The Rise of Subscription Models: Revolutionizing Truck Ownership

Exploring the benefits and acceptance of flexible fleet solutions

Capgemini

Executive summary

A recent survey of truck customers conducted by Capgemini supports major truck OEMs' existing beliefs and expectations for subscription models, particularly those relating to electric vehicles. The research also adds important insights, for example that many customers would prefer to obtain subscriptions directly from manufacturers, and that subscriptions could help to overcome the perception that electric vehicles are not affordable. In this report, we comment on the results and propose actions that truck OEMs should be initiating now, such as creating a strategy to address key customer concerns, and informing customers better on issues like the respective total cost of ownership/use for conventional and electric trucks.

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"In the passenger car sector, we can already observe that moving from ICE vehicles to EVs is associated with a move from ownership to usage – implying that subscription models will become more popular. Our new study suggests that this trend could be even more significant for trucks, partly because of affordability issues but also because of uncertainty about EVs and their impact on residual values. The study also points to the potential of subscriptions to accelerate uptake of zero-emission vehicles. This finding should generate further discussion and a possible rethink of current approaches to promoting EVs."

Laurence Noël
Head of Global Automotive Industry
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Introduction

Major truck manufacturers are actively exploring new ownership models, including subscription models. In these models, customers pay for the use of trucks while the manufacturer or other service provider retains ownership of the assets. There are variants where customers take ownership of the vehicles but obtain batteries on a subscription basis.

However, there is a lack of hard data about the levels of acceptance for the models among truck customers, and about customer expectations and preferences.

To shed light on these questions, Capgemini recently conducted a survey which explored the acceptability to truck customers of subscription services, along with related issues such as willingness to pay a premium, and which services should be included in the subscription model.

We also investigated our respondents' preferences for electric vehicles (EVs) versus internal combustion engine (ICE) vehicles and used the results to help us interpret the findings about subscriptions[1]. We discovered some interesting differences between the preferences of these two groups with respect to subscriptions.

Overall, the findings confirm what we already knew about subscriptions for commercial vehicles, and so major OEMs who have already gone ahead in this area can be assured that they are broadly pursuing the right strategies. But we also made some surprising and potentially helpful discoveries, which warrant further investigation.

This report outlines and comments on our results, before making some recommendations for further research and actions.

1. Please note that in this report we use the term "EVs" to cover both battery electric vehicles (BEVs) and hydrogen fuel cell electric vehicles (FCEVs), unless otherwise stated.

Research method

Ninety respondents from truck customers in Germany, all of whom were ascertained to have a strong engagement in this market, took part in this online survey (Figure 1). We decided to research Germany initially because this market is especially receptive to new sales models and has a strong impetus to move to zero emissions. In the future we are keen to expand this research to cover the whole of Europe, and perhaps North America and China.

Figure 1: Background to the survey

Survey objective

The primary objective of the survey was to gather data on the acceptance and preferred implementation of the truck subscription model in the German market and its readiness to use electric vehicles.

Survey scope and respondents

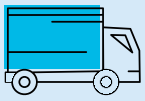
Respondents' country

Number of respondents

90

Use of the following in respondents' companies

- **Heavy vehicles**
- **Big buses**
- **Tractors**
- **Special vehicles**



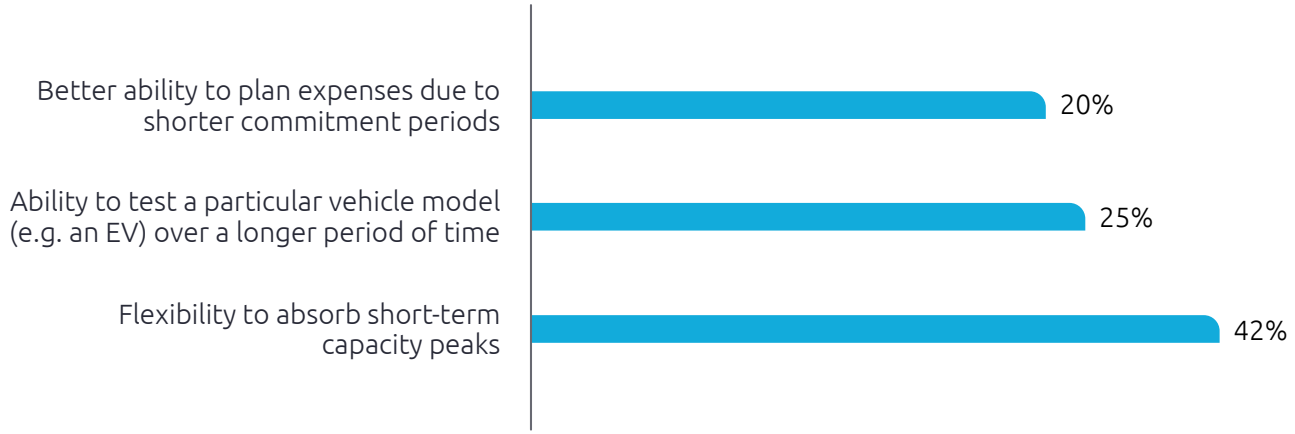
Summary of findings

Findings part 1: market acceptability of the subscription model

First, we explored our respondents' general views on the subscription model, and what they think the advantages and disadvantages for their companies are.

