

Future of Mobility Ecosystem

SIMON 
KUCHER
Unlocking better growth

 OTOMOTİV
DİSTRİBÜTÖRLERİ
DERNEĞİ

July, 27th

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About Simon-Kucher



Simon-Kucher is the leading global consulting firm specializing in unlocking better growth



Our people

- Specialists in Commercial Strategy & Pricing Consulting, Transaction Services & Private Equity, Digital and Software
- Our partners and experienced leadership team are hands on, delivering results at pace

Our clients

- Our clients come from 120+ industries and range from Fortune and FTSE 100 firms to unicorns

Our sector expertise

- Consumer
- Financial Services
- Healthcare & Life Sciences
- Industrials
- Technology Media and Telecoms

Our reputation



1985
FOUNDED

45
OFFICES

30
COUNTRIES

2,000+
EMPLOYEES

190
PARTNERS

Recognized as top five globally

WORLD'S BEST MANAGEMENT CONSULTING FIRMS

Forbes
2022

POWERED BY STATISTA

Recognized across 12 sectors and functional areas, Simon-Kucher was one of only five consultancies in the world to be awarded five stars for the Marketing, Brand & Pricing function

Forbes, 2022, together with Statista: list of the World's Best Management Consulting Firms, 2022

Stock/halkeiya

Financial Times

Financial Times, list of the UK's Leading Management Consultants, silver category, on par with other consultancies, 2023



brand eins/Statista

brand eins/thema special edition Consultancies 2023, together with Statista: Best Consultancies in Germany No.1, 2023



Forbes

Forbes, survey of the best management consulting firms in the US, 3-stars rating, 2023



Bilanz

Bilanz, survey of the best management consultancies for Marketing and Sales in Switzerland, No.1, 2022

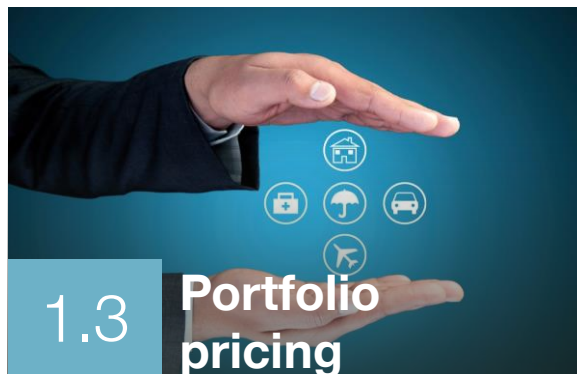
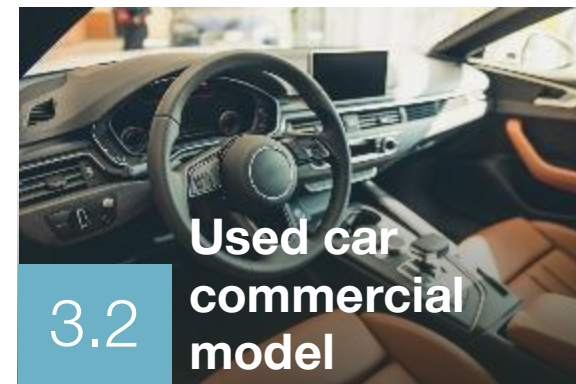
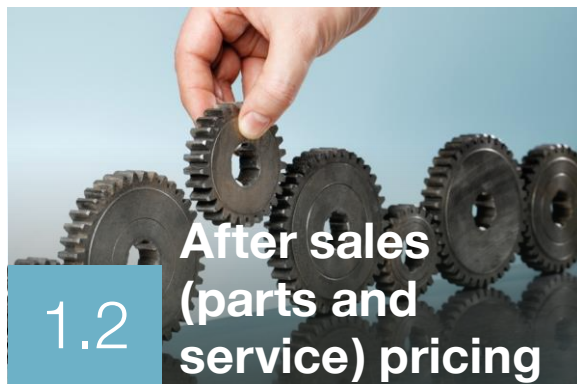
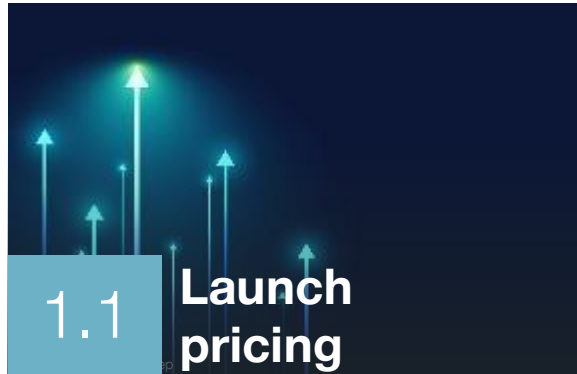


Our service offerings revolve various growth levers in mobility ecosystem

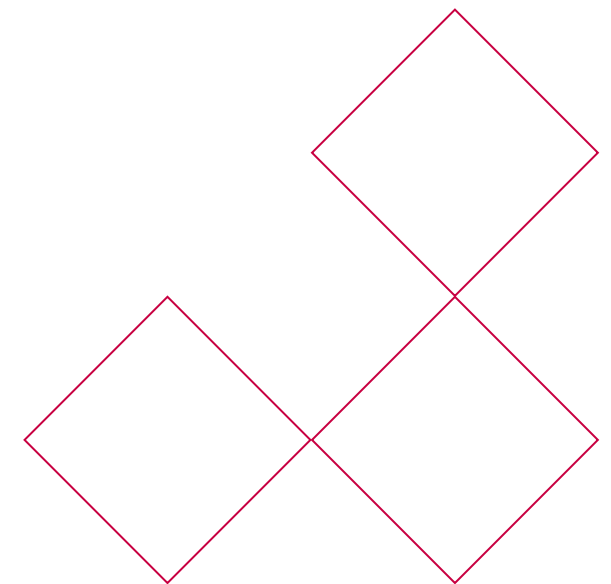
PRICING

STRATEGY

FRONTIERS



**Our sole focus
is unlocking
better growth**



Our connected teams serve five sectors across the world, delivering impact at pace.



Consumer

We've designed and implemented 1,000+ commercial strategy projects in the last three years. As better growth advisors, we put the consumer at the heart of our recommendations, to drive sales, loyalty and brand desirability. Working together, we unlock growth opportunities to outperform market trends.



Financial Services

We've advised 50% of global systemically important banks and priced over \$1 trillion of deposit balances. Applying decades of experience in the sector through 1,000+ projects in the last five years. We are here to support your journey to sustained, profitable growth.



Healthcare & Life Sciences

We've helped global players and innovation leaders drive launch and commercial excellence. Our global sector team delivers 1,000+ projects per year. Working together with you, we unlock opportunities that drive sustainable growth, and improve healthcare quality and efficiency.



Industrials

For decades we've helped major industrial companies boost profitability. We've delivered 1,500+ projects to design growth strategies and sales and service excellence programs. Our clients include 95% of the leading car manufacturers, logistic companies, wholesalers and distributors.



Technology, Media & Telecom

In 2022 we've worked with 250+ SaaS companies, cable clients and streaming service providers around the globe. Delivering 350+ pricing, marketing, sales and customer value management projects. In the last decade we've advised many of the largest firms in the media, entertainment and tech industries.

We don't just advise. We deliver.

Your experts at Simon-Kucher

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- ✓ Worldwide leading revenue management expertise in automotive sector
- ✓ More than 50 years experience in consulting
- ✓ More than 200 projects in the area of pricing and monetization

Agenda



E-mobility – Cem Balıkçioğlu



New Revenue & Sales Models – Matthias Riemer



Trends & Future : China's rapid emergence – Wenbo Li

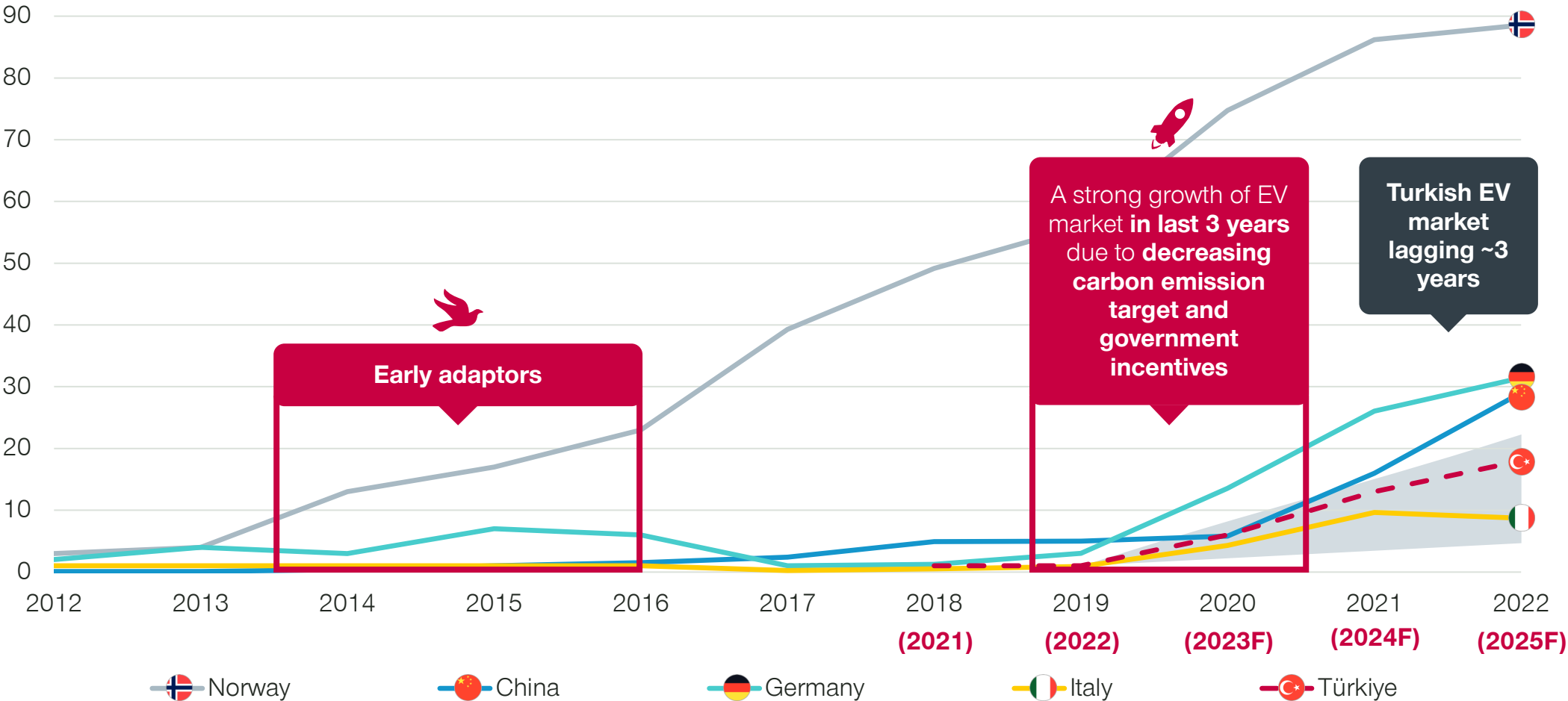
Turkish EV market is expected to follow the trend of comparable European countries about 3 years behind



EV SALES TREND IN EUROPE & TÜRKİYE

EV* Sales vs. Total Car Sales (%)

(202x) Türkiye EV market timeline



Source: Simon-Kucher, SK Benchmarks. *Due to report visibility, numbers represent BEV & PHEV cars Fleet-wide emission: Average emissions of all cars manufactured

As well as major players, key brands have already started to establish their presence in Türkiye

Present in Türkiye



- **MG brand** distributed by Doğan Holding since 2021
- **Aims to have a production plant in Türkiye** in the future



- Operations and sales in 15 countries including Türkiye, **Croatia and Bulgaria will be managed from Türkiye**



- Started collecting online orders in March 2023, **with first delivery in May 2023**



- **Officially started its operations in April 2023**



Strong Presence in Europe,
Planned TR Launch in 2023



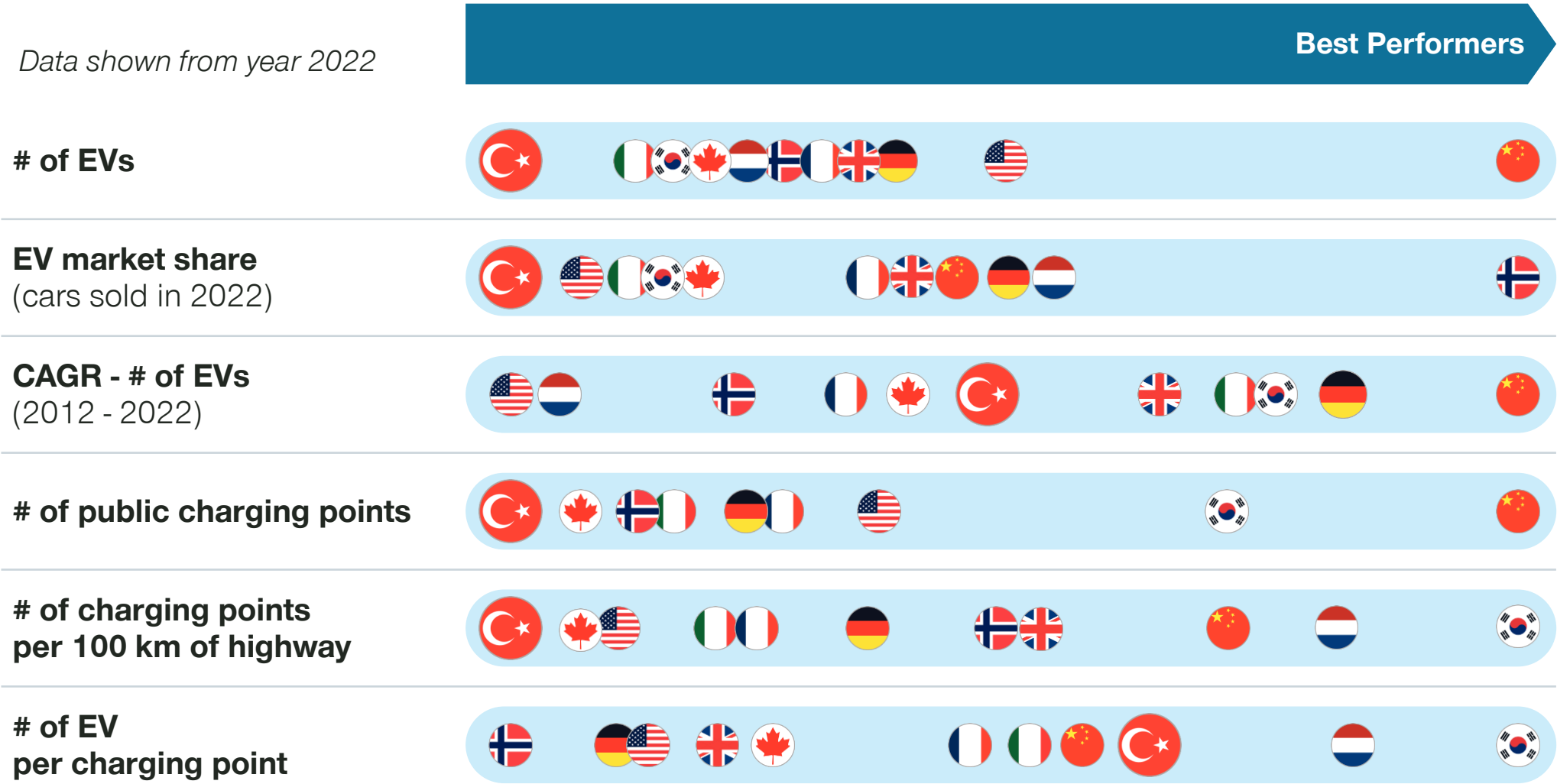
- Signed a **partnership deal for distribution with ALJ Türkiye**
- Working towards **launching in 2023**
- **Europe presence:** UK, Germany, Denmark, Netherlands, Sweden, Norway, Belgium, Luxembourg



- **Opened a store in Türkiye in January 2023**
- **Europe presence:** Denmark, Netherlands, Norway & Sweden

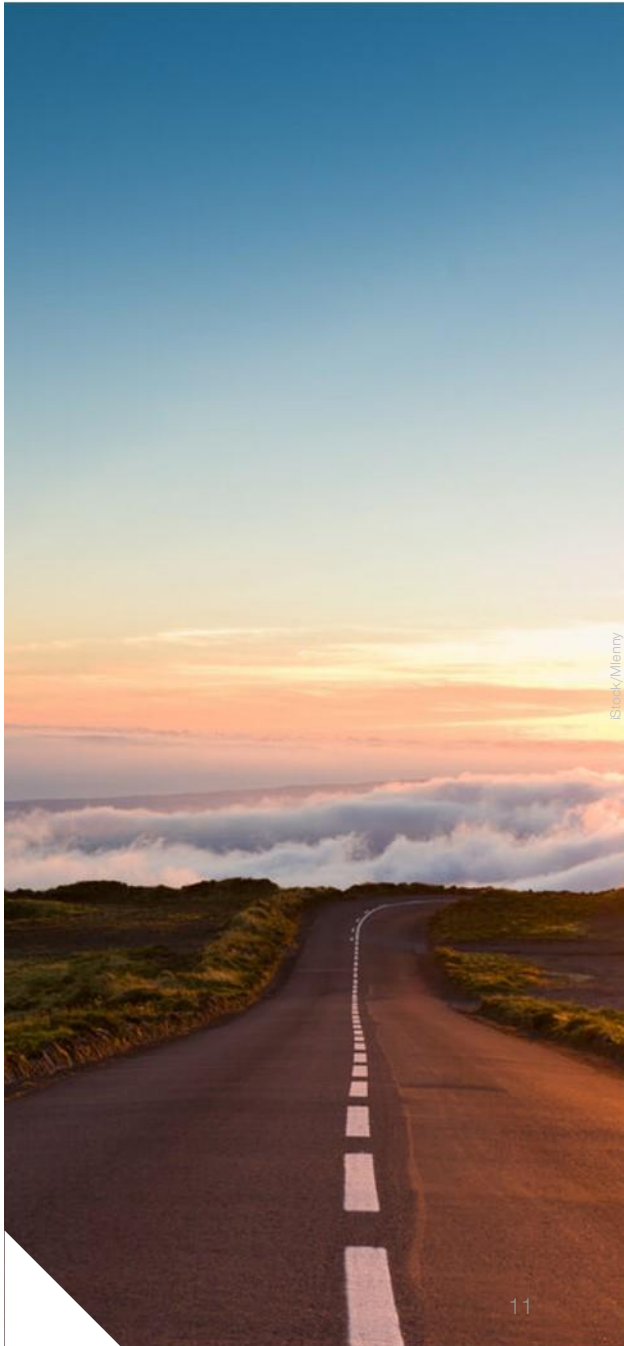


Türkiye has still a long way to go based on comparison of key metrics in e-mobility ecosystem



Norway China Germany France USA Italy UK Canada South-Korea Netherlands Türkiye

Source: Simon – Kucher, International Energy Agency (IEA) Global EV Data Explorer, Statista, Türkiye General Directorate of Highways



Türkiye strongly considers EVs, but limited charging infrastructure is the key barrier

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Engine Type Consideration

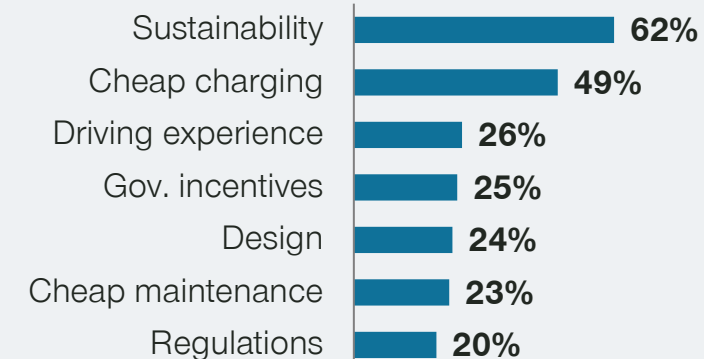
When you think about purchasing or leasing a new vehicle, which engine type will you consider?



