Lead the Charge

Fleet Electrification Accelerated

accenture

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Introduction

The transport sector is responsible for 25% of carbon emissions globally, with road transport alone accounting for three quarters of this output[1]. Converting fleets such as cars, vans, trucks and buses from internal combustion engine (ICE) vehicles to battery electric vehicles (BEVs) can significantly reduce the sector's carbon footprint and help corporations and public entities meet their sustainability targets.

While numerous governments globally are taking steps to electrify public transport, ramping up the electrification of private commercial fleets, which generate a third of transportation emissions[2], will be a true game changer. Organizations are aware of this and are moving towards electrifying their fleets in response. They are also keenly aware that electrification has critical strategic implications relating to regulatory compliance, competitive positioning and carbon reduction targets.

But as Accenture's recent global survey of senior decision-makers in fleet management shows, the transition is a complex process, and most organizations are still in the early stages of fleet electrification:

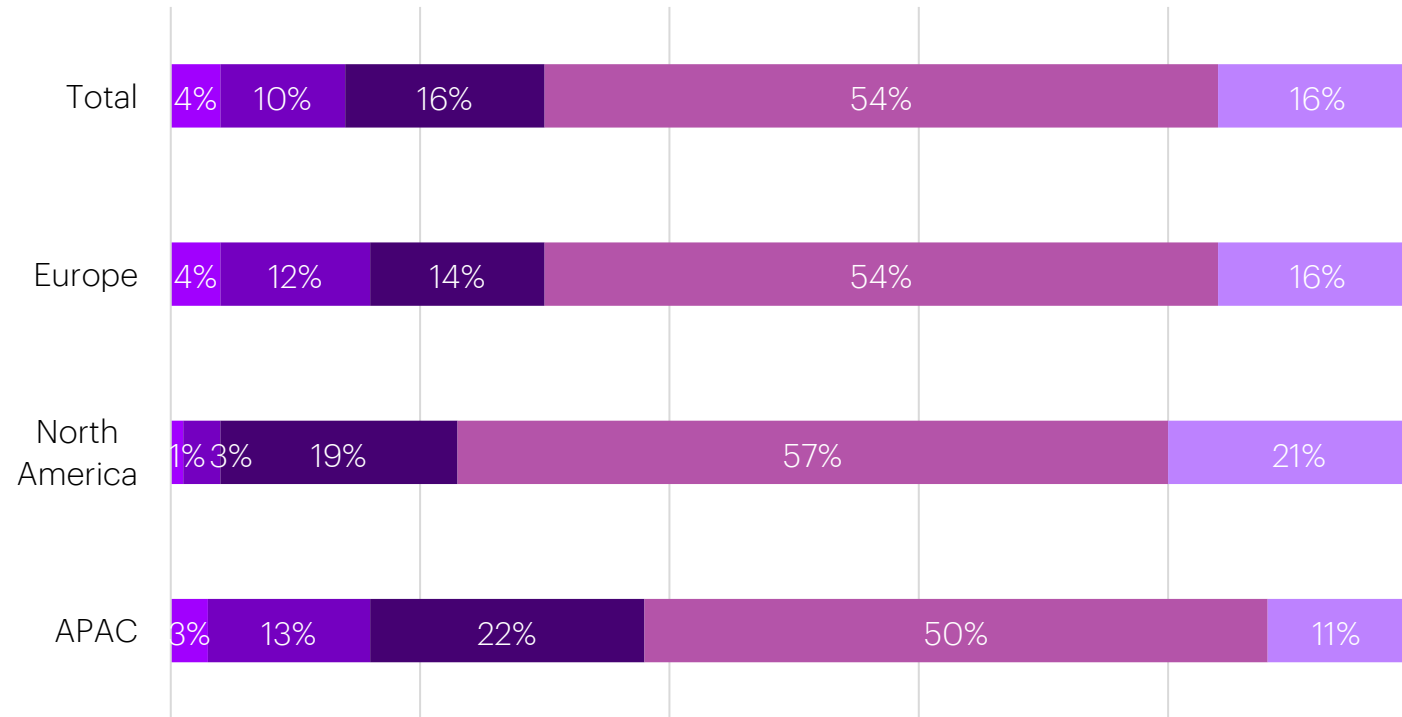| 30%	54%	54%	21%
say they have no EVs in their fleet	say that EVs make up a maximum of a quarter of their fleet	expect full electrification to happen after 2030	expect full electrification to happen after 2035

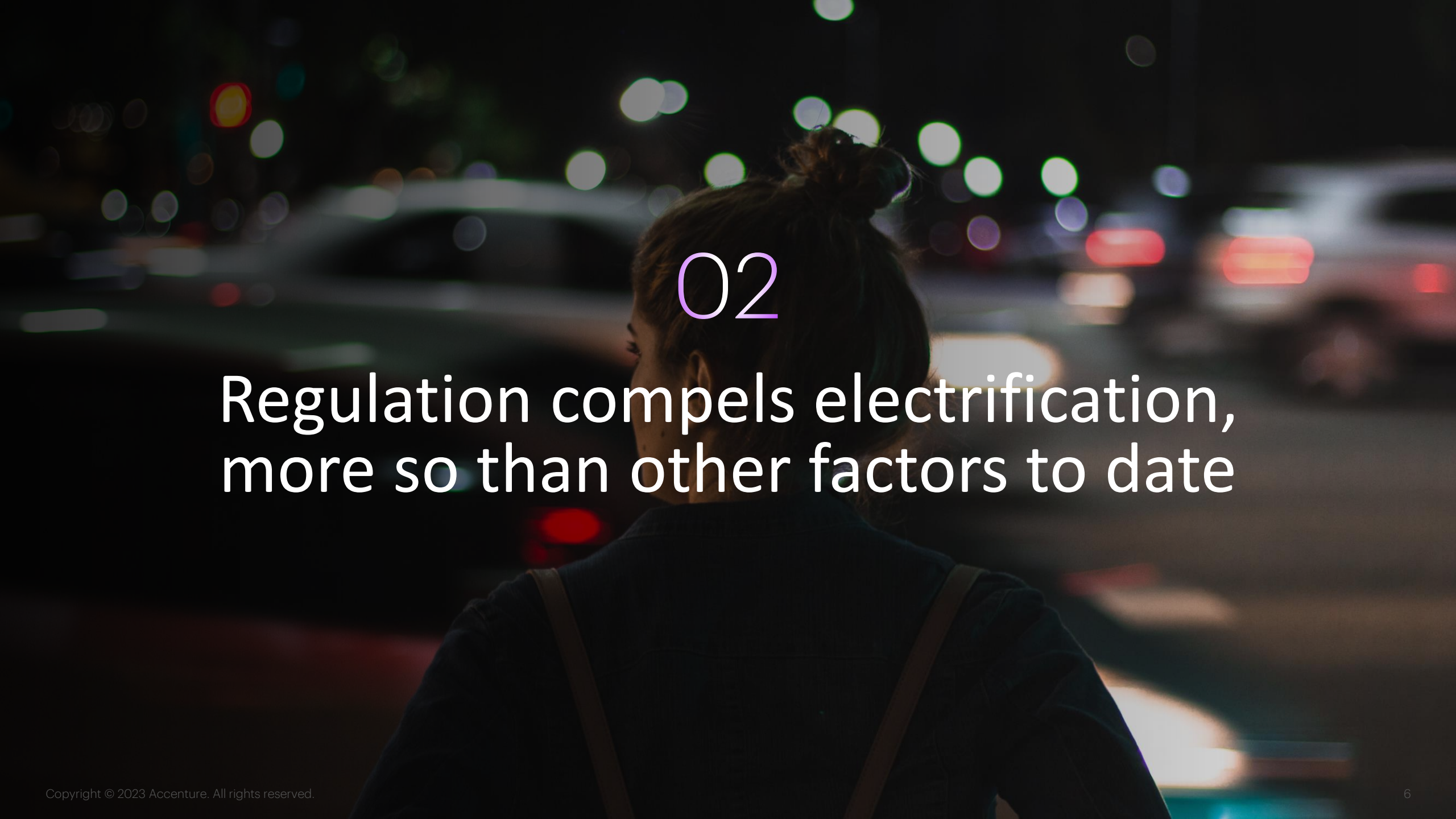# EVs still make up a minority within fleets globally

