planner / operator, **Portugal**

"Crowding in public transport vehicles."

Manager / decision-maker, **Poland**

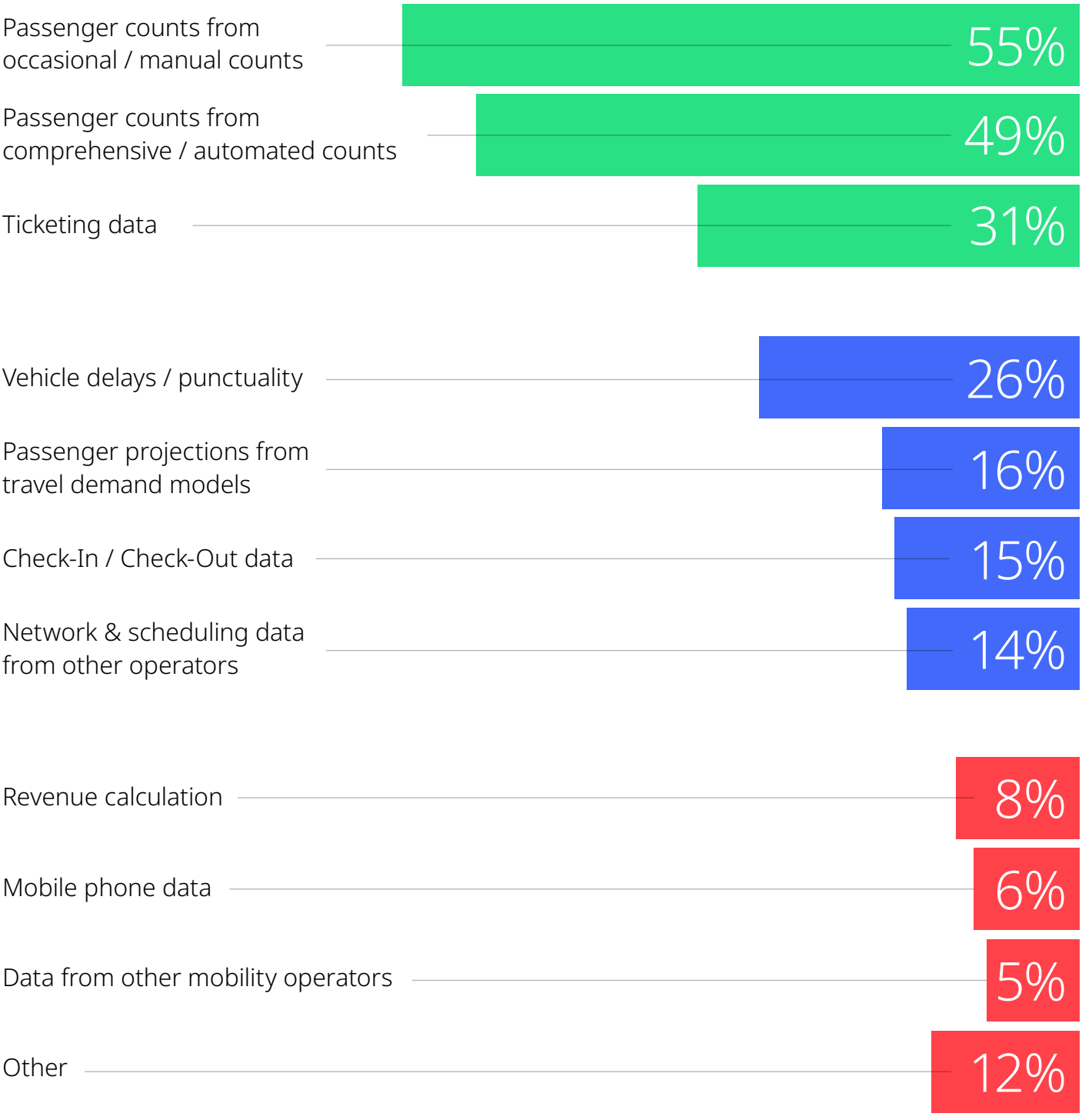
"Traffic research and data management."

Operator of bus service, **Germany**

Data rules

We also asked participants to list their data sources during planning work. While passenger counts are still the most common data source, it seems there is room for growth in extracting data from mobile operators, or from check-in and check-out of people.

Data sources used for planning work*:



* Participants could choose multiple answers

Optimizing the planning process: How important are these kinds of data for you?

