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2019 Deloitte Global Automotive Consumer Study

Advanced vehicle technologies and multimodal transportation

Asia Pacific

To learn more about the Global Automotive Consumer Study, visit **www.deloitte.com/autoconsumers**

For a decade, Deloitte has been exploring consumers' changing automotive expectations and the evolving mobility ecosystem.

Key insights from our Global Automotive Consumer Study over the years:

2009
Vehicle safety ranks as the top priority for consumers

2010
Overall value ranks as the primary factor when evaluating brands

2011
"Cockpit technology" and the shopping experience lead differentiators

2012
Interest in hybrids driven by cost and convenience, while interest in connectivity centers on safety

2014
Shared mobility emerges as an alternative to owning a vehicle

2017
Interest in full autonomy grows, but consumers want a track record of safety

2018
Consumers in many global markets continue to move away from internal combustion engines (ICE)

The Global Automotive Consumer Study helps inform Deloitte's work and insights into the evolution of mobility, smart cities, connectivity, transportation, and other changes transforming the movement of people and goods.

2019 Deloitte Global Automotive Consumer Study

From September to October 2018, Deloitte surveyed more than 25,000 consumers in 20 countries to explore opinions regarding a variety of critical issues impacting the automotive sector, including the development of advanced technologies. The overall goal of this annual study is to answer important questions that can help companies prioritize and better position their business strategies and investments.

Key insights

Consumers "pump the brakes" on interest in AVs

As the technology gets ever closer to scalable, real-world application, consumers are questioning if autonomous vehicles (AVs) are safe, which is causing some people to take a more cautious approach to the idea.

Electric vehicles finally showing potential to scale

Electric vehicle (EV) demand is growing in Asia Pacific (AP) and the European Union (EU) due to supportive environmental policies, big-brand bets, and shifting consumer attitudes. But low fuel prices in North America (NA) are keeping consumers away.

Consumers may be reluctant to pay for connectivity

Consumer opinions are mixed while interest in time-saving features is high, but significant concerns remain over privacy and data security. Original equipment manufacturers (OEMs) also face an uphill battle getting people to pay for it.

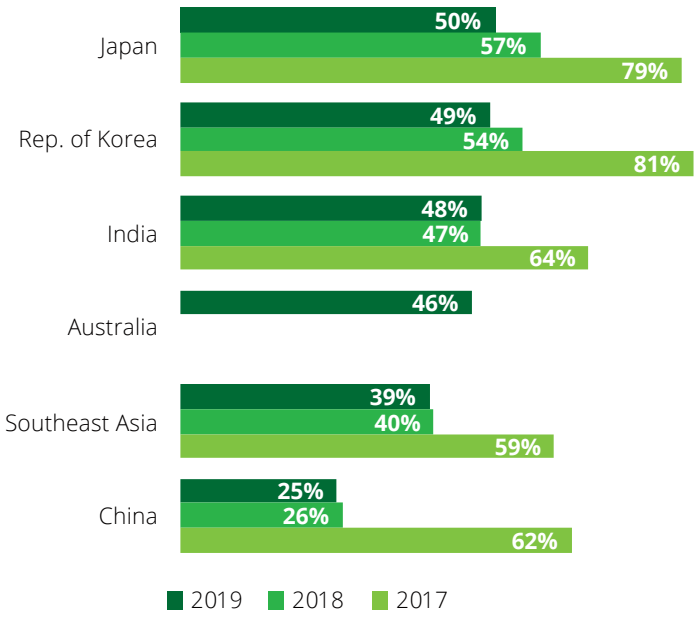
Mobility revolution faces significant headwinds

Overall consumer behavior is proving difficult to change. A shared mobility future may hinge on younger people that have fully embraced the precepts of a digitally enhanced existence.

Consumers "pump the brakes" on interest in AVs

Consumer perception regarding the safety of self-driving vehicles has stalled in the last year...

Percentage of consumers who agree that autonomous vehicles will not be safe



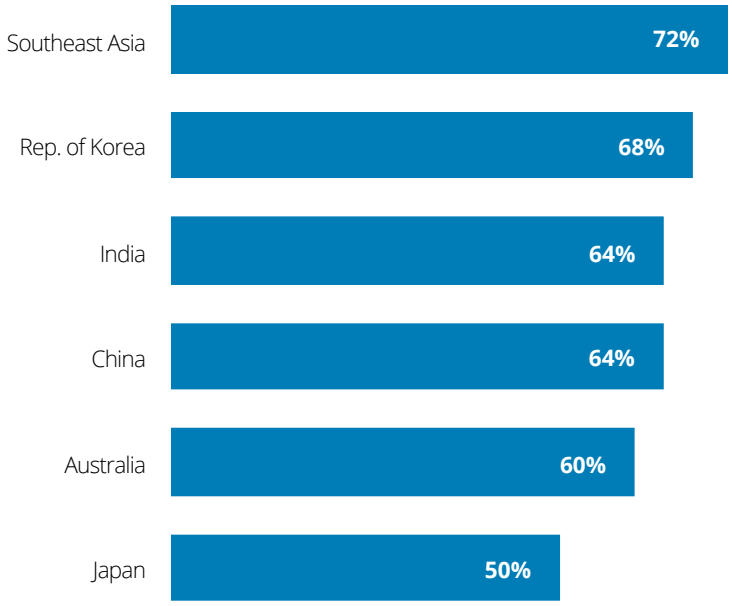
Note: Percentage of respondents who strongly agreed or agreed have been added together; Southeast Asia includes Indonesia, Malaysia, and Thailand; 2019 is the first year Australia has been included in the study.

Q3: To what extent do you agree that fully self-driving cars will not be safe?

Sample size: Australia=1,230 [2019], NA [2018], NA [2017]; Southeast Asia=1,498 [2019], 1,508 [2018], 1,416 [2017]; China=1,735 [2019], 1,724 [2018], 1,633 [2017]; India=1,725 [2019], 1,728 [2018], 1,686 [2017]; Japan=1,717 [2019], 1,680 [2018], 1,656 [2017]; Republic of Korea=1,715 [2019], 1,722 [2018], 1,633 [2017]

... as reports of accidents involving autonomous vehicles have had a significant impact on consumers' view of the technology.

Percentage of consumers who feel that media reports of accidents involving autonomous vehicles have made them more cautious of the technology