Perceived advantages and disadvantages of subscription models

Figure 2: Reasons for acceptance of subscription models for trucks



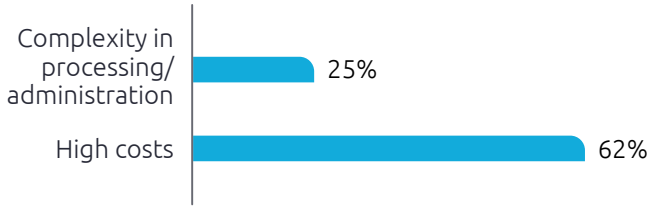
The biggest reason for wanting to adopt the subscription model is to gain the flexibility to absorb short-term capacity peaks (a technique called "peak shaving"), mentioned by 42% of respondents (Figure 2). This finding reflects the fact that their businesses habitually face fluctuating demand – perhaps more than usual given current levels of economic uncertainty and disruption, particularly to the supply chain. Peak shaving is also an important tool for dealing with seasonal demand, for example in the run-up to Christmas.

Other reasons for acceptance include the desire to try out specific vehicle models, which probably reflects an interest in experimenting with new technologies without long-term commitments. The model is also seen as useful for planning expenditure, thanks to the shorter commitment periods involved.

When asked about their reservations surrounding subscription models, respondents often mention the perception that subscriptions are associated with high costs – a finding that reflects this market's price sensitivity (Figure 3).

To find out more, the research investigated how large a premium companies are prepared to pay for a subscription model over a long-term lease,

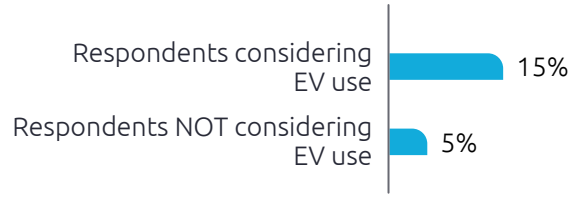
Figure 3: Objections to subscription models for trucks



and analyzed the results according to whether the respondent is considering EVs or not. As Figure 12 shows, a majority of respondents are considering EVs, at least to some extent.

Interestingly, potential EV customers are willing to pay a 10-15% premium, whereas those who prefer ICE vehicles are only prepared to pay 5-10% (Figure 4).

Figure 4: How much premium are respondents willing to pay for a subscription model?



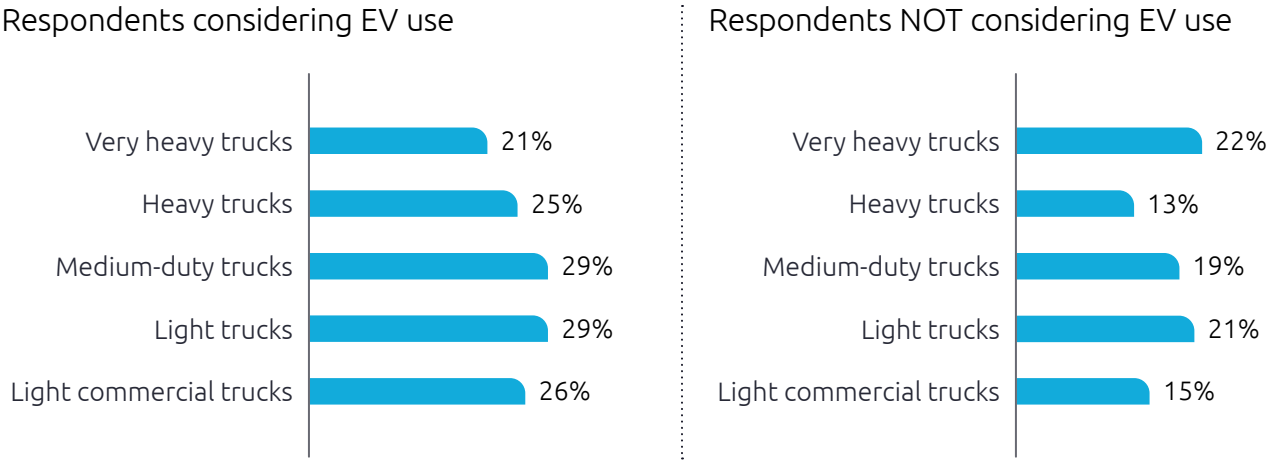
As another potential objection to subscriptions, respondents also mention complexity of administration, suggesting that they do not yet associate subscriptions with the straightforward, user-friendly models that they prefer.

Around 53% of respondents are considering integrating Battery Electric Vehicles (BEV) and Fuel Cell Electric Vehicles (FCEV) into their fleets. This growing interest in eco-friendly options is accompanied by a readiness to invest in premium services. Those considering EVs of either type are willing to pay a 15% premium for a subscription model, whereas others will pay just 5% premium.

Preferred applications for the subscription model

We also took a more detailed look at how respondents envisage using subscription models within their businesses, with respect to the class of vehicle, range over which to use it, and subscription period. We again compared the responses for those considering EVs versus the rest.

