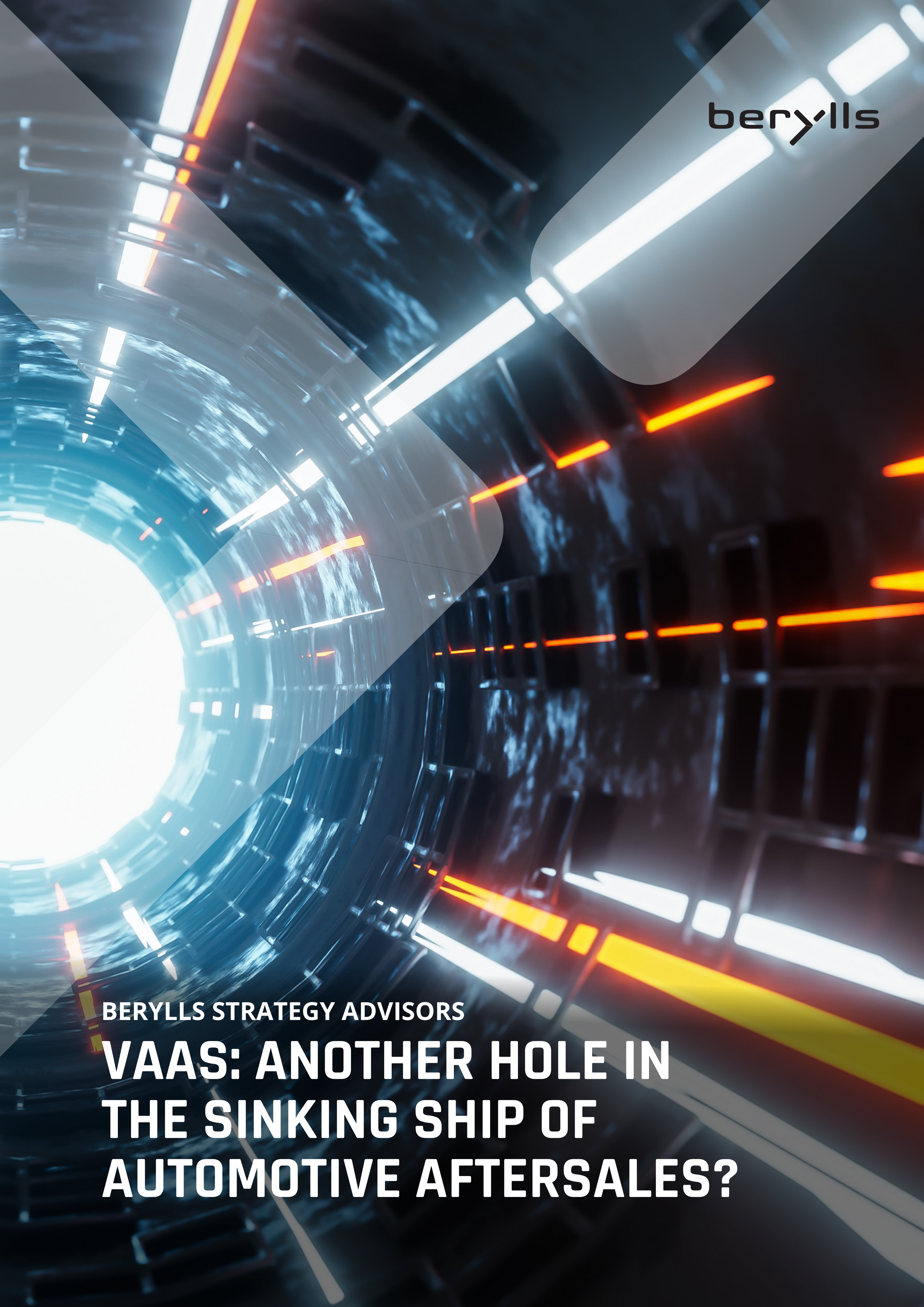


BERYLLS STRATEGY ADVISORS

VAAS: ANOTHER HOLE IN THE SINKING SHIP OF AUTOMOTIVE AFTERSALES?