	Level of concern		
	Very important / important	Less important / not relevant	Unsure
Structural data: Transport network, locations of workplaces & shopping, etc.	92%	5%	3%
Demand data: Current and potential	92%	4%	4%
Historical data of traffic and derivates: Average congestion, etc.	81%	17%	2%
Real-time **traffic data**	76%	20%	4%

Expert view

“There is huge potential for cities to become more livable and sustainable by extending public transport, converting it to electric vehicles, and integrating it with other modes into a multimodal, demand-responsive system. Transportation planning based on modeling tools and data helps cities and operators to take the right decisions in this process, regarding fleets, hubs, regulations and operations.”

Arnd Vogel
Product Manager,
PTV Group

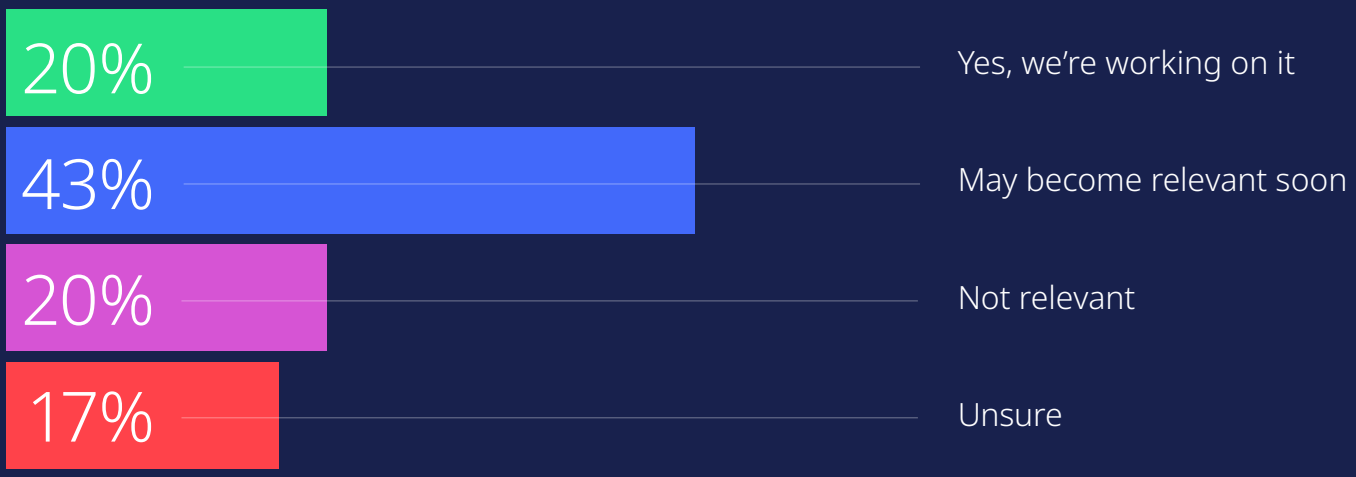
The changes

Our survey found that PT businesses and operators are embracing changes and looking for ways to include them in the operational and planning processes.

CAV is gaining ground

Connected and autonomous vehicles (CAV) are not always seen as part of a public transport network. But our survey shows that CAVs are increasingly relevant to the industry, with the majority already integrating them into their services or thinking to do so soon.

How relevant is the topic of CAV for your business?



Participants working to integrate CAV technology mentioned some of their projects:

"Analysis of better urban planning and design linked to CAV development."

"Tests with semi-autonomous shuttle service to the airport."

"Researching the impact of CAVs on infrastructure readiness."

"Autonomous bus between the trade fair and the plant."

