



**LANGSTON**

Electric Vehicle  
Feature Deep Dive

October 2023



# Summary of Findings

1. *Saving money on fuel and minimizing maintenance costs* are under-served needs in the United States and Germany.
2. When it comes to EV Benefits, *Reliability/ Durability, Best-In-Class Safety, and High Fuel Efficiency* stand out as table stakes (necessary but insufficient conditions for brand consideration). However, *Comfort* is a top brand differentiator in the United States and Germany, while a *Delightful In-Car Experience* is in China.
3. Chinese and German consumers perceive German brands (like Mercedes, BMW, and Audi) as delivering best on *Reliability/Durability, Comfort and Safety* while Americans tend to rank Japanese brands (Toyota and Honda) as most *Reliable/Durable*. Consumers across all three markets perceive Tesla as offering a *Delightful In-Car Experience/Technology* and good *Fuel Efficiency*.
4. Chinese consumers are much more innovation/technology-forward than their American or German counterparts. Nearly half say they think they'll put more emphasis on technology in the future while only ~1 out of 3 American consumers and less than one in four German consumers say the same. That said, consumers in all markets prefer innovations that will *keep them safe and save time*.
5. When it comes to brands perceived to “lead the way” and innovate within the EV space, Tesla shines. Mercedes performs well across markets, while Chinese brands Nio and BYD are seen as leaders in their home market. Toyota and Audi land in second place in the US and Germany, respectively.



# Study Background & Research Scope

## Main Objectives

- Uncover the prevalence, metness, and importance of consumer needs (jobs-to-be-done) relating to electric vehicles and transportation.
- Identify vehicle features that are “table stakes”, the attributes that are required for consumer consideration, and key differentiators in this space.
- Evaluate how Chinese, American, and German consumers perceive established and upstart electric vehicle brands on the features that matter most to paint a clear picture of the competitive landscape.
- Understand how consumers predict their motivations and beliefs will change in the future, as well as the brands they trust to innovate going forward.

## Methodology & Qualifying Criteria

- Survey collected responses from 18–74-year-old electric vehicle owners & intenders in the United States (n=576), Germany (n=570), and China (n=495).
- Survey consistent of modules focused on consumer needs, feature testing, and category engagement.
- Survey ran from October 6<sup>th</sup> – October 9<sup>th</sup> 2023
- In order to conduct unbiased and objective research, this study was privately funded by The Langston Co.

## Survey Modules



### Jobs-to-be-Done

Exploring the prevalence, importance, and metness of consumer needs (jobs-to-be-done) in the space.



### Category Engagement

Detailed view into how and why consumers engage with the category.



### Table Stakes & Differentiators

Uncovering the features that matter most to consumers and how select brands perform on these priority attributes.



### Respondent Characteristics

Questions asked at the beginning and end of the survey to shed light on consumer behavior & attitudes in the space while also serving as segmentation variables.

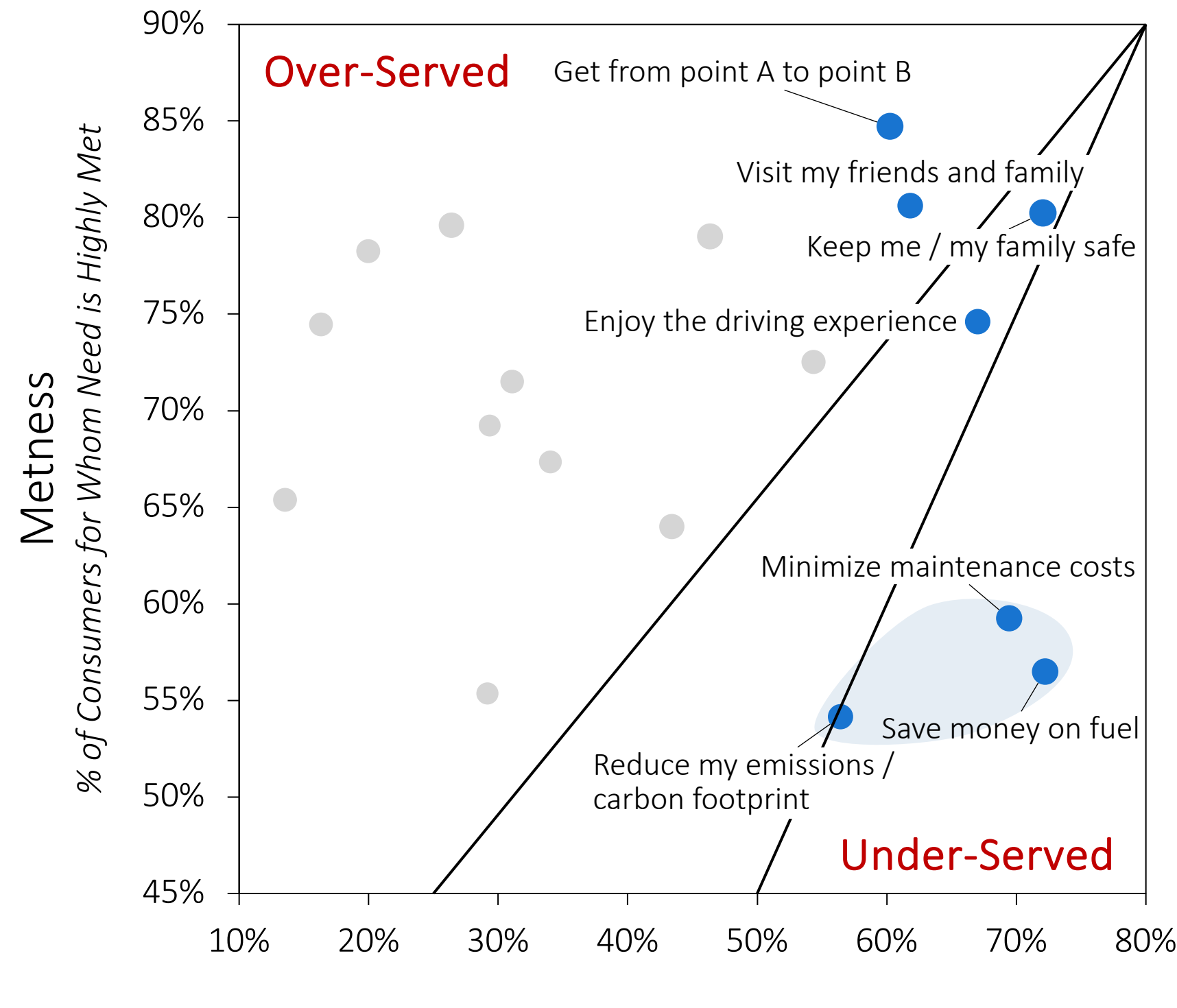


Financial needs (e.g., saving money on fuel and minimizing maintenance costs) are the most underserved need among EV Owners & Considerers in the United States and Germany.

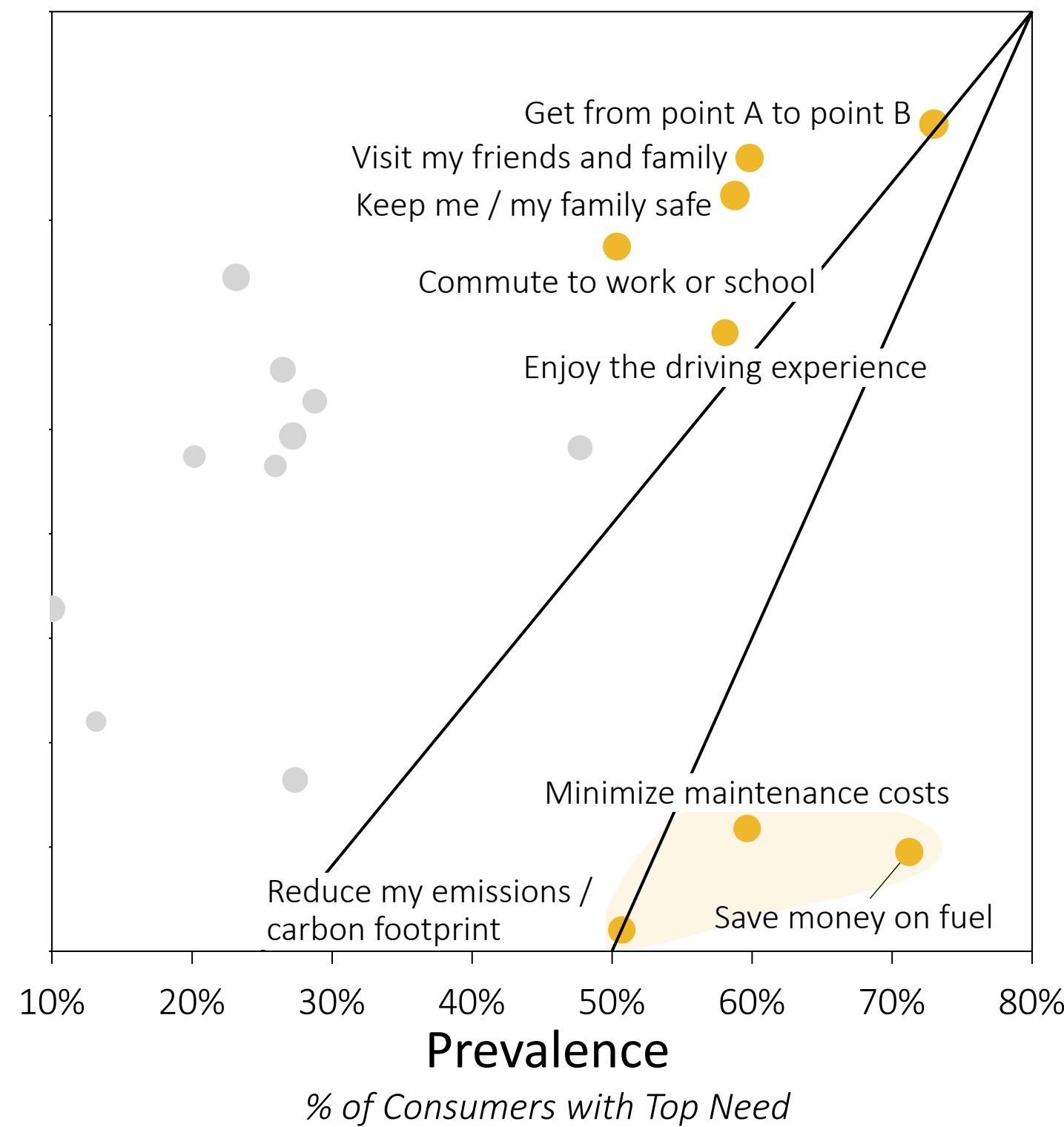
Reducing emissions is the next most under-served need among this audience, illuminating consumers' underlying motivations for displaying interest in an alternatively-powered vehicle.