Progress with fleet electrification

Region	We have not begun to consider electrification as an option	We are still considering the benefits and challenges of electrification	We are developing strategy, not yet executing	0-25% of our fleet are full battery electric vehicles (BEVs)	More than 25% of our fleet are full battery electric vehicles (BEVs)
Total	4%	10%	16%	54%	16%
Europe	4%	12%	14%	54%	16%
North America	1%	3%	19%	57%	21%
APAC	3%	13%	22%	50%	11%

Legend:
- ■ We have not begun to consider electrification as an option
- ■ We are still considering the benefits and challenges of electrification
- ■ We are developing strategy, not yet executing
- ■ 0-25% of our fleet are full battery electric vehicles (BEVs)
- ■ More than 25% of our fleet are full battery electric vehicles (BEVs)

What do they need to speed up the process? What challenges do they face?

In this report, we consider the factors compelling electrification, explore the biggest challenges fleet operators are facing, and offer practical guidelines to accelerate the electrification process and gain the benefits it promises.

02

Regulation compels electrification, more so than other factors to date

37%

of the organizations in our survey say that meeting regulatory requirements is the main driver of electrification

Regulatory pressure is a primary driver compelling organizations worldwide to electrify their fleets. But the extent of regulatory pressure depends on geography. Consider:

In the EU, the Fit for 55 package aims for a 55% reduction in carbon emissions from 2021 levels for new cars and a 50% reduction for new vans by 2030, and a 100% reduction for both new cars and vans from 2035.[3] A separate emission trading system (EU ETS II) is planned to include emissions from road transport starting from 2027[4].

In the US, the Environmental Protection Agency is proposing strict new emissions limits that would force carmakers to make 67% of their American models electric by 2032.[5] The state of California, meanwhile, has introduced new legislation that halts sales of new petrol-fueled cars by 2035.[6]

North America leads the way

The regulatory driver is particularly strong in North America (45%), but so is the opportunity to become more competitive (44%, compared with an average of 35%). This may explain why fleet electrification is slightly more advanced among organizations in North America:
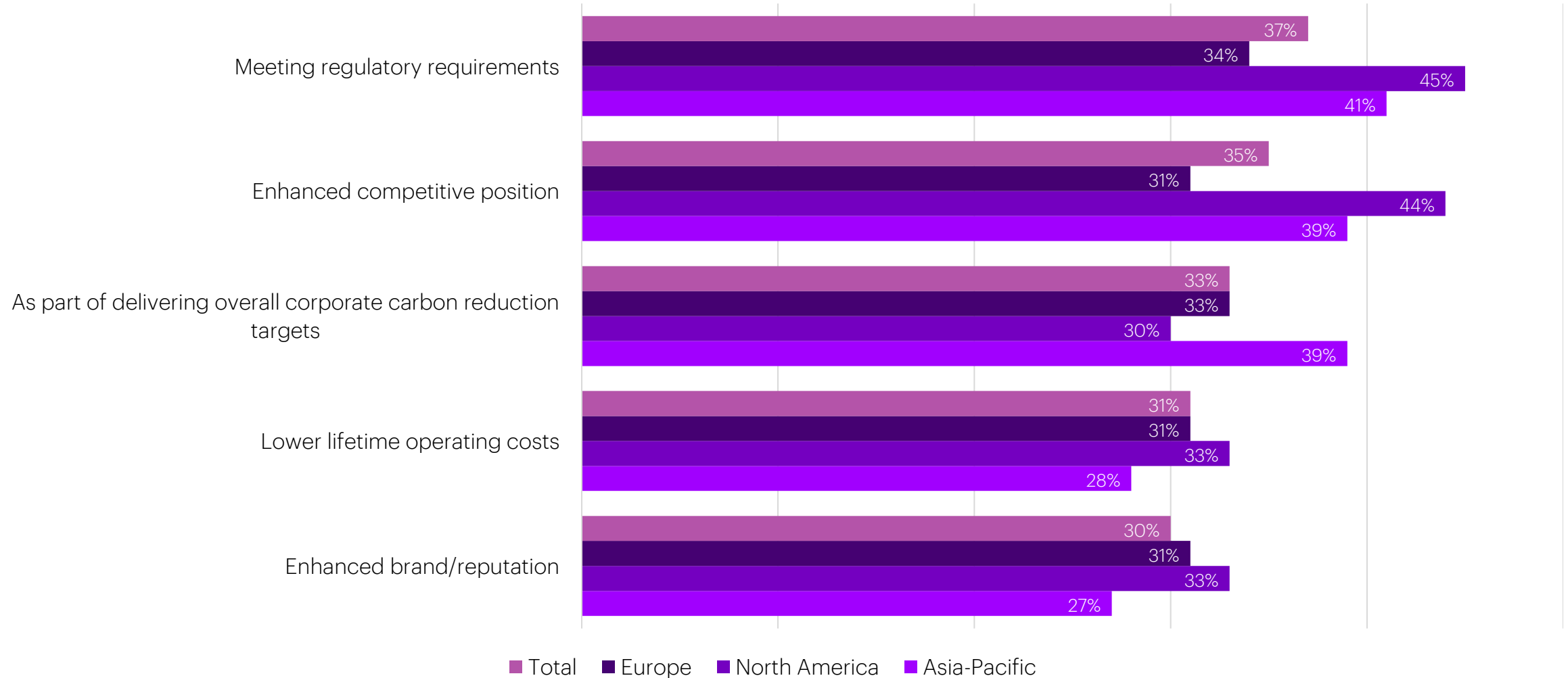
21%

say that at least a quarter of their fleet is made up of EVs, compared with 16% globally