AGENDA

INTRODUCTION

With Vehicle as a Service (VaaS) expected to increase its market share by close to 33% by 2025, OEMs need to get ready for the impact on aftersales

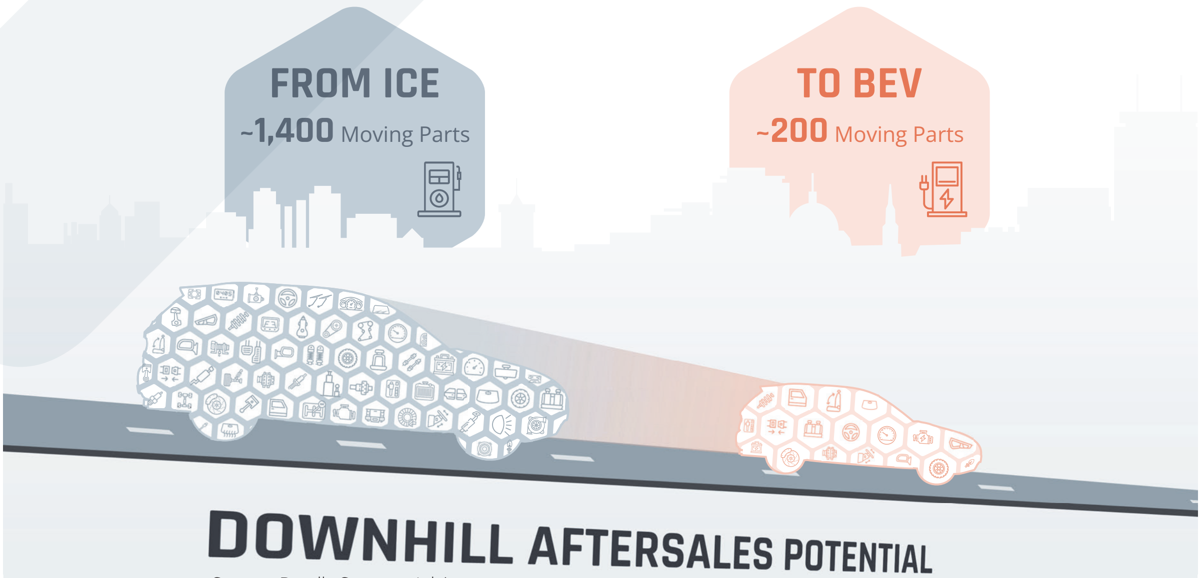
The global aftersales business – parts sales and maintenance services through the dealer network – is a major profit pool for automotive OEMs and dealers. It accounts for as much as 40% of the overall profit of some carmakers and large, full-range dealerships.

How did aftersales become such a stable cash cow? This is mainly attributable to the fact that for vehicles under warranty, OEMs have close to no competition for the service and care of the cars they sell as most customers remain loyal to the manufacturer they bought the vehicle from. Once cars are passed on to their second or third owners, OEMs increasingly face the competition of the independent aftermarket (IAM) – repair shops offering cheaper labor rates and parts to customers who are more price sensitive.

The bad news for the financial health of the auto industry is that this highly profitable part of their business is being undermined by several forces at once. These include the shift toward battery electric vehicles (BEV). BEVs boast dramatically fewer moving parts – 200 compared to 1,400 in a traditional petrol or diesel car – and thus have far less service need, especially when they are new. Additionally, competition from independent repair shops has also become extremely intense, with IAM players offering large service portfolios at lower prices. Specialized repair shops such as windscreen replacement companies are also eating into the market while numerous new online platforms, selling replacement parts directly to mechanics and end users, are changing the way the market operates.

FIGURE 1

LESS SERVICE NEEDS FOR BEVS



Source: Berylls Strategy Advisors

Now, an additional threat is becoming increasingly significant. Vehicle-as-a-service (VaaS) business models will significantly disrupt the aftersales market. In VaaS, rather than owning the car outright, the customer either leases, subscribes to use or receives access a car via rental or sharing offers.