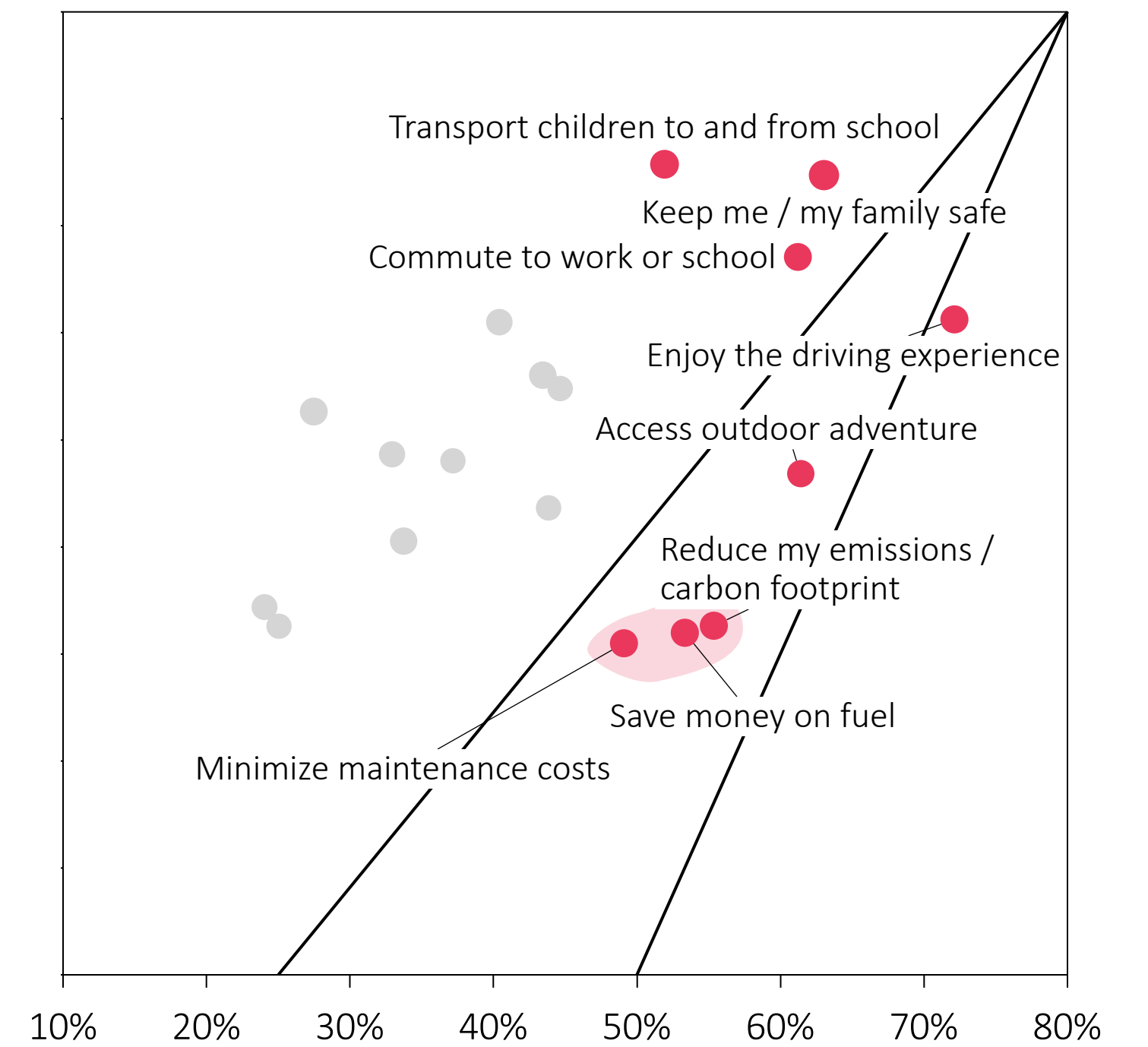
Consumer Needs Map  
United States



Consumer Needs Map  
Germany



Consumer Needs Map  
China



It is also worth noting that there is a cluster of functional jobs-to-be-done related to transportation in the top right of each market's needs map, indicating that these needs are prevalent but well-served by existing brands and solutions. While it may be difficult to better-serve these needs with existing technology, if a brand can successfully create innovative solutions, such as creating novel safety features, they can be expected to resonate with consumers and drive conversion.