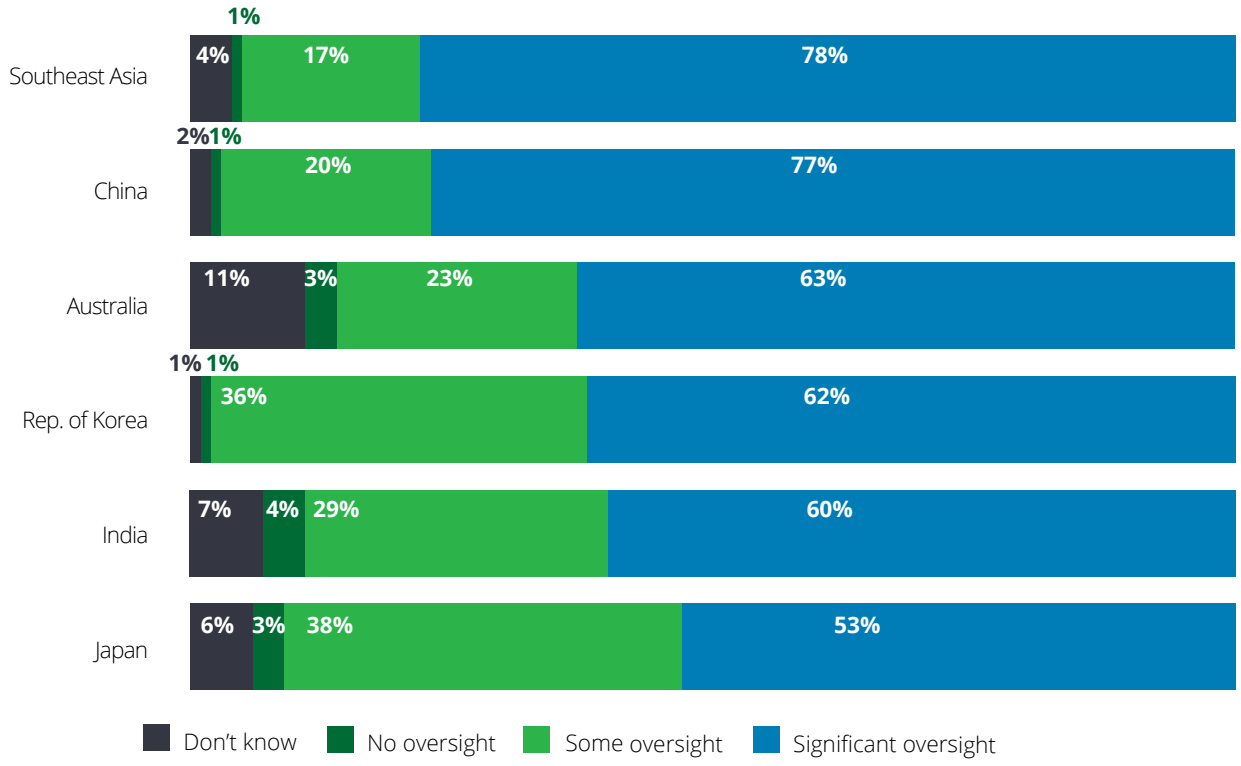
Note: Percentage of respondents who strongly agreed or agreed have been added together; Southeast Asia includes Indonesia, Malaysia, and Thailand.

Q3: To what extent do you agree that media reports of accidents involving autonomous vehicles make you cautious of the technology?

Sample size: Australia=1,203; Southeast Asia=1,484; China=1,722; India=1,705; Japan=1,691; Republic of Korea=1,689

A majority of consumers want their governments to exert a significant amount of control over the development and use of AVs.

Level of government involvement desired regarding the development and use of AVs



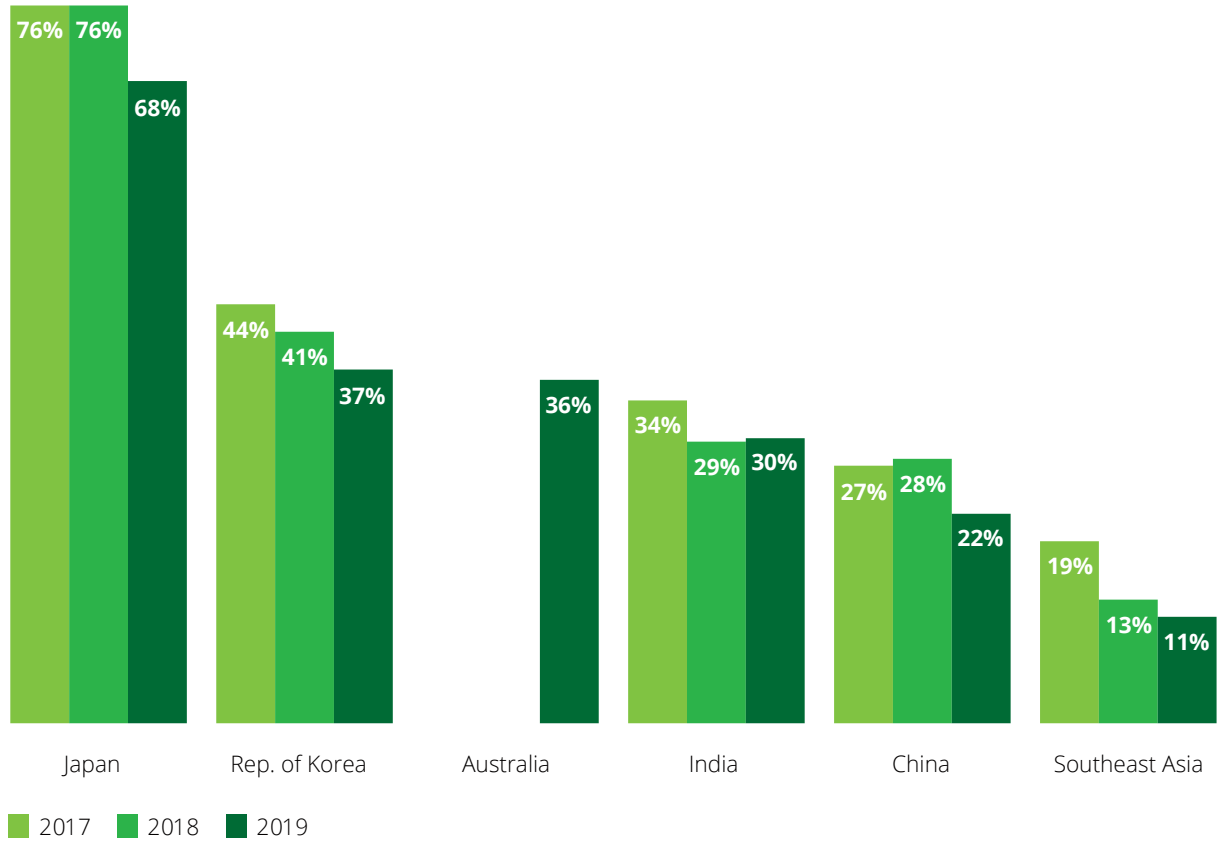
Note: Southeast Asia includes Indonesia, Malaysia, and Thailand.

Q7: To what extent do you think government should be involved in the development and use of autonomous vehicles by providing oversight and standards?

Sample size: Australia=1,252; Southeast Asia=1,517; China=1,760; India=1,755; Japan=1,770; Republic of Korea=1,731

Consumer trust in manufacturers to bring AV technology to market continues to erode across most core global auto markets.

Percentage of consumers that would most trust traditional automakers to bring fully autonomous technology to market