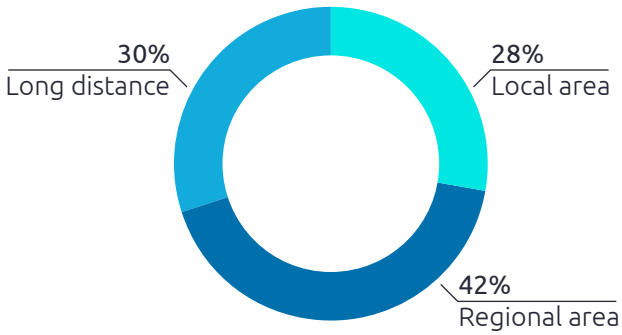
Figure 5: Optimal vehicle class for subscriptions



As shown in Figure 5, respondents considering EVs opt for light to medium-duty trucks because they have enough positive experience and knowledge to integrate those trucks into their daily schedules and routes. Those preferring ICE vehicles are more likely in the long-haul business; this explains their different views regarding vehicle classes suitable for subscription models. Overall, heavy trucks are slightly less favored candidates for subscriptions, possibly due to their higher costs or specific usage patterns. This response might also be due to the fact that planning the usage of long-haul trucks is often easier for companies than planning more local activities, and so they are not looking for a better way to do it.

Questioned about the distance ranges where they would be likely to adopt subscription models, respondents indicate that these models are applicable across local (up to 50km), regional (51-150km), and long-distance (151km+) ranges, with regional usage likely to be highest (Figure 7). This suggests that the flexibility of subscriptions could be relevant to a range of business needs, from local deliveries to long-haul transportation.

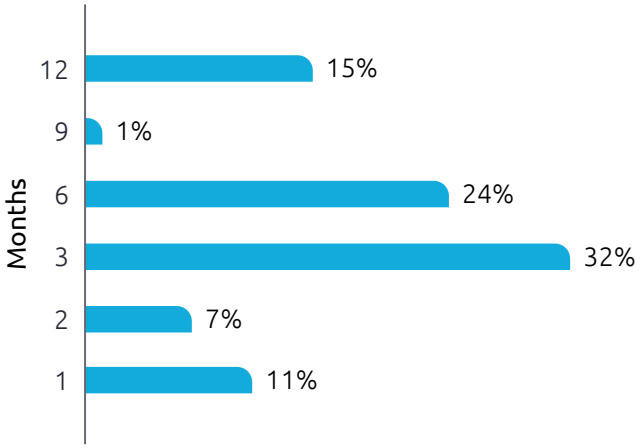
Figure 6: Preferred distance ranges for adoption of subscription models



Taken together, this and the previous finding may imply that subscription trucks are seen as most useful for the traffic between regional depots and the end-customer or (in some cases) local hubs. It is generally known – and confirmed by third-party research – that truck customers envisage similar applications for EVs, suggesting synergies between subscription models and electric trucks.

When it comes to commitment periods, respondents demonstrate a preference for a three-month period (Figure 7). This finding suggests that businesses value short-term commitments for better adaptability and financial planning.

Figure 7: Preferred period for which to commit to a subscription



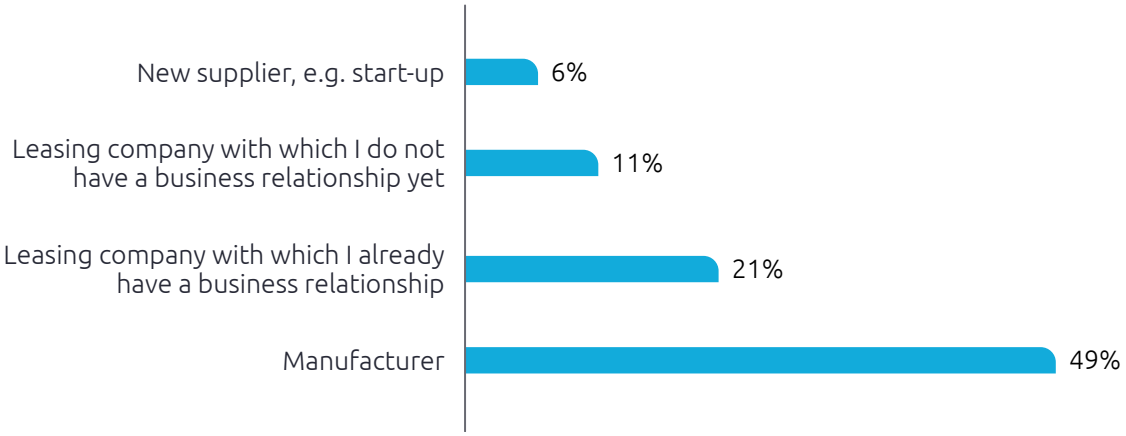
We find this result slightly surprising as we would expect respondents to prefer a shorter commitment period for maximum flexibility, especially in the light of the desire for peak shaving.

The willingness of respondents considering EVs to pay a significant premium for subscriptions indicates a robust market potential for this model among fleet operators prioritizing sustainability and innovation.

Preferences for delivery of the subscription model

Next, we asked for more detail about how companies would like to obtain truck subscriptions – including who they would like to provide the subscriptions, whether they prefer a fixed or a flexible offer, and their expectations about lead times. We also discussed what type of engine they would be looking for in a vehicle obtained by subscription.

Figure 8: Who should offer the subscription model?