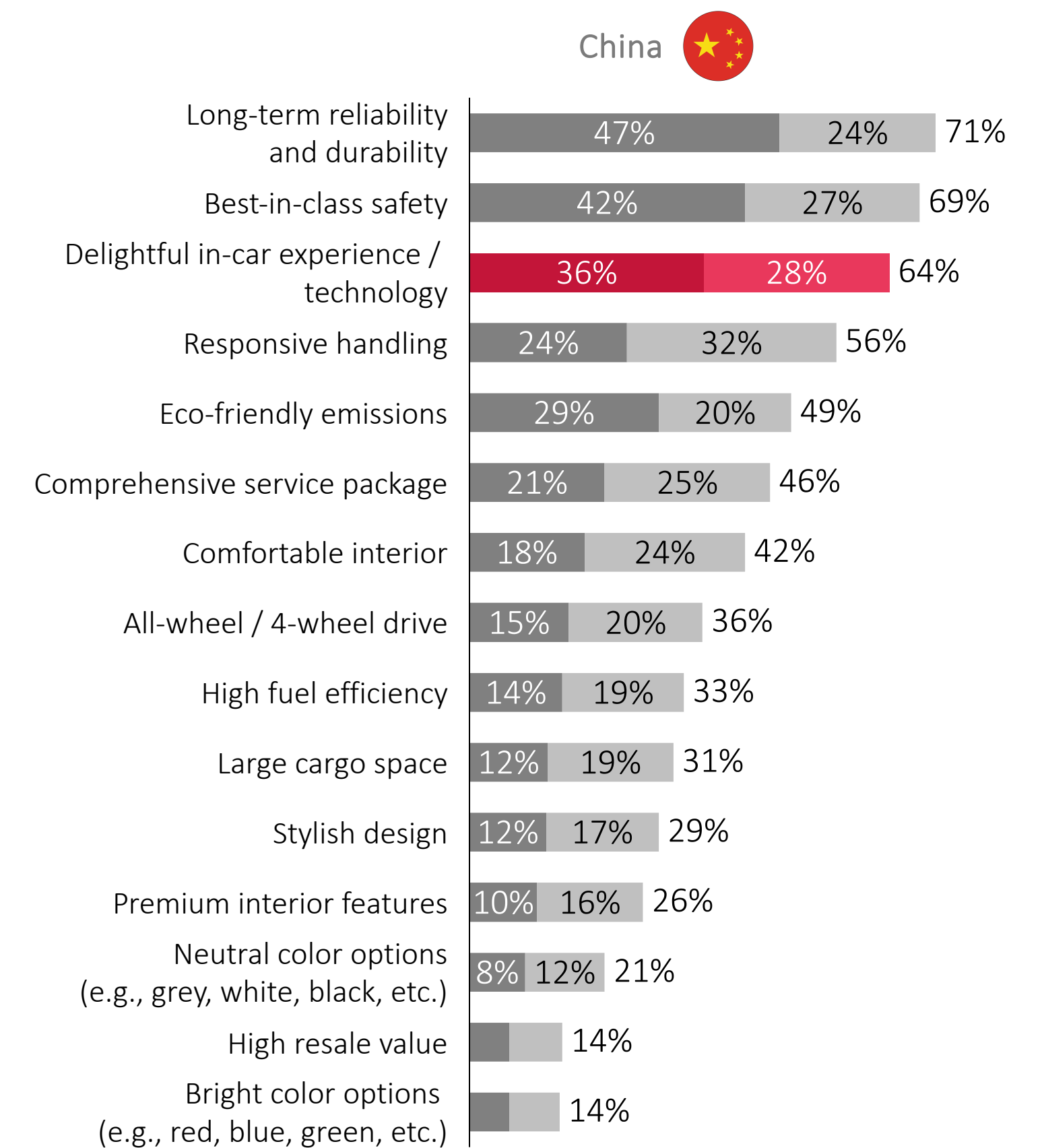
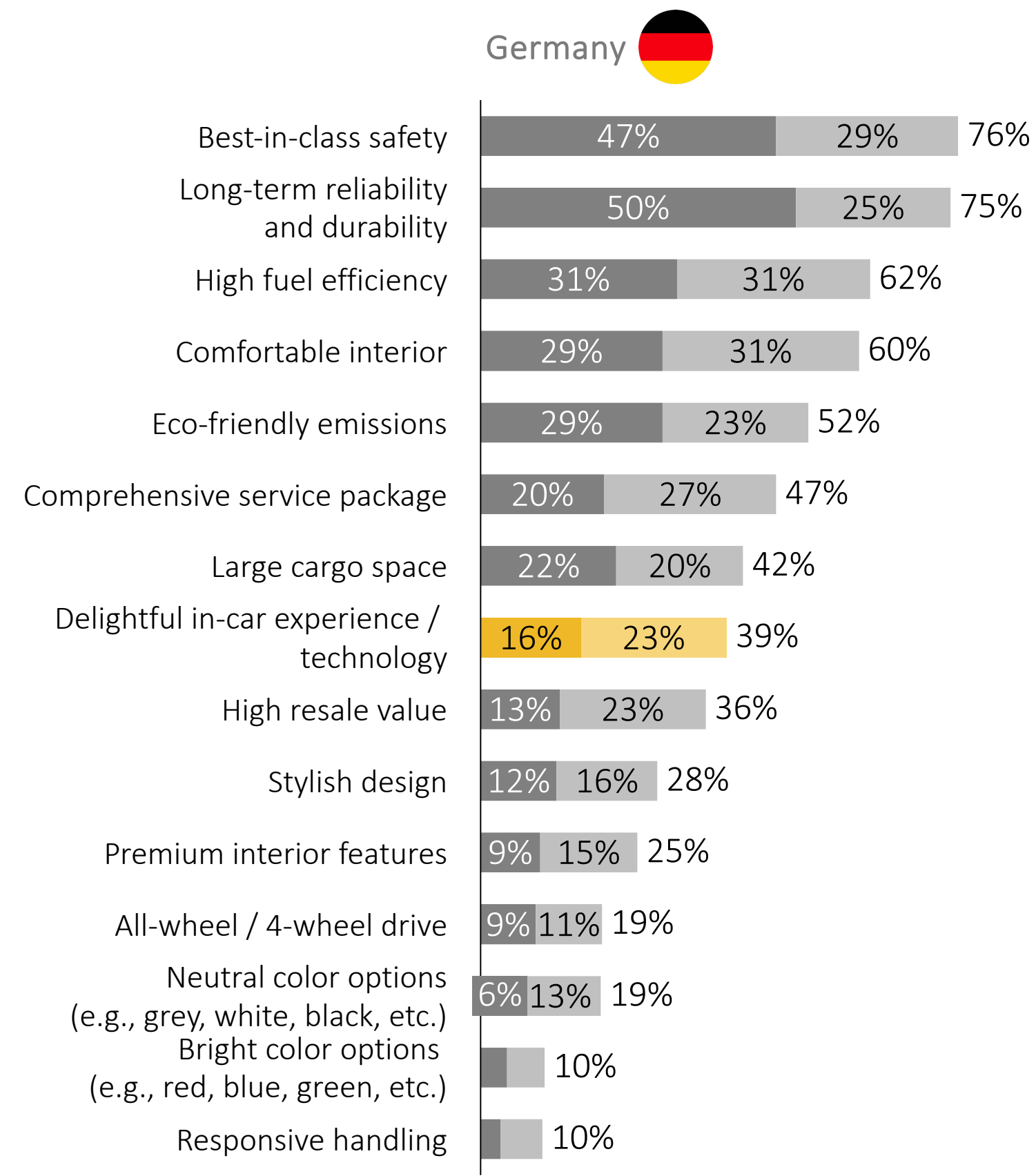
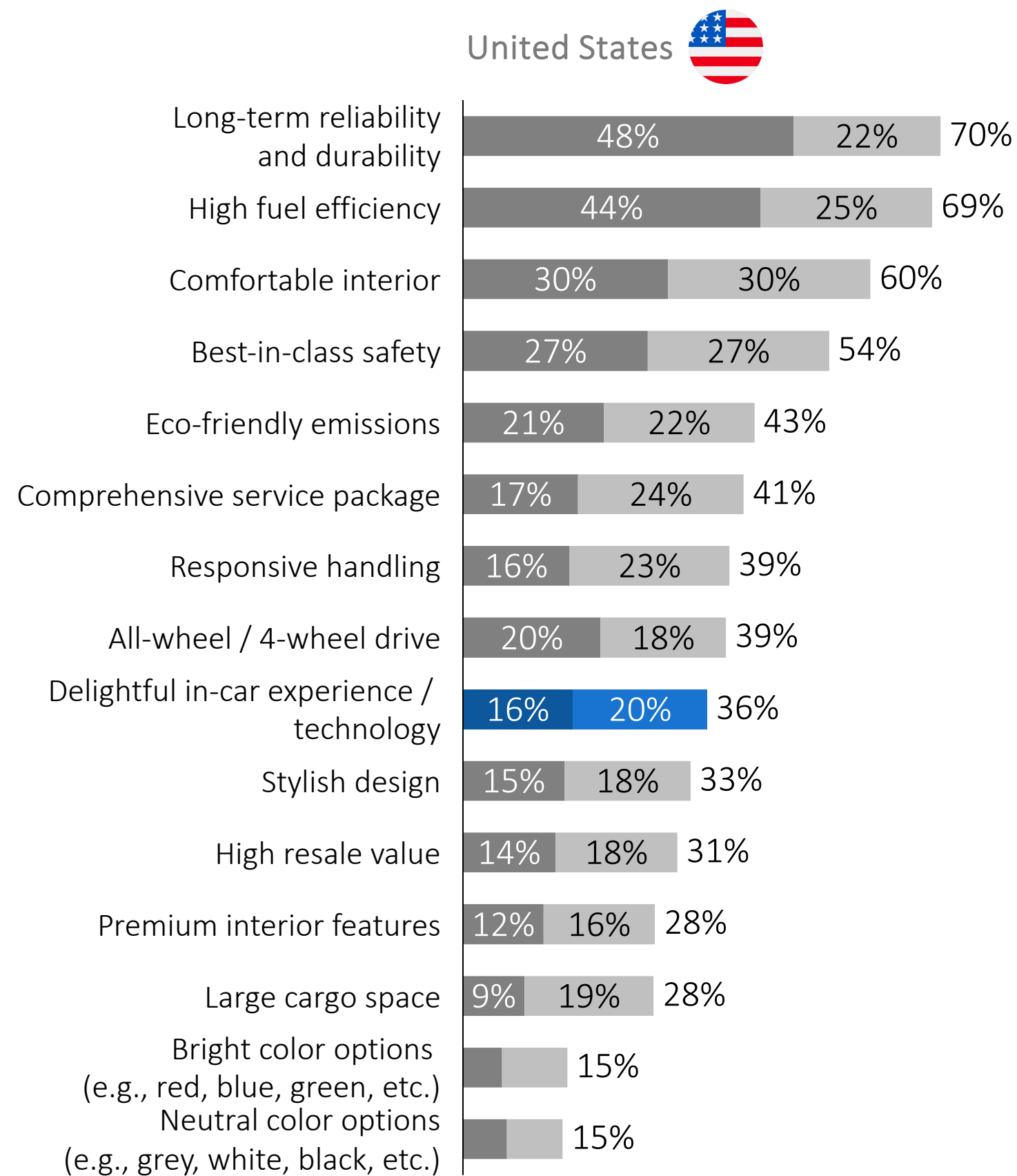


# Consumers will consider EV brands that message and deliver on *Reliability/Durability, High Fuel Efficiency, Comfort, and Best-In-Class Safety*.

*Resale Value, Premium Interior Features, Large Cargo Space, and Color Options*, while important to some in the market, fail to achieve a critical threshold of consumer votes as Table Stake Features or Differentiating Features.

## Vehicle Table Stakes & Differentiators

■ Table Stakes ■ Differentiators



*Table Stakes: When thinking about cars, which of the following attributes does a brand or product need to have in order for you to consider buying it?*

*Differentiators: Assuming a brand or product met your needs of having [attribute01], [attribute01], and [attribute01], which of the following attributes would make you more likely to buy a car brand's products.*



## EV Considerers in China are more Focused on Technology Features than their German and American Counterparts

1-in-3 Chinese respondents indicated that a car must have high-quality in-car technology to consider purchasing, more than 2x higher than Americans or Germans.

*(36% China, 16% US, 16% Germany)*





Consumers in all three markets perceive Mercedes-Benz as performing well on the attributes that matter most, a clear sign of the brand's strength.

Tesla over-indexes on ratings of providing delightful in-car experience and technology, which makes sense given the brand's futuristic designs and innovative features (e.g., door handles, display screen, etc.).