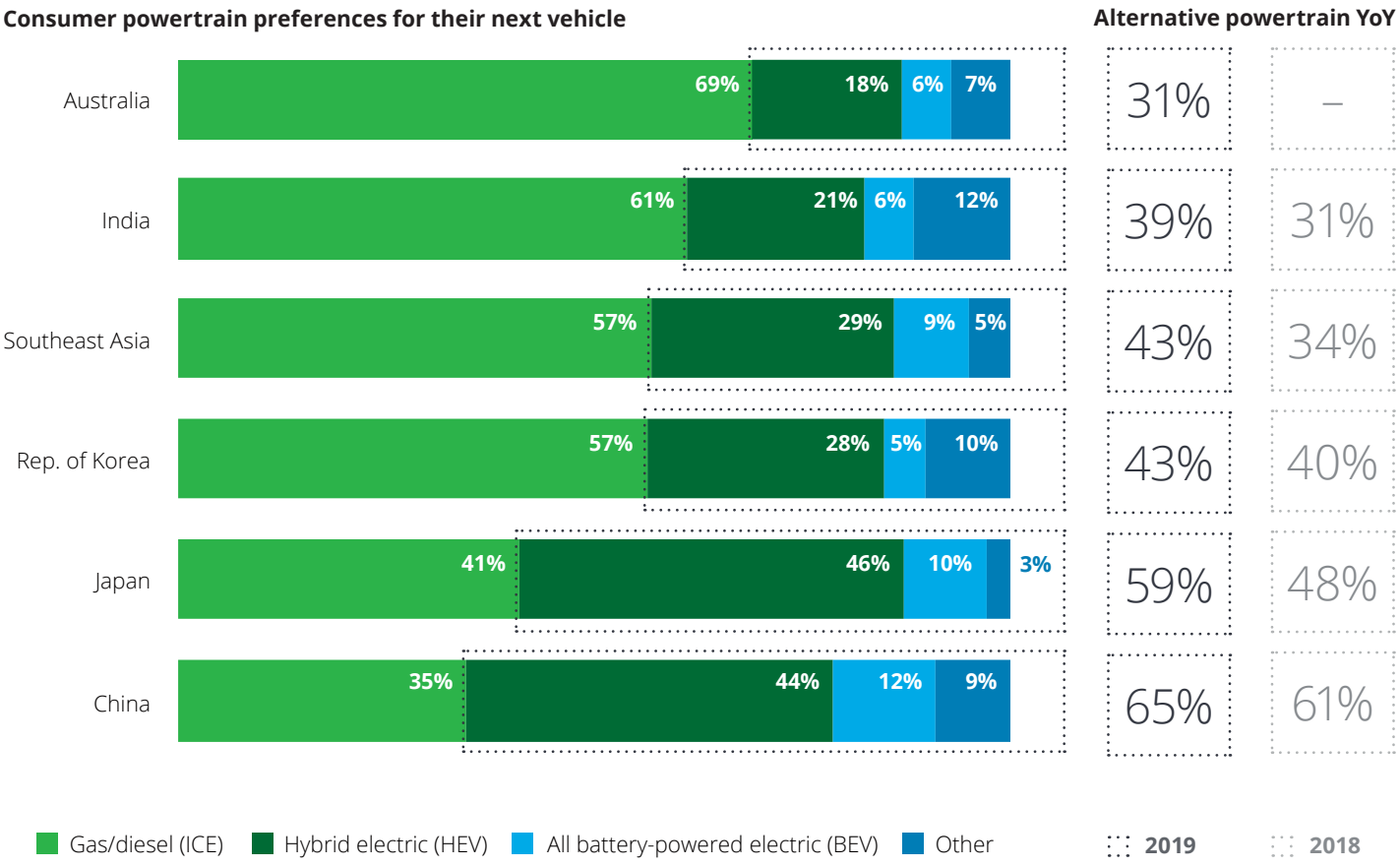
Note: 2019 is the first year Australia has been included in the global study; Southeast Asia includes Indonesia, Malaysia, and Thailand.

Q10: Which of the following type of company would you trust the most to bring fully autonomous (self-driving) vehicle technology to the market?

Sample size: Australia=1,252 [2019], NA [2018], NA [2017]; Southeast Asia=1,517 [2019], 1,523 [2018], 1,505 [2017]; China=1,760 [2019], 1,759 [2018], 1,748 [2017]; India=1,755 [2019], 1,761 [2018], 1,748 [2017]; Japan=1,770 [2019], 1,762 [2018], 1,747 [2017]; Republic of Korea=1,731 [2019], 1,763 [2018], 1,757 [2017]

Electric vehicles finally showing potential to scale

Interest in alternative powertrain technology continues to expand as fewer people want traditional internal combustion engines (ICE) in their next vehicle.



Note: "Other" category includes ethanol, CNG, and fuel cell; Southeast Asia includes Indonesia, Malaysia, and Thailand; 2019 is the first year Australia has been included in the study.

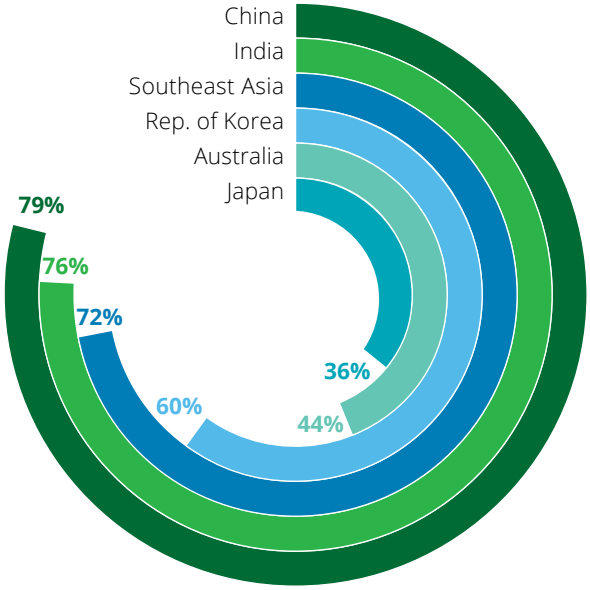
Q45: What type of engine would you prefer in your next vehicle?

Sample size: Australia=1,004; Southeast Asia=1,334; China=1,566; India=1,591; Japan=860; Republic of Korea=1,513

Consumers are split when it comes to increased vehicle connectivity

When it comes to vehicle connectivity, consumer opinion differs, with people in China embracing the idea at more than twice the rate of those in Japan.

Percentage of consumers who feel that increased vehicle connectivity will be beneficial



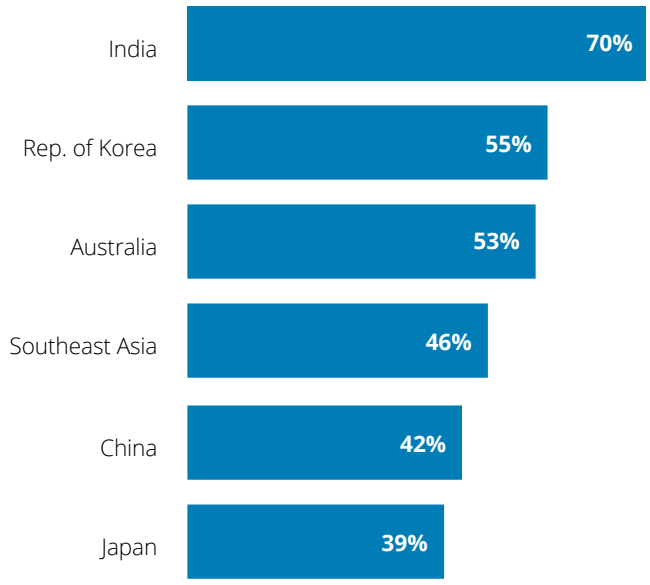
Note: Percentage of respondents who strongly agreed or agreed have been added together; Southeast Asia includes Indonesia, Malaysia, and Thailand.

Q3: To what extent do you agree that as vehicles become more connected via wireless Internet, they are more beneficial?

Sample size: Australia=1,196; Southeast Asia=1,484; China=1,721; India=1,693; Japan=1,659; Republic of Korea=1,701

Consumer opinions also differ on specific concerns around connectivity, including the security of biometric data generated and shared by connected vehicles.

Percentage of consumers who are somewhat/very concerned about the concept of biometric data being captured and shared with external parties



* Biometric data refers to information about the vehicle occupant(s) such as heart rate, blood pressure, blood alcohol level, etc.