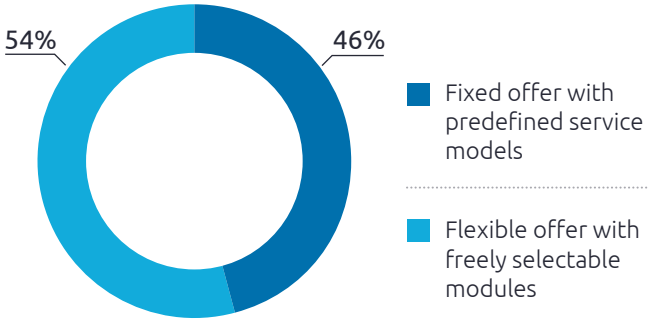
Interestingly, respondents show a marked preference for obtaining subscriptions directly from manufacturers, with 49% choosing this option (Figure 8). Leasing companies and new suppliers both rank some way behind manufacturers.

For manufacturers, this preference is a heartening finding, and not just because it likely indicates trust in OEMs' established quality and service standards. It also opens up possibilities for future revenue streams.

These ideas have automotive sustainability benefits as well as commercial ones, and we'll return to them later.

Slightly more than half of respondents prefer a flexible offer with selectable modules to a fixed one (Figure 9).

Figure 9: Should customers be able to choose different modules within the subscription model?



This preference aligns with the desire for customizable, adaptable solutions, seen in all sectors of today's automotive industry.

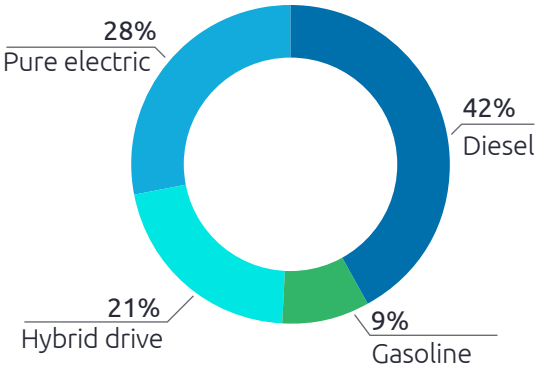
Figure 10: Most expected components in a subscription offer

When respondents are asked which specific components companies would like to see included in the offer, maintenance and making good wear and tear are the first choice, followed by insurance, and then 24/7 customer service (Figure 10).

When it comes to expectations about the lead time for delivery of a vehicle if they take out a subscription, the majority prefer a lead time of less than 1 week (30%) to less than 4 weeks (24%). This indicates the importance of quick service and high vehicle availability when planning a subscription-based operation.

We now come to the important question of what form of engine respondents would choose in relation to subscriptions.

Figure 11: Preferred drivetrains for subscriptions



Diesel accounts for the highest share of the responses (42% overall), probably reflecting its current dominance and ample infrastructure support rather than any entrenched preference (Figure 11).

In fact, pure electric and hybrid models together are chosen by even more respondents (49%), suggesting concern about environmental considerations and openness to new technologies. (And, if we consider only the largest companies' responses, pure electric emerges as the most popular option.)

These results paint an encouraging picture of the prospects for electrification. The proportion of respondents preferring pure electric – 28% – might seem low at first sight, but it is significantly more than pure electric's share of the current fleet in Germany.

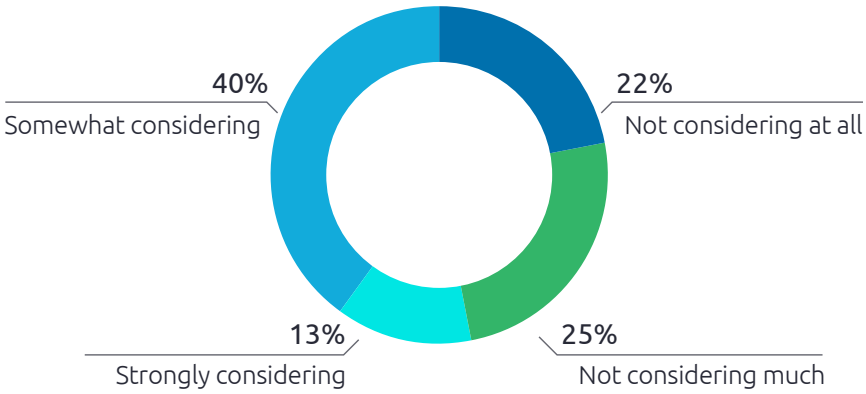
Pure electric and hybrid models together attract 49% of respondents, reflecting growing environmental concerns and interest in new technologies. Among the largest companies, pure electric vehicles are the most popular.

Findings part 2: market readiness for commercial electric vehicles

Respondents' interest in electric vehicles

As we have just seen, our research reveals encouraging levels of interest in electric or hybrid vehicles in the context of a subscription model. The next segment of our research probes this interest further, by asking about the extent to which organizations are considering EVs and what they see as the main advantages and barriers associated with electrification.

Figure 12: A majority of respondents are already considering the use of EVs in their fleets



When questioned in this slightly different way, as many as 22% of respondents say they have not considered electrification at all, while 25% have only considered it a little (Figure 12). This seems rather disappointing given the many reasons to consider it, including environmental concerns, regulatory pressures, and advancements in EV technology.

Asked about the advantages of electrification, many respondents emphasize local emission-free operation and improved image, highlighting environmental and social responsibility considerations (Figure 13).