Brand Ratings – Select Attributes  
 % Top 2 Box, Among Brand Familiar Consumers Who Selected the Attribute

Brand	Reliability & Durability			Best-in-class Safety			Comfortable Interior			High Fuel Efficiency			In-car Experience/Tech.		
Mercedes-Benz	46%	56%	59%	53%	65%	64%	67%	60%	69%	28%	27%	42%	68%	67%	55%
Volkswagen	37%	40%	43%	36%	46%	39%	36%	38%	47%	32%	26%	30%	30%	37%	38%
BMW	42%	44%	56%	51%	52%	57%	62%	50%	64%	33%	20%	43%	62%	48%	54%
Audi	43%	45%	54%	54%	55%	53%	63%	48%	55%	30%	24%	39%	60%	58%	48%
TOYOTA	62%	34%	47%	49%	37%	39%	45%	25%	44%	45%	31%	55%	39%	33%	40%
HONDA	58%	22%	46%	45%	26%	41%	39%	21%	42%	40%	14%	49%	35%	20%	39%
BYD	60%	7%	45%	40%	7%	49%	0%	11%	46%	67%	21%	46%	50%	40%	52%
NIO	33%	56%	44%	40%	53%	50%	33%	11%	51%	43%	42%	55%	40%	80%	53%
TESLA	34%	31%	43%	43%	39%	48%	54%	38%	61%	70%	40%	47%	70%	66%	59%
Market Attribute Ranking (out of 15)	1st	2nd	1st	4th	1st	2nd	3rd	4th	7th	2nd	3rd	9th	9th	8th	3rd

Note: Color coding applied at the column level to brands that over-index (>120, green) or under-index (<80, red) relative to the market average. Brands with base sizes smaller than n=50 have been greyed out.



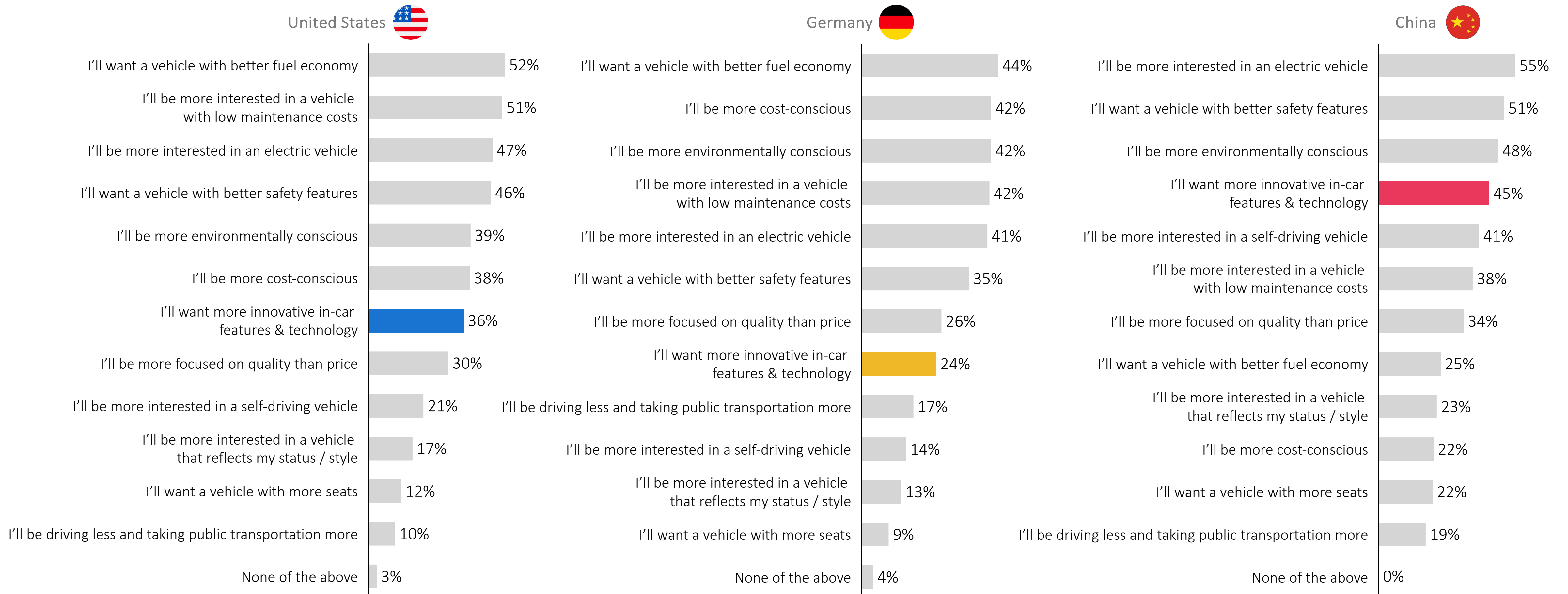


# Chinese consumers are much more innovation/technology-forward than their American or German counterparts.

Nearly half say they think they'll put more emphasis on technology in the future while only ~1 out of 3 American consumers and less than one in four German consumers say the same.

## Expected Changes

*In the next few years, how do you think your motivations and needs related to cars will change?*





# German, American, *and* Chinese consumers prioritize Fast Charging and Advanced Safety Features. The hierarchy of importance among the other 19 features tested varies somewhat across markets.

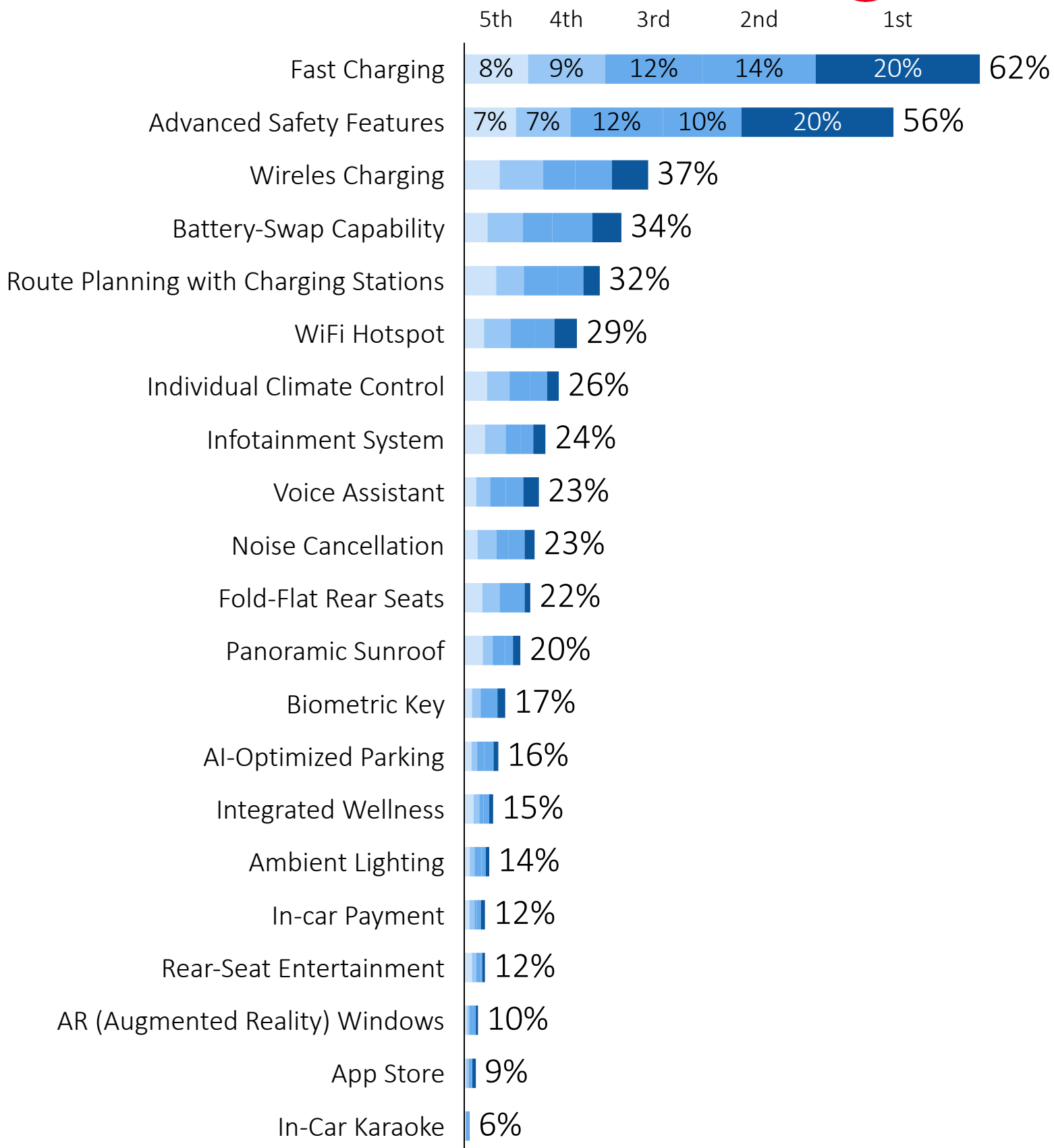
Note that consumers prioritize features that will **save them time and money** and **keep them safe**. Features that make the overall experience more delightful – like Rear-Seat Entertainment, In-Car Karaoke, and Ambient Lighting – are important, but only matter alongside features that uphold safety and savings.