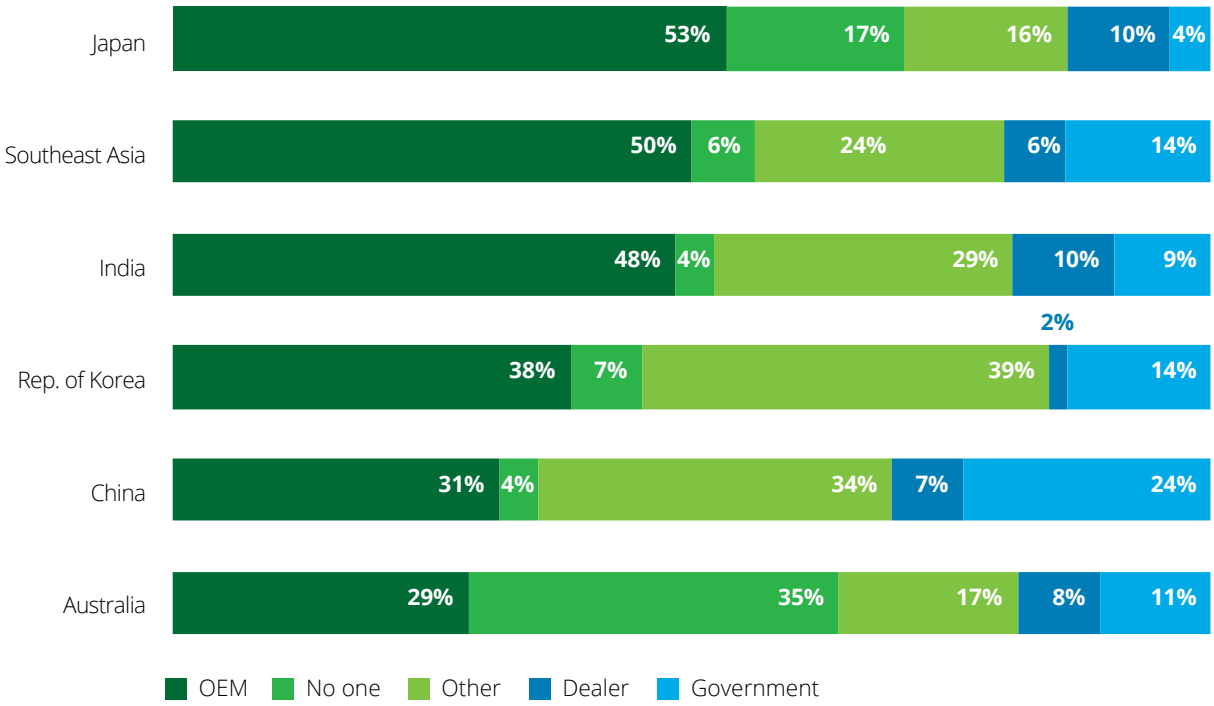
Note: Percentage of respondents who are somewhat concerned or very concerned have been added together; Southeast Asia includes Indonesia, Malaysia, and Thailand.

Q22: As vehicles become more and more connected to the Internet, how concerned would you be if the following types of data were shared with your vehicle manufacturer, dealer, insurance company, and/or other third parties?

Sample size: Australia=1,010; Southeast Asia=1,153; China=1,229; India=1,234; Japan=814; Republic of Korea=1,126

And, consumer concern extends to who would manage the data being generated and shared by the vehicle. Some people would choose the OEM, but a lot of people would choose anybody else.

Consumer preference regarding the type of company they would most trust to manage the data being generated and shared by a connected car



Note: The "Other" category includes financial service providers, insurance companies, cellular service providers, and cloud service providers; Southeast Asia includes Indonesia, Malaysia, and Thailand.

Q23: In a scenario where you owned a connected vehicle, which of the following entities would you trust the most to manage the data being generated and shared?

Sample size: Australia=1,010; Southeast Asia=1,153; China=1,229; India=1,234; Japan=814; Republic of Korea=1,126

What do people want? Save me time and ensure my safety.

Percentage of people interested in each connected vehicle feature

	Category	China	Australia	India	Japan	Rep. of Korea	Southeast Asia
Updates regarding traffic congestion and suggested alternate routes	**Time**	**82%**	**75%**	**84%**	**76%**	**79%**	**86%**
Suggestions regarding safer routes	**Safety**	**81%**	**68%**	**84%**	**75%**	**78%**	**87%**
Updates to improve road safety and prevent potential collisions	**Safety**	**81%**	**72%**	**84%**	**71%**	**80%**	**86%**
Customized/optimized vehicle insurance plans	**Cost**	**73%**	**55%**	**78%**	**53%**	**63%**	**74%**
Maintenance updates and vehicle health reports	**Cost**	**78%**	**65%**	**84%**	**66%**	**74%**	**84%**
Maintenance cost forecasts based on your driving habits	**Cost**	**75%**	**59%**	**79%**	**57%**	**65%**	**76%**
Customized suggestions regarding ways to minimize service expenses	**Cost**	**76%**	**59%**	**79%**	**61%**	**75%**	**78%**
Over-the-air vehicle software updates	**Performance**	**71%**	**49%**	**74%**	**58%**	**68%**	**73%**
Access to nearby parking (e.g., availability, booking, and payment)	**Services**	**82%**	**64%**	**83%**	**68%**	**74%**	**81%**
Special offers regarding non-automotive products and services related to your journey or destination	**Services**	**68%**	**37%**	**71%**	**52%**	**61%**	**66%**
Receiving a discount for access to a Wi-Fi connection in your vehicle	**Services**	**69%**	**49%**	**73%**	**51%**	**65%**	**73%**

Top feature

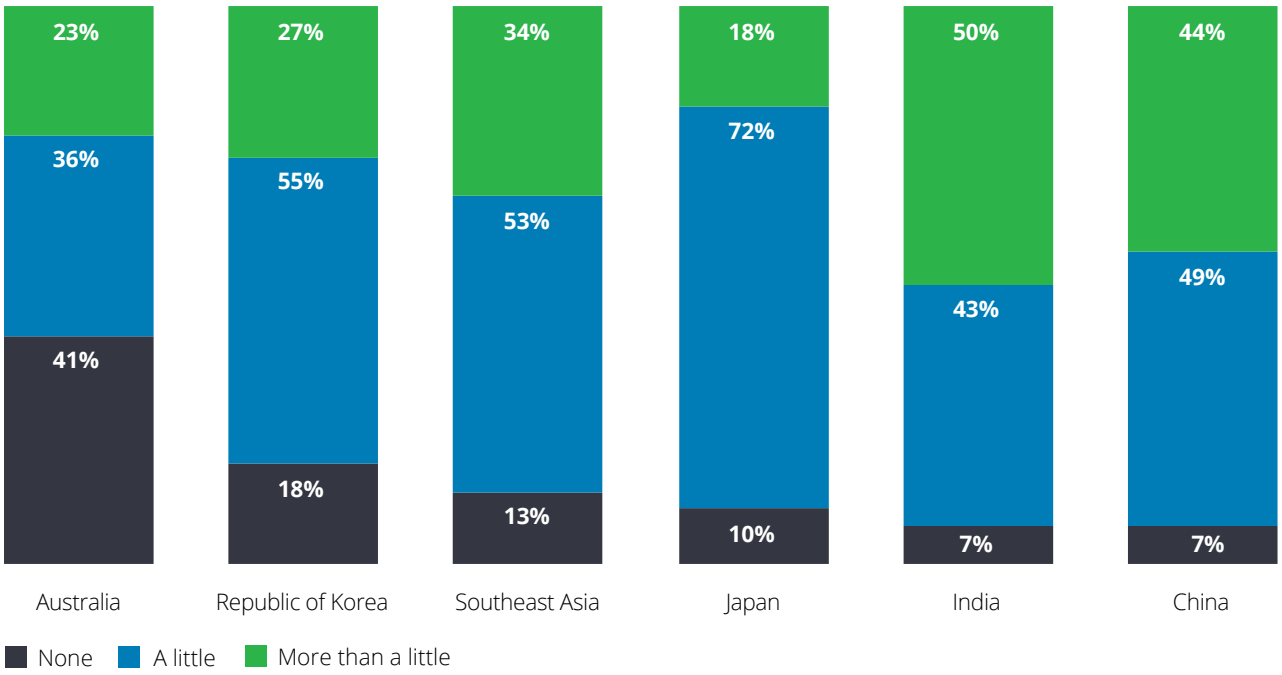
Note: Percentage of respondents who are somewhat or very interested have been added together; Southeast Asia includes Indonesia, Malaysia, and Thailand.