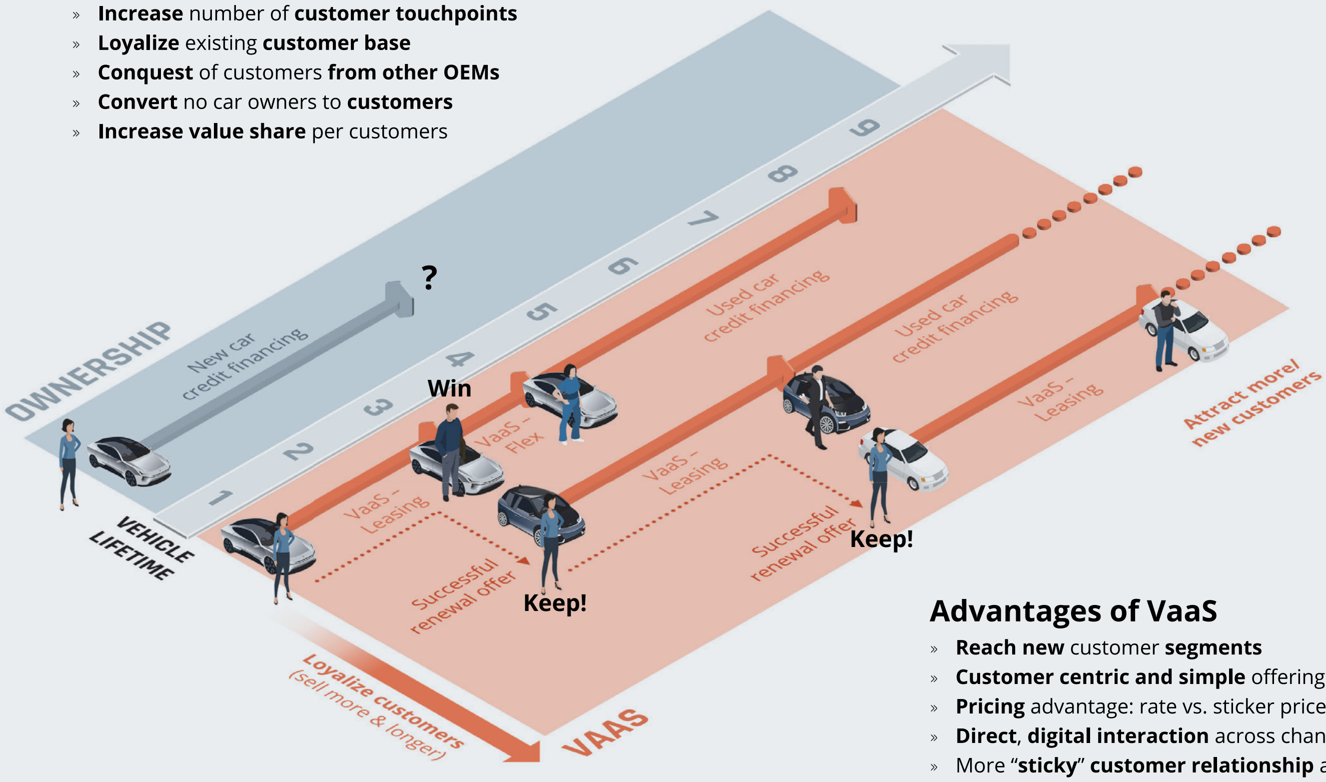
FIGURE 2

THE FUNDAMENTAL IDEA BEHIND VAAS

From one-time transaction-based sales model towards recurring revenue / portfolio play via customer & vehicle lifetime value optimization (CLV & VLV)

VaaS impact

- **Increase** number of **customer touchpoints**
- **Loyalize** existing **customer base**
- **Conquest** of customers **from other OEMs**
- **Convert** no car owners to **customers**
- **Increase value share** per customers



Advantages of VaaS

- **Reach new** customer **segments**
- **Customer centric and simple** offering
- **Pricing** advantage: rate vs. sticker price
- **Direct**, **digital interaction** across channels
- More "**sticky**" **customer relationship** and **recurring revenue** stream from **ecosystem**
- **Long-term profitability increased**

Source: Berylls Strategy Advisors

In this report, we examine in detail the likely impact of VaaS on the current aftersales business model – and elaborate on steps OEMs can take to stop it becoming the hole that could finally sink the profitable aftersales ship.

HOW VAAS WILL DISRUPT THE AFTERSALES BUSINESS

The option to use a car when you need it – treating a vehicle „as a service" – rather than owning it – is a serious and growing force in the auto industry. According to Berylls' 2022 VaaS study, based on a survey of 2,000 customers in Germany, VaaS will increase its market share to 38% by 2025. But how will the rise of VaaS impact aftersales?