## Most Important EV Features

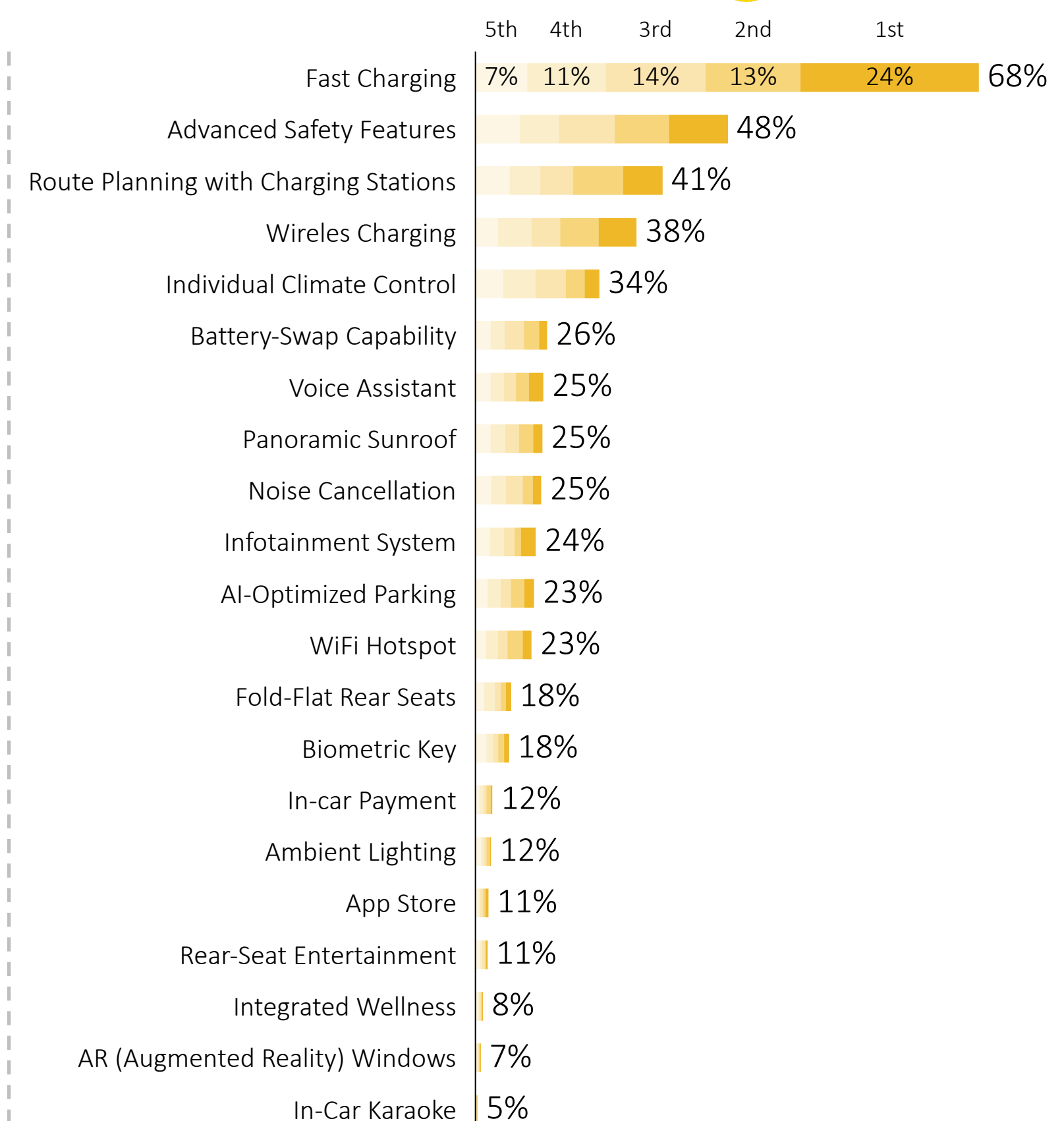
What features are you most interested in when choosing an electric vehicle?



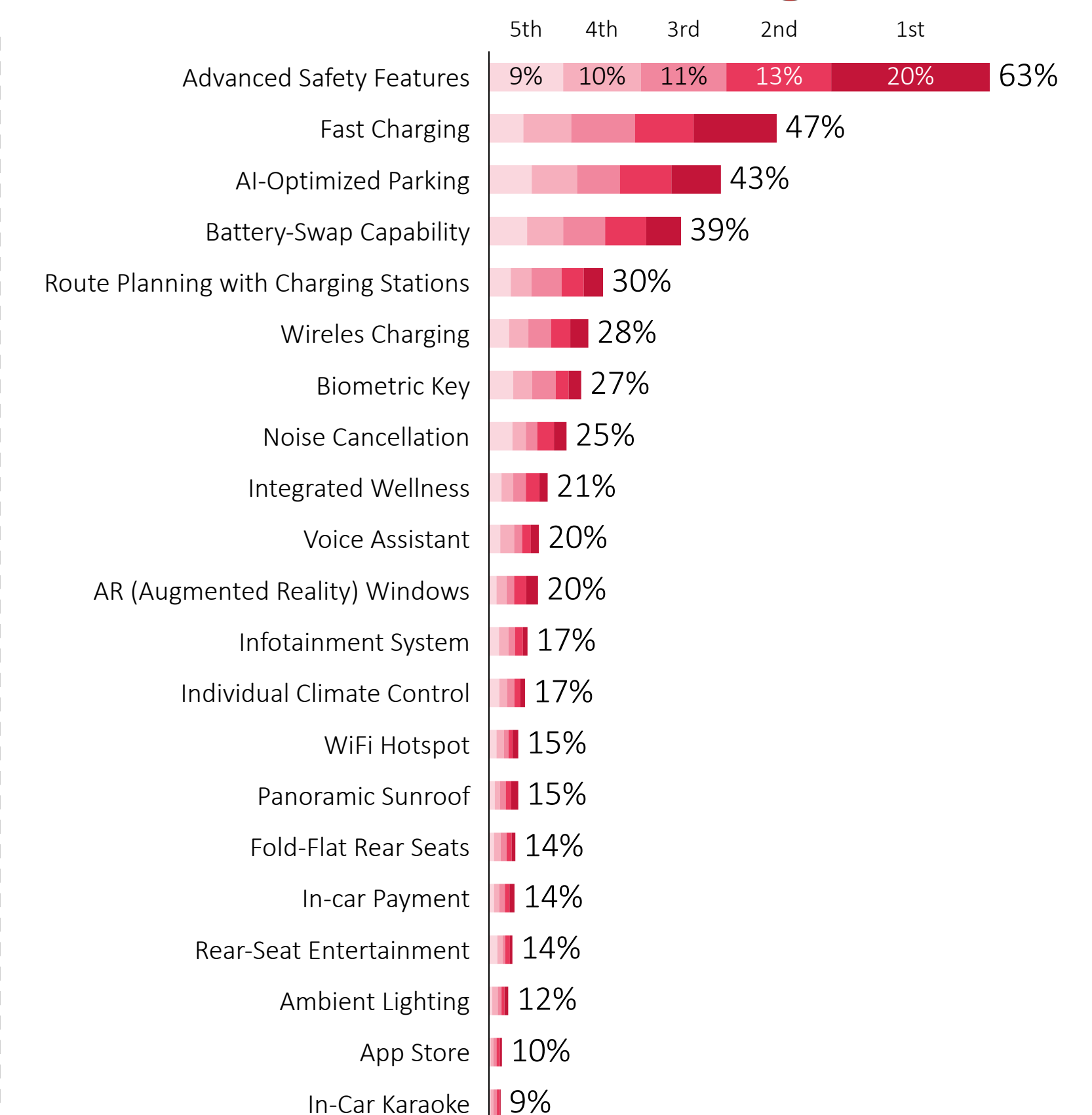
United States



Germany



China





## Battery Swap Capability is a Difference-Maker for Target Carbuyers

About 1-in-3 shoppers considering an EV say that the ability to swap out the battery is one of their *most* important features. Almost no manufacturers offer this as a leading feature today.