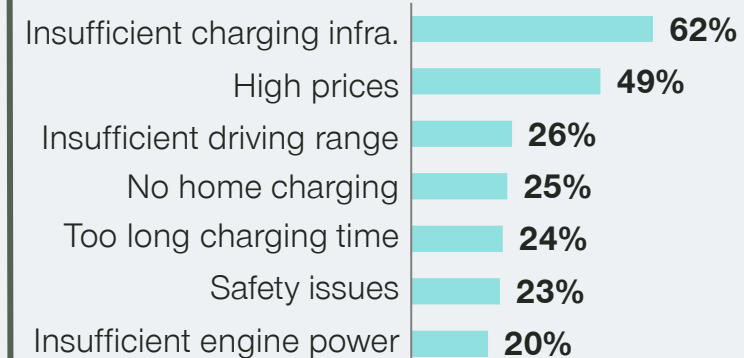
Engine Type	Türkiye (%)	Global Average (%)
Electric	86%	75%
Hybrid	82%	76%
Petrol	77%	78%

% of respondents

Reasons to Consider an EV



Reasons not to Consider an EV

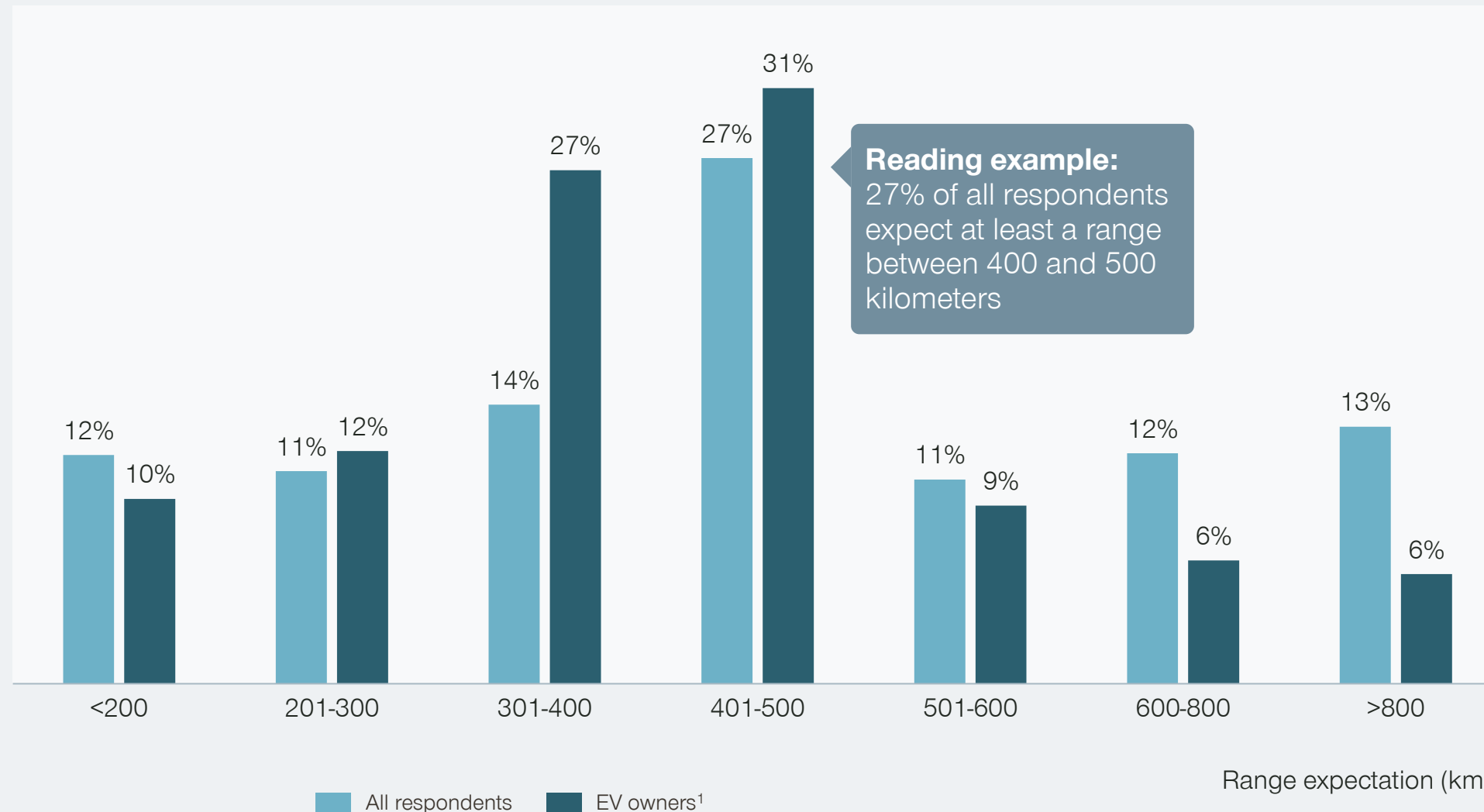


% of Turkish respondents

Source: Simon Kucher, Hybrid is the avg. of the Plug-in hy. and Traditional hy., Plug-in hy.: (combustion engine combined with a limited electric range (around 50 miles) that can be charged at charging stations or at home), Traditional hy.: (combustion engine combined with a very limited electric range that is charged by the combustion engine only and cannot be charged via plug)

Most respondents expect at least 400 km of range, only 12 percent are satisfied with a range of less than 200 km

Minimum range expectation



KEY INSIGHTS



- To satisfy most customers, manufacturers need to offer at least 400 km of real-world range
- EV owners find their sweet spot between 300 km and 500 km of range
- Depending on the use case, small-distance EVs with ranges below 300 km are appealing to approx. 20% of future customers

vs. 2022



- Expectation of electric range is growing with the increasing range offered in the market **515 km** vs. 480 km (in 2022, +7.2%)²

1) EV owners (n=323); 2) Only considering markets that were part of 2022 and 2023 study;

Source: Simon-Kucher global automotive study April 2023 (n=8235); Q: What would be the minimum range a fully charged EV should have to be attractive for you?; Overall sample size per question might vary (e.g., due to preselected answers)

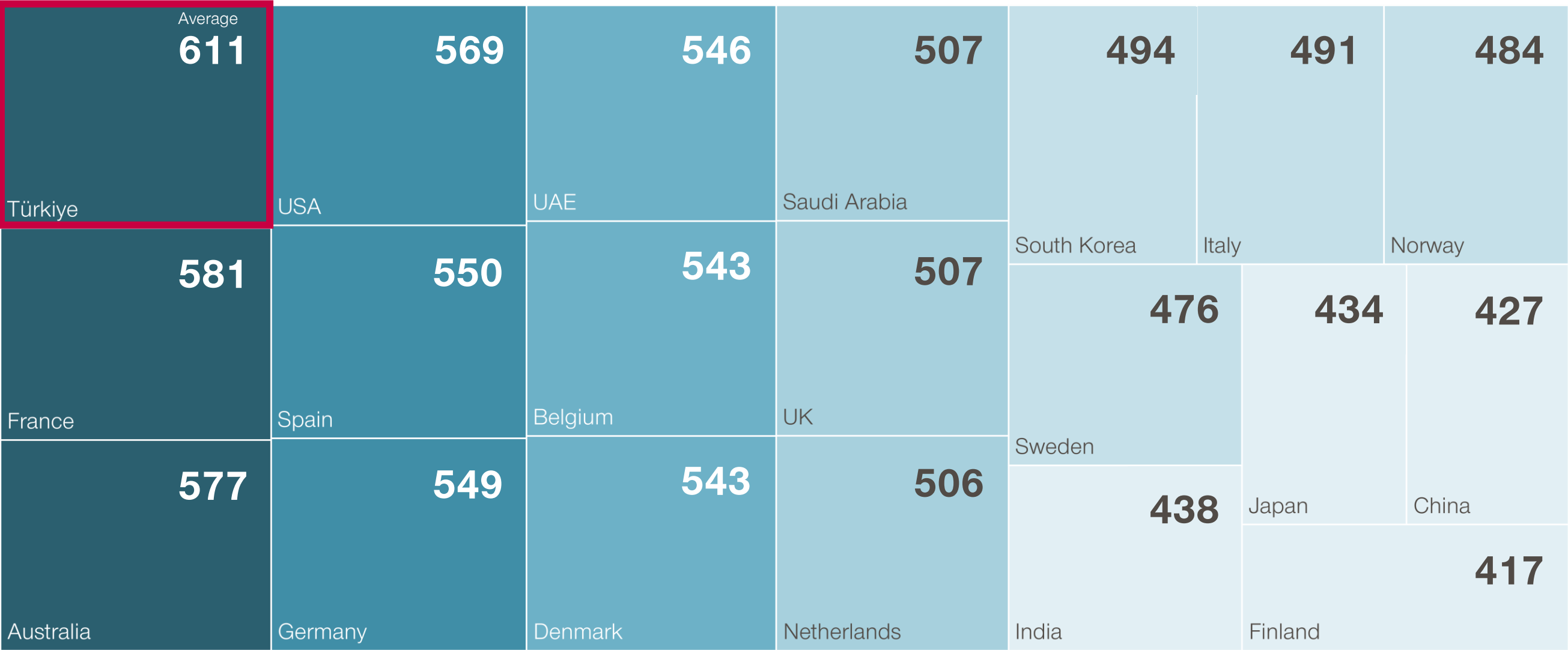
Turkish customers' range expectation on a full battery is high compared to global preferences



Market split

Minimum range expectation (in km, figures reflect the market average)

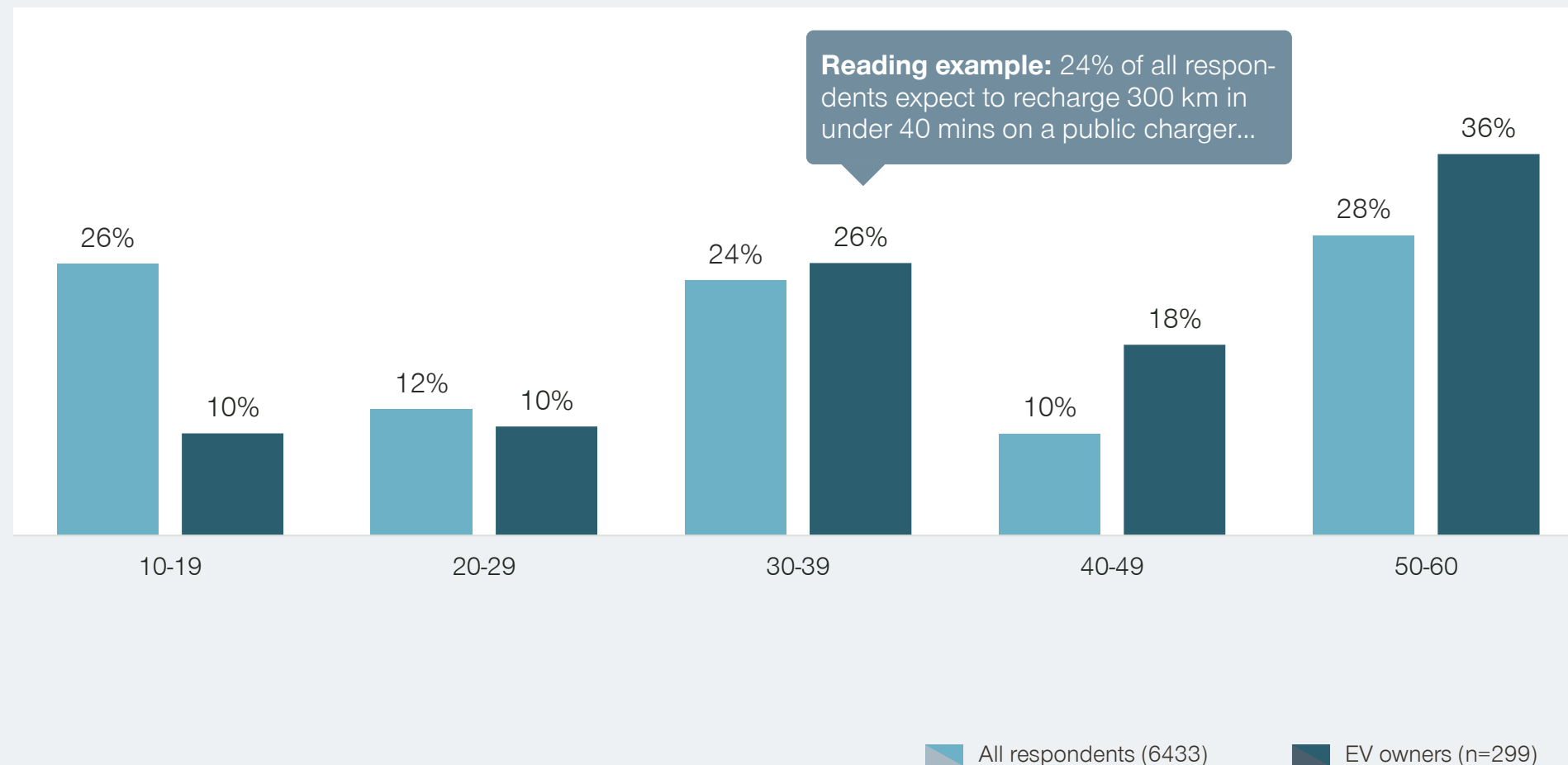
Avg. minimum range expectation per market



Source: Simon-Kucher global automotive study April 2023 (n=8235); Q: What would be the minimum range a fully charged EV should have to be attractive for you?; Overall sample size per question might vary (e.g., due to preselected answers)

While many customers accept a charging time under 60 min in public for a range of 300 km, the sweet spot is below the 40-min mark

Maximally accepted charging time for 300km (200miles)



KEY INSIGHTS

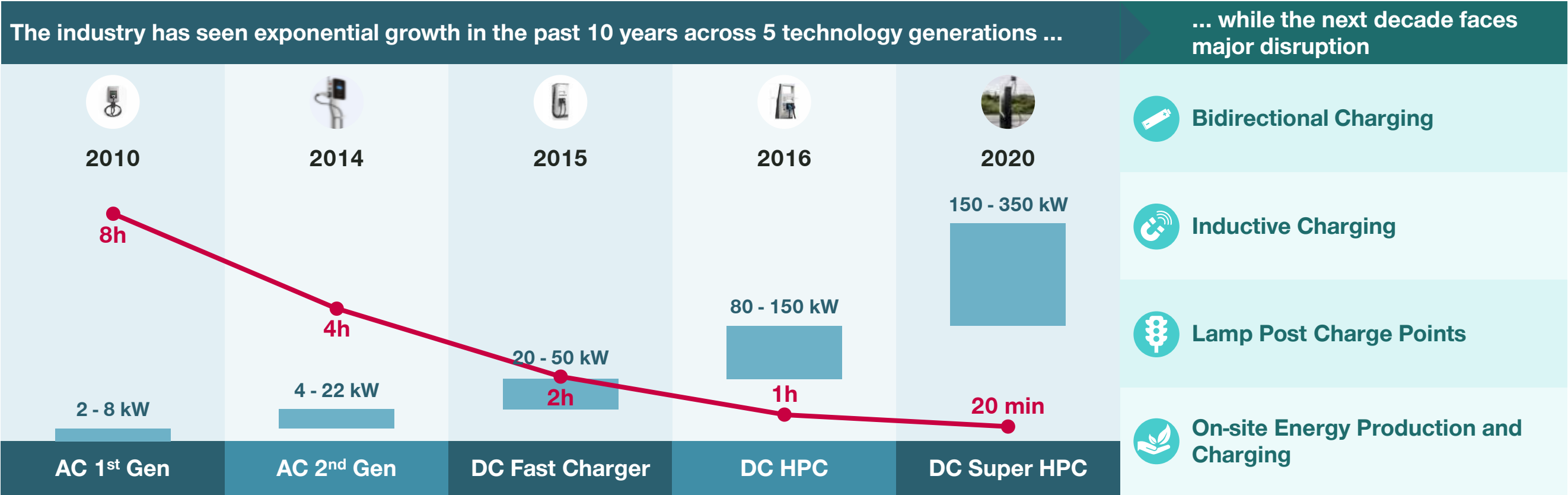
- Experiment: Showing 50% of all respondents a typical time to refuel (approx. 10mins) when asking for charging expectations...
- ...and the peaks of accepted charging times are just below 60 min and between 30 and 39 min

Technology improves fast, leaving the old technology obsolete



Technology roadmap: Simon-Kucher has studied the pitfalls of public charging hardware over the past decade ...