Five findings from the VaaS customer survey show us where disruption takes place:

1. **BEV and VaaS are a perfect match** – A high and increasing proportion of battery electric vehicles (BEVs) will be sold via VaaS routes
2. **OEMs will be pushed aside by VaaS providers when it comes to deciding where and how a vehicle will be serviced** – Around 40% of VaaS providers are external fleet operators, not OEMs
3. **For VaaS customers, convenient services that offer peace of mind will be the priority** – VaaS users demand peace of mind (maintenance, tire changes, pick-up and delivery service) as part of the total package included in their monthly rate
4. **VaaS providers offer multiple brands, and require multi-brand services** – VaaS providers offer a range of brands, and so require multi-brand aftersales services
5. **A totally new kind of vehicle lifecycle management** – To be profitable, VaaS providers must ensure that the vehicles are used for as long as needed

FIGURE 3

IMPACT OF VAAS ON AFTERSALES

Classical OEM Business Model	SIMPLIFIED AFTERSALES MARKET MECHANICS				
	Average aftersales ticket size change ×	Number of visits in vehicle lifetime ×	Number of vehicles addressable for OEM ×	OEM Market Share change =	OEM Revenue
1 BEV aftersales impact	Bearish effect	Bearish effect	—	Bullish effect	Bearish effect
2 Fleet managers making servicing decisions	Bearish effect	—	—	Bullish effect, Bearish effect	Pandora's Box
3 Convenience as driving force	Bullish effect	—	—	Bullish effect	Bullish effect
4 Prevalence of multi-brand service	—	—	Bullish effect	Bullish effect, Bearish effect	Pandora's Box
5 Maximization of vehicle usage	Bullish effect	Bullish effect	—	—	Bullish effect

Bearish effect   Bullish effect   Pandora's Box

Source: Berylls Strategy Advisors

1. BEV and VaaS are a perfect match

The growing number of BEVs is already challenging OEM aftersales revenues. Experience of markets with high BEV penetration to date shows that the reduction in aftersales requirements for BEVs is primarily in the area of regular maintenance. Based on Berylls experience, an overall profit reduction of 30% can be expected. In contrast to cars with internal combustion engines (ICE), BEVs require less maintenance work such as oil and filter changes and are also being designed in a way that reduces wear and tear.

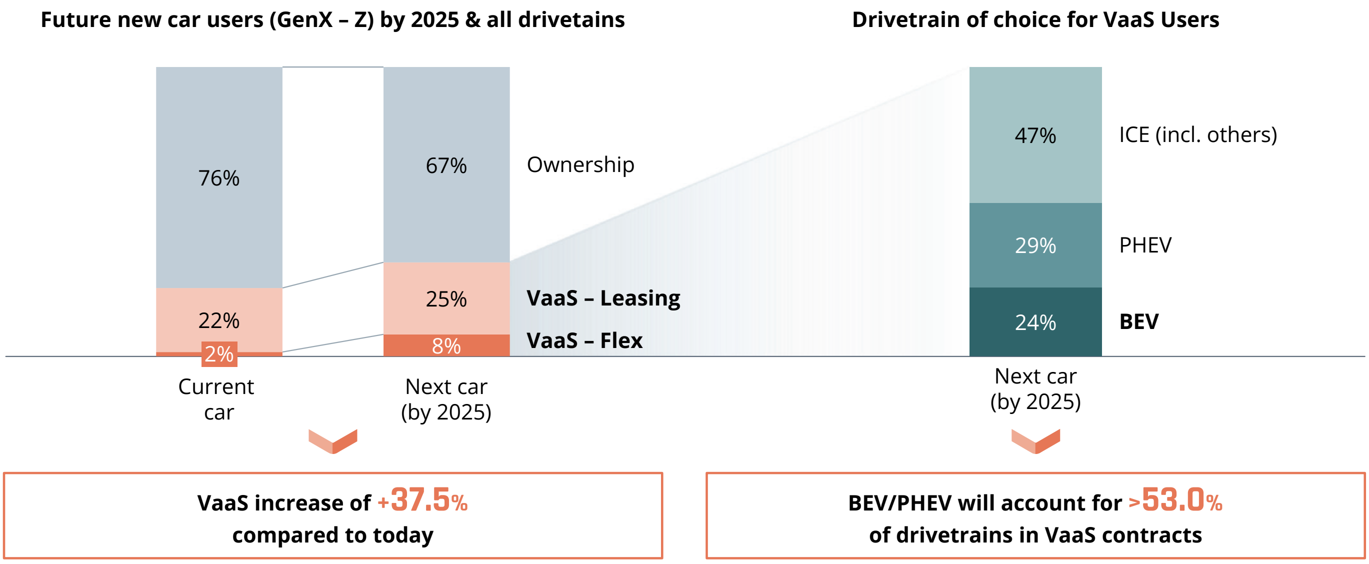
The number of BEVs sold by VaaS providers will increase considerably: our study showed that around a third of Gen X customers expect to buy an electric vehicle using VaaS by 2025, rising to 50% among Gen Z customers.