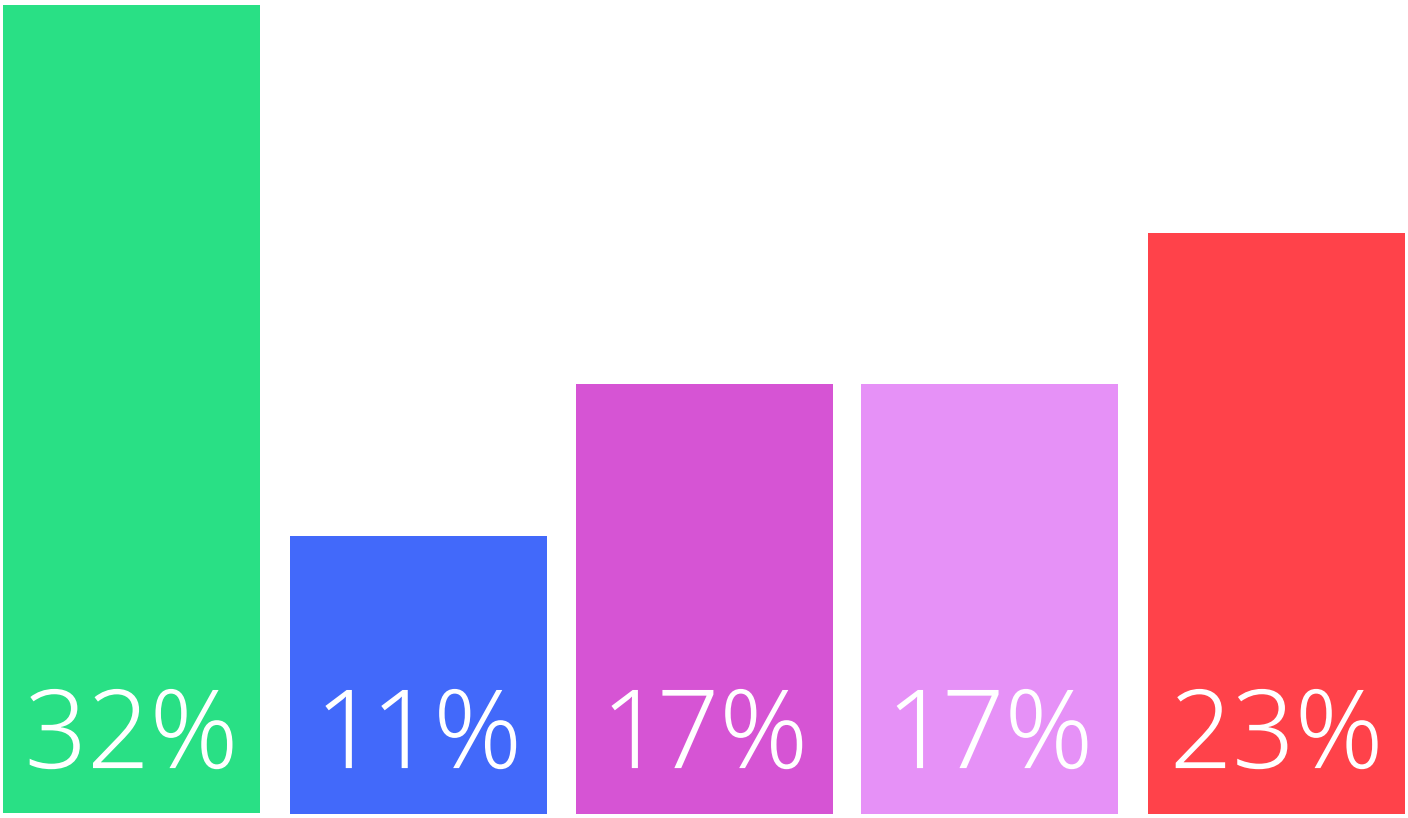
"Strategic integration into networked multimodal systems."

"V2X protocols and communication."