*(39% China, 34% US, 26% Germany)*

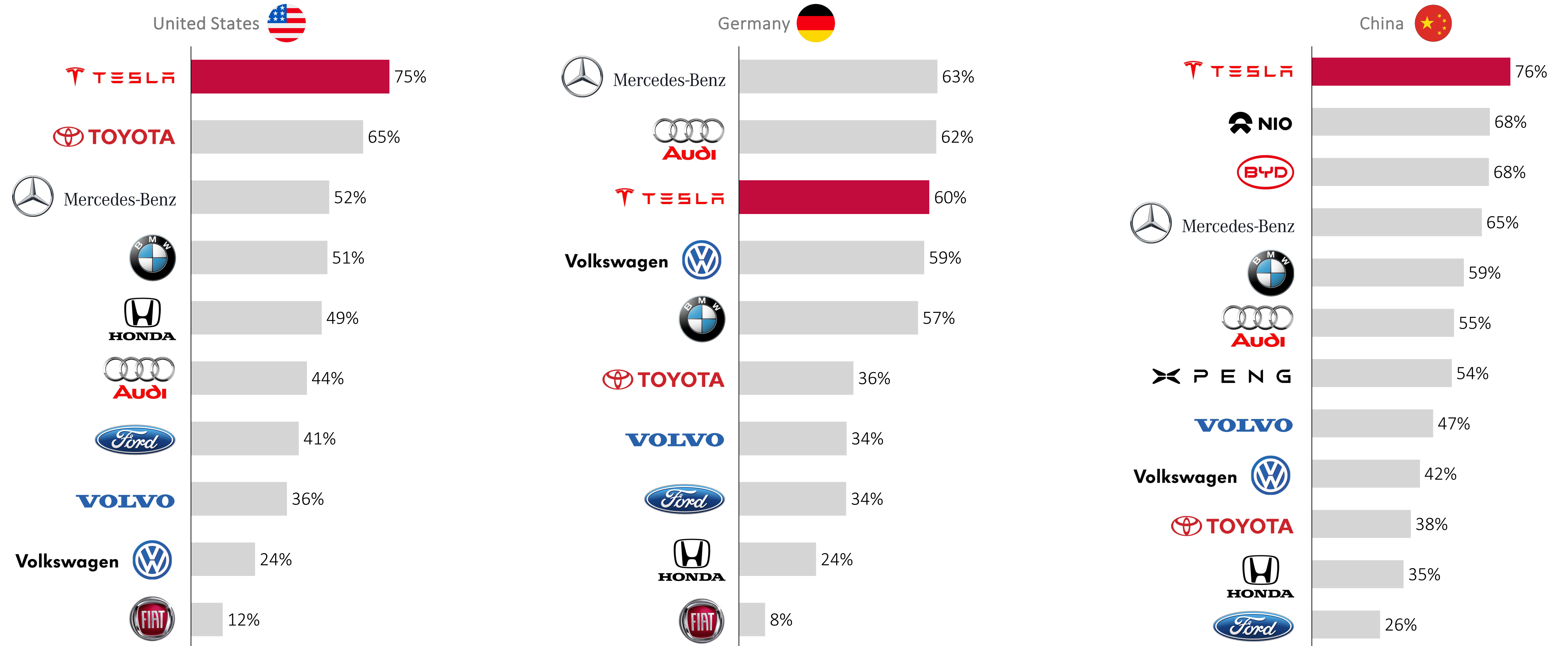


# When it comes to brands perceived to “lead the way” and innovate within the EV space, Tesla shines.

Mercedes performs well across markets, while Chinese brands Nio and BYD perform best in their home market. Toyota performs well in the US and Audi in Germany.

## Familiar → Trust to Innovate Conversion

*As the future of cars change, which brands would you trust to "lead the way" and innovate within the space?*



Note: brands with less than n=50 familiar consumers have been removed to improve readability of insights.



Thank you for taking the time to read our summary report!

If you have questions, comments, or would like to know more insights from our robust EV research database, please reach out to our team at [contact@thelangstonco.com](mailto:contact@thelangstonco.com).

We are continuing to collect data on the automotive space in markets around the globe. Please keep your eyes out for updates to this report, as well as more insights from our ongoing EV Brand Health Tracker in the United States, Germany, and Japan.







# About Langston

## Our Story & Philosophy

The Langston Co. was founded in 2018 when the worlds of a demographer and economist collided in a venture-backed startup that was later acquired by NBCUniversal. Langston is a Denver-based insights and strategy firm with 10 consultants and advisors across the globe.

We pride ourselves in delivering robust, human-centered research to our clients faster than traditional insights agencies. Our philosophy is that insights can't simply be interesting; they must inspire stakeholders and galvanize action.

## Our Experience



*“The team’s passion for understanding people showed through each project we worked on and was the key differentiation between their team and all the other partners in this increasingly complex space.”*

*-Brand Manager, Anheuser-Busch*

*“Their analytical approach was a perfect fit for our insights needs, and provided a unique perspective on how we can activate and engage consumers across key generational cohorts. We very much look forward to working with the team again!*