Q21: How interested are you in the following benefits of a connected vehicle if it meant sharing either your own personal data or the data generated by the operation of your vehicle?

Sample size: Australia=1,010; Southeast Asia=1,153; China=1,229; India=1,234; Japan=814; Republic of Korea=1,126

Other than Australia, consumers in the Asia-Pacific region are generally willing to pay in order to gain access to a vehicle with advanced connectivity features.

Extra amount that consumers would pay for a vehicle that could communicate with other vehicles and road infrastructure to improve safety



Note: Definition for "a little" is less than or equal to: Australia (A$750); Southeast Asia: Indonesia (IDR 5 million), Malaysia (MYR 2,500), Thailand (THB 15,000); Japan (¥50,000); India (₹25,000); China (¥2,500); KR (₩500,000); Southeast Asia includes Indonesia, Malaysia, and Thailand.

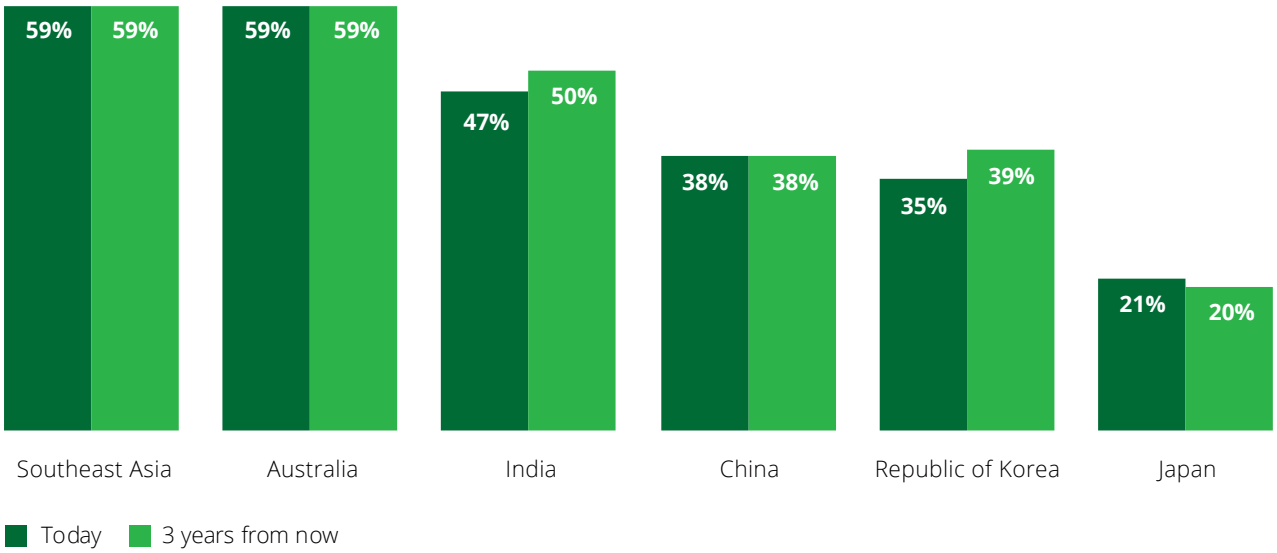
Q25: How much more would you be willing to pay for a vehicle that had the following connectivity technologies?

Sample size: Australia=1,010; Southeast Asia=1,153; China=1,229; India=1,234; Japan=814; Republic of Korea=1,126

Mobility revolution faces significant headwinds

Daily usage of personally owned vehicles is quite high in some markets, but even where usage is lower, the expectation is to maintain the "status quo" into the next decade.

Percentage of consumers that use their own vehicle every day



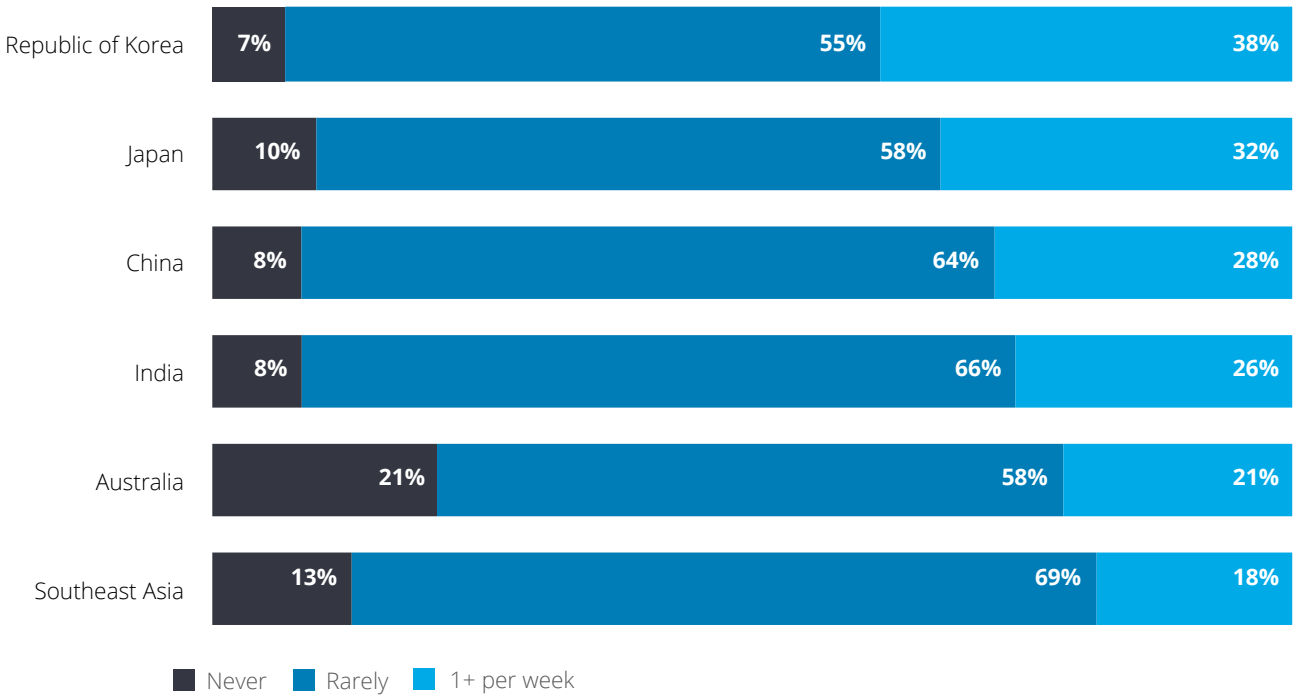
Note: Southeast Asia includes Indonesia, Malaysia, and Thailand.

Q26–Q27: Please indicate how often you use each transportation method (today vs. 3 years from now).

Sample size: Australia=1,252; Southeast Asia=1,517; China=1,760; India=1,755; Japan=1,770; Republic of Korea=1,731

The idea of combining different modes of mobility into one trip remains largely an occasional behavior for most consumers.