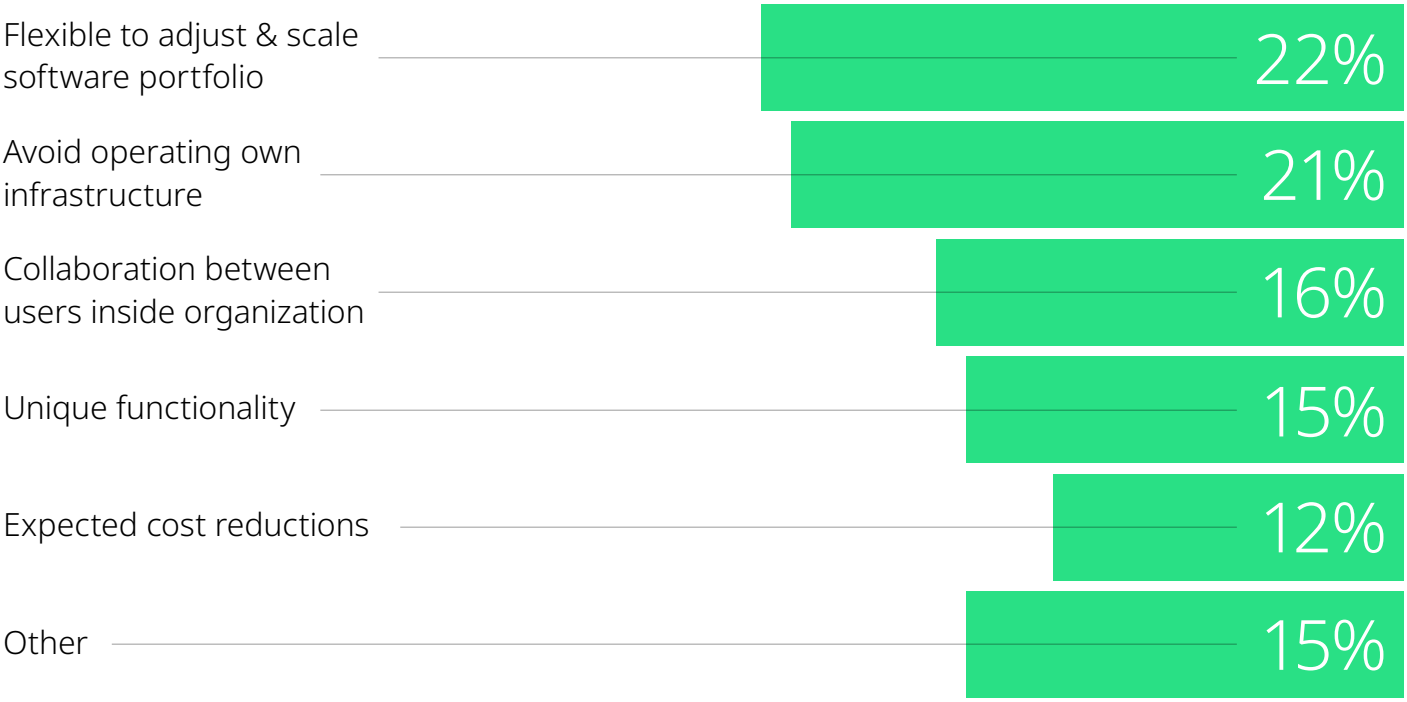
Mixed clouds

Cloud technology is gaining momentum among public transport businesses, giving them more flexibility in the planning process. But concerns, mainly about data protection and lack of infrastructure, remain.

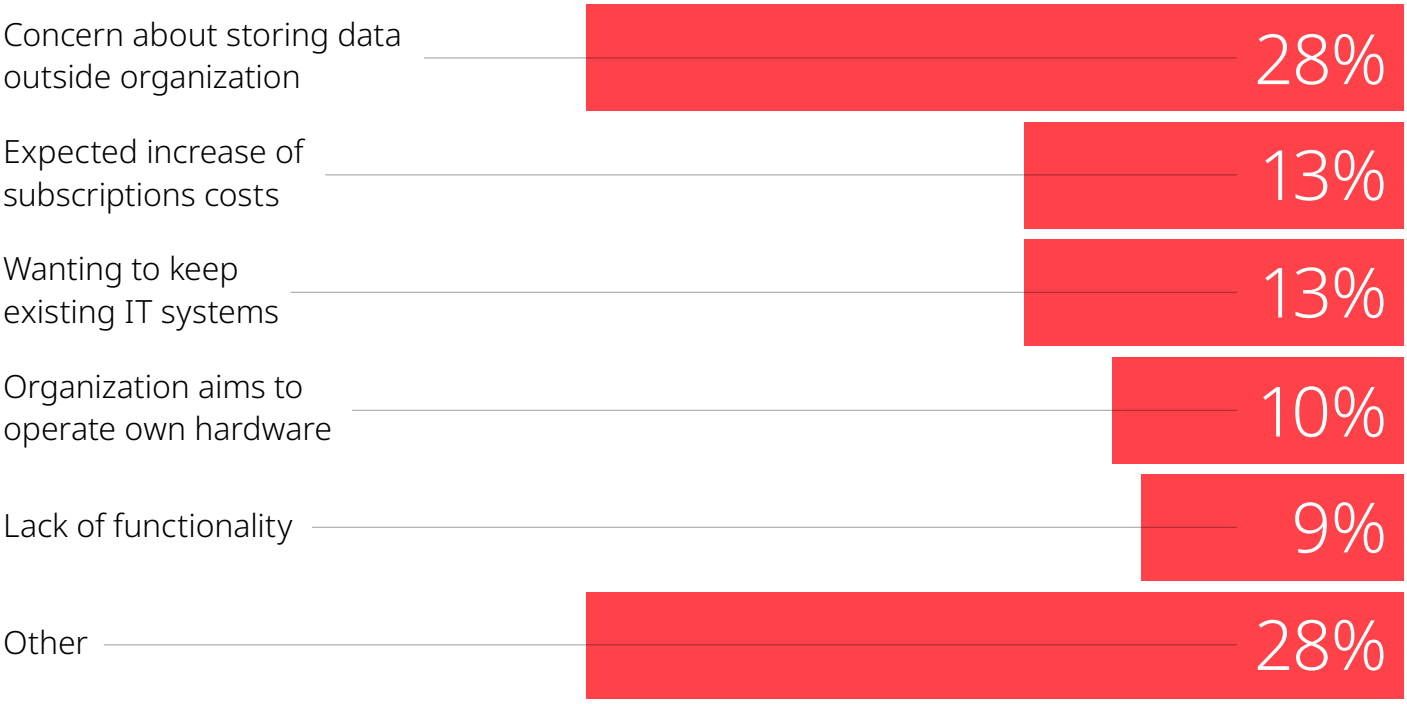
Do you use cloud services?