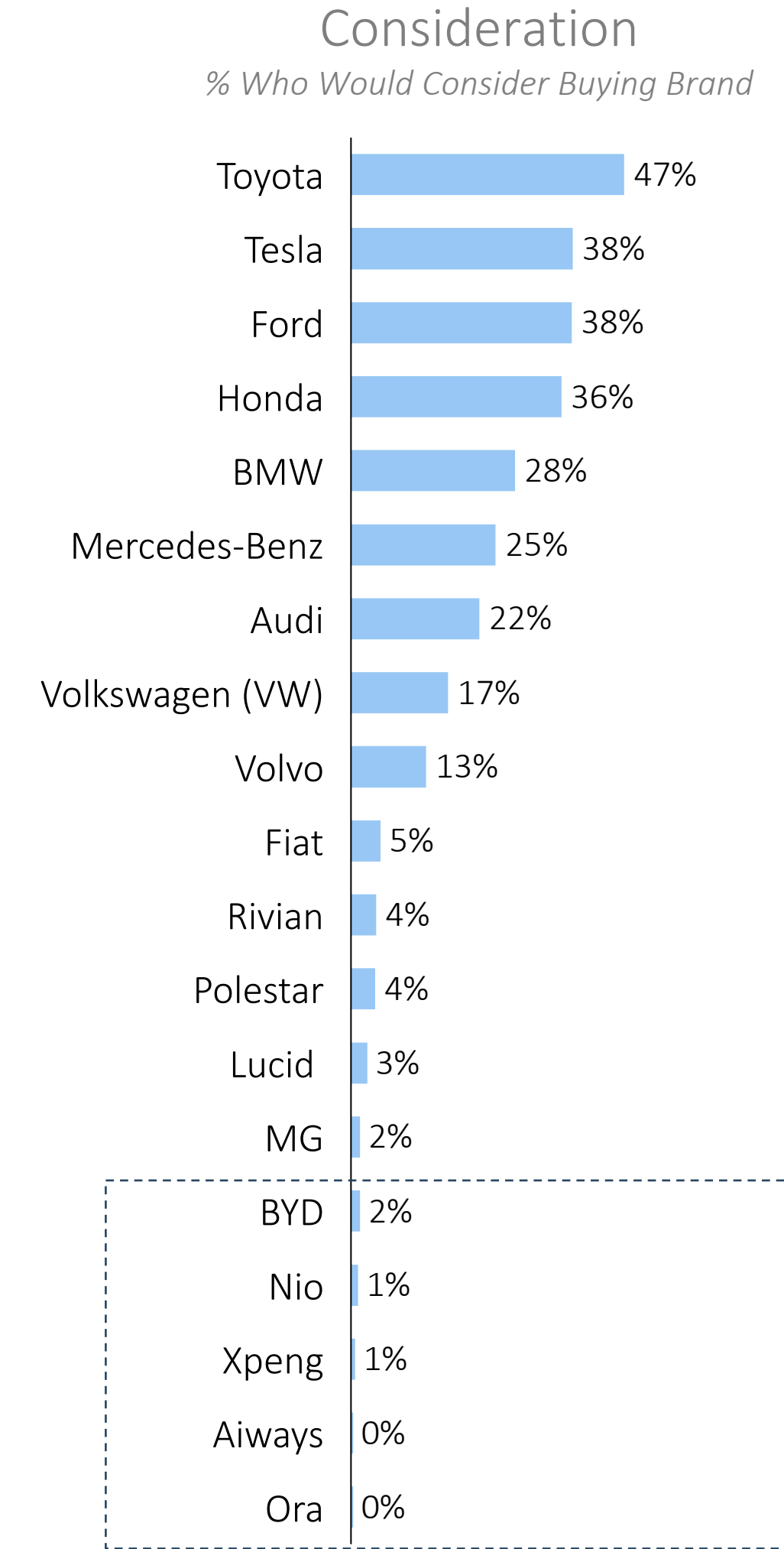
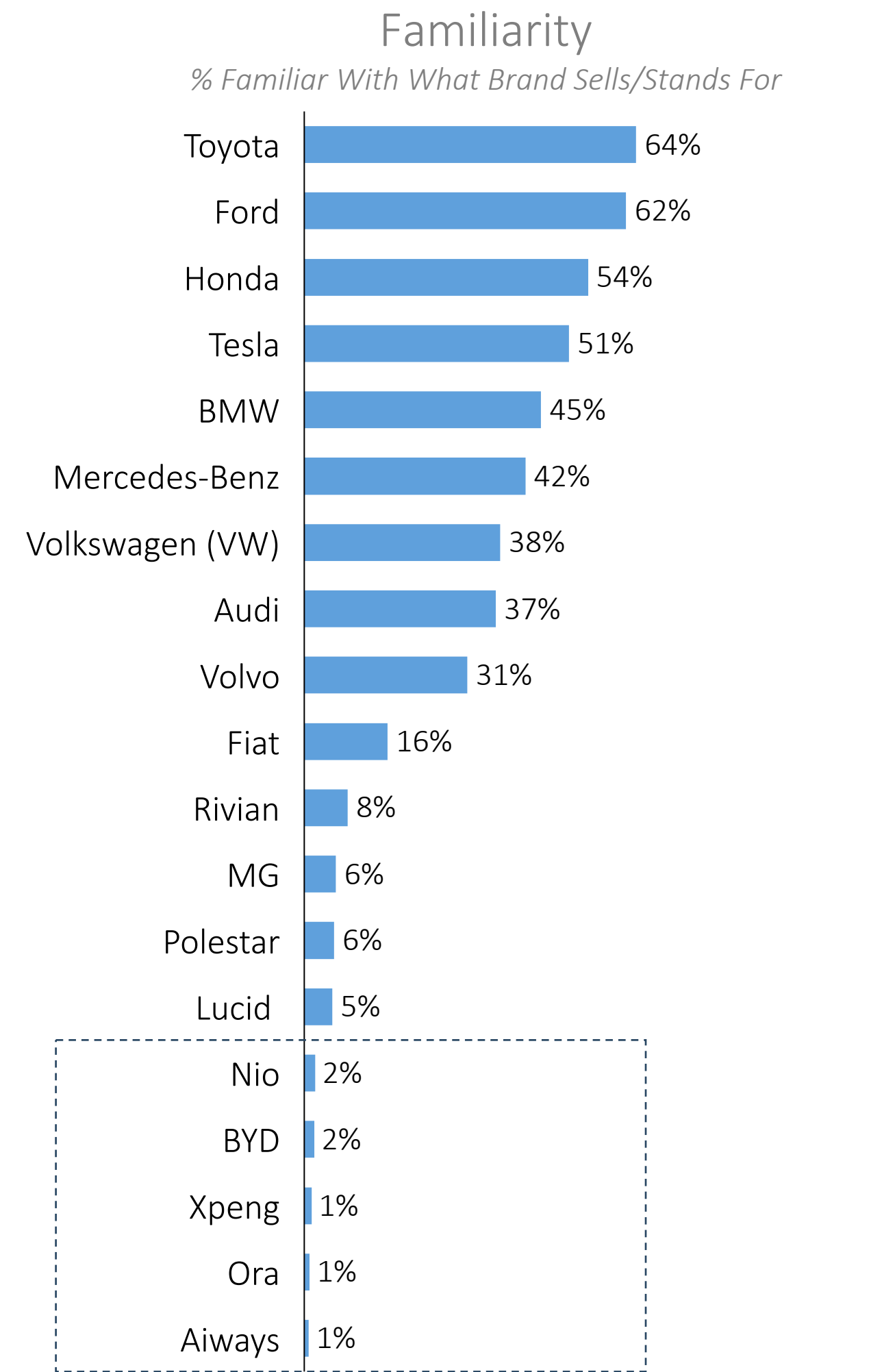
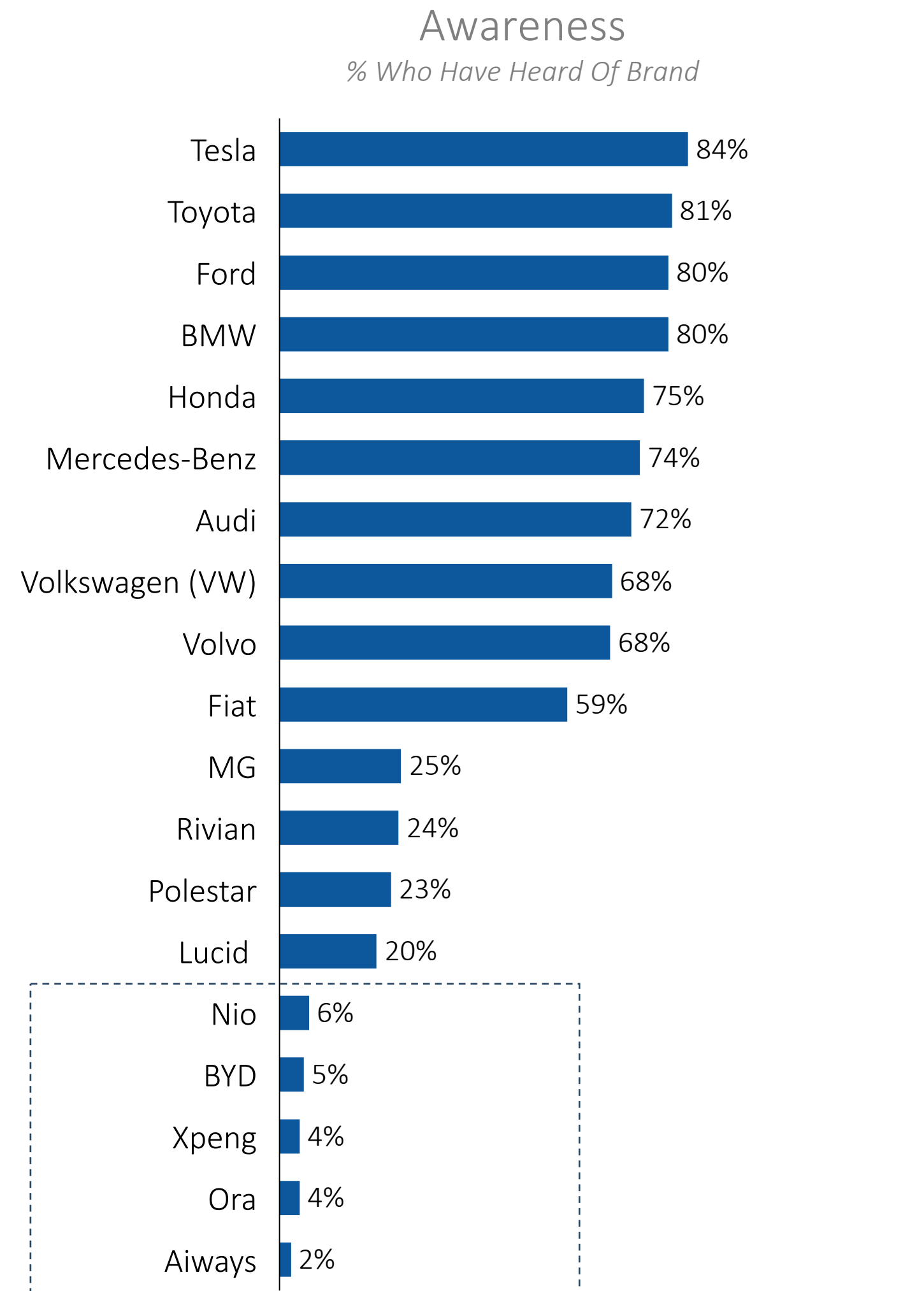
*-Brand Manager, Nestlé*





# In the US, Chinese EV brands NIO, BYD, Ora, Aiyways, and Xpeng have ultra-low awareness and negligible consideration.

Chinese EV brands have little shot at being formidable competitors without *significant* investments in building awareness.

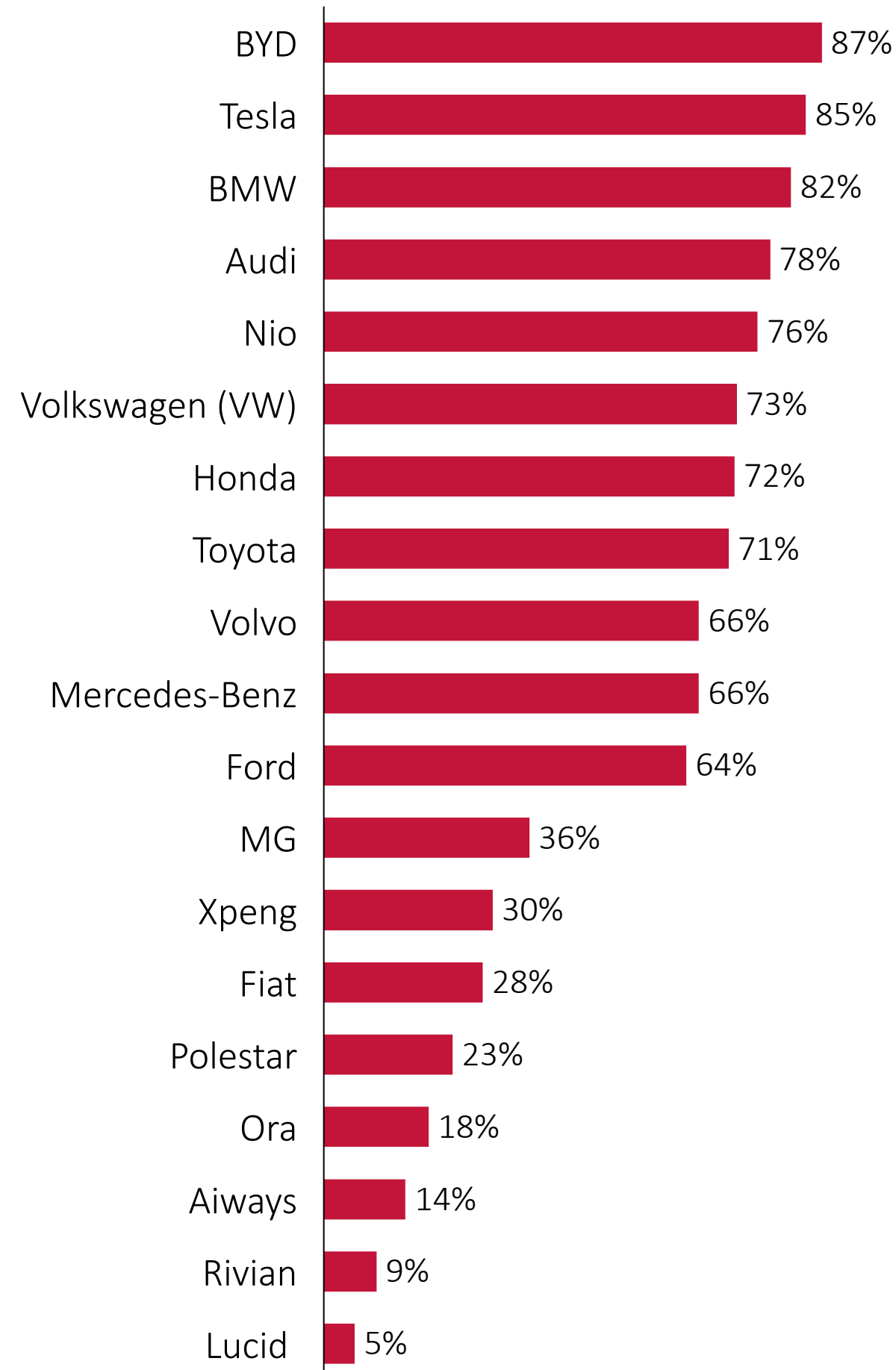




In China, consideration for BYD (52%) is higher than every brand except Tesla.  
 Consideration for NIO exceeds that of Mercedes, Toyota, Volkswagen, and Ford.