201020202030



Average charging time Capacity of charging station

What it means for Türkiye e-charging ecosystem



- EV is well embraced in Türkiye however infrastructure **is still lagging behind**. The boost in EV sales is highly correlated with the increase in EV adoption. No government incentive on EV **is as strong as a decent infrastructure**
- Average **range expectation is 400-500km** today, while range expectation increases each year and keeps increasing at a certain point
- Low number of private housing or sites makes **home charging less feasible in Türkiye**. There are many countries in Europe that home charging leads to a low necessity of public charging
- People expect fast and convenient charging experience, with light trucks and heavy trucks **ultra fast charging will be the common approach**

All leads to high CAPEX, long term return HPC investments. Otherwise EVs will be purchased but will shortly turn into 2nd hand sales

Future & Investors

- **7.3M** BEVs on the roads globally in 2022
- **31M** in 2030 (from 14% to 36% of the carpool)
- **2.7M** chargers globally – expected to reach **12.7M** in 2030
- **33%** as public stations – will increase up to **37%** in 2030

Main companies investing to E-charging ecosystem:



There are 3 types of investors, and funds come from different sources for CPO business

THERE ARE 3 TYPES OF INVESTORS

Must Invest: Automotive OEMs, Oil & Gas companies

D2C supply targets: Energy suppliers

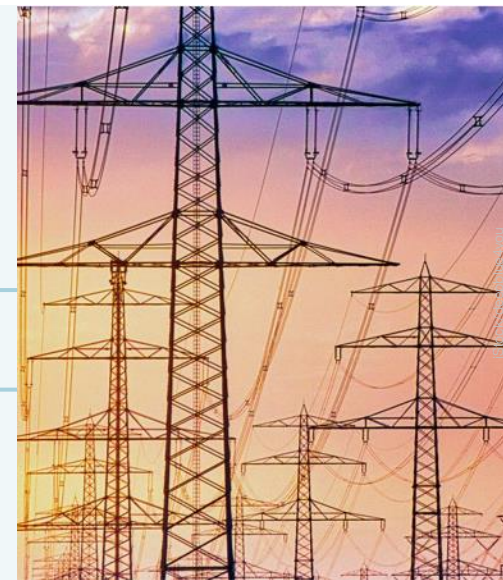
Game changers: Independent companies to play a role in future e-mobility ecosystem such as Chargepoint, Fastned

HOW THEY ARE FUNDED

Joint investments: OEM funded such as Ionity

JV or IPO (Capital Market): Chargepoint is funded by many partners also funded by capital market, Fastned has funded by many partners

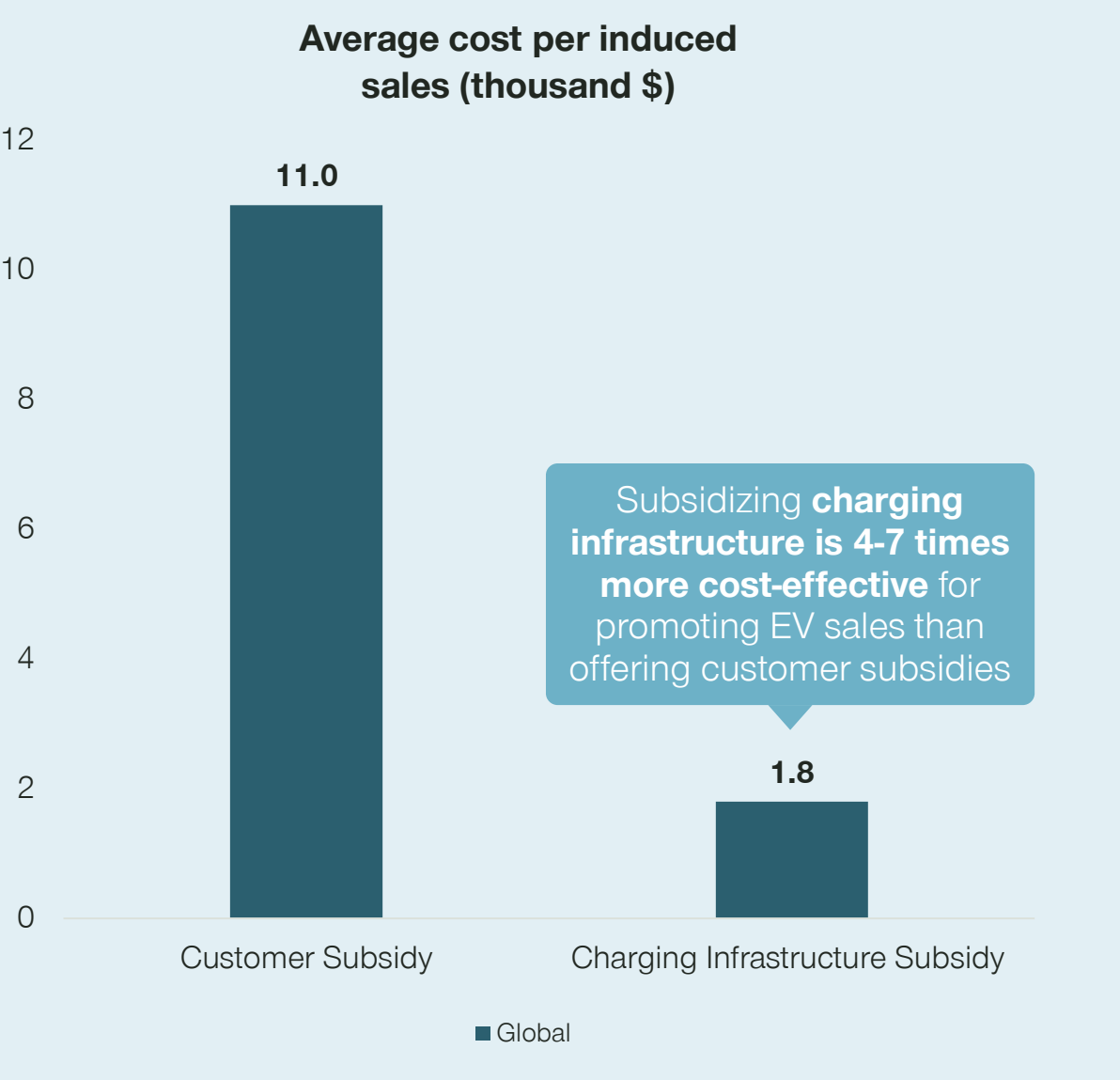
Independent funds: EBRD, Climate Investment Funds...



Investing in charging infrastructure is a more cost-effective and heavily adopted way to promote EV adoption and it could be an important factor in EV market development



Infrastructure subsidy effect global EV market



Some European countries have recently diversified their incentives for charging infrastructure

COUNTRY	SUBSIDY TARGET GROUP	FORM OF SUBSIDY
 Austria	Corporates	▪ Direct cash (€900 - €20,000), diversified based on capacity & type of charger
	Individuals	▪ €600 per charging station or a 3-phase AC charging cable
 Belgium	Corporates	▪ 150-200% cost deduction from company taxes based on investment and installation times
	Individuals	▪ One-off tax deduction (maximum €1500) from personal income tax
 Czech Republic	Corporates & individuals	▪ Subsidy of CZK 30,000 per charging point

BEV adoption recently increased in listed countries (e.g. a y.o.y jump of **103.2% is observed in Austria between 2020 and 2021**, leading to 33K new BEV sales)

CPO business requires synergies, patience & dedication



IN AROUND 100M EUR REVENUE BUSINESS SCALE

15 - 20M €



Impact of 1%
**Increase in
Utilization**

~5M €



Impact of 5%
Increase in Price

2.5M €



Impact of 5%
**Decrease in
Equipment Cost** on
CAPEX

2.5M €



Impact of 5%
**Decrease in Energy
Cost Through
Agreements**

2M €



Impact of 5%
**Decrease in
Installation** Cost on
CAPEX Through
Better Deals

Companies build different retention increasing mechanisms to establish loyalty such as subscription, point collection and cashback models...

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Conventional subscription model

Subscription model with fix price

- All plans are only valid on EVCS chargers (149 locations / 673 chargers)
- Standard anytime: \$49.99 for 200 kWh/month
- Unlimited Offpeak Pro: \$99.99/month for unlimited charging from 10PM to 6AM
- Unlimited Anytime Pro: \$199.99/month for unlimited



Discount-giving subscription model

Monthly membership with discounted price

- 30% off in standard tariff
- € 11.99 membership fee per month in Germany, Belgium and the Netherlands



Fee-based aggregator system

Aggregated monthly payments with transaction fee per charging

- The plan is valid on network of over 370 roaming partners including 300,000 charging locations around UK and Europe
- Pricing varies depending on the location and location-based prices are given in the app



Point collection system

Get free fast charging with points you collect

- Earn 50 points by signing up & 25 points on birthday
- Earn 5 points per share, tweet on social
- Redeem your point for charging (2,000 points= \$10)



Cashback mechanism

Defer your charging to cheaper electricity to get cashback

- Enel X charges your EV with the cleanest and cheapest available power
- Earn JuicePoints for letting JuiceNet optimize your charging schedule and redeem them for cash










Prepaid packages mechanism

Buy prepaid energy cards to charge

- Buy pre-paid cards to use at charging locations anytime
- € 53 valued BE card costs € 50 (DC: 55 kW)
- € 110 valued BE card costs € 100 (DC: 115 kW)
- € 170 valued BE card costs € 150 (DC: 180 kW)

...dynamic pricing also allows for customers to leverage off-peak times to increase savings and get rewards

Examples			
Brand	Country	Main Features	User Experience
		Get reward by charging at off-peak times	<ul style="list-style-type: none">10 cents per kWh & \$35 per month off-peak charging incentive
		Tied to half-hourly day-ahead market , promotes flexibility	<ul style="list-style-type: none">€150 per year compared to the standard tariffEnergy consumption shifted to low-demand hours
<i>Applicable for all charging points</i>		Two-period time-of-use tariff for energy: 80% discount for EV drivers charging during pre-defined night hours	<ul style="list-style-type: none">A Nissan Leaf owner will save approximately €167 per year by charging the EV at night.
		Time-of-use network tariff with a surcharge for winter peak hours	

Most public stations currently use:

- **Time-based** fee
- Pilot **V2G** programs
- **\$/kW**
- **Fixed** fees
- **kWh** (kilowatt-hour)

While some are, simply, **free...**

Benefits of Dynamic Pricing:

- ✓ **Increase the utilization** of the existing network infrastructure
- ✓ **Minimize the need for new investment**
- ✓ **Minimize the overall cost** of providing the required power

How to act



- Currently, there are 130+ companies holding CPO license. In 10 years, **4 – 5 of them will be leading the market**
- Investment budget **is 100M\$ to 1B\$ depending on your vision** for next 10 years
- Investment horizon **cannot be less than 20 years**, any calculation with positive DCF under 10 years is wrong
- **2 commercial ways** to decrease payback period:
 - Maximize utilization
 - Differentiated pricing
- **2 strategic ways** to maximize return:
 - Strategic direction is unique, and it must maximize your group synergies, without synergy return is significantly less
 - Partnership through the value chain is vital. You need to have a concrete DCF model

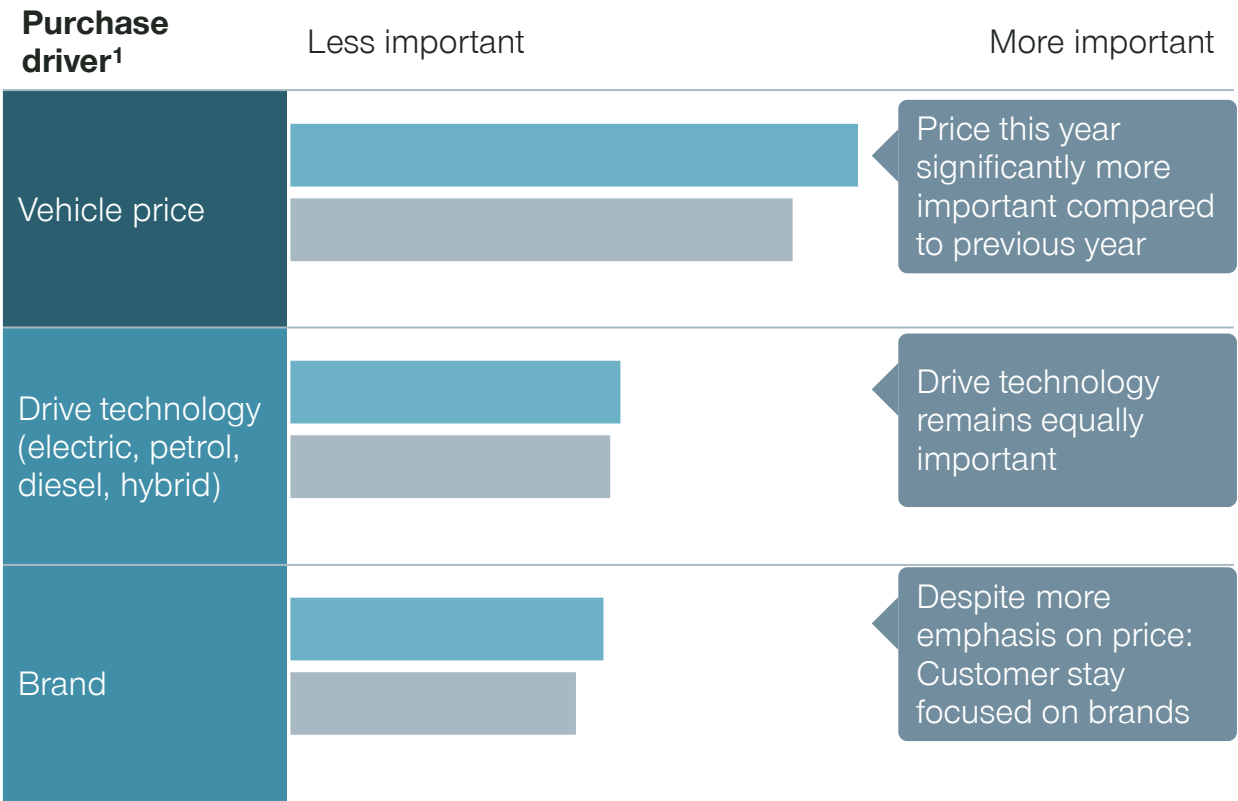
Agenda

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New Revenue & Sales Models – Matthias Riemer

Trends & Future : China's rapid emergence – Wenbo Li

Compared to the previous year, customers are paying more attention to the price of their future car but are not willing to sacrifice brand preferences



1) Only considering markets that were part of the 2022 and 2023 studies;; Source: Simon-Kucher global automotive study April 2023 (n=8235); Q: When you think about buying a car, how important is each of the following purchase drivers?; Overall sample size per question might vary (e.g., due to preselected answers)

Respondents in Western countries identify price-related criteria as significantly more relevant to the purchase decision compared to Eastern countries



Market split

Importance of price-related criteria¹ among all purchase drivers (in %)

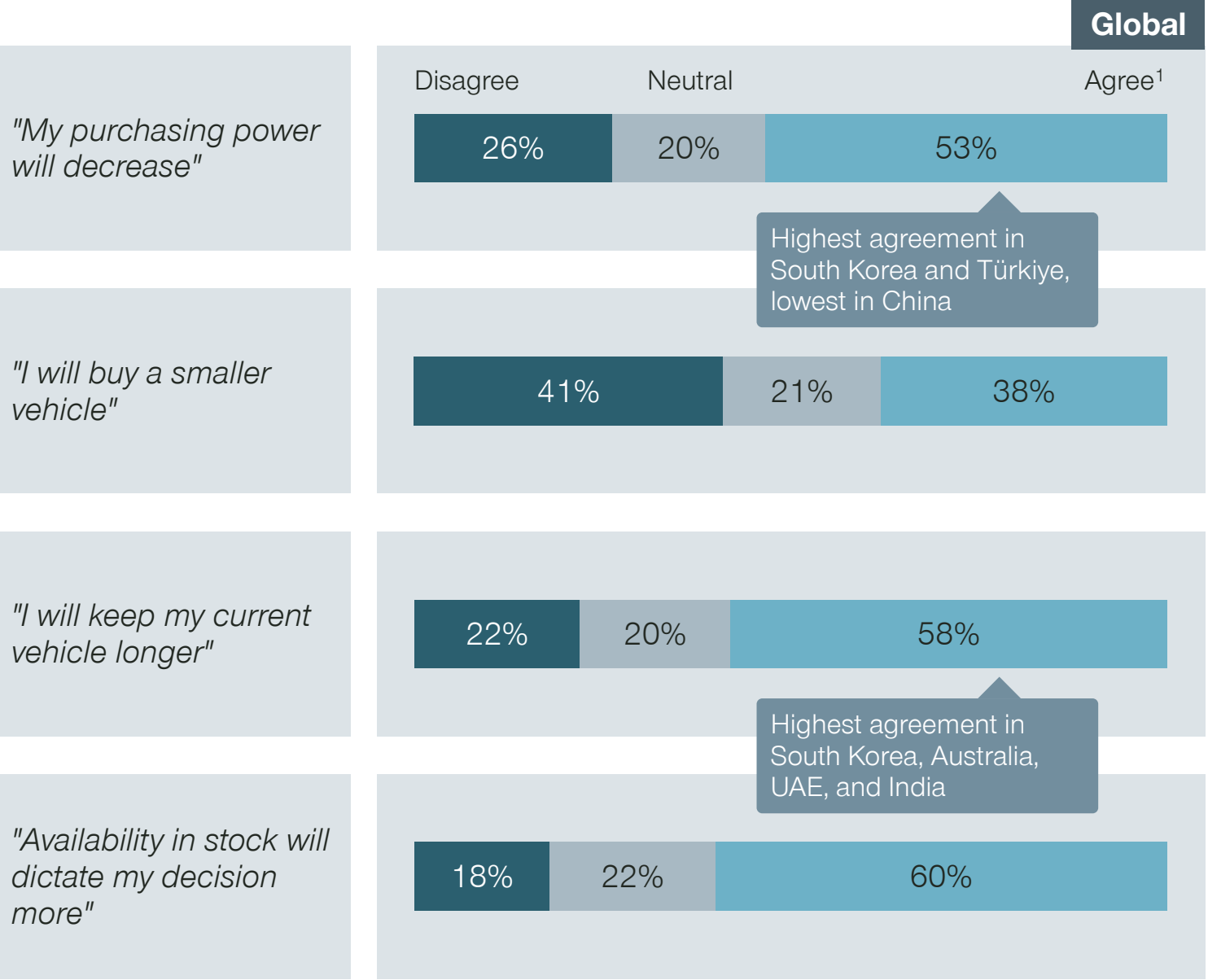


Price related criteria less important in Türkiye

Price related criteria with lowest importance in China

1) Aggregation of vehicle price, maintenance costs, resale value, and fuel consumption; Source: Simon-Kucher global automotive study April 2023 (n=8235); Q: When you think about buying a car, how important is each of the following purchase drivers?; Overall sample size per question might vary (e.g., due to preselected answers)

Majority expects a decrease in purchasing power and plans on keeping their current vehicle longer – many still expect the availability of vehicles to be an issue



1) Agreement defined as 5, 6, or 7 on a 1-7 scale; Source: Simon-Kucher global automotive study April 2023 (n=8235); Q: Currently, markets all over the world are heavily influenced by effects such as supply shortages, inflation, etc. To what degree do you assume this will impact your purchase decision?; Overall sample size per question might vary (e.g., due to preselected answers)