In this scenario, a large share of BEVs will be controlled by fleet managers rather than sold by OEMs to individuals. Fleet managers will require a low total cost of ownership (TCO) and, due to volume effects, they have greater bargaining power than individuals. If the OEMs business and operating model remains unchanged, these forces will reduce aftersales profitability as less parts (BEV effect)are sold to even more demanding customer segments (Volume VaaS providers).

FIGURE 4

CHANGING DEMAND IN FUTURE NEW CAR PROSPECTS

Future new car users (Gen X – Z) by 2025



Source: Berylls Strategy Advisors

2. OEMs will be pushed aside by VaaS providers when it comes to deciding where and how a vehicle will be serviced

Today, nine out of ten customers purchase their vehicle through the OEM and its dealer network. However, according to Berylls' 2022 customer survey, around 40% of VaaS contracts will be closed via third parties. Berylls expects VaaS providers to seek to improve their profitability by offering their own cost-optimized aftersales services. They may take on active management of repair shop work via a third-party fulfillment network, for example. This will undermine the dominant (and highly profitable) position in maintenance and repairs now enjoyed by OEMs during the first few years of a car's life.

Importantly, if an OEM takes on the role of being a VaaS provider, the position of aftersales shifts from being a profit center to being cost center. This is because the cost of maintenance and repair must now be covered by the VaaS provider, no longer user. However, OEMs can proactively address the cost of aftersales: closer cooperation between vehicle development and aftersales teams will enable design changes that result in fewer and less costly repairs. In addition, fulfillment cost can be reduced through conducting repairs "en-masse" in specialized maintenance and repair facilities.

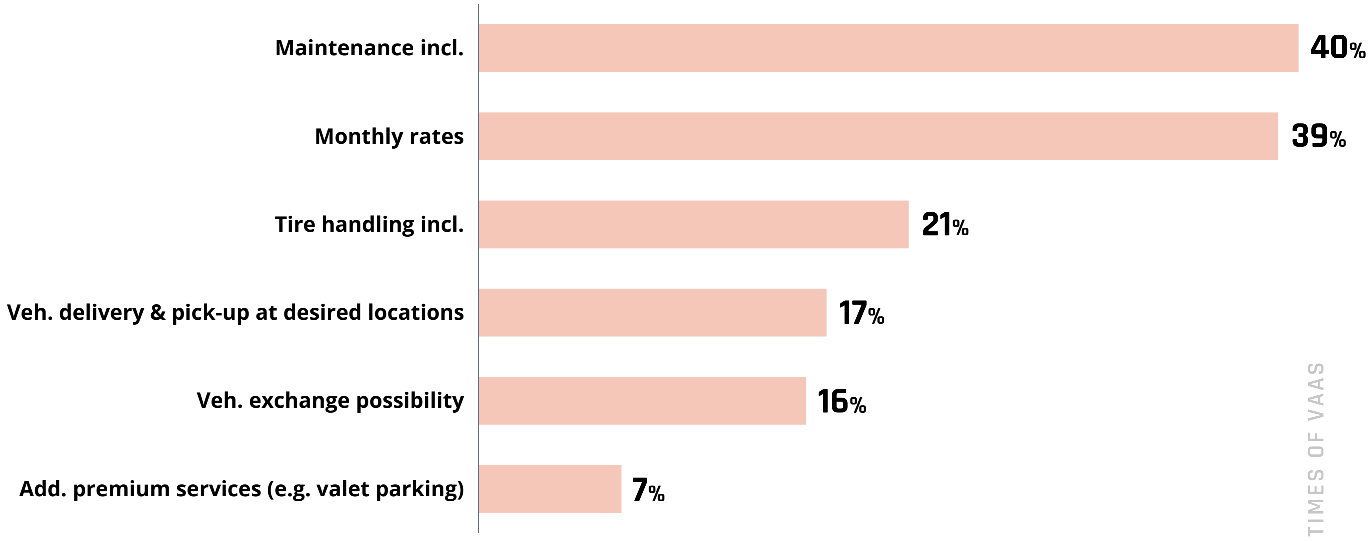
3. For VaaS customers, convenient services that offer peace of mind will be the priority

As customers are transformed from vehicle owners to vehicle users, they will care less about vehicle maintenance. Instead, they focus on hassle-free service. Three aftersales services are of particular importance when it comes to giving the driver peace of mind: an integrated maintenance package as part of their subscription fee was cited by 40% of respondents, followed by 21% who demand tire service and handling to be part of their charge, and 17% who would favor a pick-up and delivery service. There were also requirements for direct and digital interaction and booking.