Frequency that consumers use multiple modes of transportation in the same trip



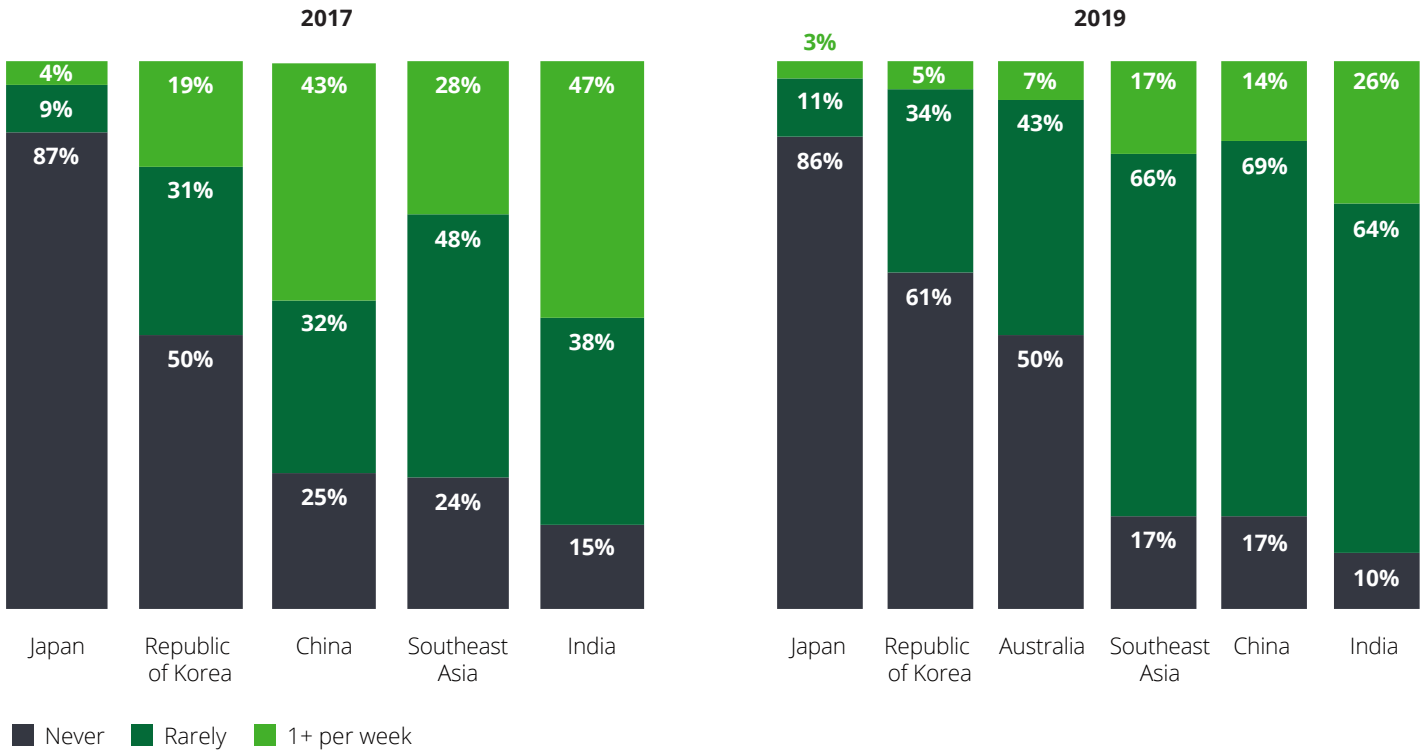
Note: Southeast Asia includes Indonesia, Malaysia, and Thailand.

Q29: How often do you use multiple modes of transportation in the same trip (e.g., a trip using a subway, commuter train, and your own vehicle)?

Sample size: Australia=1,252; Southeast Asia=1,517; China=1,760; India=1,755; Japan=1,770; Republic of Korea=1,731

Even though ride-hailing has been integrated into some markets, the number of people reporting regular usage has actually decreased in the last two years.

Frequency of ride-hailing usage



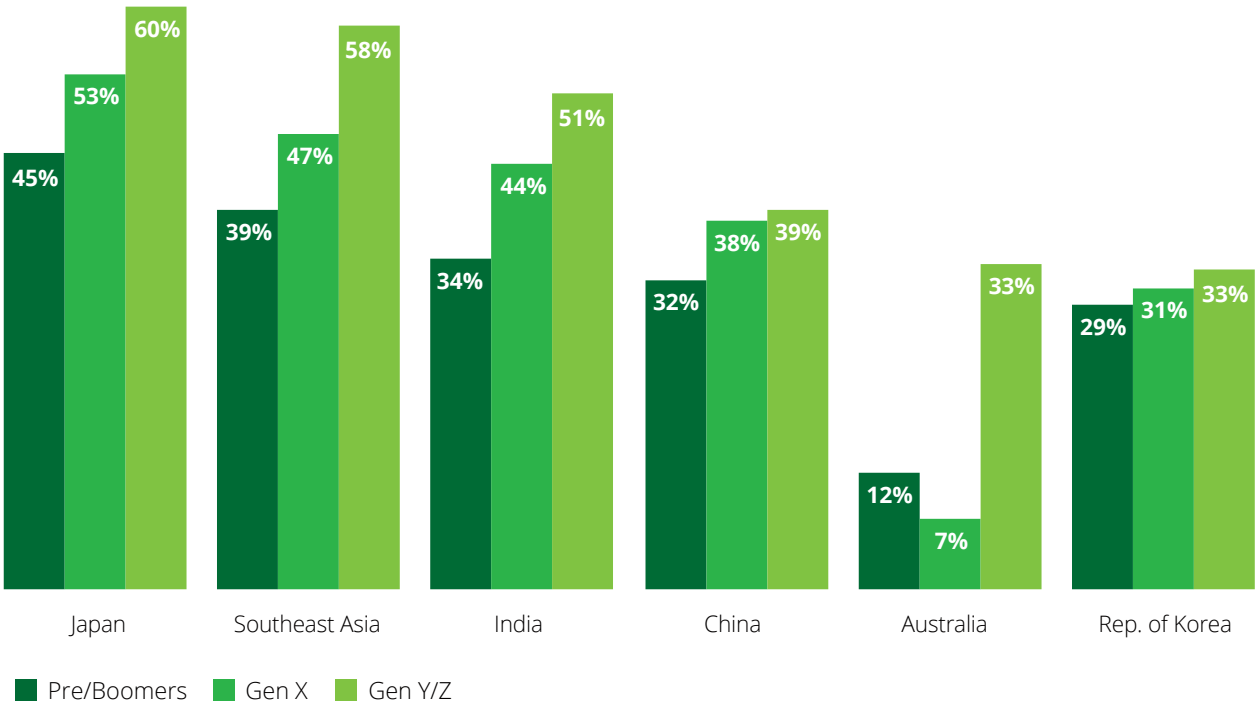
Note: 2019 is the first year Australia has been included in the global study; Southeast Asia includes Indonesia, Malaysia, and Thailand.

Q36: How often do you currently use ride-hailing services?

Sample size: Australia=1,252 [2019], NA [2017]; Southeast Asia=1,517 [2019], 1,508 [2017]; China=1,760 [2019], 1,751 [2017]; India=1,755 [2019], 1,754 [2017]; Japan=1,770 [2019], 1,752 [2017]; Republic of Korea=1,731 [2019], 1,759 [2017]

Having said all that, maybe the answer lies in waiting out the "old guard" as young people seem to be getting the idea of shared mobility in greater numbers.