At this point, new sales and business models gain more attraction

Subscription model



iStock/baona

Online sales



COLOURBOX/Pixabay

Digital services



iStock/gorodenkoff

I. Subscription model

Subscription model



Online sales



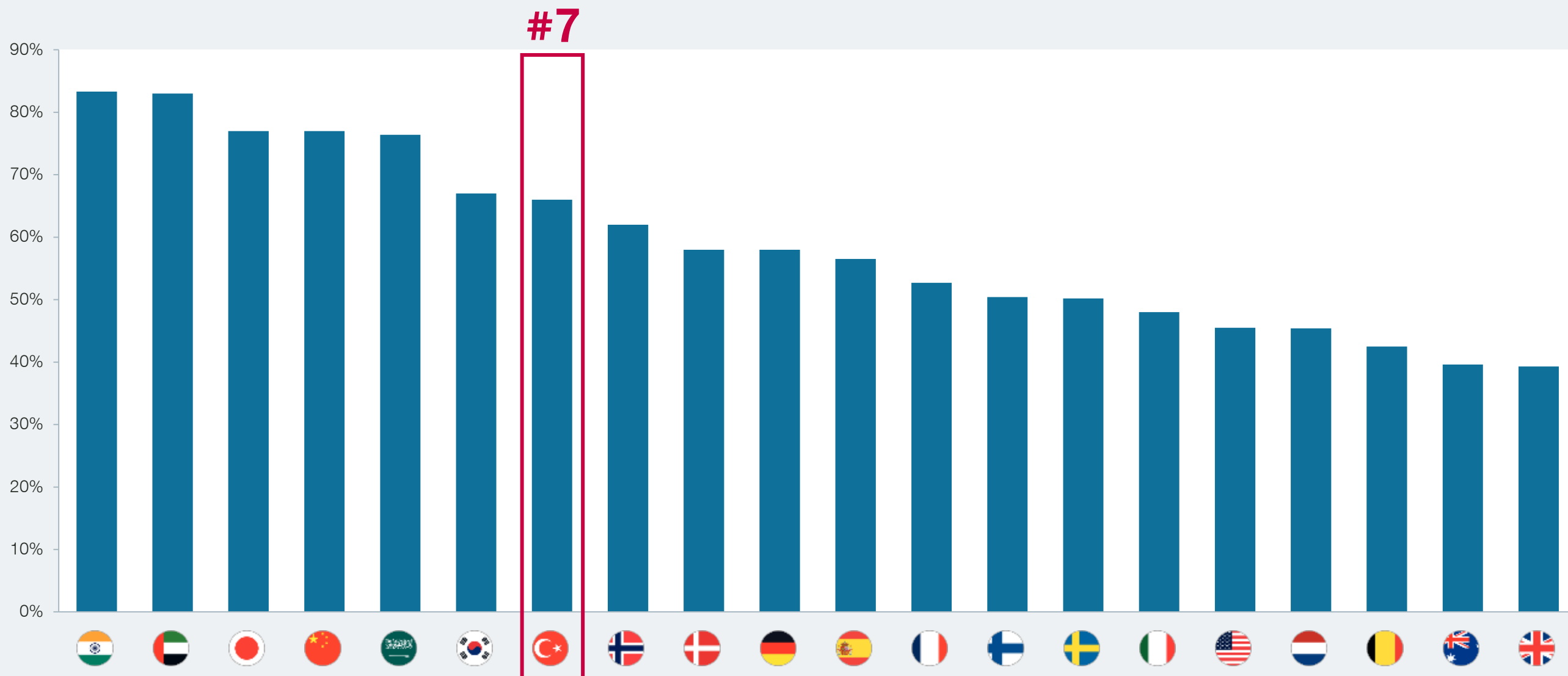
Digital services



Türkiye is ranked as 7th with 66% awareness for subscription models in automotive

Awareness of subscription services, % of respondents

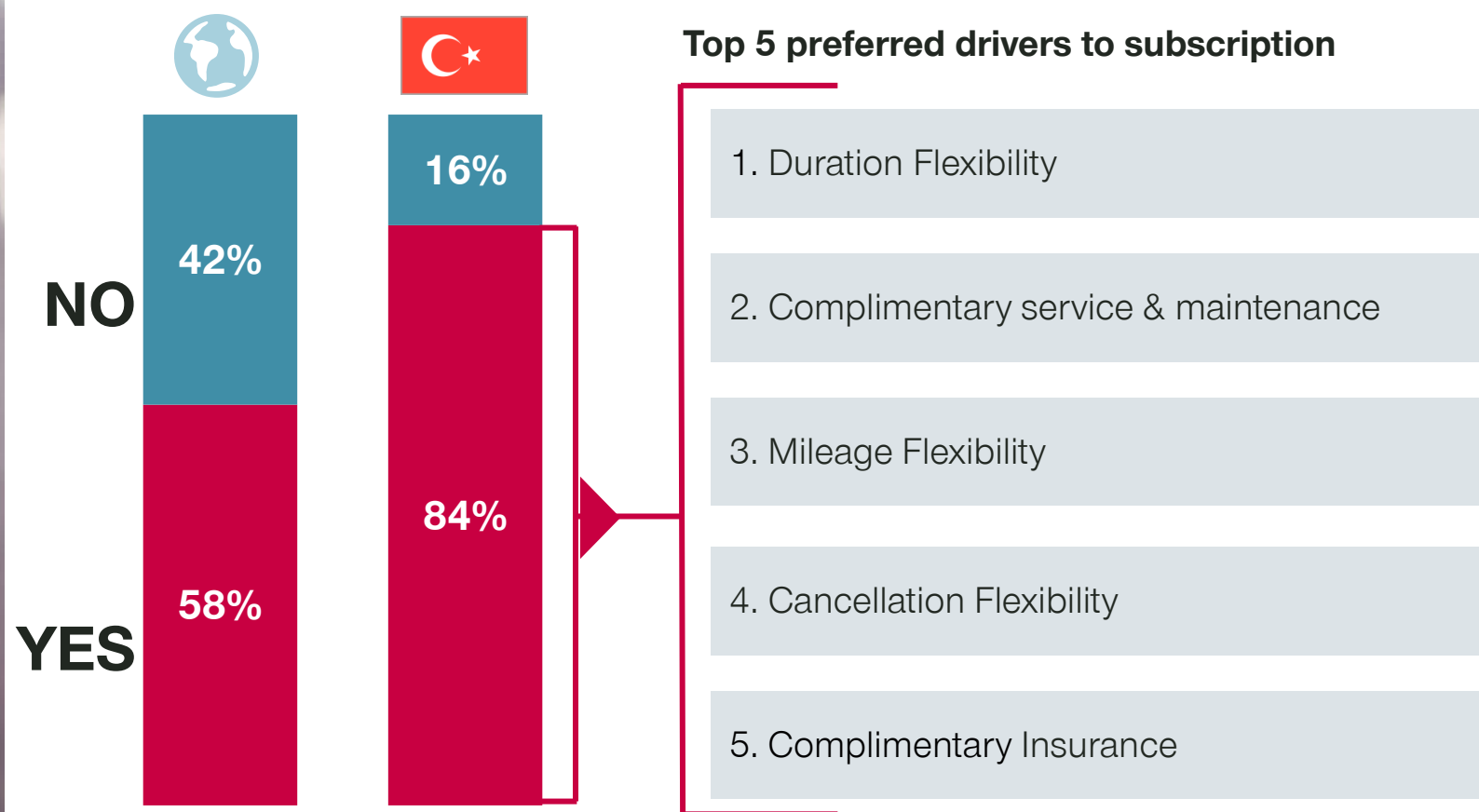
Market split



84% of Turkish respondents consider vehicle subscription model driven by flexibility expectations and complimentary services

Subscription Consideration

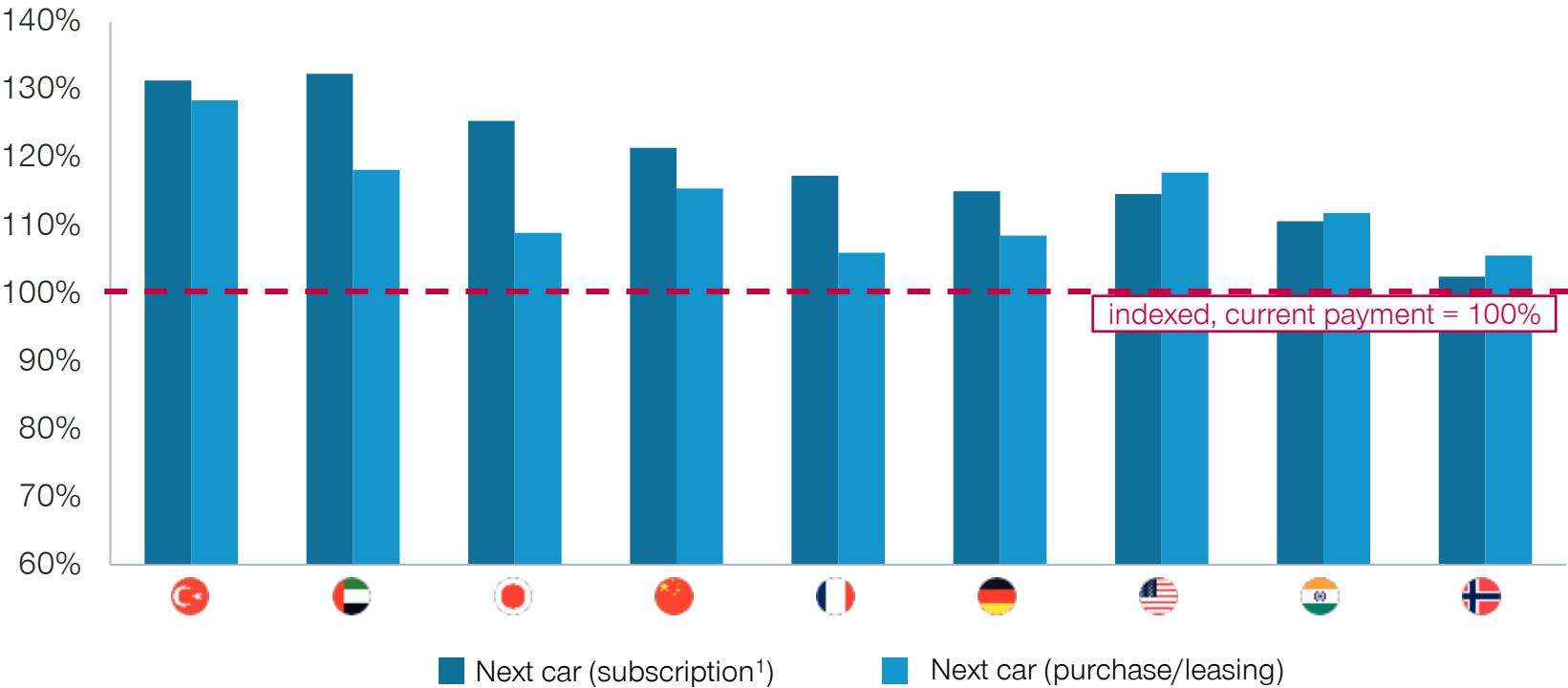
Would you consider an all-inclusive flex-leasing (subscription) model for the next purchase/usage of a vehicle? What are your top drivers?



Yet, subscription benefits do not result in significantly higher willingness to pay compared to purchase/leasing

Monthly expenses

Market split



1) Only considering those who are considering subscriptions; Source: Simon-Kucher global automotive study April 2023 (n=8235); Q: Think about the total sum of costs that are related to your current vehicle. How much do you think your total costs are per month?; Q: Please indicate how high the monthly expenses for your future purchased or leased car will be.; Q: How much would you be willing to pay for an all-inclusive flex-leasing (subscription) for the same car?; Overall sample size per question might vary (e.g., due to preselected answers)



How to act?



Knowing how to price new vehicles and flexible leasing offers

- For future pricing strategies, **employing differentiated pricing tactics based on customer-value perspectives** will be vital
- Companies should **emphasize the advantages of subscriptions over leasing, such as increased flexibility in mileage and duration**, instead of solely focusing on the all-inclusive cost model.
- **Optimizing price positioning** of subscription, leasing, and traditional purchase offers while actively managing customer streams **is crucial to achieve the overall financial optimum**

II. Online sales

Subscription model



Stock/baona

Online sales



Stock/piranka

Digital services

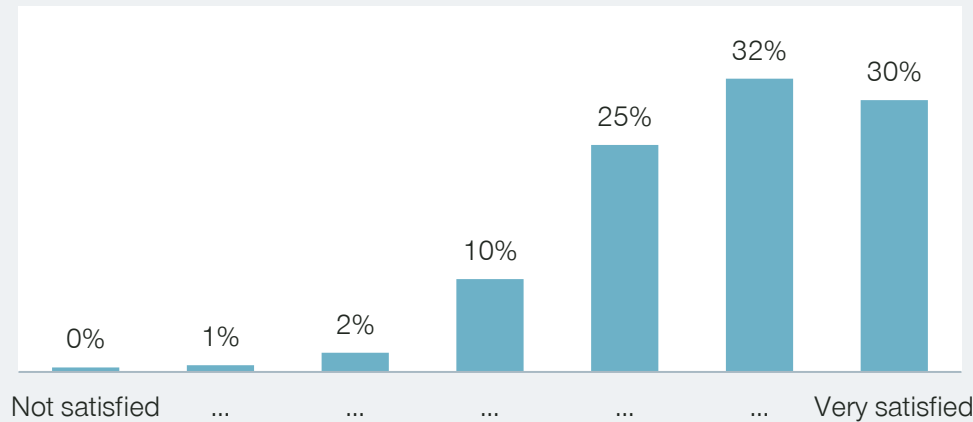


Stock/gorodenkoff

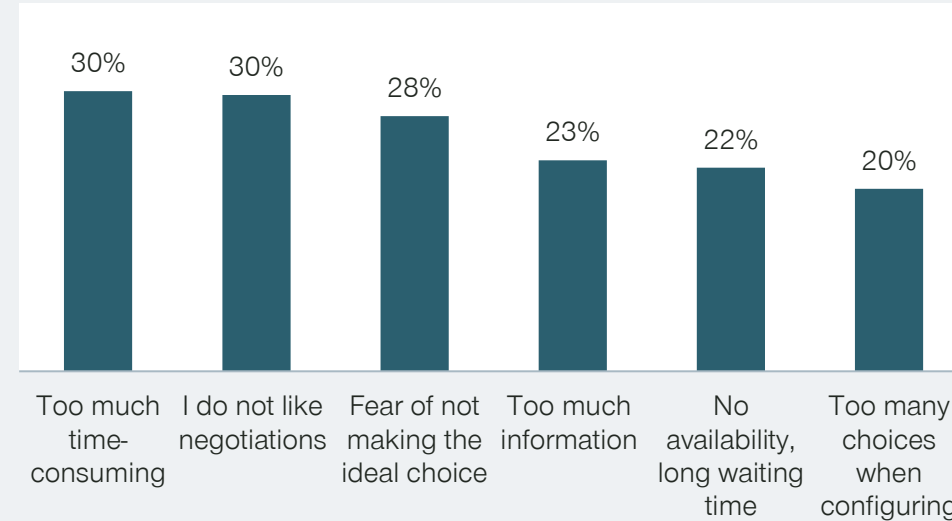
Customers are quite satisfied with their last purchase process – providing a targeted and transparent experience is key to success

Global

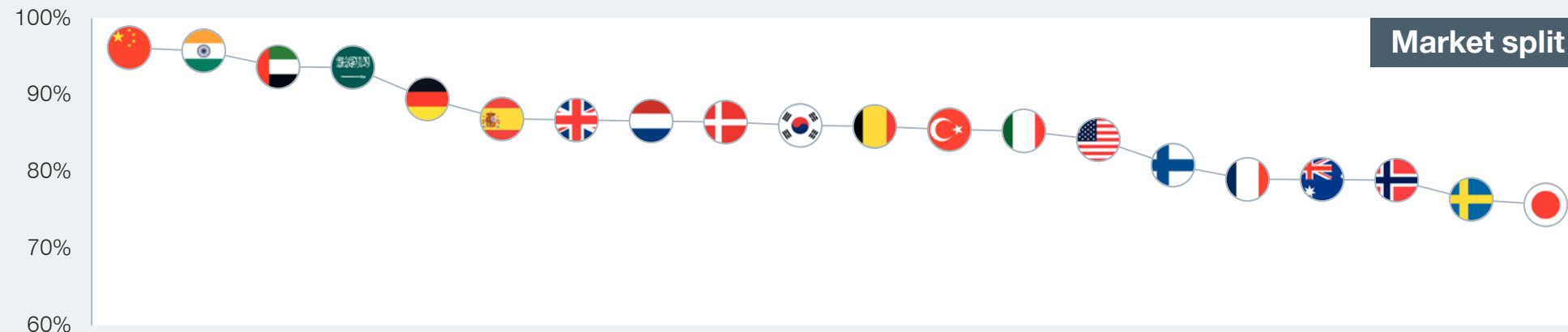
Satisfaction



Reasons for dissatisfaction¹



Share of satisfied responds



Market split

KEY INSIGHTS

- Customers are generally satisfied with their purchase
- Main dissatisfactions during the purchase process are **time** needed, **negotiations**, and the **fear of not making the perfect choice** in terms of price and product



vs. 2022

- Customers are slightly more satisfied with their last purchase



MARKET SPECIFICS

- South European and East Asian countries experience lower purchase satisfaction

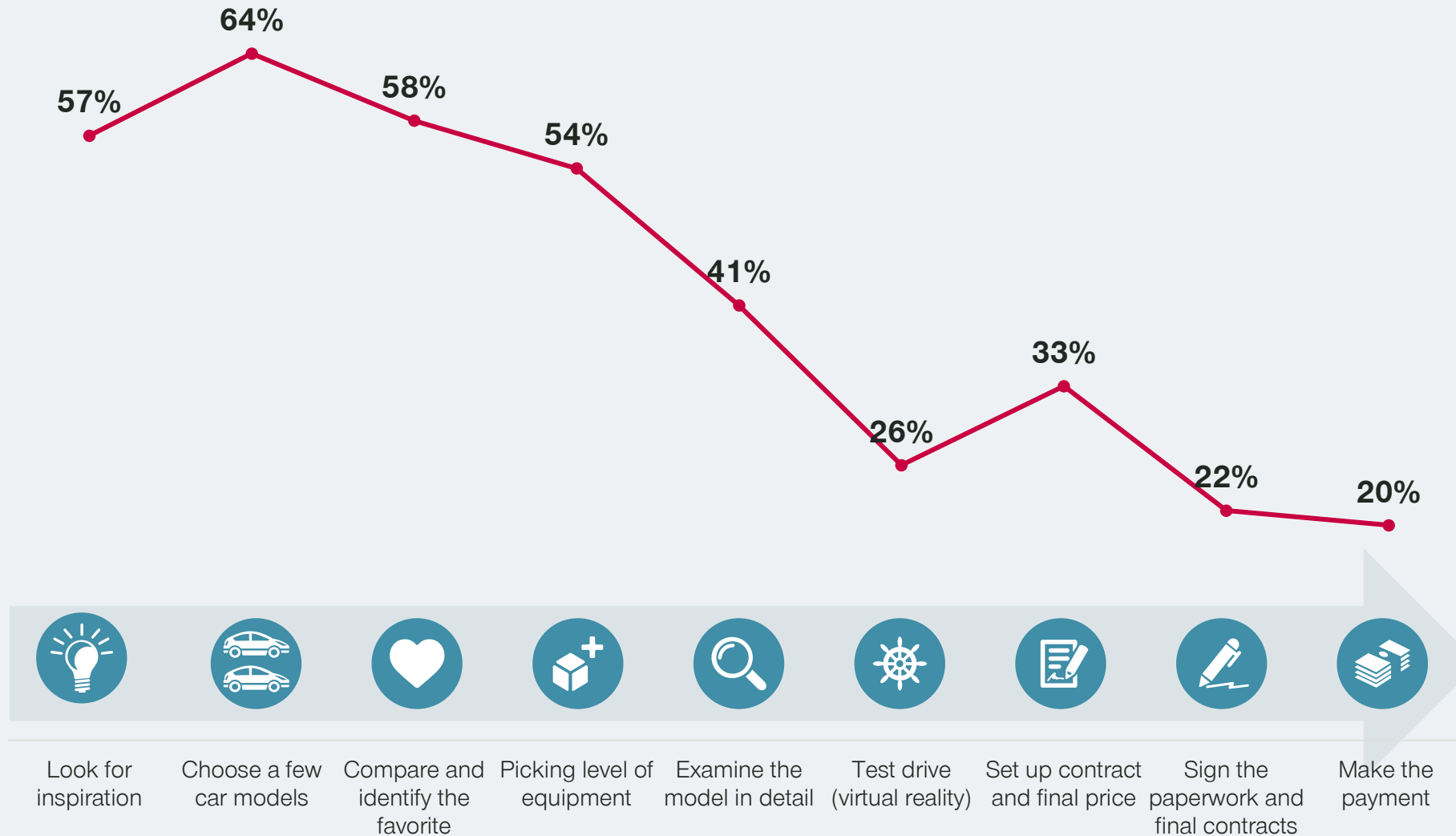


1) Not satisfied respondents (n=253); Source: Simon-Kucher global automotive study April 2023 (n=8235); Q: Please think about the last time you purchased or leased a new car. How satisfied were you with the process?, Q: You indicated that you were not completely satisfied with the typical car purchasing process. Why is that? Please pick up to three reasons.; Overall sample size per question might vary (e.g., due to preselected answers)