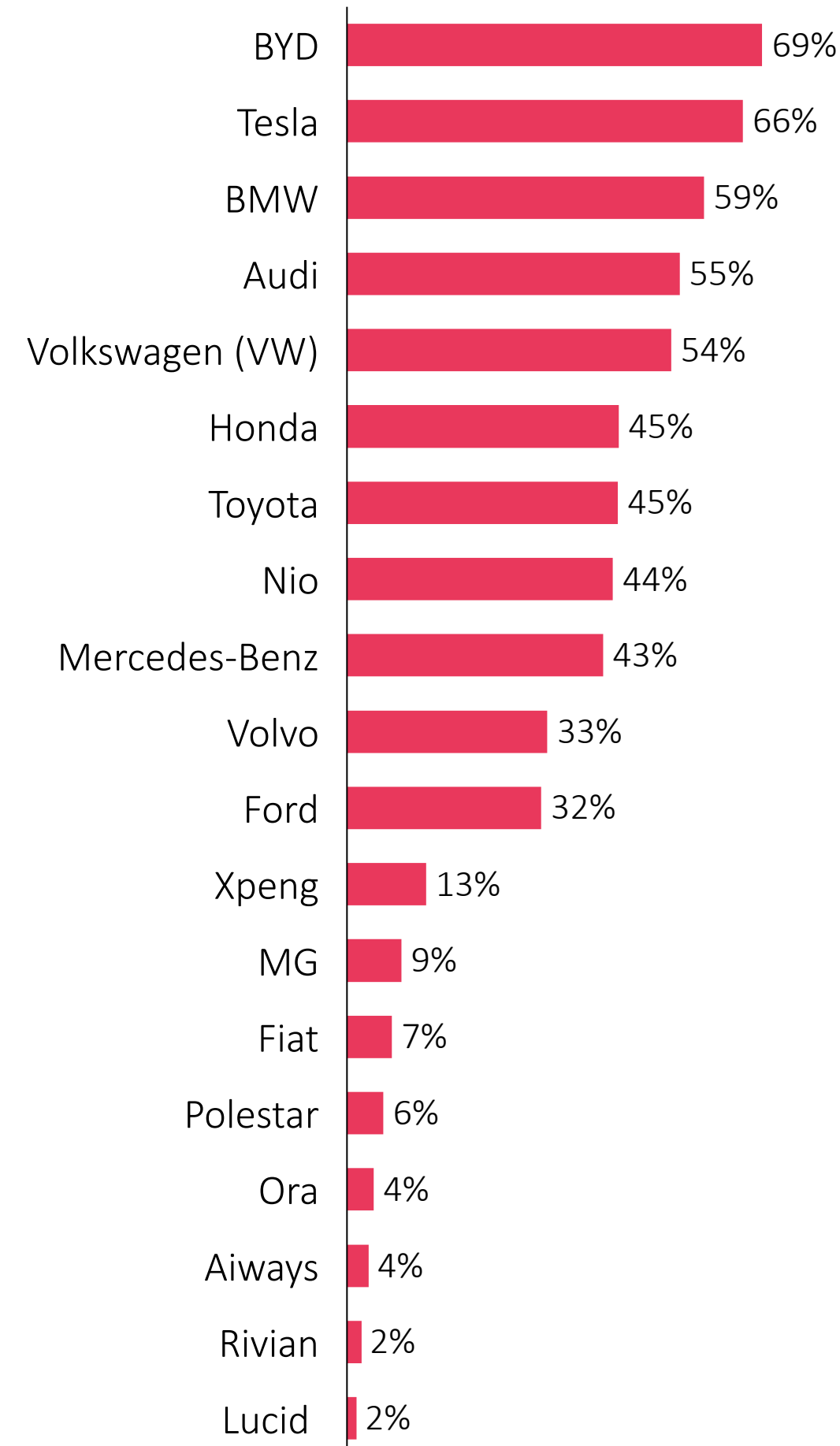
### Awareness

*% Who Have Heard Of Brand*



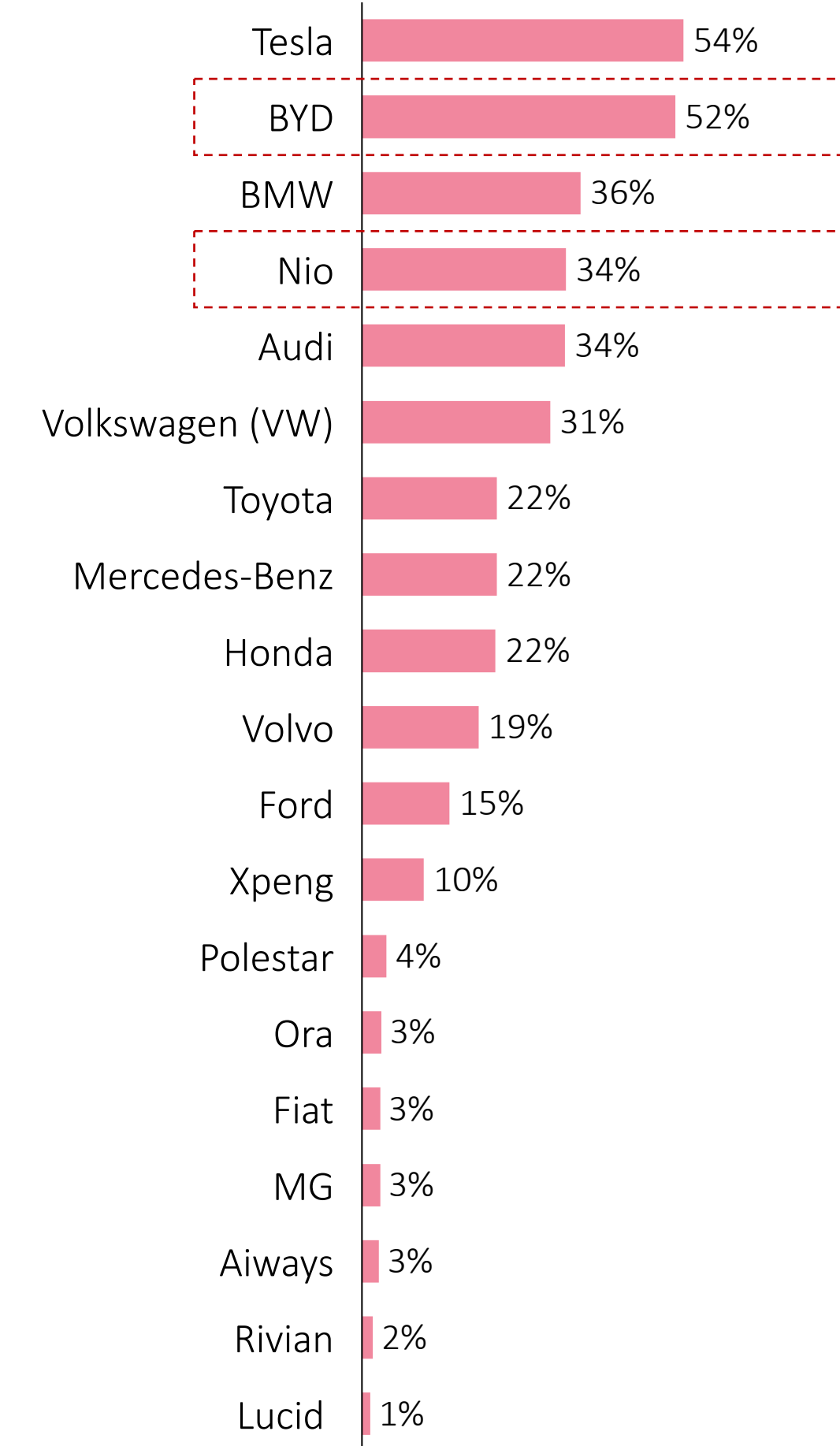
### Familiarity

*% Familiar With What Brand Sells/Stands For*



### Consideration

*% Who Would Consider Buying Brand*







# In Germany, Chinese EV brands NIO, BYD, Ora, Aiways, and Xpeng have low awareness and even lower familiarity and consideration.

These brands simply cannot “take over” the German market without massive top-of-funnel (awareness building) investments).