We expect customer-focused VaaS providers to align themselves with these demands to differentiate their business from the competition in the short term, before including these services as the basic building blocks of VaaS packages in the long term. Due to the high level of competition between VaaS providers, Berylls expects TCO to play as big a role as it does now in traditional fleets.

FIGURE 5

WHAT SPECS MUST AN ATTRACTIVE FUTURE OFFER PROVIDE (SELECTION)?
All current new car users (Gen X – Z)



Source: Berylls Strategy Advisors

4. VaaS providers offering multiple brands require multi-brand services

Today, OEMs do not compete with each other in aftersales. They fight for market share with the independent aftermarket (IAM). This, however, might change as successful VaaS providers come to market with multi-brand portfolios, and as a result, fall back on multi-brand maintenance and repair service providers.

This change is an opportunity for the IAM to strengthen its role and move it into the younger vehicle segments previously dominated by the OEMs. It's not all bad news for OEMs however, as we believe they have a chance to make themselves attractive to VaaS providers by taking on a coordination or active cross-brand fulfillment role in repair and maintenance services.

5. A totally new kind of vehicle lifecycle management

In order to become and remain profitable, VaaS providers will have to manage vehicles for longer periods of time, finding new users when each contract ends and looking for the most profitable type of contract at each stage of a vehicle's life. This is a fundamental difference to today's OEM sales model, in which profit is made in the initial vehicle sale and aftersales especially in first years with high retention rates.

In other terms, VaaS fleet owners will own their cars for far longer compared to today. We expect this to lead to an „all or nothing" approach that either ties OEMs and their aftersales business to the fleet owner for a long time – or cuts them off from their car parc for a long time, leaving them with the highly competitive and price sensitive Segment II+.