Figure 13: Perceived advantages of using EVs

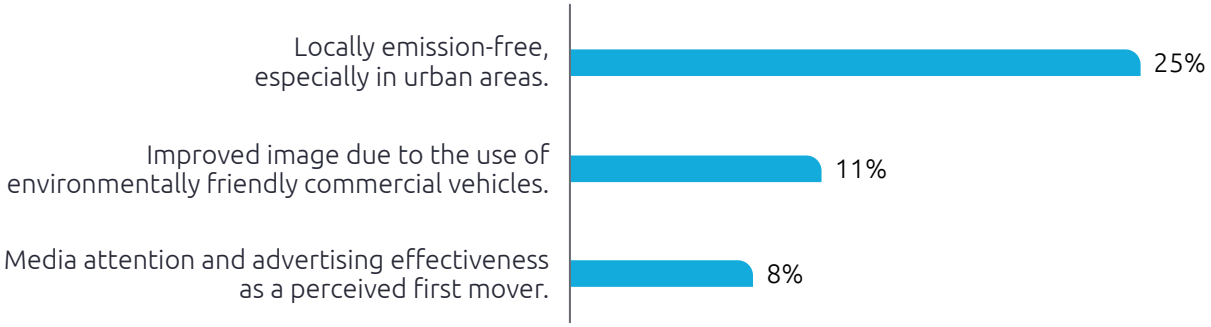
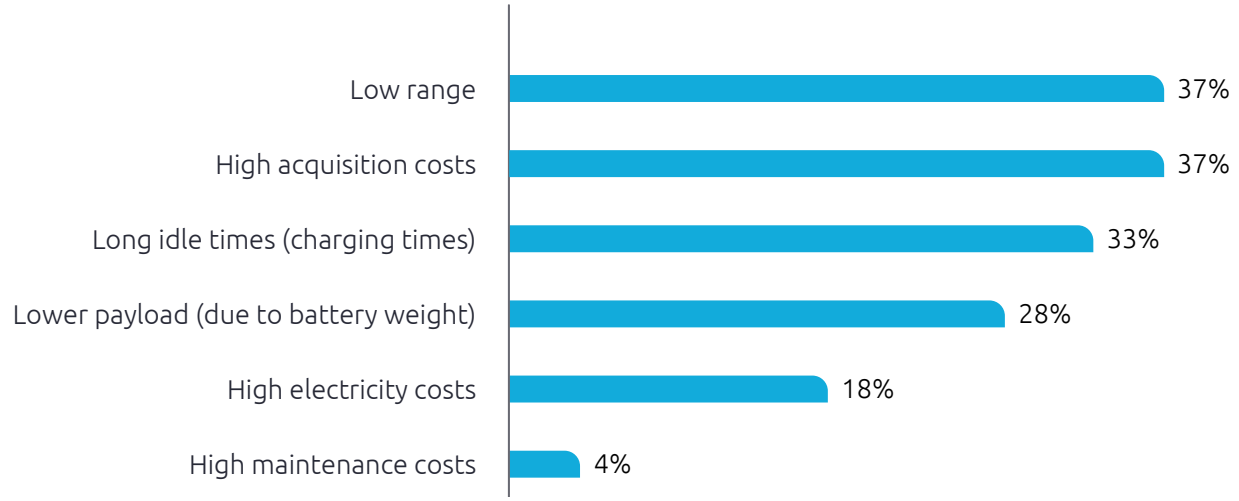


Figure 14: Perceived disadvantages of using EVs



High acquisition costs and range anxiety remain significant barriers to EV adoption, along with concerns about charging times and payload capacity (Figure 14).

Drilling down into the data uncovers some interesting angles on this finding. For example, if we look only at respondents who are actively considering EVs, then higher costs are a bigger concern than range, whereas those who are not considering EVs are more concerned about range than cost. This suggests that more knowledge about EVs, including their advantages and challenges, leads to greater acceptance.

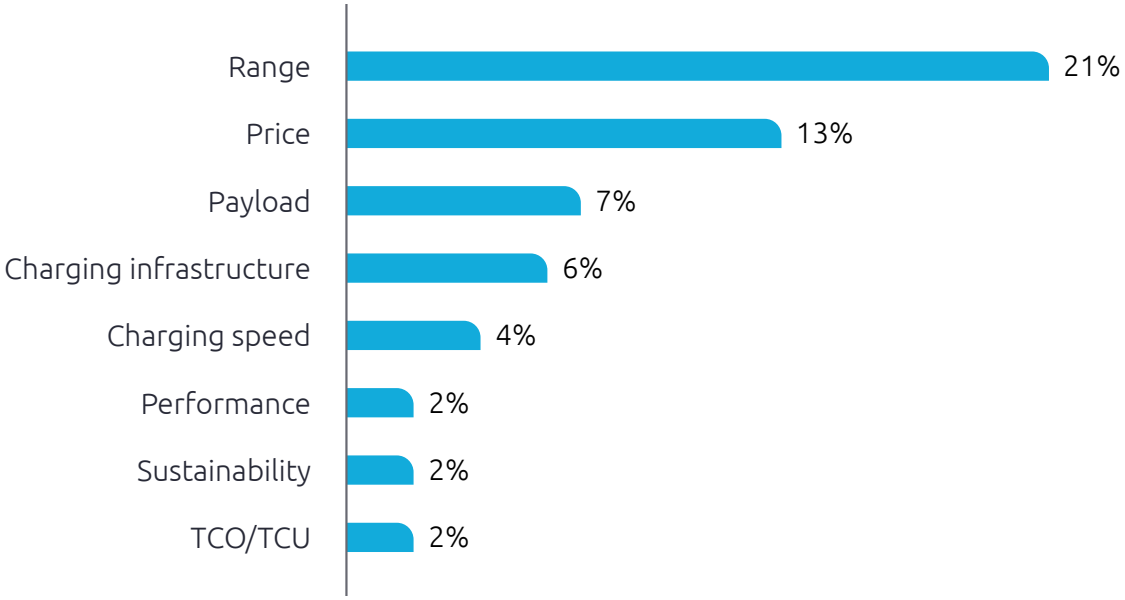
It is also worth noting that concerns about acquisition costs could be used to argue for the subscription model. Indeed, Capgemini research for various commercial vehicle clients suggests that, with broad usage of a holistic ecosystem of services augmenting the EV truck, the total cost of use (TCU) could be much lower for EVs than for conventional ICE vehicles. This observation could help OEMs to sell both EVs and subscription models.