Customers start their customer journey online but expect to close the deal offline; a large portion of customers expect to get a better deal in a personal negotiation

Consideration of online tools throughout customer journey

Global



KEY INSIGHTS

- Customers are **more open to digital services** provided by OEMs or distributors **at the beginning of the purchasing process** 
- However, **negotiating and making the payment personally** are still the main tendency of the customers (see next page)

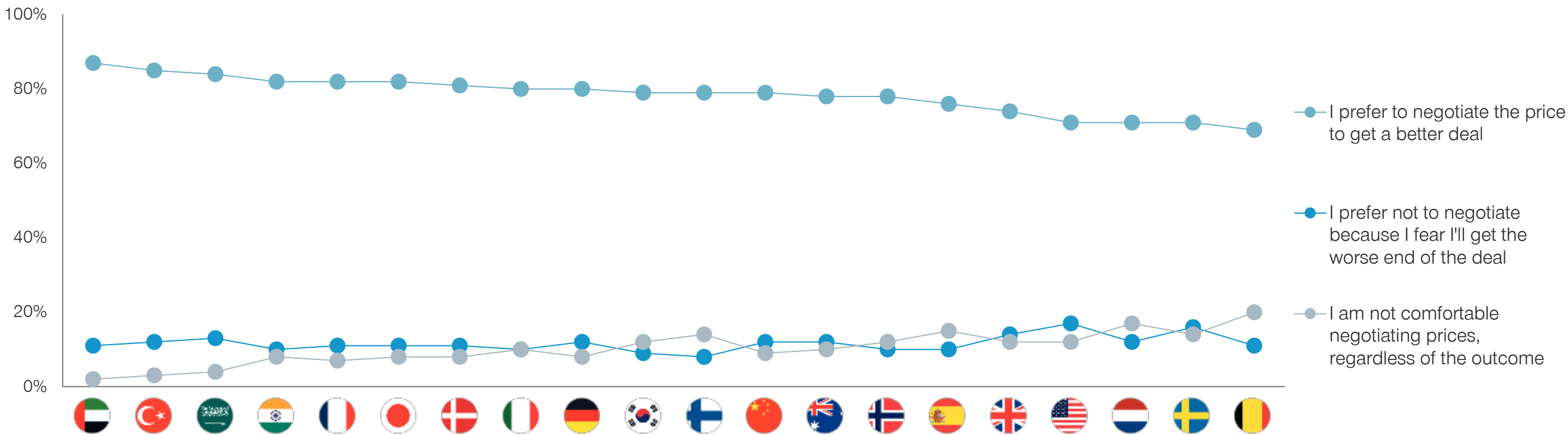


Online sales lack price negotiation and Türkiye ranks second highest in preference for price negotiation



Market split

Opinions on price negotiation, % of respondents



Source: Simon-Kucher global automotive study April 2023 (n=8235); Q: One of the main differences with online car sales is the absence of price negotiation with a dealership's sales representative. Please indicate which statement you agree most with.; Overall sample size per question might vary (e.g., due to preselected answers)

How to act?

Lessons learned for online sales



Customers are open to online sales but still appreciate physical interaction

- Manufacturers and dealers must **continuously enhance their digital presence** by improving car information, the car configurator, and the purchase process
- **Flexibility is crucial in offering various customer journey routes**, allowing online or offline interactions, test drives, and purchases
- **Having a dedicated contact person for customers** during and after the purchase is ideal to mitigate from customer loyalty risks

III. Digital services

Subscription model



Stock/baona

Online sales



Stock/raisa

Digital services



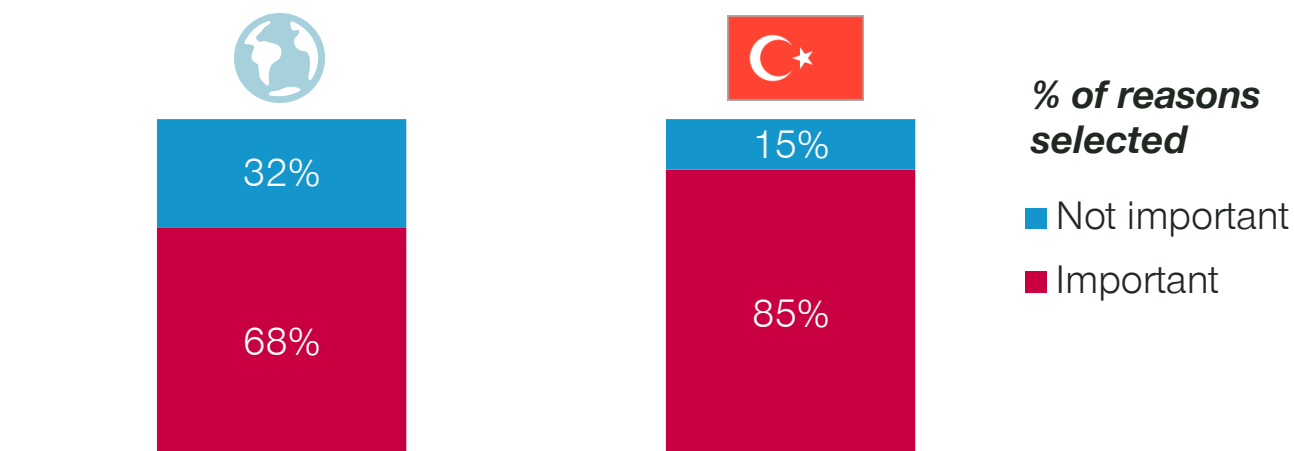
Stock/gorodenkoff

Digital services hold significant importance to customers, with a majority willing to share their data with the manufacturer

Türkiye vs Global

Digital Services Importance

How important would you consider digital services overall in your next vehicle? (e.g., connected services, smartphone apps, etc.)



Willingness To Share data

In general, would you be willing to share your car-related data with the car's manufacturer?



69%

+9 pp from
global average

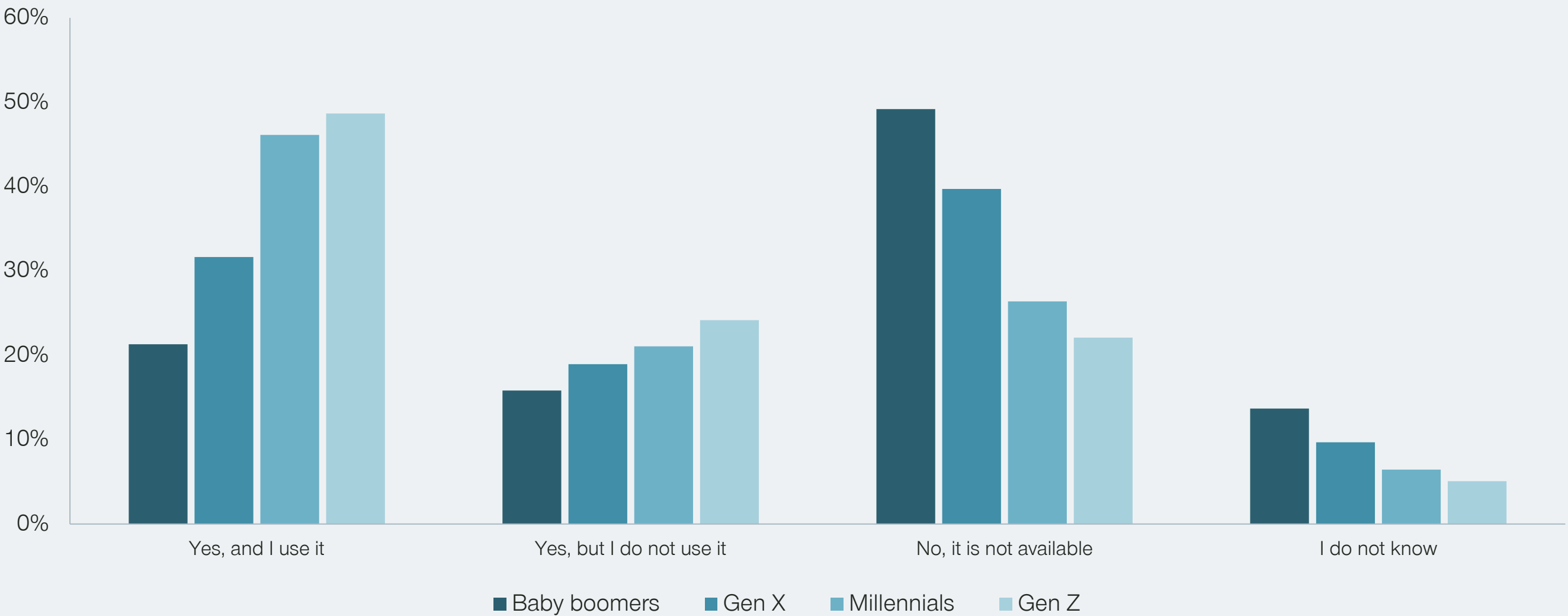
of Turkish customers were willing to share information for vehicle improvement without administrative burden

Digital services, especially in the form of an app, are important for future generations and therefore must be offered by OEMs to follow future trends



Global Generation split

App availability Is there a dedicated smartphone app available to your current vehicle?



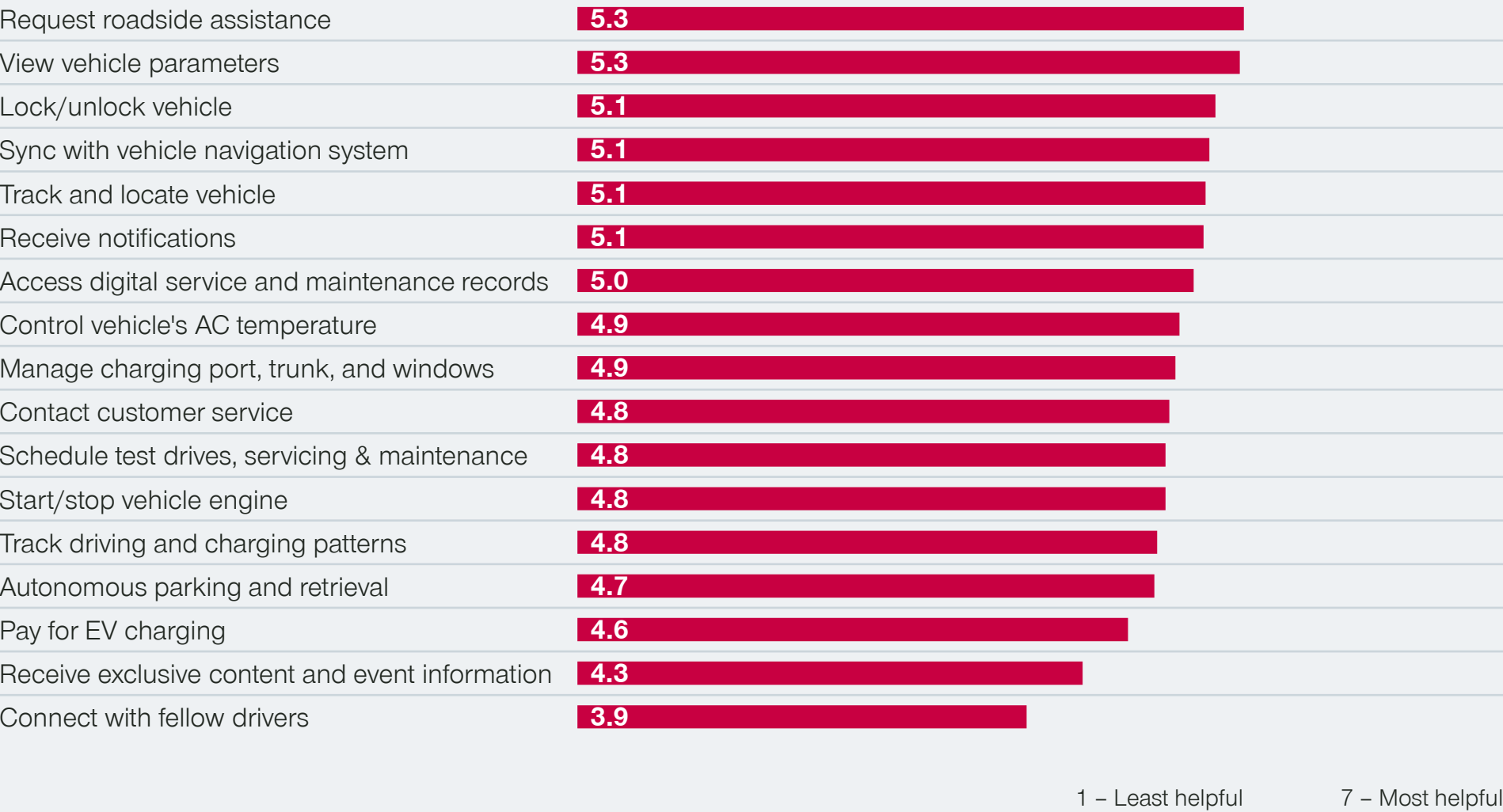
1) Agreement defined as 5, 6, or 7 on a 1-7 scale; Source: Simon-Kucher global automotive study April 2023 (n=8235); Q: Is there a dedicated smartphone app available to your current vehicle?; Overall sample size per question might vary (e.g., due to preselected answers)

Apps should assist customers in the daily usage of their car, in emergencies, and in providing car-related information



Global

MOST HELPFUL FUNCTIONS OF ACCOMPANYING APPS



Customers just want to stay connected

- While they do not strongly differentiate the necessity of each feature, maintenance and daily usage topics are leading the pack
- **Türkiye**, along with countries such as China, India, Saudi Arabia, South Korea, and UAE are the only ones showing interest in the functions *"Connect with other drivers"* and *"Receive information regarding exclusive content and events"*

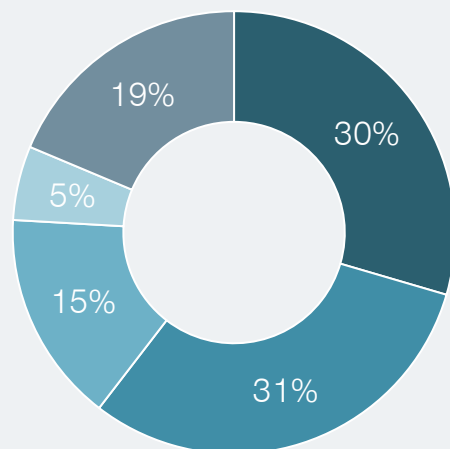


Overall, customers are willing to share data of connected vehicles with the manufacturer, but only a minority is willing to do so unconditionally

Respondents relatively open to sharing data about their vehicle overall...