53%

expect full electrification to be implemented by 2030, compared with 47% overall

North America's businesses are motivated by regulations and competition

Primary drivers of fleet electrification

Meeting regulatory requirements
- Total: 37%
- Europe: 34%
- North America: 45%
- Asia-Pacific: 41%

Enhanced competitive position
- Total: 35%
- Europe: 31%
- North America: 44%
- Asia-Pacific: 39%

As part of delivering overall corporate carbon reduction targets
- Total: 33%
- Europe: 33%
- North America: 30%
- Asia-Pacific: 39%

Lower lifetime operating costs
- Total: 31%
- Europe: 31%
- North America: 33%
- Asia-Pacific: 28%

Enhanced brand/reputation
- Total: 30%
- Europe: 31%
- North America: 33%
- Asia-Pacific: 27%

Legend: ■ Total ■ Europe ■ North America ■ Asia-Pacific

Just 11% of the organizations surveyed based in Asia-Pacific (note that China was not part of the research) say that at least a quarter of their fleet is EVs, and only 35% of those surveyed in the region expect electrification to happen before 2030.

An absence of charging infrastructure outside major urban centers and a lack of tax incentives and subsidies for buyers appear to have held the region back—particularly in south-east Asia [7]. But recent regulatory pushes to meet carbon reduction targets in Asia-Pacific countries [8] could now compel an accelerated pace of electrification there.

Ultimately, however, fleet operators also need a strong and immediate business case to support their efforts and drive an accelerated transition. Here, they're running into challenges.

03

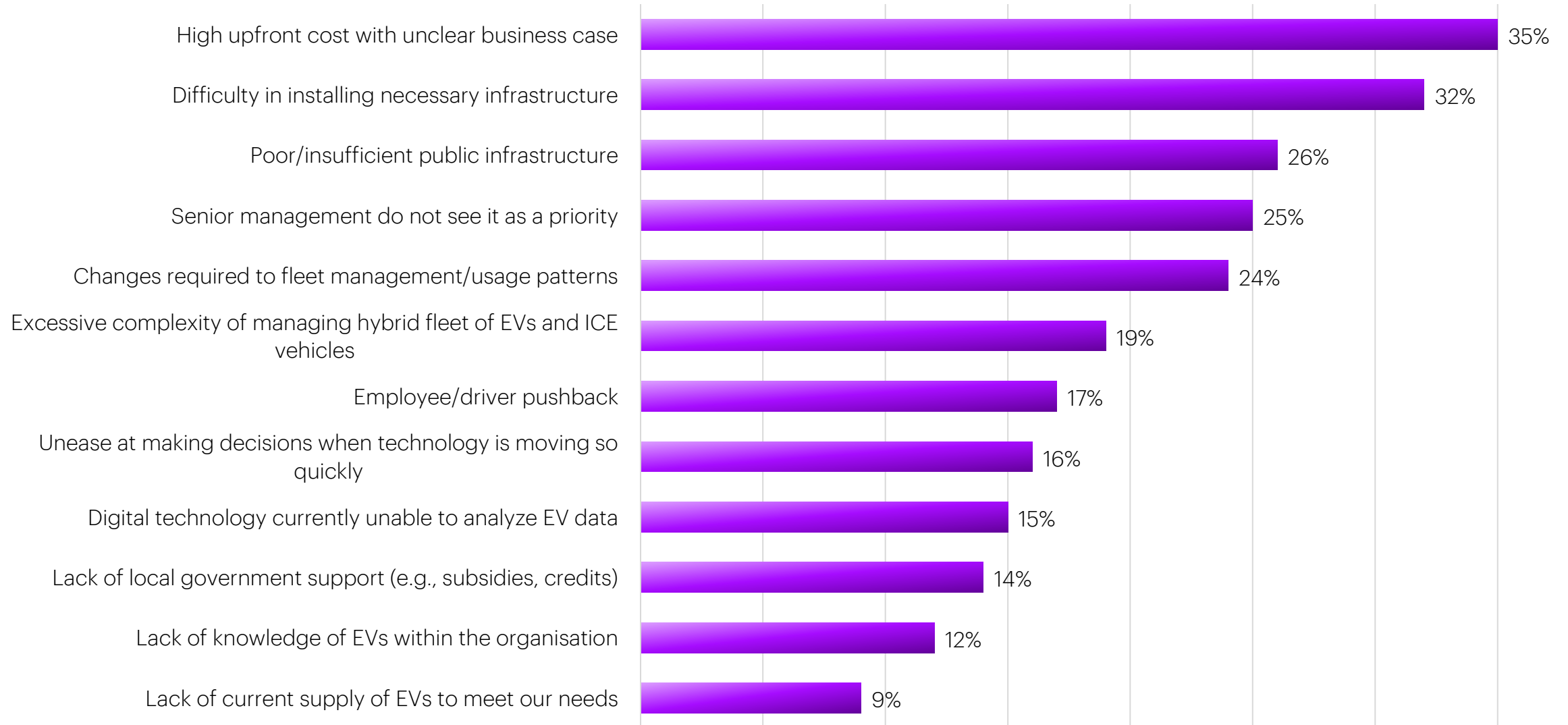# A challenging business case is slowing electrification

35%

of the organizations in our survey say that high upfront costs and an unclear business case are the top challenge of electrification

High upfront costs are delaying businesses from electrifying their fleets, and the fleet operators surveyed are finding returns on investment (ROI) disappointing. These costs mostly stem from the high price of EVs, which are more expensive than comparable vehicles powered by ICEs. Volatility in energy and fuel prices, the complexity of the transition which affects an entire organization – as well as its third parties – added to higher costs are making the immediate business case for EVs unclear.

Businesses considering fleet electrification are facing a "familiar early adopter issue, which is uncertainty", as explains Roy Williamson, an EV industry veteran, senior advisor and Chair of several companies in the ecosystem. "Historically, there's been a lack of independent information from the real world to support the business case," he says.