Gaining acceptance for EVs

Finally, we asked those respondents who are considering EVs about factors that will secure their acceptance, and specifically about how they prefer to pay for charging (flat rate versus payment per kWh).

When choosing factors that would secure their acceptance of EVs, respondents tend to emphasize range and price, suggesting that practicality and cost-effectiveness are key to wider adoption (Figure 15). However, in both cases the picture may already be more positive than companies realize, so as we'll discuss later, OEMs may need to put more effort into informing their customers.

Figure 15: Most important factors that would convince respondents to use EVs

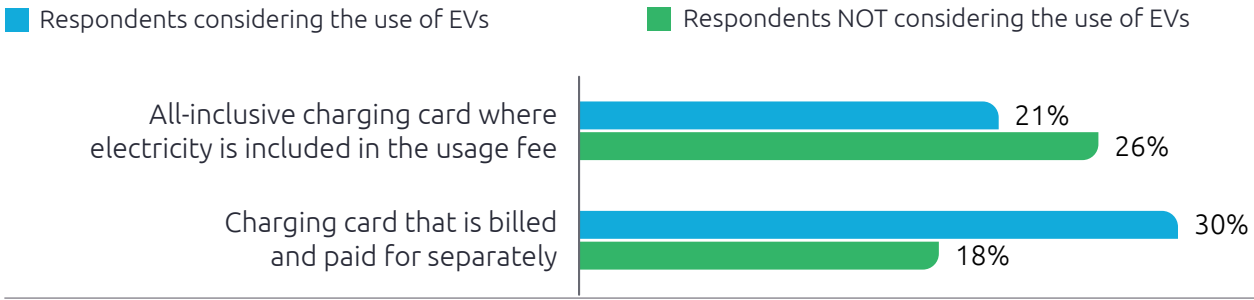


Charging for energy

Overall, numbers are split almost equally between wanting to pay for electricity as part of the usage fee or being billed separately for it. But an interesting picture emerges from analyzing the results according to whether the respondents are considering EVs or prefer ICE vehicles.

Respondents who are interested in EVs favor separate charging for energy consumption, whereas those who want to stay with conventional ICE vehicles prefer an all-inclusive subscription that includes energy costs (Figure 16).

Figure 16: Should charging be billed separately or included in the subscription fee?



Discussion and recommendations

Subscription models present important opportunities for commercial vehicle OEMs

These results tell us that the majority of transportation companies trust OEMs over others to provide them with a subscription model. Offering subscriptions can therefore be an excellent strategy for maximizing truck sales.

The model presents a range of additional opportunities, for example:

- Offering services that are more easily possible with subscriptions because they depend on the OEM owning the truck. Examples include battery swapping, energy grid services, and transportation as a service.
- Reducing the TCU for new drivetrains (see panel), perhaps by exploiting scaling effects not accessible to their customers, including larger fleets and grid-related services like uploading electricity from EV batteries.

Reducing total cost of use for new drivetrains

Preliminary results from research conducted by Capgemini in France suggest that with a digital service ecosystem for the truck it is already possible to bring the TCU for vehicles with electric drivetrains down below the cost of conventional vehicles with ICE. This is achieved by offsetting the cost of producing an EV with the revenues from, for example, energy grid services. This is easier to do with the subscription model because the OEM can retain ownership of the vehicle. It might even be achievable if the customer owns the vehicle but the batteries are covered by a subscription service.

- Providing sustainability benefits that help customers reach their targets, e.g. by ensuring that circularity principles are fully exploited at end-of-life for a vehicle or battery.

OEMs need to develop subscription-based solutions to meet market expectations

Our findings demonstrate that there is a market for rapid vehicle provision solutions. We believe that OEMs should already be working on their strategies for satisfying this market through subscription models. They must innovate rapidly to offer solutions that are tailored to satisfy emerging business needs and environmental goals.

In doing so, they should leverage what is known about the market to ensure that their solutions are fit for purpose, and specifically that they:

- Simultaneously support both subscription-based usage and electrification goals.
- Address customers' concerns such as cost and range.
- Satisfy specific demands such as short lead times (ideally less than a week).

Solutions must build on research to identify needs and blockers

Companies should make full use of research data to explore the nuances of customers' needs and blockers (e.g. the differences between groups in terms of attitudes to EV price versus range, and the varying preferences regarding how energy should be charged for). This will help them to optimize their products and also improve the way they are marketed.