Percentage of ride-hail users that question whether they need to own a vehicle going forward (by generation)

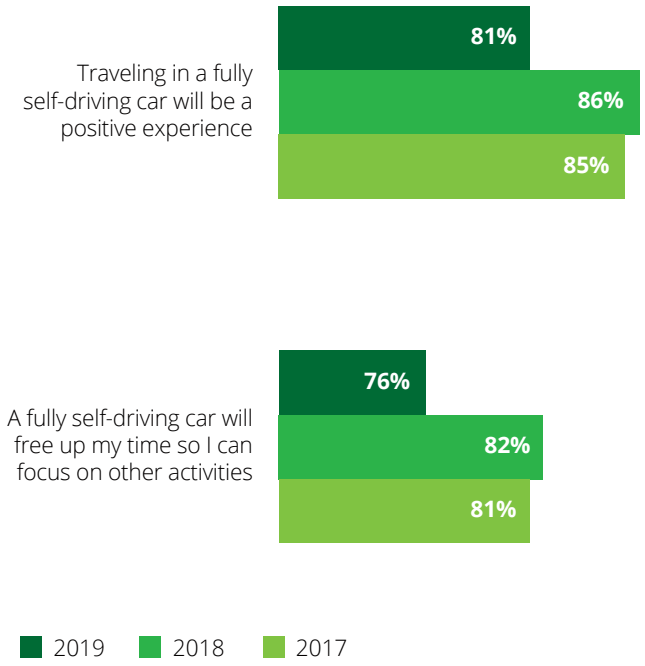


Note: Southeast Asia includes Indonesia, Malaysia, and Thailand.
Q36c: Does your use of ride-hailing services make you question whether you need to own a vehicle going forward?
Sample size: Japan = [Pre/Boomers, N= 56; Gen X, N= 60; Gen Y/Z, N= 123]; India = [Pre/Boomers, N= 186; Gen X, N= 245; Gen Y/Z, N= 1145]
Southeast Asia = [Pre/Boomers, N= 165; Gen X, N= 251; Gen Y/Z, N= 847]; China = [Pre/Boomers, N= 111; Gen X, N= 289; Gen Y/Z, N= 1065];
Australia = [Pre/Boomers, N= 150; Gen X, N= 98; Gen Y/Z, N= 377]; Republic of Korea = [Pre/Boomers, N= 143; Gen X, N= 209; Gen Y/Z, N= 316]
Note: Pre/Boomers: Born before 1965; Gen X: Born 1965–1976; Gen Y/Z: Born after 1976 (sample excludes consumers under 16 years of age).

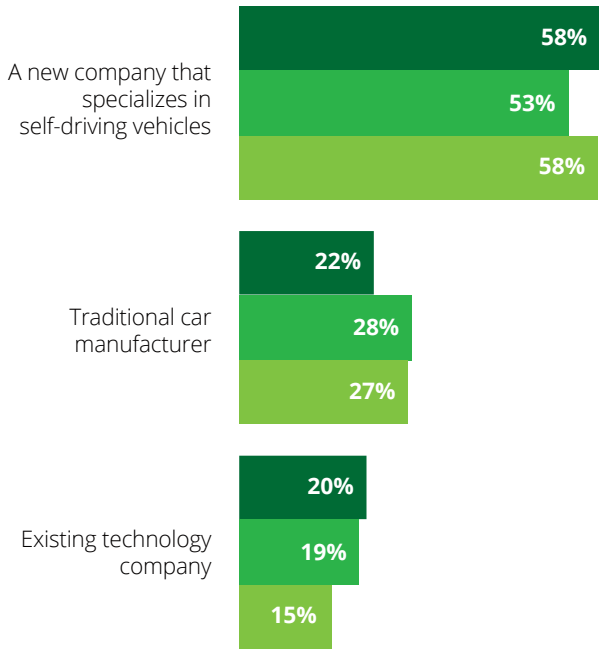
Country in focus: China

Consumers in China remain generally positive about the potential benefits of self-driving vehicles…

Percentage of consumers who agree that…



Type of company consumers trust the most to bring fully self-driving technology to market



Note: Percentage of respondents who strongly agreed or agreed have been added together; analysis does not consider "NA/Don't know" responses.

Q3: To what extent do you agree with the following statements regarding future vehicle technology?

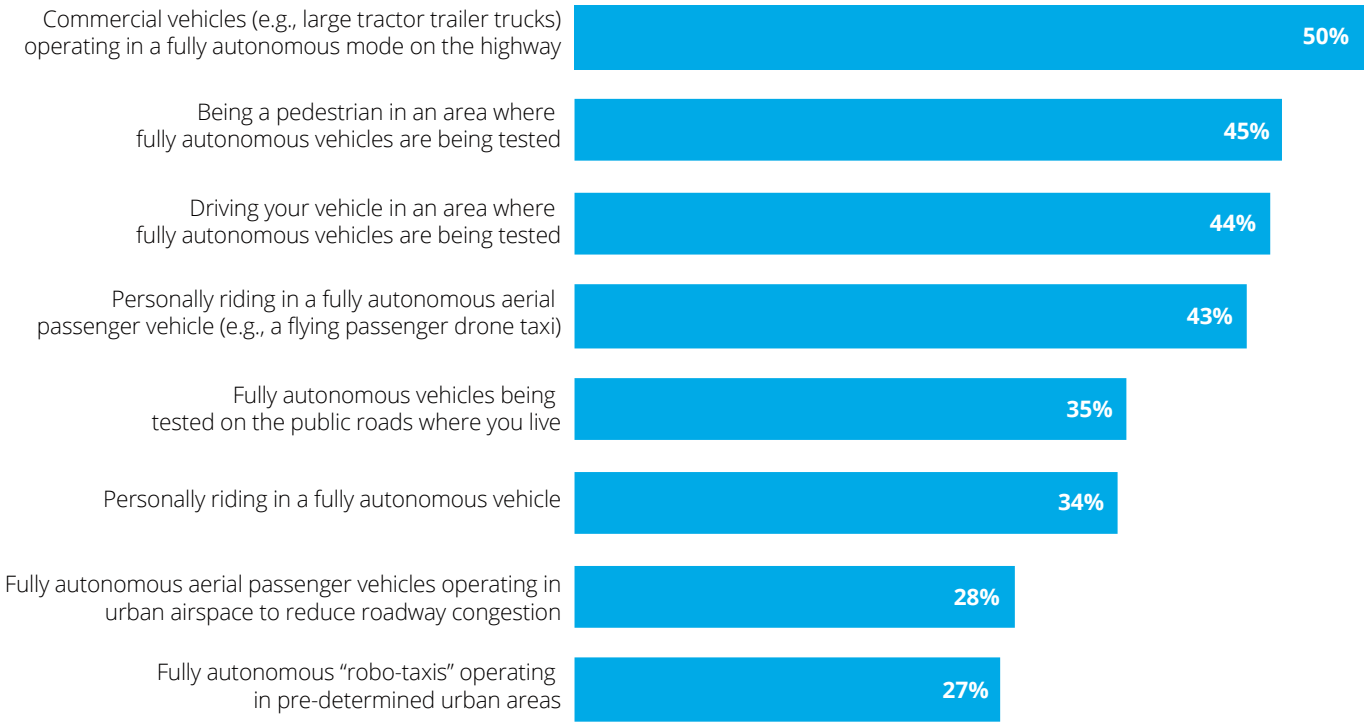
Sample size: n= 1,728 [2019], n= 1,724 [2018], n= 1,675 [2017]

Q10: Which of the following type of company would you trust the most to bring fully autonomous (self-driving) vehicle technology to the market?

Sample size: n= 1,760 [2019], n= 1,759 [2018], n= 1,748 [2017]

But, some overall concerns still linger regarding specific ways in which the technology could be used going forward.