Among those using cloud services, the reasons were*:



Among those NOT using cloud services, the reasons were*:

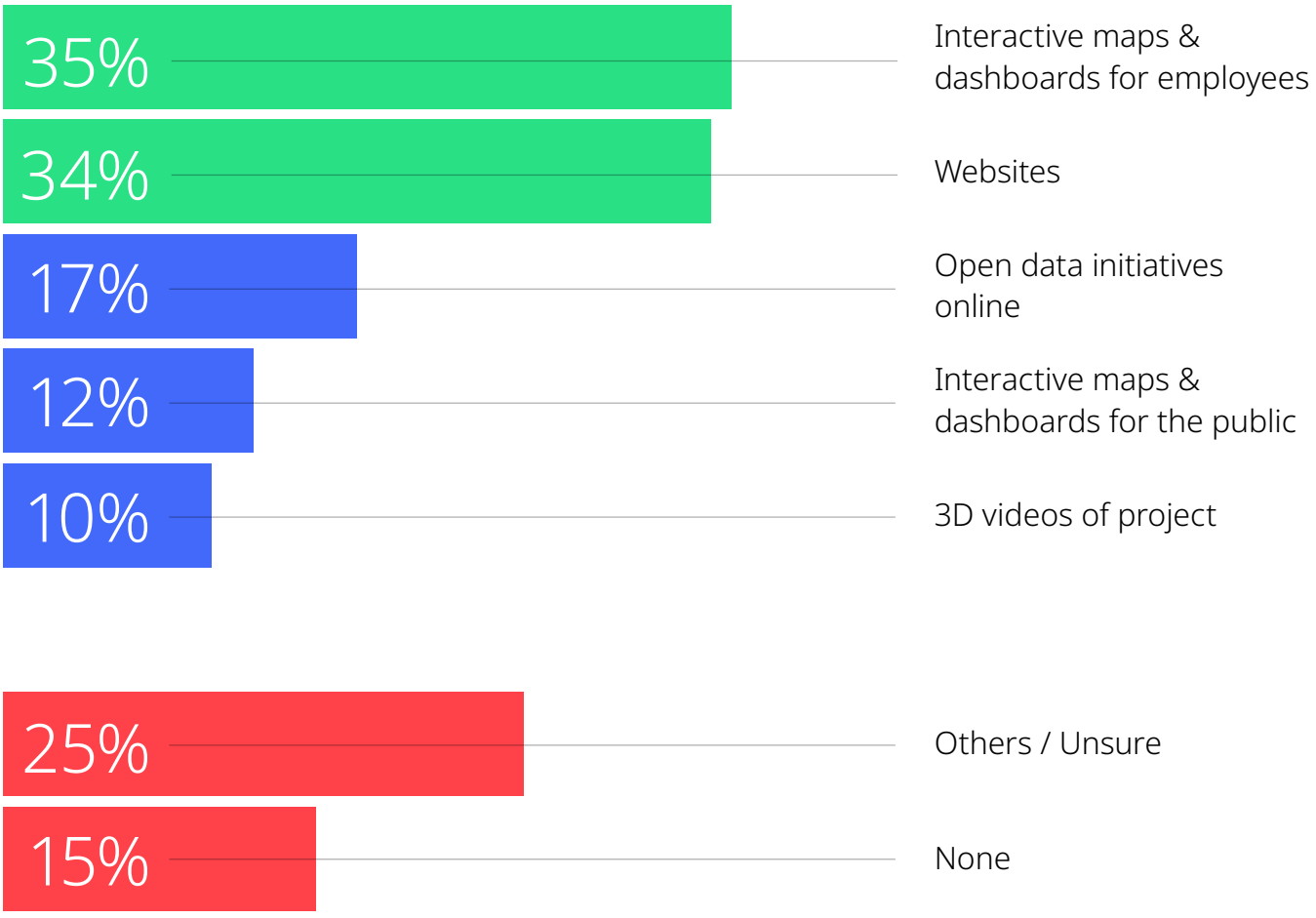


* Participants could choose multiple answers

Smartly engaging with stakeholders

Communicating with stakeholders and the public can often determine the success of a public transit project. Advanced ways to share information, such as interactive maps and dashboards, are therefore becoming commonplace, according to respondents.