Costs and infrastructure issues are holding back electrification

Challenges impeding electrification

Challenge	Percentage
High upfront cost with unclear business case	35%
Difficulty in installing necessary infrastructure	32%
Poor/insufficient public infrastructure	26%
Senior management do not see it as a priority	25%
Changes required to fleet management/usage patterns	24%
Excessive complexity of managing hybrid fleet of EVs and ICE vehicles	19%
Employee/driver pushback	17%
Unease at making decisions when technology is moving so quickly	16%
Digital technology currently unable to analyze EV data	15%
Lack of local government support (e.g., subsidies, credits)	14%
Lack of knowledge of EVs within the organisation	12%
Lack of current supply of EVs to meet our needs	9%

ROI requires a longer-term lens, and should be considered in context

Currently, while there is some optimism regarding ROI, the overall picture still reflects a long road to profitability. Consider the fact that 43% globally and 62% in North America say they are expecting a strong return, while just 29% globally and just 17% in Asia-Pacific say they have seen a substantial return on their investment in fleet electrification so far.

Those figures, taken alone, reduce the incentive for rapid electrification. But business leaders need to be taking a wider view of costs and benefits to assess their opportunities accurately. Fleet owners need to be examining the total costs of ownership, looking at the price of acquiring vehicles alongside the cost of electricity, license to operate, maintenance, etc.

The balance tilts when those considerations are factored in, and when business leaders take a broad perspective—that includes future cost parity and the introduction of ETS II as key factors—rather than focusing more narrowly on short-term ROI.

This involves "a real paradigm shift, from a vehicle-based perspective to a system-based outlook," explains Marco Gazzino, Head of Italy for Enel X, a subsidiary of Enel Group providing energy solutions. "Fleet electrification doesn't mean just substituting polluting fuel-powered buses with new full electric buses—instead, it involves a whole ecosystem of assets, competences, and actors taking part in a broad integrated process."

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Leveraging policy incentives

One way to ease that short-term burden (and promote a system-based outlook) would be through increased availability of grant monies and incentives. A large number of countries have introduced purchase rebates, tax exemptions and tax credits for EV buyers[9].

Financing the transition to an electric fleet is complex, and the organizations in our survey are relying on a combination of income, grants, and debt.

An enhanced ability for a company to finance via income may lead to stronger progress. In North America, where fleet electrification is more advanced, more organizations (51% compared with 44% globally) say they are funding their effort with income. Just a quarter (26%) of the organizations globally are the recipients of grants. If governments were to offer more grants, this would help corporations bridge the increased upfront costs of electrification.

"EVs have significantly lower servicing and maintenance costs," says Riccardo Amoroso, the former Head of Global Marketing and Sales at Enel X Way (a subsidiary dedicated to electric mobility) now serving as Enel Italy's Head of Apennines Area. "Thanks to the combination of grants and incentives offered by governments, the total cost of ownership for EV fleets is expected to end up lower than for internal combustion engine vehicles." Moreover, EVs are expected to reach upfront price parity with comparable ICE vehicles, without the need for grants, by 2030.[10]

By making the ownership of emissions-free vehicles easier and more affordable, governments can also advance their country's Nationally Determined Contributions (NDCs), the self-defined national climate pledges made under the Paris Agreement[11]. Local authorities such as cities play a key role in rolling out these incentives, explains Will White, head of sustainability at Stuart, a last-mile delivery platform. "In certain countries, we're starting to see developments, either in the costs of parking being lower if you have an electric vehicle, or congestion and air quality charges in some zones coming in," he says.

04

A circular dilemma

32%

of the organizations in our survey say that the difficulty of installing the necessary infrastructure is a challenge of fleet electrification

26%

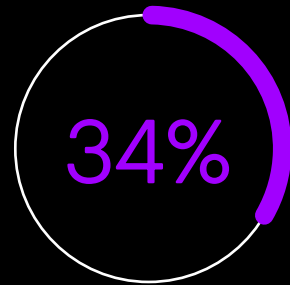say that insufficient public infrastructure is a challenge

A big part of the fleet electrification challenge stems from the inherent confusion about the locus of responsibility and the myths that this confusion promotes.

The infrastructure upgrades required for electrification are numerous, ranging from electrical systems and charging equipment to buildings and IT. The need to maintain legacy ICE infrastructure during the transition to electrification is also a source of concern—and expense.
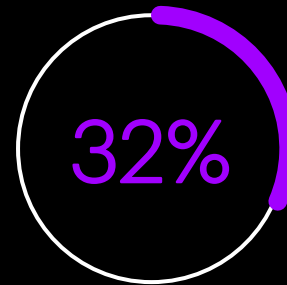
Organizations lack confidence in their ability to support the infrastructure needs of a fully electrified fleet. As White notes: "The charging infrastructure is not ubiquitous enough to make people feel confident." Only about a third say they have high levels of confidence in:
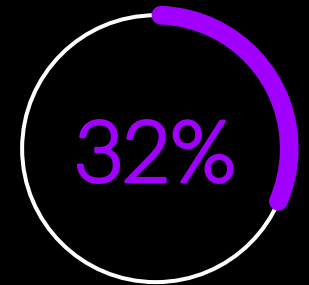
34%

The capacity of their current local electricity distribution network to provide the number of connections and amount of power needed