Vehicle data

(e.g., road hazards, weather, road conditions)

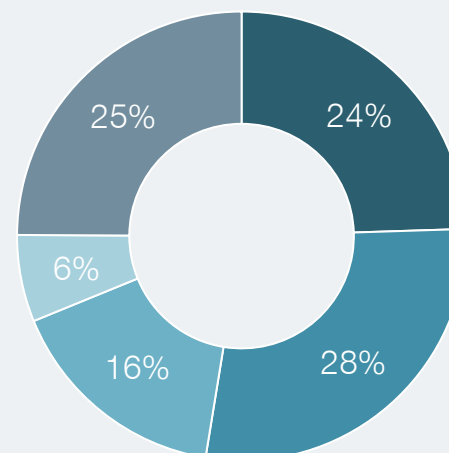


- Yes, without restrictions and without payment
- Yes, with restrictions and without payment
- Yes, with restrictions and with payment
- Yes, without restrictions and with payment
- No, I would not be willing to share any of that data

... but significantly more hesitant about data that is more related to their individual behaviour

Personal driving data

(e.g., current location, driven routes, acceleration patterns)



- Yes, without restrictions and without payment
- Yes, with restrictions and without payment
- Yes, with restrictions and with payment
- Yes, without restrictions and with payment
- No, I would not be willing to share any of that data

MARKET SPECIFICS



- Top 3 countries willing to share data without restrictions or payment: Saudi Arabia, UAE, and India
- Top 3 countries not willing to share data: Australia, Netherlands, and USA

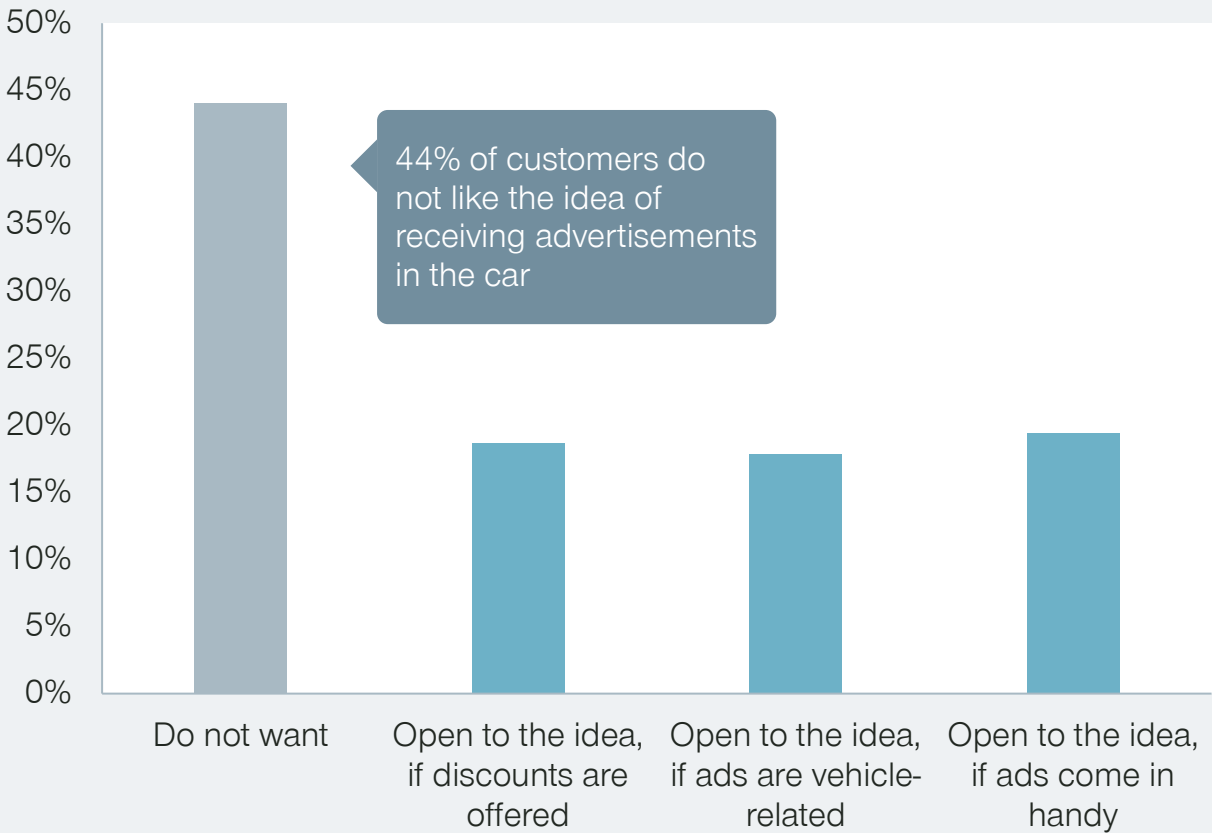
vs. 2022



- No significant changes compared to 2022

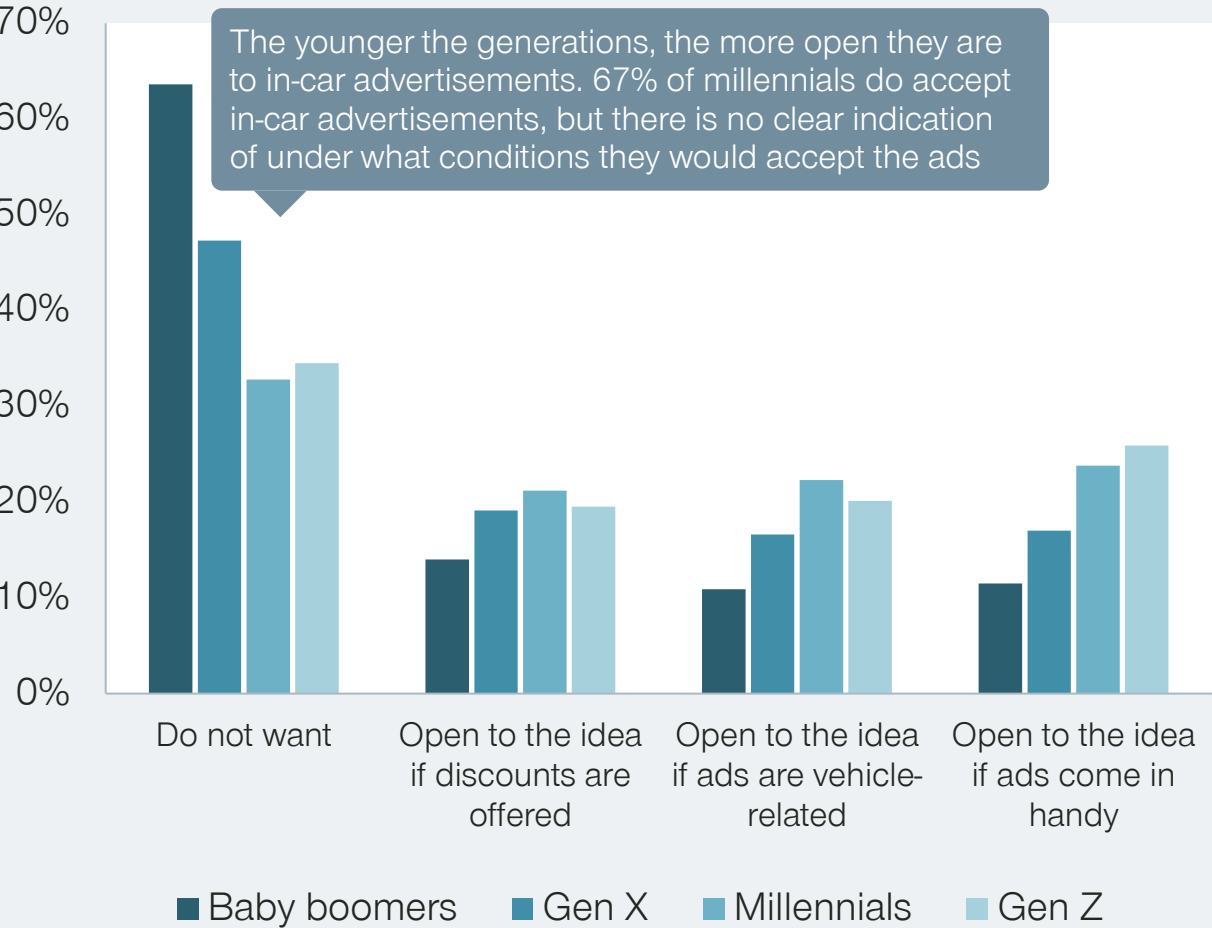
New revenue opportunities will open up in the future from in-car advertising as especially young generations accept this kind of advertisement

Opinions on in-car advertisement



Opinions on in-car advertisement (by generation)

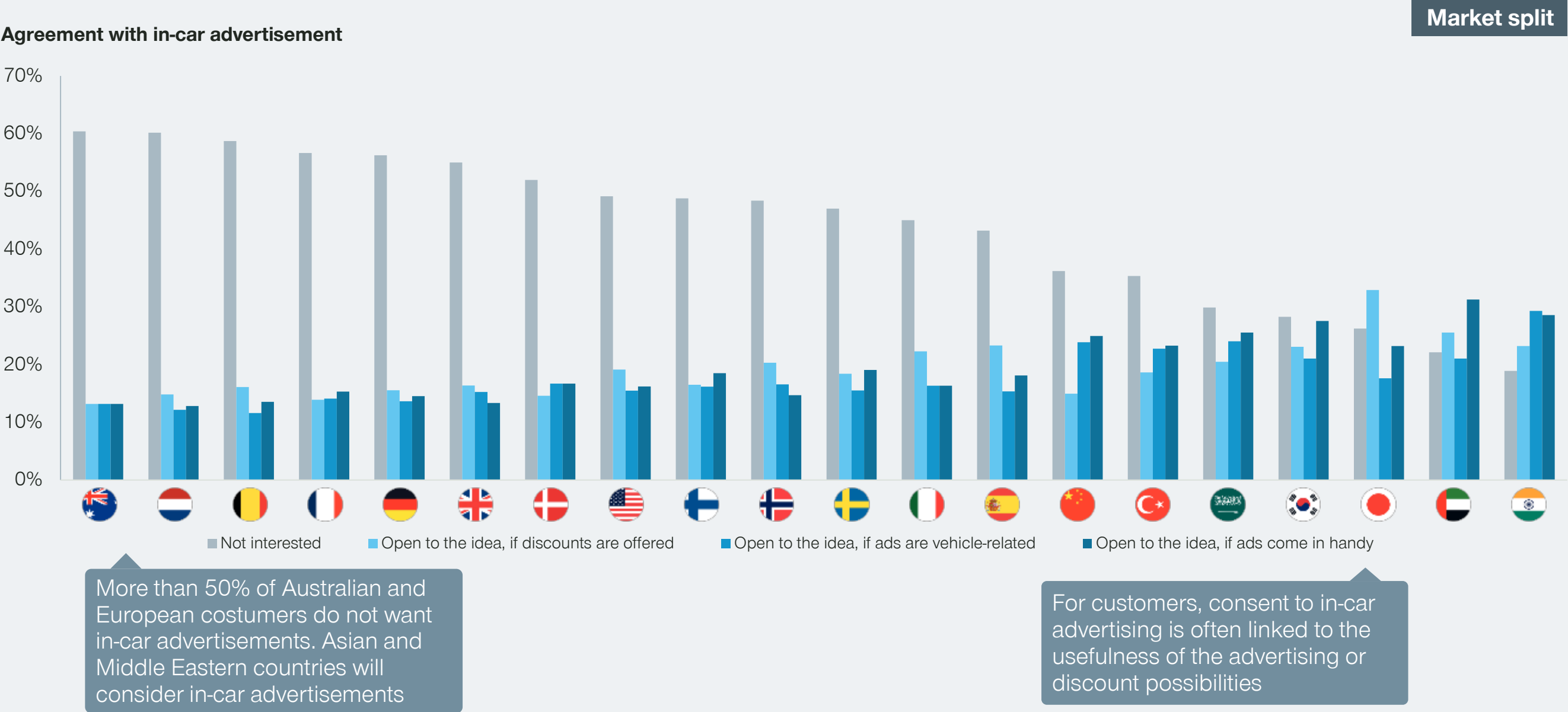
Generation split



Source: Simon-Kucher global automotive study April 2023 (n=8235); Q: With the increasing digitalization of cars, in-car advertising has become an important topic. This form of advertising would allow advertisers to play a targeted ad on your car's media screen. Which of the following statements do you relate to most regarding in-car advertising?; Overall sample size per question might vary (e.g., due to preselected answers)

In-car advertisements aren't appealing to European and Australian customers whereas Asian and Middle Eastern customers are interested

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Source: Simon-Kucher global automotive study April 2023 (n=8235); Q: With the increasing digitalization of cars, in-car advertising has become an important topic. This form of advertising would allow advertisers to play a targeted ad on your car's media screen. Which of the following statements do you relate to most regarding in-car advertising?; Overall sample size per question might vary (e.g., due to preselected answers)

How to act?

Lessons learned



Digital services will be hygiene factors

The need for digital services that are easily accessible for customers, such as Apps, increases with the next generations to come.

→ These digital services should include the management of car features, maintenance & daily usage instead of forcing another channel to the customer and flooding them with manufacturer, vehicle and event information.

Sharing of vehicle and personal data

The relatively high willingness to share vehicle and personal data allows manufacturers to gain valuable insights and offers monetization potential

→ Manufacturers should create access to technical specs and customer behaviour data and use it to improve the technology and further increase profits.

Agenda

E-mobility – Cem Balıkçioğlu

New Revenue & Sales Models – Matthias Riemer

Trends & Future : China's rapid emergence – Wenbo Li



Today, Turkish customers strongly consider German, Japanese and Turkish brands...

Market split

Consideration¹ of most relevant brands from different countries by market

Europe			North America		
	#1	#2		#1	#2
UK	Germany 77%	UK 72%	USA	USA 83%	Japan 72%
Norway	Germany 79%	Japan 65%			
Sweden	Germany 76%	Japan 64%	Türkiye & Middle East		
Finland	Germany 78%	Japan 65%	Türkiye	Germany 90%	Japan 81%
Denmark	Germany 76%	Japan 60%	UAE	Japan 89%	Germany 86%
Germany	Germany 83%	Japan 49%	Saudi Arabia	Germany 83%	Japan 83%
Netherlands	Germany 73%	Japan 61%			
Belgium	Germany 72%	Japan 55%	Asia Pacific		
France	France 80%	Germany 64%	India	Japan 88%	Germany 86%
Spain	Germany 77%	Spain 74%	China	Germany 85%	China 84%
Italy	Italy 73%	Germany 71%	South Korea	South Korea 89%	Germany 78%
			Japan	Japan 90%	Germany 50%
			Australia	Japan 82%	Germany 66%

KEY INSIGHTS

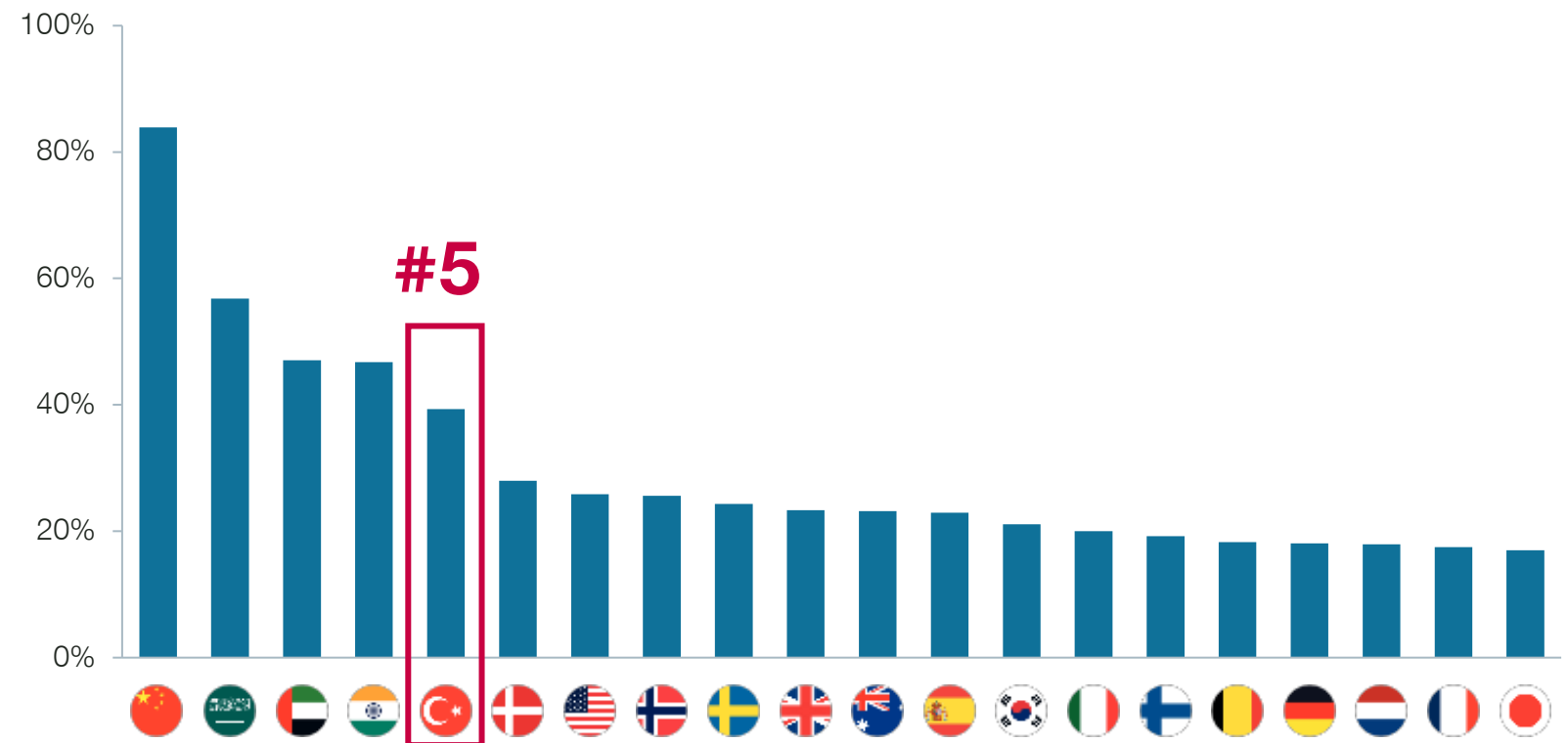
- Germany and Japan are in the top three of every country's consideration (besides China and South Korea)
- France, Italy, Germany, USA, Japan, and South Korea consider own countries' brands the most
- New brands like in Türkiye or Saudi Arabia immediately make it into the considered set of many customers

1) Consideration defined as 5, 6, or 7 on a 1-7 scale; Source: Simon-Kucher global automotive study April 2023 (n=8235); Q: When you think about buying a new vehicle, which brands would you consider (grouped by geographical regions)?; Overall sample size per question might vary (e.g., due to preselected answers)

...yet current growing consideration of Chinese brands, especially in the Middle East, Türkiye and India may pose a future threat to established brands