Of course, customers' preferences and beliefs are not always set in stone. For example, in the case of range anxiety, OEMs can help their customers understand that with today's route planning technology, range concerns can easily be overcome – and of course that the vehicles offered will exploit this technology. In general, OEMs should aim to inform the market about the realities of today's EVs, including both advantages and challenges, since the indications are that this will create greater acceptance.

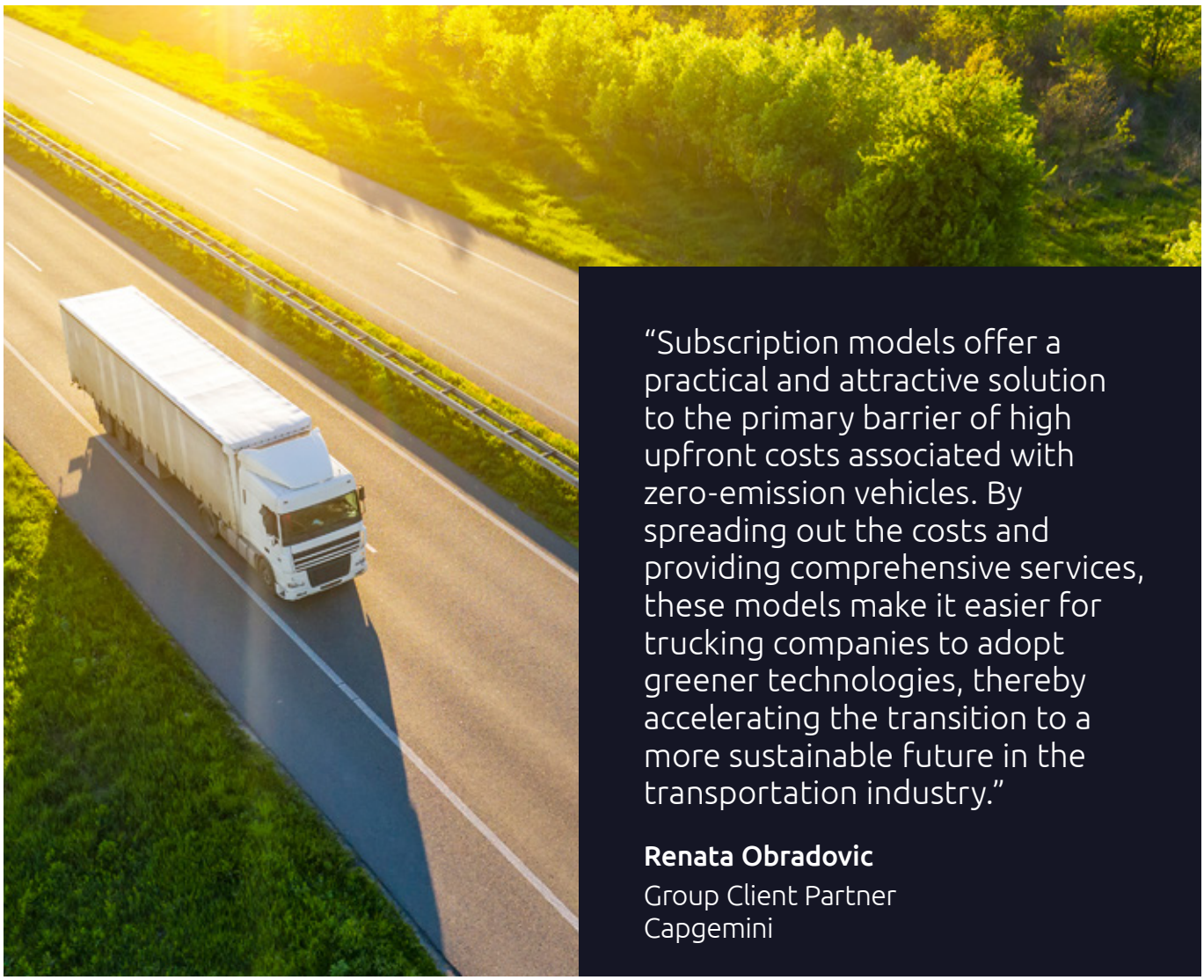
Another area where OEMs should educate the market is incentives for electrification. This is a complex topic, because every region and country has its own arrangements. France currently has the world's highest CO_2 taxes, but Germany has also introduced a CO_2 charge in relation to autobahns, for instance. And the EU offers a "payload bonus" which allows EVs to weigh more than conventional ones without penalty to compensate for the weight of the battery (28% of our respondents were unaware of this).

Sustainability should be part of the package

As noted, if OEMs retain ownership of assets, it may be easier to create circularity, potentially helping both OEMs and their customers to fulfill their sustainability goals.

Better energy use is another opportunity that arises when manufacturers retain ownership of trucks and batteries. They should, for example, be able to exploit future batteries' capacity for bidirectional charging. A truck's battery could store energy from solar panels on its roof. When there is a surplus, consumers in a nearby building could be supplied with energy by a stationary truck, or the energy could be fed back into the electricity grid. In this way, the vehicle can act as a mobile energy store.

Many sustainability measures will also have commercial benefits, since they reduce waste and make better use of resources.