32%

Connecting new chargers to the grid within a reasonable lead time
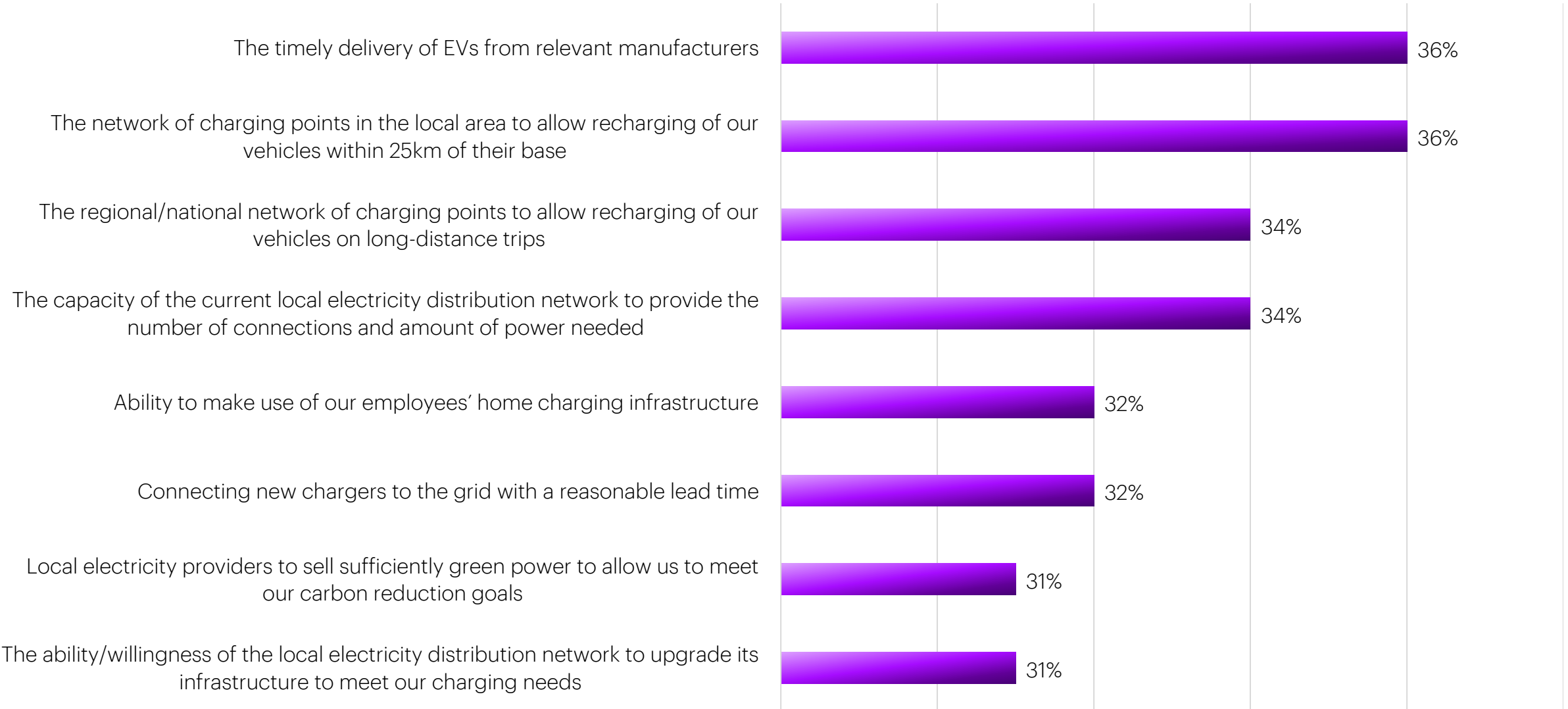
32%

The ability to make use of our employees' home charging infrastructure

But confidence levels may rise as new data supports the business case. "There is still room for improvement when it comes to strengthening the knowledge about fleet electrification in corporations, and some myths remain about EVs—such as the limited range of vehicles and the unavailability of charging points," says Amoroso. "But fortunately there is more and more data available to debunk these beliefs."

Confidence in infrastructure is low

Proportion with a high level of confidence in the following...

Category	Percentage
The timely delivery of EVs from relevant manufacturers	36%
The network of charging points in the local area to allow recharging of our vehicles within 25km of their base	36%
The regional/national network of charging points to allow recharging of our vehicles on long-distance trips	34%
The capacity of the current local electricity distribution network to provide the number of connections and amount of power needed	34%
Ability to make use of our employees' home charging infrastructure	32%
Connecting new chargers to the grid with a reasonable lead time	32%
Local electricity providers to sell sufficiently green power to allow us to meet our carbon reduction goals	31%
The ability/willingness of the local electricity distribution network to upgrade its infrastructure to meet our charging needs	31%

Infrastructure strategies rely on partnerships

This low level of confidence is leading organizations to deploy infrastructure strategies that rely on both their employees and external partners:

54%
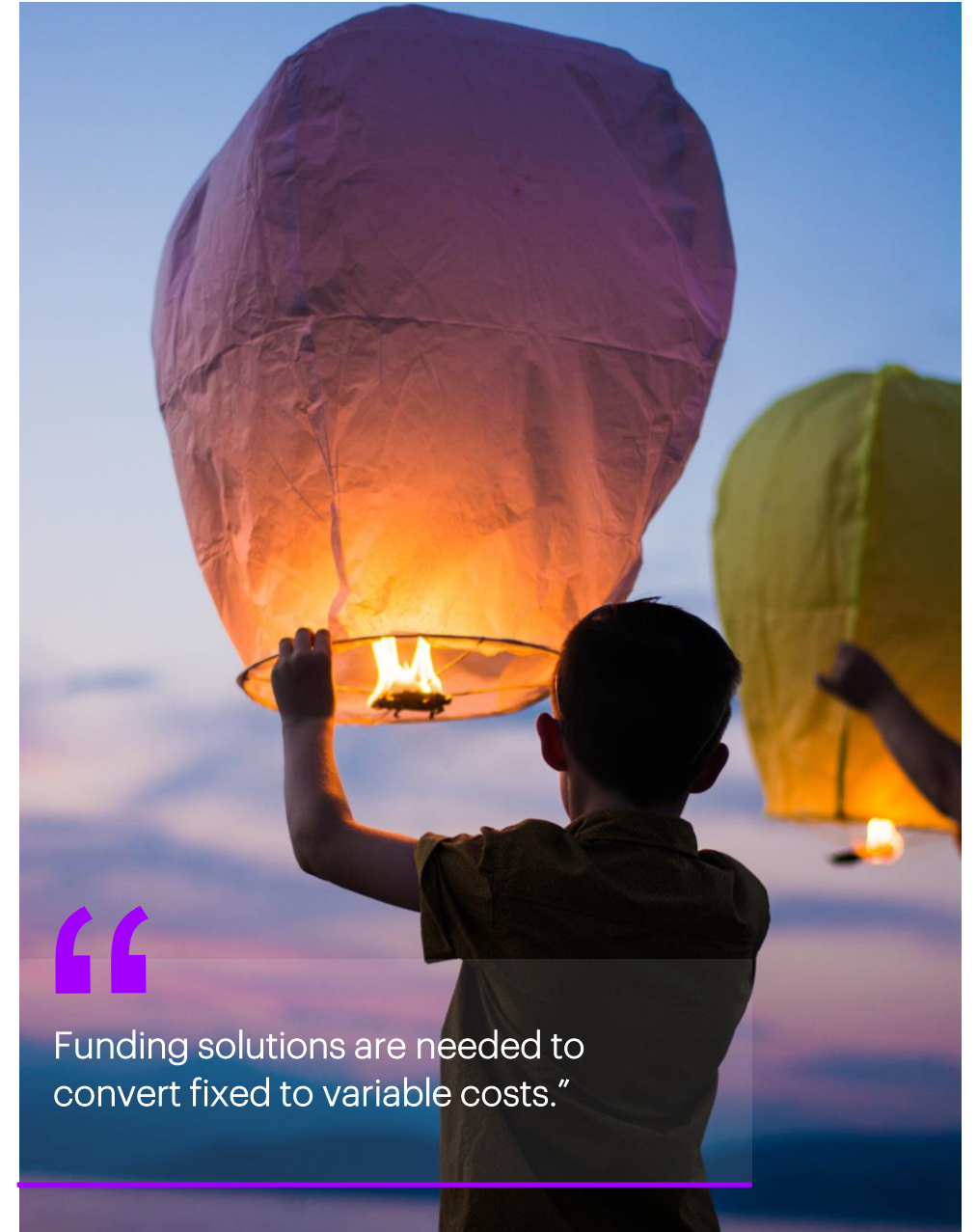say they encourage or subsidize employees to set up charging infrastructure at home