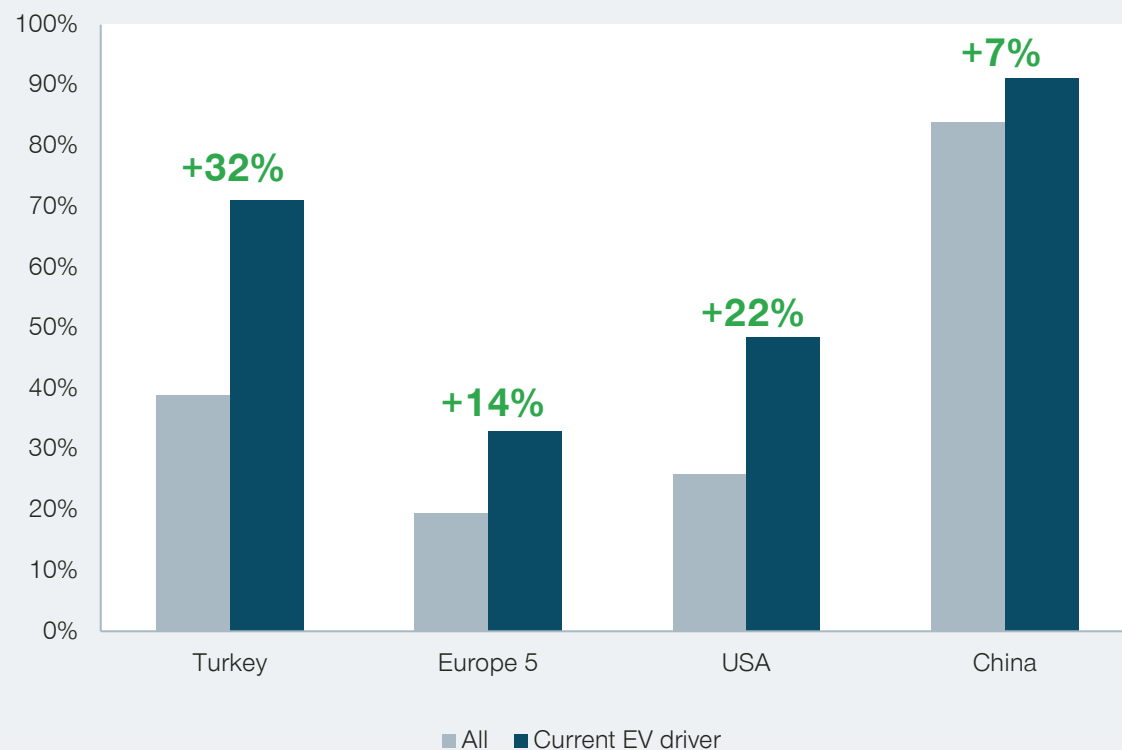
Market split

Consideration¹ of Chinese brands by market

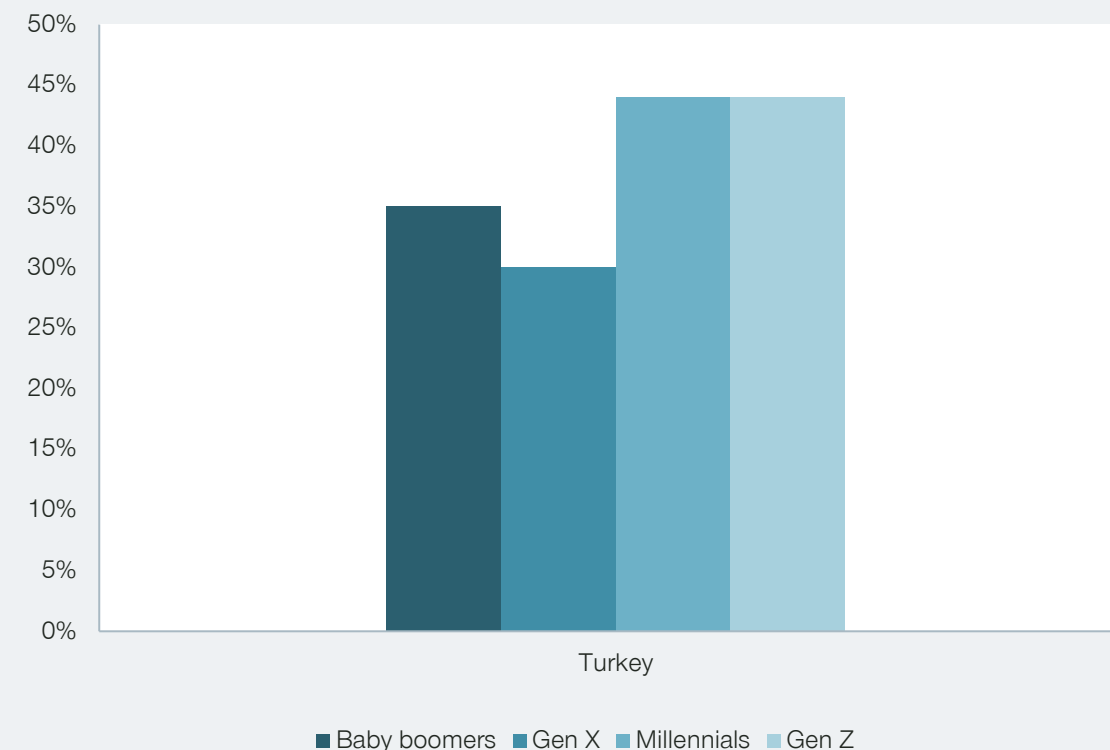


1) Consideration defined as 5, 6, or 7 on a 1-7 scale; Source: Simon-Kucher global automotive study April 2023 (n=8235); Q: When you think about buying a new vehicle, which brands would you consider (grouped by geographical regions)?; Overall sample size per question might vary (e.g., due to preselected answers)

Interest in Chinese brands especially strong among current EV drivers and younger generations

Key market split**Consideration¹ for Chinese brands by market**















EV drivers show high consideration for Chinese brands regardless of their geographic market

Consideration¹ for Chinese brands by generation

Chinese brands are drawing a lot of interest from younger generations, especially millennials and Gen Z

1) Consideration defined as 5, 6, or 7 on a 1-7 scale; Source: Simon-Kucher global automotive study April 2023 (n=8235); Q: When you think about buying a new vehicle, which brands would you consider (grouped by geographical regions)?; Overall sample size per question might vary (e.g., due to preselected answers)

China has highly developed EV market, with major players having both local and global presence

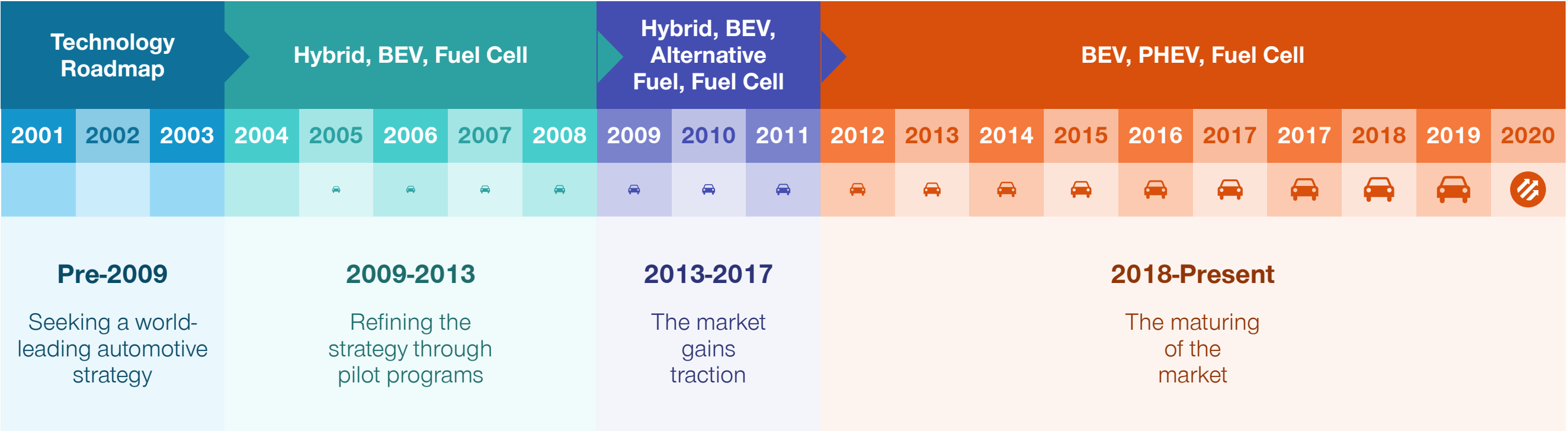
 TRADITIONAL AUTOMAKERS	 JOINT VENTURES	 STARTUPS
BYD  <ul style="list-style-type: none"> ✓ Leading EV company in China, having 600K EV sales in 2021 ✓ Second largest in the world by unit sales ✓ Recently launched in Norway, and have plans to launch EVs in Japan in 2023 	Donfeng Nissan  <ul style="list-style-type: none"> ✓ The company started production of the EV in August 2018 and as Nissan's first BEV built in China specifically for Chinese consumers ✓ The company also plans to introduce at least 17 electrified models of the Dongfeng, Nissan, Venucia, and Infiniti brands by 2023 	NIO Cars  <ul style="list-style-type: none"> ✓ Founded in 2014, they are now one of the biggest names associated with EVs ✓ Its revolutionary concept of "battery as a service" (BaaS) has attracted vast attention ✓ NIO made its European debut in Norway and aims to enter the wider European market
Geely  <ul style="list-style-type: none"> ✓ Have a strong brand portfolio including Volvo, Polestar and Lotus ✓ Its sales increased by 185% between 2020 and 2021, with the highest percentage of sales coming from Europe 	SAIC GM Wuling  <ul style="list-style-type: none"> ✓ Joint venture between Chinese Wuling and SAIC and American General Motors ✓ Manufacturer of Wuling Hongguang Mini, second-best-selling EV in 2021 ✓ Have plans to launch EVs in Southeast Asia, beginning with Indonesia 	XPeng  <ul style="list-style-type: none"> ✓ XPeng P7 is outselling the Tesla Model 3 in the Chinese market ✓ XPeng's autonomous driving system "XPilot" is also set to rival Tesla's "Autopilot" ✓ Completed a successful launch in Norway
Changan  <ul style="list-style-type: none"> ✓ Oldest automaker in China ✓ By 2030, aims to have sales of 4.5 million units, with EVs accounting for 60% and international sales accounting for 30% ✓ Teamed up with the suppliers Huawei and CATL to produce the Avatr 11 EV 	SAIC / FAW / JAC – Volkswagen    <ul style="list-style-type: none"> ✓ Volkswagen carries out their production, sales, and services in China through joint ventures ✓ VW is struggling to live up to its targets in China ✓ VW has failed to establish the brand loyalty it hoped for among its potential Chinese consumers 	Li Auto  <ul style="list-style-type: none"> ✓ In 2022, Li Auto has outperformed rivals Tesla, NIO, and XPeng on the stock market ✓ Intends to raise approximately EUR 2 billion through a stock offering to further fund R&D ✓ Has not entered any overseas markets yet

Chinese automakers have made the most of the external factors put in place by the Chinese government long before any other country has done the same



EV Market Growth




Chinese EV development in a nut shell



China is an early adopter with great affinity for new business models and innovations compared to a more cautious approach by Europe and the United States

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	USA	Europe Top 5	China
<div>Engine Consideration¹ & Battery Technologies</div>	<div>Petrol is the most considered engine type with 82%, far ahead of EVs (51%)</div> <div>Battery leasing interest: 49% Battery swapping interest: 71%</div>	<div>EV consideration (52%) equal to petrol consideration (51%)</div> <div>Battery leasing interest: 56% Battery swapping interest: 76 %</div>	<div>89% of Chinese customers would consider an EV for their next vehicle</div> <div>Battery leasing: 73% Battery swapping: 90%</div>
<div>Autonomous Driving</div>	<div>48% are excited about autonomous driving</div>	<div>41% are excited about autonomous driving</div>	<div>77% are excited about autonomous driving</div>
<div>Digital Services¹</div>	<div>61% considers digital services as important</div> <div>Only 36% currently uses smartphone apps</div>	<div>57% considers digital services as important</div> <div>Only 25% currently uses smartphone apps</div>	<div>95% are considering digital services as important</div> <div>56% of Chinese customers are using smartphone apps</div>

1) Consideration defined as 5, 6, or 7 on a 1-7 scale | Source: Simon-Kucher global automotive study April 2023 (n=8235); Q: An alternative to reduce charging times is switching your empty battery for a charged one. Especially when driving long distances a battery swap can reduce waiting times. Would you be interested in such a concept in addition to fast charging? Q: For electric vehicles the battery is a very expensive part and can make up to 40% of the vehicle cost. Would you be interested in leasing or renting the battery separately from the vehicle itself? Q: When you think about purchasing or leasing a new vehicle, which engine type will you consider? Q: Would you say that you are rather excited about or rather afraid of this technology? Q: How important would you consider digital services overall in your next vehicle? Q: Is there a dedicated smartphone app available to your current vehicle?; Overall sample size per question might vary (e.g., due to preselected answers)

Battery swap technology is getting attraction as a key opportunity to differentiate from competitors and meet expectations

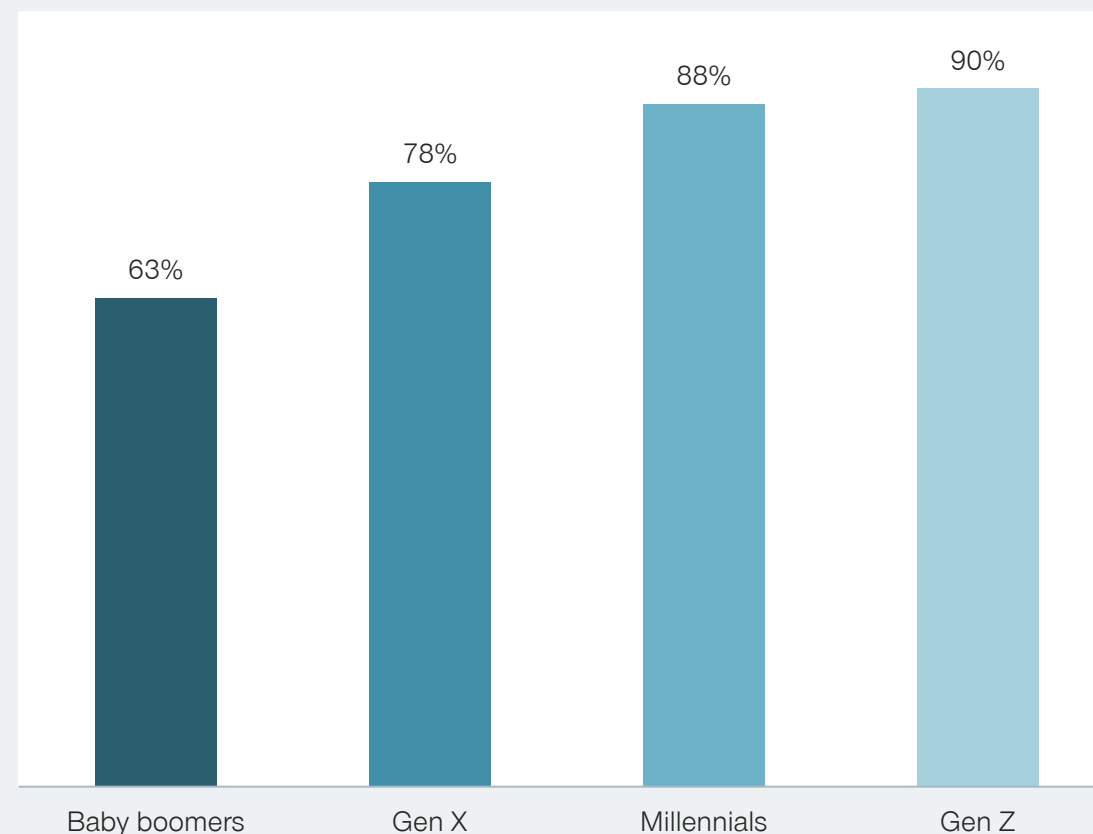
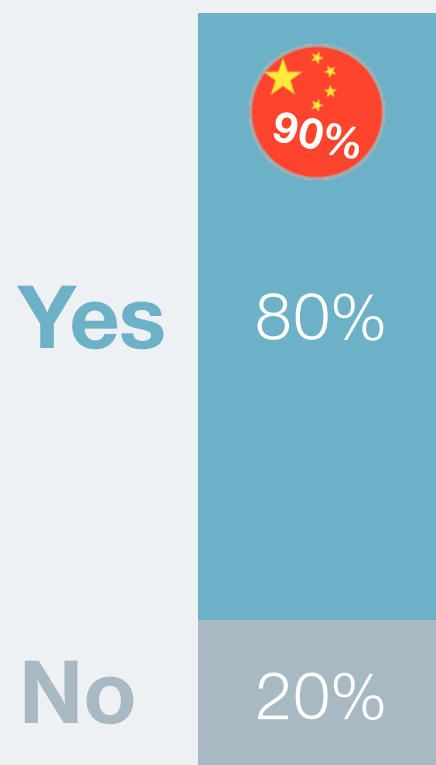
Would you be interested in the option to swap the battery in addition to fast charging?

Generation split



Battery swap
vs. recharge

Older customers approach battery swaps with some scepticism



MARKET SPECIFICS

- Top 3 countries for consideration: **Türkiye, India, and UAE**
- Top 3 countries for non-consideration: **Belgium, Finland, and Netherlands**



GENERATION SPLIT:

- No strong opposition to battery swapping across generations
- Strong interest among younger generations, especially Gen Z and millennials

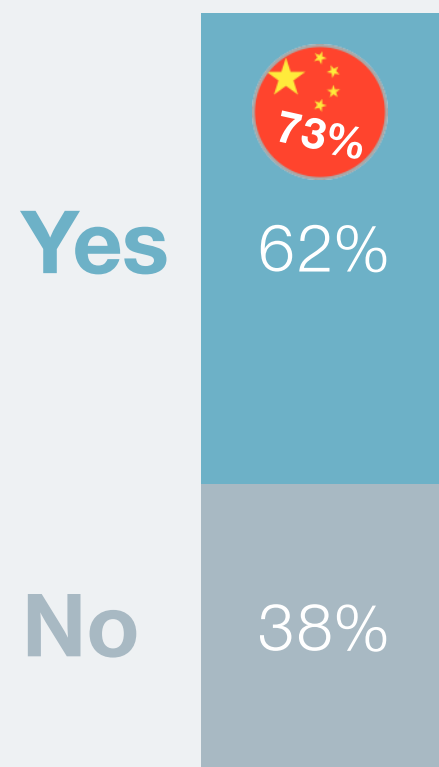


High interest in leasing batteries among younger generations shows future trends in payment options

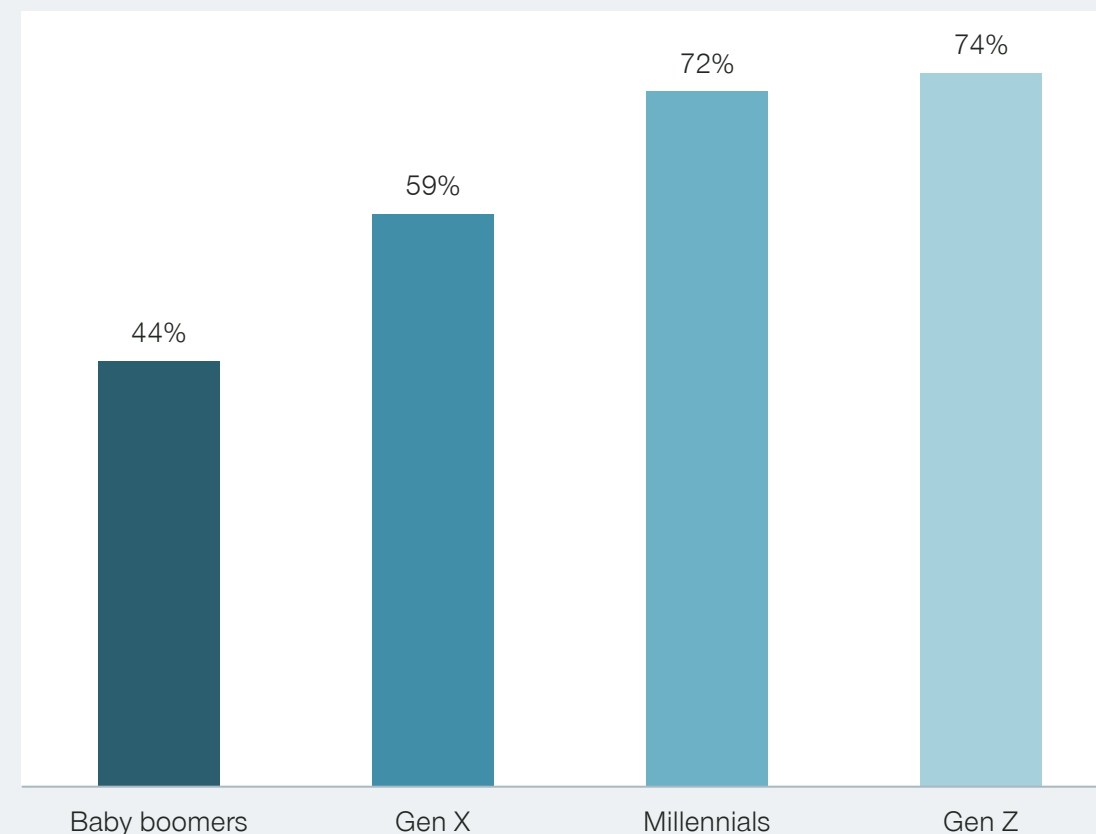
Would you be interested in leasing the battery separately from the vehicle?