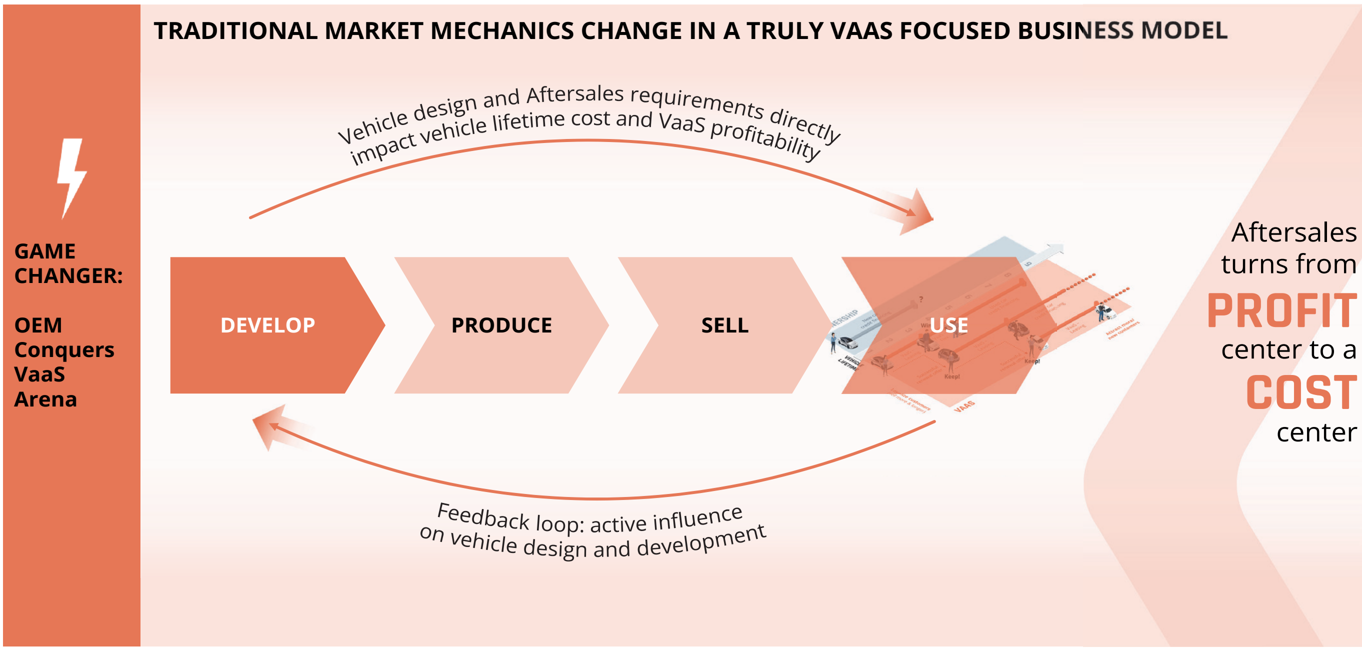
VAAS AFTERSALES:
WHAT THE FUTURE COULD LOOK LIKE

Given all of the reasons described above, we believe that VaaS will act as a transformation accelerator for the aftersales business. In fact, once the volume of vehicles distributed via VaaS reaches a critical mass, it will have a dramatic impact on aftersales. As a result, the OEMs cannot afford to sit still.

We see seven key disruptive impacts, and actions OEMs can take to transform their aftersales roles in response:

FIGURE 6

VAAS TURNS AFTERSALES FROM PROFIT TO A COST CENTER



Source: Berylls Strategy Advisors

Column 1:
ACTIVE VAAS DISRUPTION

1. Breaking up today's value chain

VaaS providers will continue to extend their own aftersales offerings and seek to manage cost. We expect them to invest in a network of owned and managed service centers to minimize fleet TCO, which will become even more relevant than today. This will lead to an erosion of OEMs' leading position in the profitable aftersales market of Segment I and II, and **it will be increasingly important to win customers in the more price sensitive Segment II+, with second or third owners.**

2. Multi-brand servicing

Offering a range of vehicles from multiple brands is key to the success of VaaS providers. As a result, they will also need multi-brand service capabilities, which will simplify their operations. To compensate for the losses from the declining ICE service business, OEMs will have to search for alternative profit pools, ways to increase their market share and increase the number of vehicles repaired or maintained in the workshop networks they own. **To become more attractive to VaaS providers, OEMs will therefore likely start to offer multi-brand service offerings.**

3. Refurbishment and retrofitting

Multiple use cycles for vehicles within fleets is a must for VaaS providers. To increase profitability, the vehicles must stay attractive to VaaS users for longer periods, while new vehicles continue to evolve. The used fleet will therefore require updates and upgrades to match customer demand for the most up-to-date vehicles. **The need for vehicle refurbishment and retrofitting of new features, or upgrades e.g. to the latest infotainment system, becomes a solid business opportunity and a possible way for OEMs to differentiate themselves.**

4. Changing vehicle architecture

Once aftersales is no longer a profit pool for OEMs but rather a cost center on their own VaaS sales organizations, we expect a much stronger degree of communication between sales and R&D. Because profitability will depend on the length and degree of usage, rather than the initial sale and aftersales, **vehicle design will need to be adapted to be robust enough so that the car can perform at its highest level throughout the entire lifecycle.**

Column 2: PASSIVE VAAS DISRUPTION

5. New service formats and network readjustment

The growing proportion of BEVs in vehicle sales has already kick-started the need to reshape service networks. OEMs are going to face freed service capacity and so operational excellence becomes a must. **We expect to see more efficient formats such as centralized service factories or specialized hubs aimed at increasing vehicle throughput and decreasing cost.** To keep their close relationship with the customer in such a setup, vehicle drop off points or mobile services will likely be offered. And VaaS providers, keen to minimize TCO, will naturally flock towards these specialized service formats.

6. Importance of digital services

VaaS providers will need to be able to continually monitor the health of their fleet, in order to optimize operations. **The ability of OEMs to provide over-the-air software upgrades, predictive maintenance, remote servicing and additional digital services will become even more important,** as VaaS users expect a hassle-free driving experience.

7. Direct customer interaction:

With VaaS providers getting between OEMs and customers, we expect OEMs to pursue direct aftersales sales models for the remaining customer share. For automakers, direct customer interaction means better availability of data allowing for targeted offers, and a more intense relationship resulting in more profitable business. In a direct model, OEMs have more control over fulfillment costs and can participate in the service labor share directly or via commission fees. **We expect OEMs and their marketing organizations to capture the role of managing the customer relationship.**

CONCLUSION

The seven disruptive forces identified above show the extent of the impact VaaS will have on the already challenged aftersales business as a whole. Without a doubt, it will accelerate and bring about even greater disruption. However, the extent to which greater use of VaaS will affect the aftersales business of any individual OEM needs to be assessed on a case-by-case basis – and so do the potential strategies to address the coming changes.