48%
lease charging infrastructure

47%
have set up a partnership to use a charging infrastructure partner's network

Companies appear less keen to purchase and operate their own charging infrastructure, which would require more CapEx: just 23% have invested in equipping relevant sites such as vehicle depots. Fleet electrification being a capex heavy process, a financial mechanism shifting capex to OpEx could help organizations mitigate the upfront cost burden. "Funding solutions are needed to convert fixed to variable costs," says Williamson.

And there does not seem to be much enthusiasm for discussing public infrastructure with the government: only 16% have held discussions with their local or national authorities. This is despite the fact that collaboration/partnerships to ensure the right infrastructure is in place could help to speed up electrification—especially in the public sector.

"

Funding solutions are needed to convert fixed to variable costs."

05

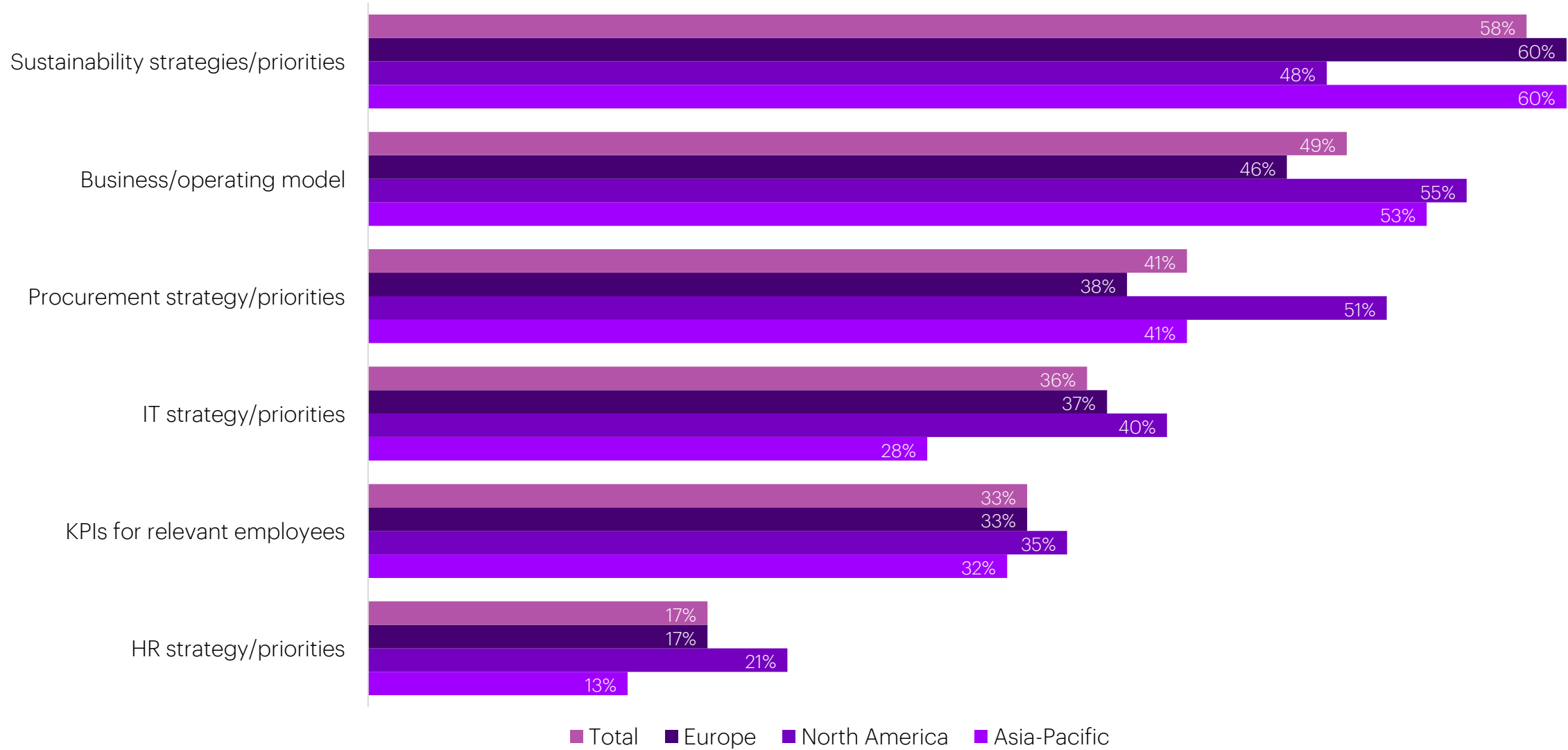# Steps forward:
The first "turn" is strategic

60%

of the organizations in our survey, and 68% in Asia-Pacific, say that their electrification is being driven as a sustainability measure and is not integrated into their business strategy

A major step towards accelerating electrification is to embed it into the overall business strategy. Surprisingly, we found that in most cases, fleet electrification seems to be primarily aligned with sustainability strategy, rather than with wider business objectives. That "disconnect" is breeding conflict. Second, relatively low proportions of organizations say their fleet electrification strategy is aligned with the strategies and priorities of functions such as procurement (41%), IT (36%), and HR (17%). Just 33% have set electrification-related KPIs for relevant employees.

Organizations can start by embedding their operational needs into their procurement choices, keeping in mind the challenges that will come from managing a mixed fleet of ICE vehicles and EVs. This will help them navigate the updated operating requirements brought about by EV fleets and the speed of the transition.

Electrification is not aligned with some parts of the business

Fleet electrification is well aligned with...