Generation split

»»» Battery leasing



Separate battery leasing options are especially relevant for younger customers



MARKET SPECIFICS



- Top 3 countries for consideration: **Türkiye, India, and Saudi Arabia**
- Top 3 countries for non-consideration: **Australia, Belgium, and Netherlands**

GENERATION SPLIT:



- Younger generations are more open to leasing batteries
- Baby boomers are less sure

NIO offers a potential blueprint for international markets with its Battery as a Service (BaaS) business model; however, careful execution is crucial

iStock/Olena-Lishchyshtyna

NiO Baas

Offers battery swapping and leasing
Has the potential to revolutionize the EV industry

1

Battery Swapping



Launched in 2018, NIO have reached **4M cumulative battery swaps** in 2021, accounting for **10K+ battery swaps per day**, with **+1400% growth**

Comes with monthly payments

2







Battery Leasing







Launched in 2021, NIO has provided **+80K battery updates** through leasing program, and **much more leasing** within 2 years

Comes with monthly payments

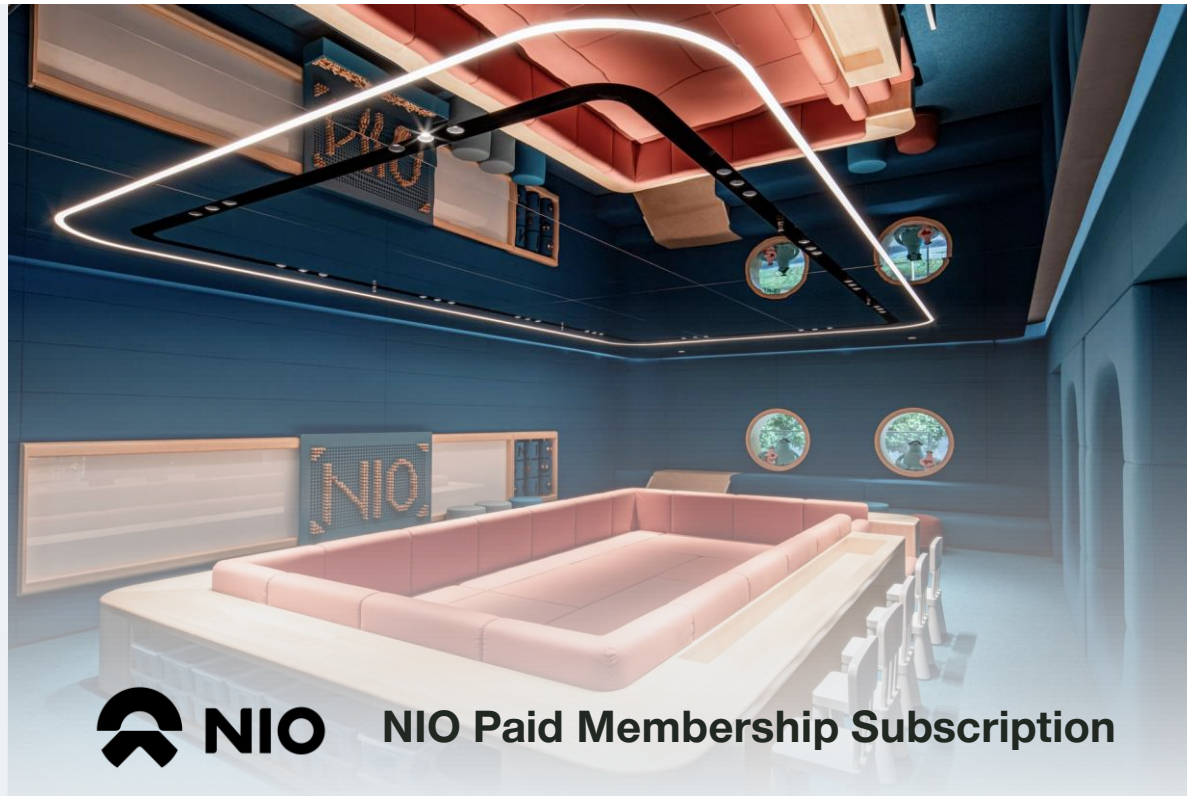
User Benefits

-   Do not have to pay up front for the battery, accounting for a significant portion of EV price
-   Flexibility of upgrading / downgrading battery when needed
-  Easy to swap depleted batteries for fully charged ones in minutes
-  Alleviate range anxiety by providing swap stations on the roads

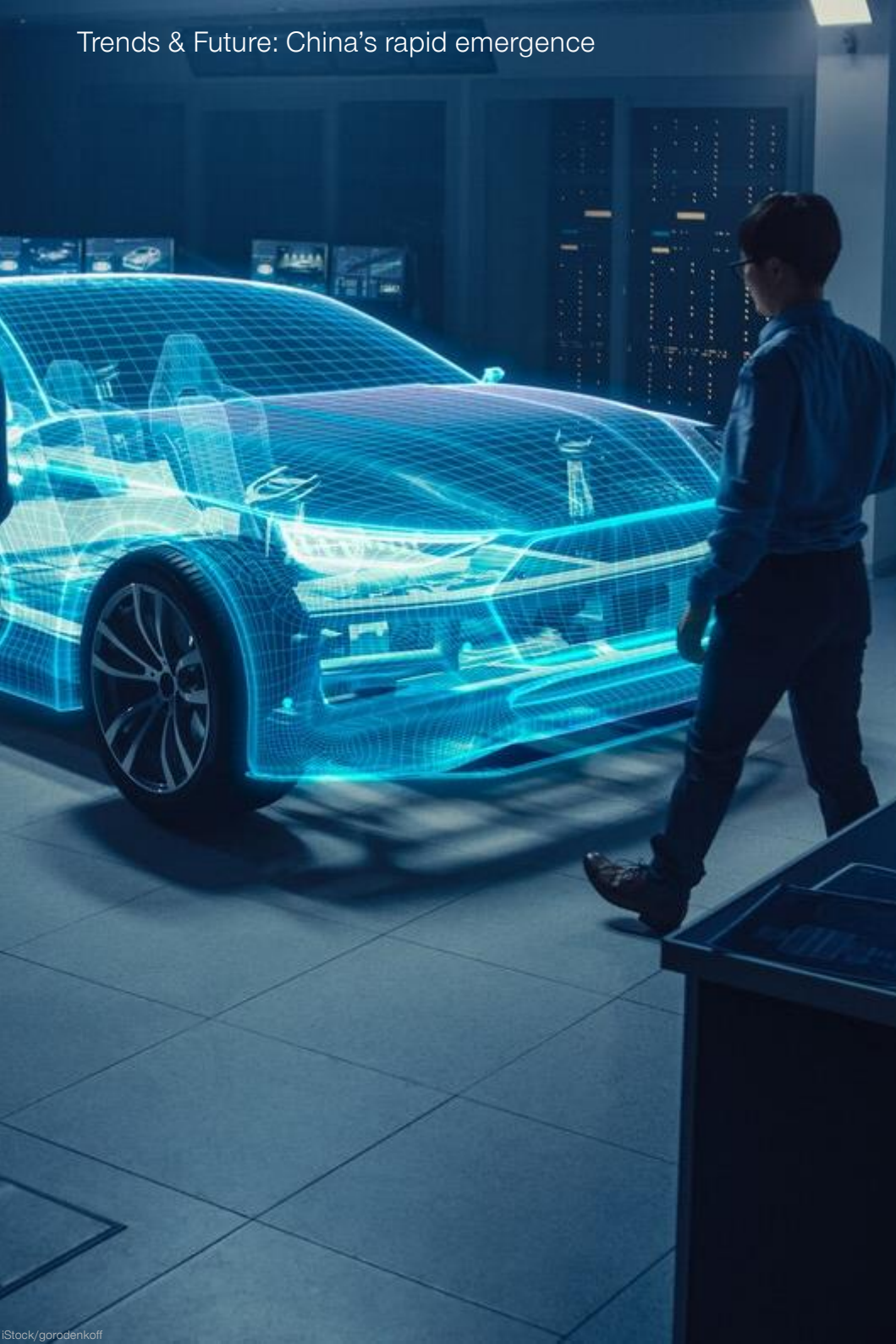
Developer Watch-outs

-   CAPEX is high, and break-even takes a long time
-   Although revolutionary, developing battery technology (longer battery durations, lower production costs) may put Battery as a Service (BaaS) obsolete

NIO also launched a paid membership subscription model where members can enjoy exclusive perks and contents



- The services offered range from charging, maintenance and **NIO coupons to access to NIO House**, a relaxing home space for NIO owners. **Exclusive perks for members to enjoy** include charging their EVs for **up to 1000 Kw/h for free**
- The membership is also **bound with buying new cars**. When members buy a new ES8 or ES6, the company's mid-sized sports SUVs, **they will be reimbursed** 5,000 yuan (\$700) in the first month of membership and 10,000 yuan (\$1400) in the second month



Other Rising Trends for EVs: China provides an enabling environment for EV industry

SIMON 
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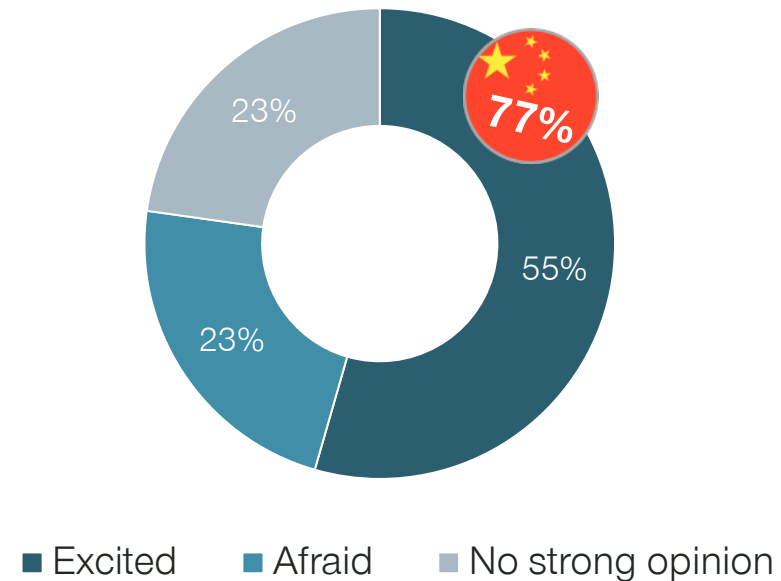
- 1** China has a competitive advantage with its **robust 5G infrastructure**, enabling extensive data collection from vehicles to **enhance AI Deep Learning Models**
- 2** **China's less strict regulations** make it a favourable region for **testing autonomous driving technologies**. Some Chinese cities even permit autonomous vehicles to operate in traffic for further R&D
- 3** **The Chinese government promotes the Internet of Vehicles (IoV)** concept, encouraging vehicle-to-vehicle and vehicle-to-pedestrian communication, enhanced with strong 5G infrastructure
- 4** **In-Car Intelligent Systems** are enhancing the driving experience, with significant progress made towards autonomous driving. While **fully autonomous driving is not immediate**, ongoing R&D in this area show promising results
- 5** **Autonomous Driving as a Service (ADAS)** is on the rise, allowing users to access autonomous features through subscription models. While Tesla is pioneer of this concept, Chinese brands like NIO are also on the way

Source: Simon-Kucher, SK Library: Chinese Electric Vehicle Trailblazers '23

Simon-Kucher | ODMD | Future in Mobility Ecosystem

Autonomous driving is a highly exciting function for upcoming generations, Chinese customers show even more excitement compared to global average

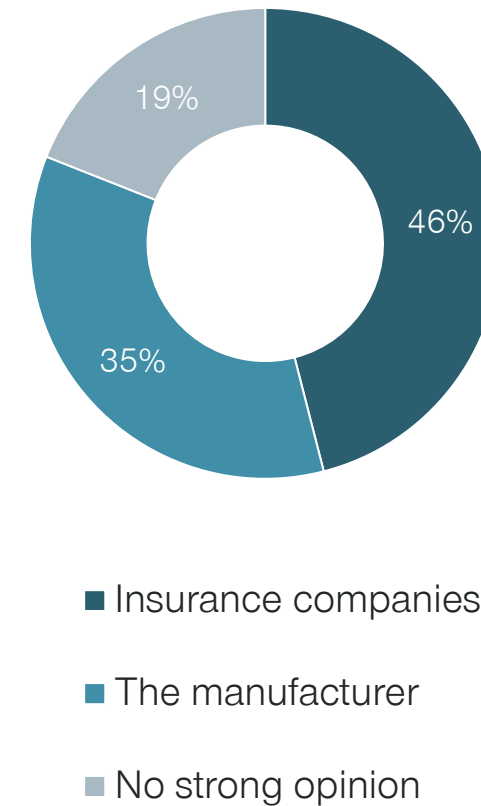
Attitude to autonomous driving



Top 3 most excited countries:
UAE, Saudi Arabia, India

Top 3 most afraid countries:
Belgium, Netherlands, and Norway

Responsibility in an accident

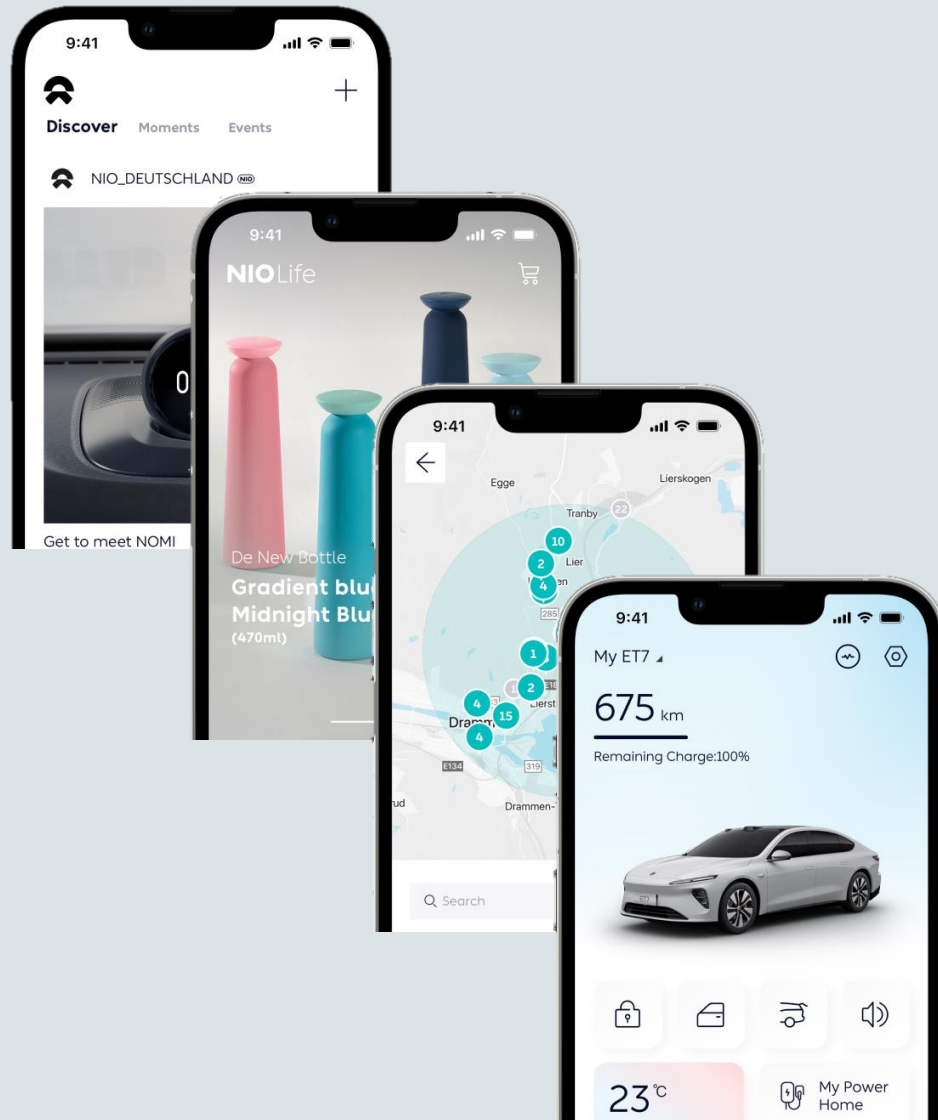


China's November 2020 roadmap aims to achieve 20% of new vehicle sales with Level 4 capabilities, operating without a driver under specific conditions, by 2030

NIO and XPeng have developed the NIO Autonomous Driving and XPilot ADAS technologies



- NIO has **complete in-house NAD expertise**, including perception algorithms, localization, control strategy, and platform software **enabling safer and more relaxed driving**, encompassing expressways, urban areas, parking, **and battery swap use cases**
- XNGP, with the help of **China's largest autonomous driving supercomputing center and a self-evolving AI system**, is developing its own autonomous driving software for vehicles that **continuously enhance its driving assistance capabilities** through closed-loop data feedback



Full digital experience with a Super App: NIO
leverages smart vehicle application to digitize
both pre and aftersales processes

- ✓ **Remote vehicle control**
- ✓ **Mobile vehicle customization and sales**
- ✓ **Maintenance and test drive** scheduling
- ✓ **Charging station map**
- ✓ **Social platform**
- ✓ **E-commerce platform** for own merchandise

Thank you