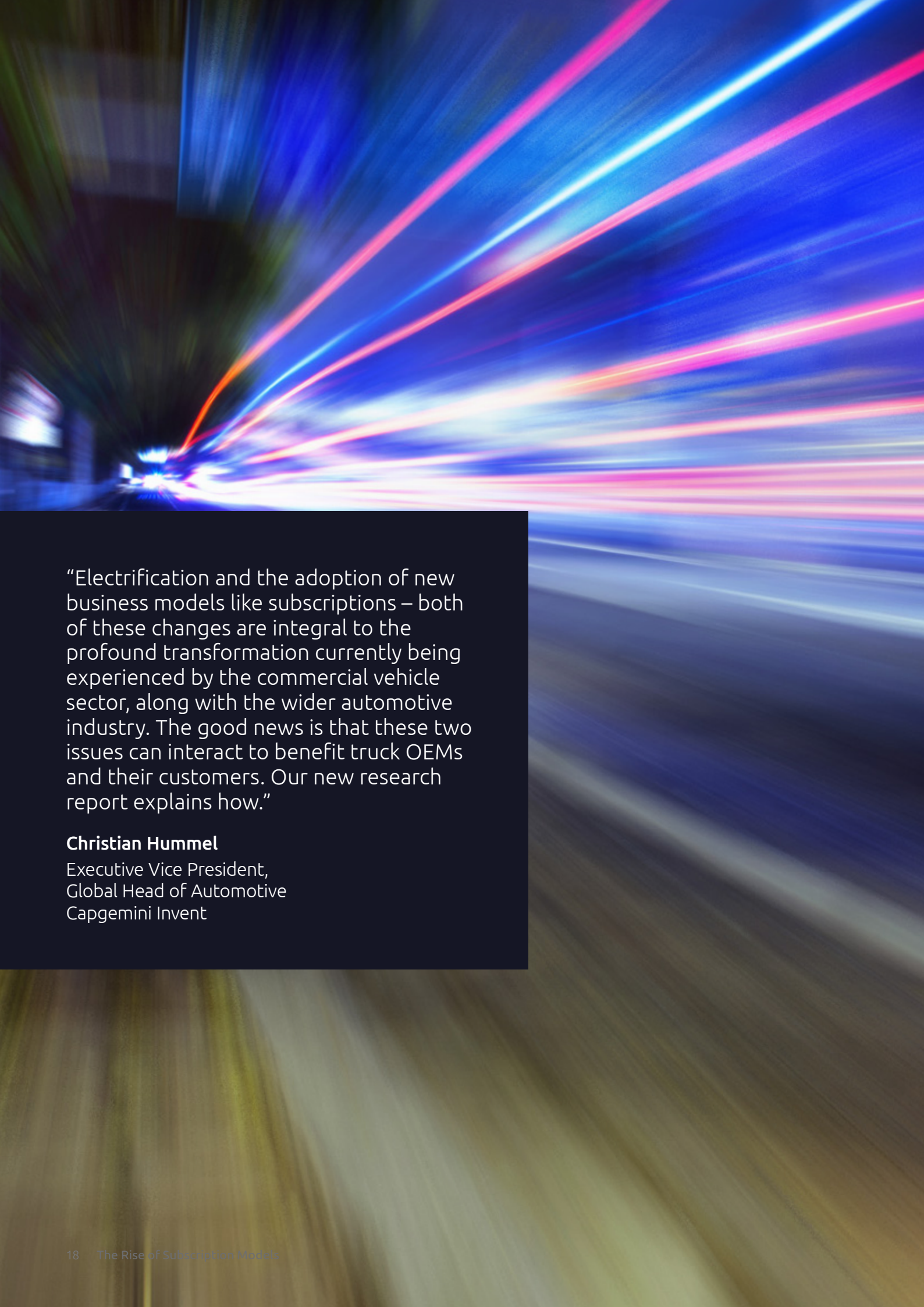
"Subscription models offer a practical and attractive solution to the primary barrier of high upfront costs associated with zero-emission vehicles. By spreading out the costs and providing comprehensive services, these models make it easier for trucking companies to adopt greener technologies, thereby accelerating the transition to a more sustainable future in the transportation industry."

Renata Obradovic
Group Client Partner
Capgemini

How Capgemini helps clients implement subscription models

Capgemini can support every stage and aspect of your move to subscription models. To give just a few examples, we can help to:

- Create a robust business case supported by calculations that show the ideal price point and costs, indicating what services could be included with subscriptions and the impact each will have.
- Develop an ecosystem around the subscription model to ensure that all the necessary digital services are in place, and provide a partner ecosystem that can be leveraged.
- Implement necessary IT platforms and solutions.
- Provide engineering support with, for example, simulations to see what effect providing grid services would have on battery state of health.
- Support the transition to a zero-emission fleet, ensuring that OEM and customer goals (regarding both sustainability and profitability) are met.
- Provide information and consulting to customers on zero-emission trucks and the necessary infrastructure.
- Develop solutions to help customers to make their depots, plants, and factories ready for subscription and zero-emission trucks.



"Electrification and the adoption of new business models like subscriptions – both of these changes are integral to the profound transformation currently being experienced by the commercial vehicle sector, along with the wider automotive industry. The good news is that these two issues can interact to benefit truck OEMs and their customers. Our new research report explains how."

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