Sustainability strategies/priorities
- Total: 58%
- Europe: 60%
- North America: 48%
- Asia-Pacific: 60%

Business/operating model
- Total: 49%
- Europe: 46%
- North America: 55%
- Asia-Pacific: 53%

Procurement strategy/priorities
- Total: 41%
- Europe: 38%
- North America: 51%
- Asia-Pacific: 41%

IT strategy/priorities
- Total: 36%
- Europe: 37%
- North America: 40%
- Asia-Pacific: 28%

KPIs for relevant employees
- Total: 33%
- Europe: 33%
- North America: 35%
- Asia-Pacific: 32%

HR strategy/priorities
- Total: 17%
- Europe: 17%
- North America: 21%
- Asia-Pacific: 13%

Legend: ■ Total ■ Europe ■ North America ■ Asia-Pacific

Overcoming internal resistance

Elevating electrification as a business strategy issue may also help alleviate internal pushback. Most of the organizations in the research have experienced or are expecting to experience opposition to the changes brought about by fleet electrification. The greatest resistance comes from vehicle maintenance staff (67%) and drivers (63%). But nearly three in five respondents say fleet managers (59%) are resisting change as well.

One reason? Fleet managers might not be receiving the right signals from the top. A quarter of the organizations in the research say that senior management not seeing fleet electrification as a key priority is a challenge—their fourth biggest, behind cost and infrastructure issues.

Managers may also feel excluded. Just a third (34%) of fleet managers feel they have played a meaningful role in setting electrification strategy and have ownership of the process.

Better alignment with wider business strategy is crucial. In North America, where electrification is more advanced, opposition from functions such as finance, IT and operations is lower than the global average.

> "
> ICE fleet managers are naturally conservative. They are often not familiar with energy purchasing and the opportunities afforded by tools such as Virtual Power Plants (VPPs), storage systems or load balancing."

A skills gap creates an electrification gap

Drilling down on the challenges of becoming more strategic reveals a critical education gap.

"ICE fleet managers are naturally conservative," notes Williamson. "They are often not familiar with energy purchasing and the opportunities afforded by tools such as Virtual Power Plants (VPPs), storage systems or load balancing."

Education can overcome the lack of skills that is slowing down electrification, starting with a proper assessment of competences. EV fleet management and charging infrastructure tools are highly digitized, and this requires specific digital capabilities. The organizations surveyed are giving due consideration to the skills needed to run an electric fleet, but only 49% say their workforce has the right skills. One in 10 of them have not even investigated where their skills gaps are.

Business leaders can seize the opportunity to inform and upskill stakeholders on the front line, as these may not have "a perfect picture of their own P&L," says White. "There's an educational element to electrification. They may be better off switching than they realize, despite the sometimes higher upfront costs."

06

Involve digital and operational leaders now

39%

of the organizations in our survey say that IT executives are involved from the early stages of discussion about electrification, and a further 36% say IT executives are consulted at various stages in the process

Organizations expect the IT implementations and upgrades related to fleet electrification to be demanding.

Seventy-four percent of organizations in our survey said that the collection of insights from vehicle data to help with operations is a key IT concern. Seamless integration with other parts of the organization's IT is another (71%), as is providing integrated driver-facing and back-office tools (71%).

Another critically needed action is involving IT executives as quickly as possible in strategic planning sessions.

"By definition, efficient electric transportation involves the support of digital technologies and software solutions," says Gazzino. "A digitally integrated platform to efficiently monitor and manage vehicles and site facilities— chargers, grid connection, and on-site power production—is one of the crucial technological tools needed."

"

A digitally integrated platform to efficiently monitor and manage vehicles and site facilities—chargers, grid connection, and on-site power production—is one of the crucial technological tools needed."

Organizations expect IT to be demanding

Proportion expecting the following IT upgrades/implementations to be challenging

Category	Percentage
Provide insights from vehicle data to help with operations, such as improved maintenance scheduling	74%
Integrate seamlessly with other parts of the organization's IT for use in dashboards, operations analysis, etc.	71%
Provide integrated driver-facing and back-office tools	71%
Integrate data from diverse electric and internal combustion vehicles from a range of manufacturers into a single scheduling/planning system	69%
Upgrade all fleet management-related IT systems to new units of measurement and/or types of energy	68%
Gather data from owned, public, and home-based chargers for relevant analysis	67%
Benefit from the new kinds of data available from EVs	64%

IT leaders drive fleet management efficiency

Involving IT executives in the highest strategic planning issues also helps organizations ensure that their systems investments are on point, enabling fleet managers and other decision-makers to achieve maximum uptime and high mileage for their fleets.

The management and integration of vehicle telematics data are key to fleet operations. The monitoring of battery status and health, consumption efficiency and localization will improve operational quality and decrease logistics unit cost.

"EVs uniquely transfer data while charging, providing IT departments with useful datapoints to leverage," says Williamson.

To make this happen, IT leaders need to plan investments accordingly and develop integration roadmaps that will allow a seamless and effective transition to an electrified fleet, including interim solutions for mixed fleets.

And there are more technological solutions when it comes to the IT architecture and application landscape. For example, smart charging solutions can help decrease electricity bills through load balancing and tariff optimization services. Other emerging tools include bidirectional charging (V2X) and the participation of EVs in VPPs.

"
EVs uniquely transfer data while charging, providing IT departments with useful datapoints to leverage."

Rethinking the importance of operational adjustments

Beyond IT, the organizations we surveyed seem to be underestimating the scale of operational challenges created by electrification. Just 39% say they are ready for full fleet electrification, and 60% either do not see the need for significant change or are addressing the switch to electrification in an ad hoc way. To meet the additional demands of fleet electrification:

54%
have expanded or are planning to expand their operational budgets

24%
have expanded or are planning to expand their IT budgets

34%
have changed or are planning to change driver training resources

30%
have changed or are planning to change managerial headcount

30%
have changed or are planning to change their managerial KPIs

Better alignment and collaboration with other business functions would allow for a more realistic view of the changes needed for fleet electrification. For instance, by coming together, key decision makers in operations, finance, sustainability, procurement and IT can set up a detailed transition plan based on both top-down and bottom-up analyses. Involving the wider organization in transition planning ensures that the implementation is adjustable, and that organizations can respond in a timely manner to changes in the business. "Top-down sponsorship is vital to engage all functions of the business and particularly to interest the CFO in the potential commercial advantages offered by fleet electrification," concludes Williamson.
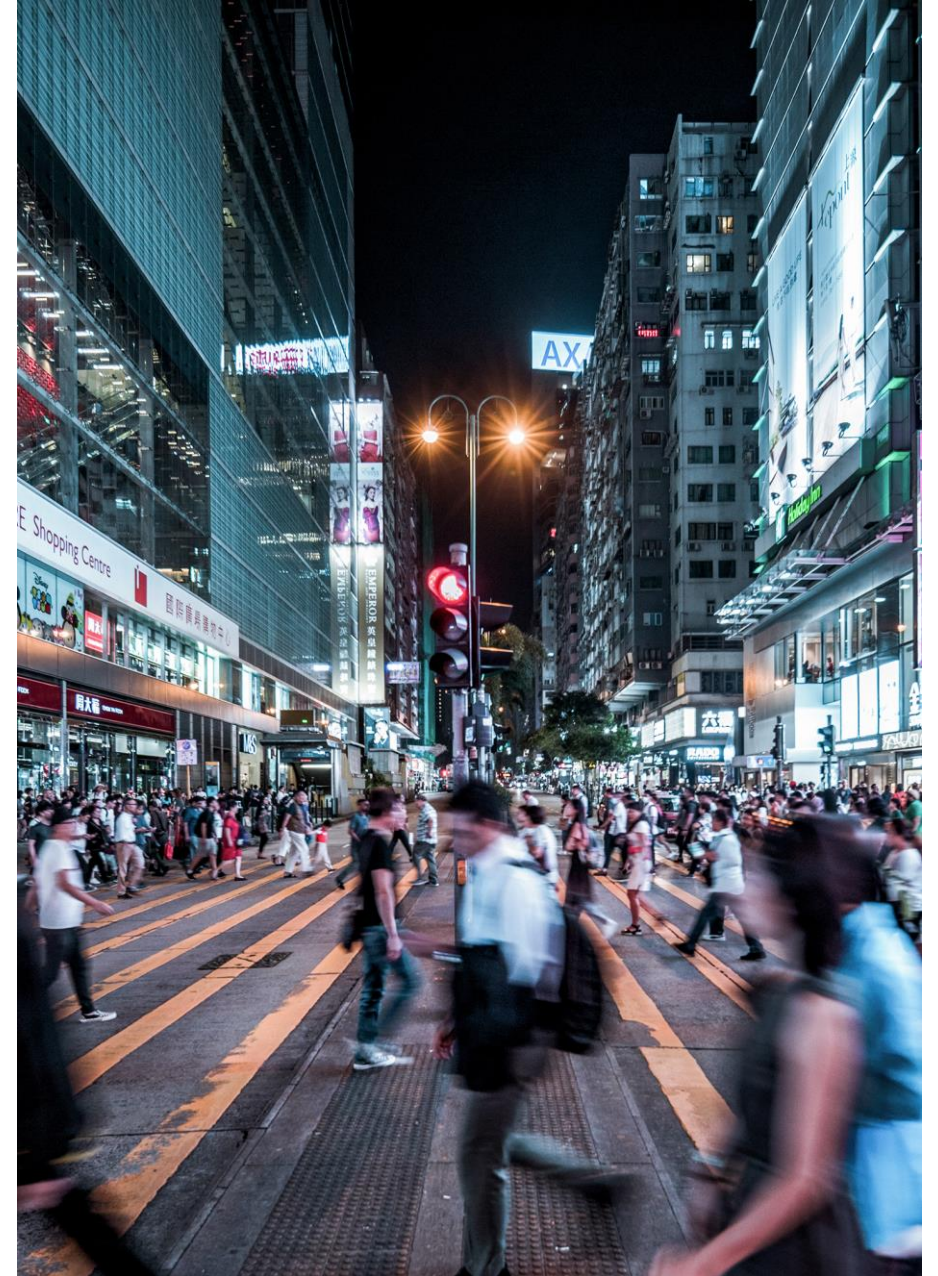
07
Conclusion:
a reinvention is needed

Successful accelerated fleet electrification requires fleet owners and operators to consider the following actions:

- Move fleet electrification onto center stage, strategically. This transition can't be considered solely as a sustainability issue. It can and should be driven by wider business objectives.

- Mitigate the cost burden of electrification by exploring financial mechanisms that can absorb the upfront capex needed for vehicles and charging points.

- Conduct a structured feasibility study to develop a readiness assessment, a business case and a transformation roadmap. The latter should include a communications and behavioral change plan that will address potential resistance across various groups in the organization.

- Draw on cross-functional talent to develop detailed design of future charging infrastructure and a list of required internal capabilities in order to adjust the operating model accordingly.

- Develop a transition plan and timetable that will enable the coordinated deployment of infrastructure, vehicles, driver training and systems integration.

Companies that wait to take these actions or continue to compartmentalize electrification as a sustainability initiative or as a response to regulation, will fall behind their peers. Companies that build a strategic business case and follow through accordingly, engaging the whole organization, will set new performance standards.

How Accenture is helping our clients lead the charge

#1
Diagnose

Supported multiple clients in fleet electrification business case calculations including discounted cash flows and profitability analysis followed by transition roadmap selection based on Enterprise Decarbonization Readiness Assessment.

Partnered with multiple police forces to develop a fleet decarbonisation strategies including requirements for the future EV car park and charging infrastructure required by emerging forces.

Supported global enterprise with 17k corporate vehicles around the world in fleet decarbonization feasibility study covering markets readiness assessment, alternative decarbonization options (incl. mobility schemes analysis), CO_2 emissions reduction forecast and roadmap development with business case.

Helped client in right sizing their fleet and developing a dynamic roadmap that allowed for sites across the country to decarbonize at different paces (based on rurality and availability of infrastructure) while still achieving interim decarbonization goals.

#2
Design & Plan

Designed and tested B2B fleet electrification offering and tooling for leading fleet cards providers and CPOs.

Assisted the client by designing and implementing a successful EV pilot of the first batch of lighweight full sized trucks to prepare for additional replacements through 2030.

Helped OEM clients set offering for optimized depot layout and charging infrastructure based on performed multiple depots infastructure optimizations.

#3
Build & Deploy

Co-ordinated and optimized roll out of 3000+ EVs over almost 40+ sites and co-ordinated the training of 8000+ drivers for a postal services company.

Accenture Italy launched installation and management of 56 charging stations in 5 Italian offices that covered approx. 100 parking spaces for corporate and visitors EVs.

#4
Run & Scale

Accenture developed and implemented an IoT Connected Intelligent Fleet Solution for both conventional and electric vehicles. Supporting a more efficient and effectively managed fleet, including vehicle management, battery management, operations management & driver management.

About the research

In May and June 2023, Accenture surveyed 450 senior decision-makers in fleet management, including 50% at C-suite level.

The respondents were in North America (US and Canada), Europe (France, Germany, Italy, the Netherlands, Spain, the UK) and Asia-Pacific (Australia, Indonesia, Japan, Malaysia, Singapore).

They worked in the following functions:

- Corporate/professional fleets
- Emergency services
- Post and parcel delivery
- Retail/consumer goods
- Services including telco and utility
- Commercial transport (HDV)
- City and local district maintenance

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