Which technologies do you use to engage with stakeholders*?



* Participants could choose multiple answers

Expert view

"New technologies bring new possibilities to traditional public transportation – from electric vehicles to e-ticketing to shared services. To successfully leverage those possibilities, operators must put people first – and that means serving different needs. Technology helps to integrate and understand these requirements, to eventually identify the best services that combine profitability for operators with usability for users."

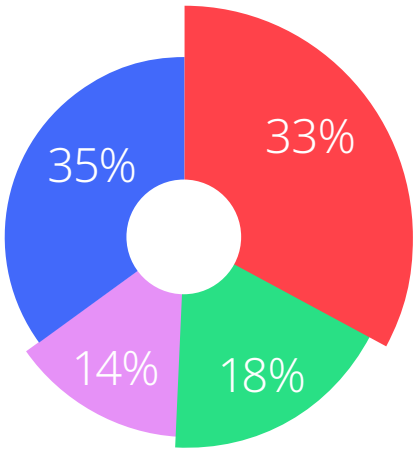
Janine Stuchl,
VP Marketing & Communications,
PTV Group

Sharing services transform the industry

A third of respondents say they already integrated shared services into their offering. So, it comes as no surprise that over half consider transforming from pure PT operations into more holistic mobility service providers.

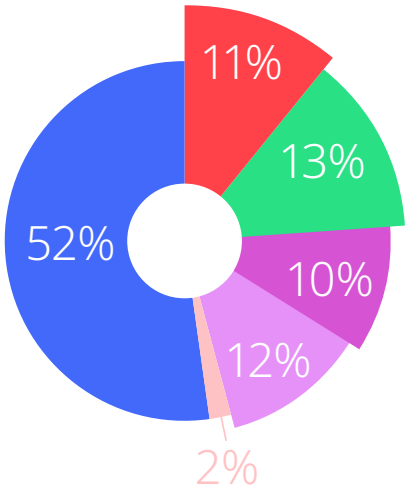
To what extent do you deal with services such as ride-sharing/pooling/hailing?

- We're adapting our business to this trend
- We don't plan to offer these services
- We monitor them as a threat to our business
- Unsure



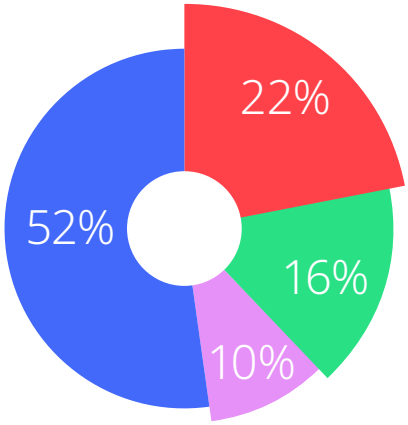
The preferred business model of shared services is...

- Bike sharing
- Car sharing
- Micro-mobility
- Ride sharing
- Other
- Not planning activity with shared services



The preferred operation model is...

- Cooperation with private provider
- Platform integration
- Building own business
- Not planning activity with shared services



Do you consider transforming your business from a purely PT operator to a mobility provider?

PTV GROUP

Empower your public transport business with PTV technology

Our software tools give PT operators and planners the advantage they need for these interesting times. With a range of smart features, PTV Group's software enables industry professionals to plan more cost-effective and time-efficient measures. With our software, you can overcome challenges such as sudden changes in demand, construction works, and new regulations.

Contact us to find the software that fits best your business:

PTV Visum

Multimodal public transport planning of networks and demand, with insights for the long-term.

PTV Viswalk

Pedestrian simulation to plan passenger flows and improve safety in stations and terminals.

PTV Vissim

Multimodal traffic simulation, including PT lines, to analyze how measures affect mobility.

PTV Visum Publisher

Engage with stakeholders with data visualization of Visum data and personalized dashboards.

Contact us

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