There is no one-size-fits-all approach, but there is one logical no-regret move: put VaaS at the core of the strategic discussion. Then define a path to holistically navigate the effects of VaaS disruption not only on the sales and aftersales organizations, but also on product management and vehicle R&D.

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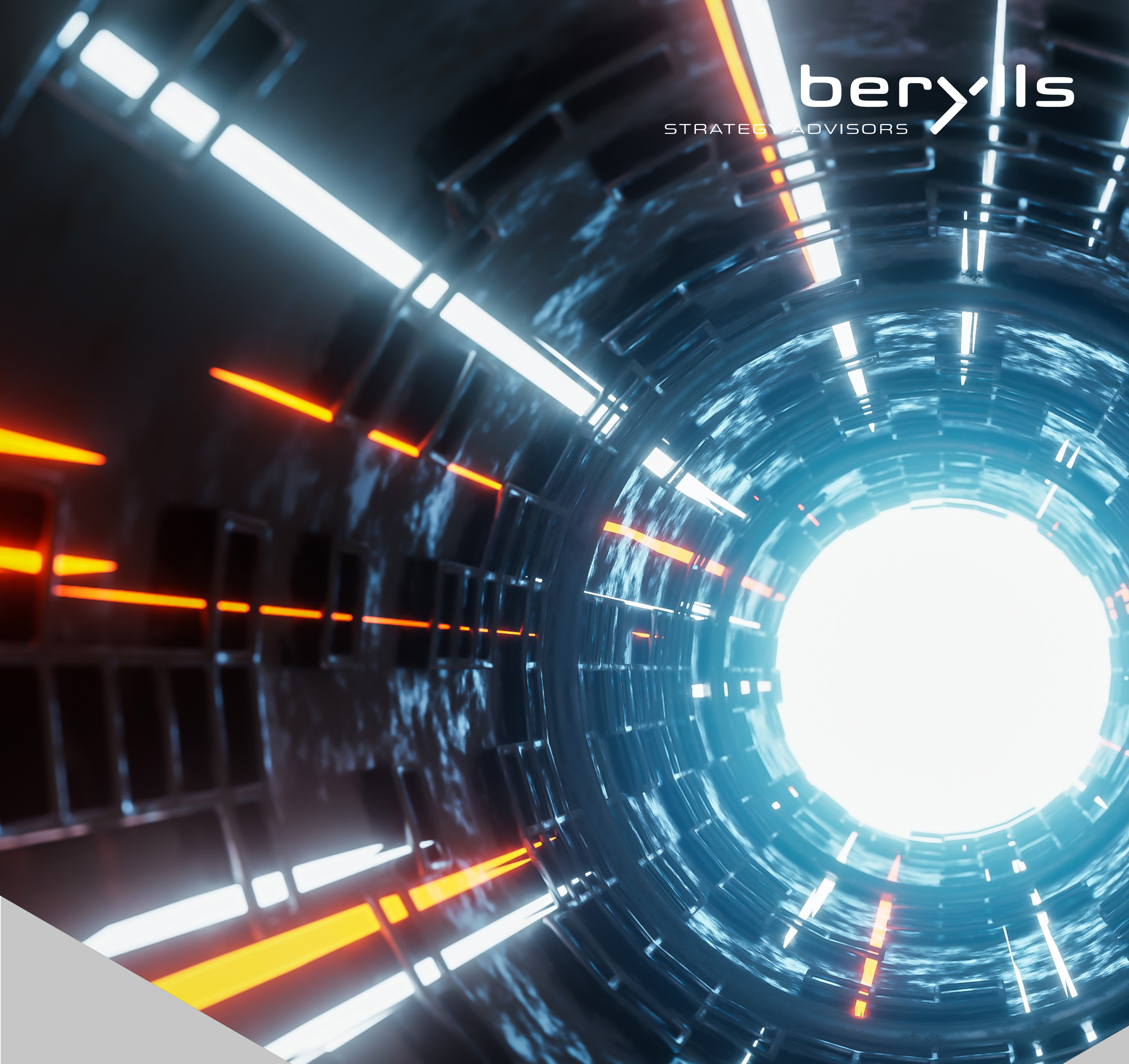

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