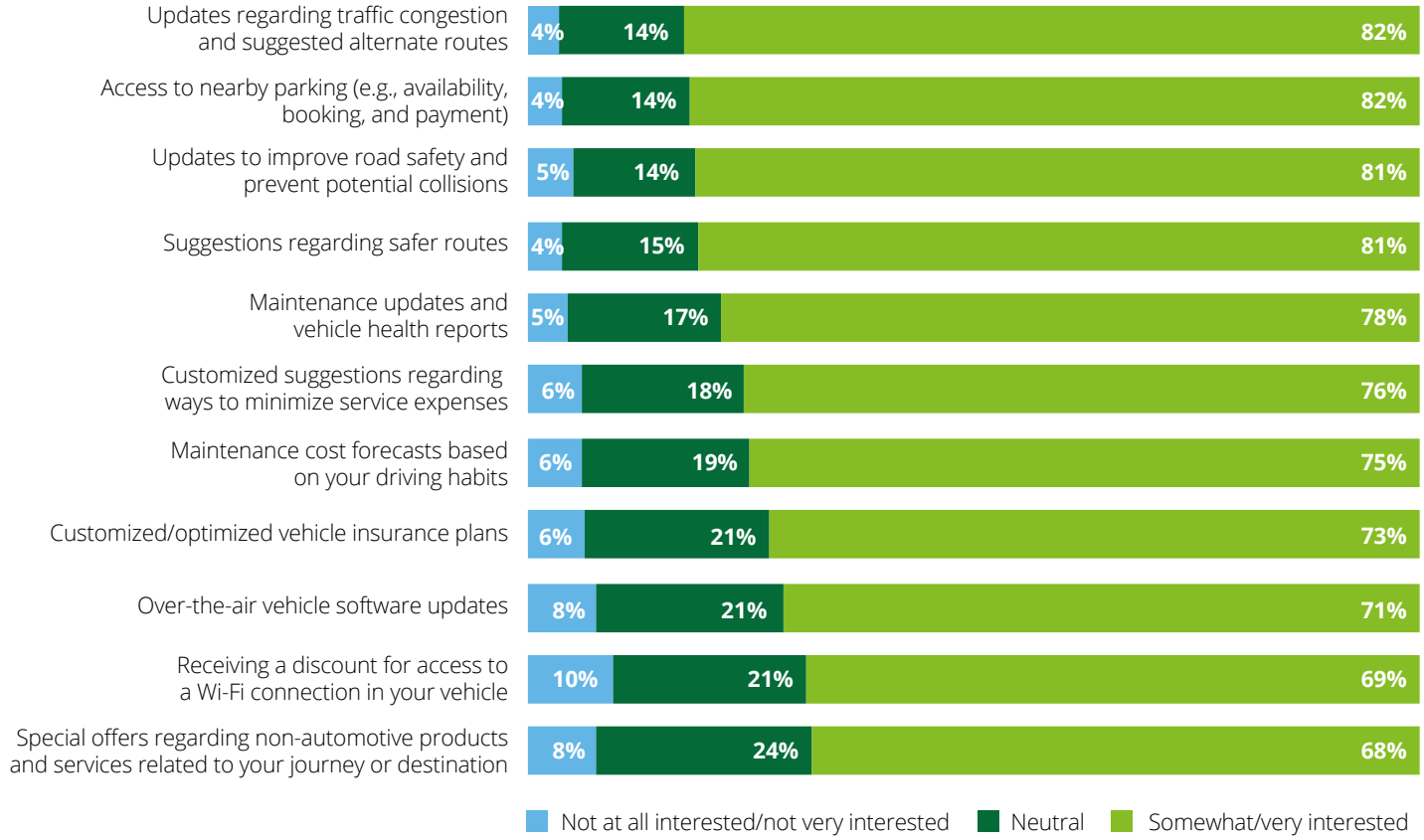
Percentage of consumers who are concerned about...



Note: Percentage of respondents who are very concerned or concerned have been added together.
Q4: How concerned are you with each of the following scenarios?
Sample size: n=1,760

Chinese consumers are also very interested in connected vehicle features that address growing concerns in urban centers...

Consumer opinions on benefits of connected vehicles



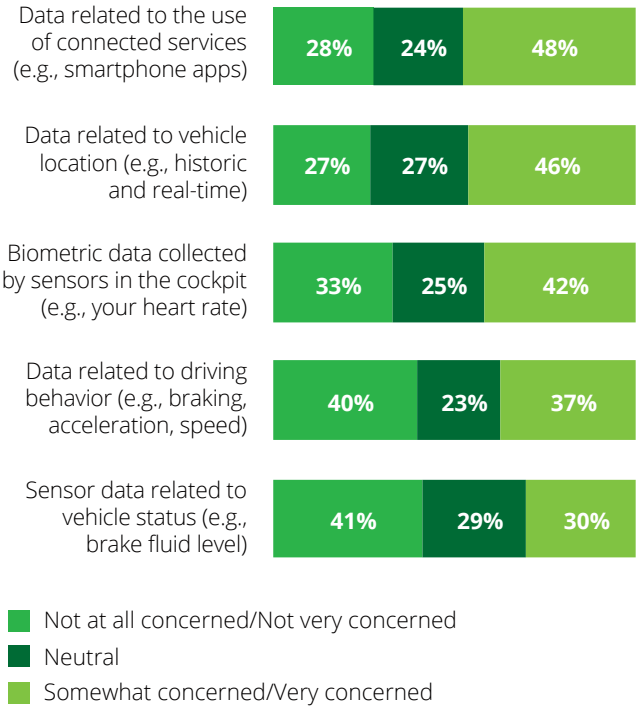
Note: Percentage of respondents who are somewhat or very interested have been added together.

Q21: How interested are you in the following benefits of a connected vehicle if it meant sharing either your own personal data or the data generated by the operation of your vehicle?

Sample size: n=1,229

...and the majority of them are either not concerned or neutral about sharing their data in order to realize the benefits of increasing connectivity...

How concerned are consumers about sharing their data under the following scenarios?

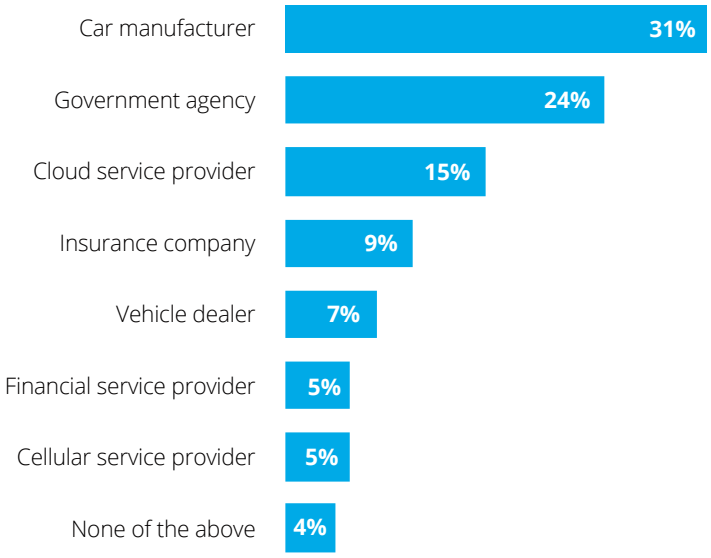


Q22: As vehicles become more and more connected to the Internet, how concerned would you be if the following types of data were shared with your vehicle manufacturer, dealer, insurance company, and/or other third parties?

Sample size: n=1,229

...which could be good news for different types of organizations looking to generate value from the shared information...

Consumer opinions on whom they trust the most to manage data generated/collected by their vehicle

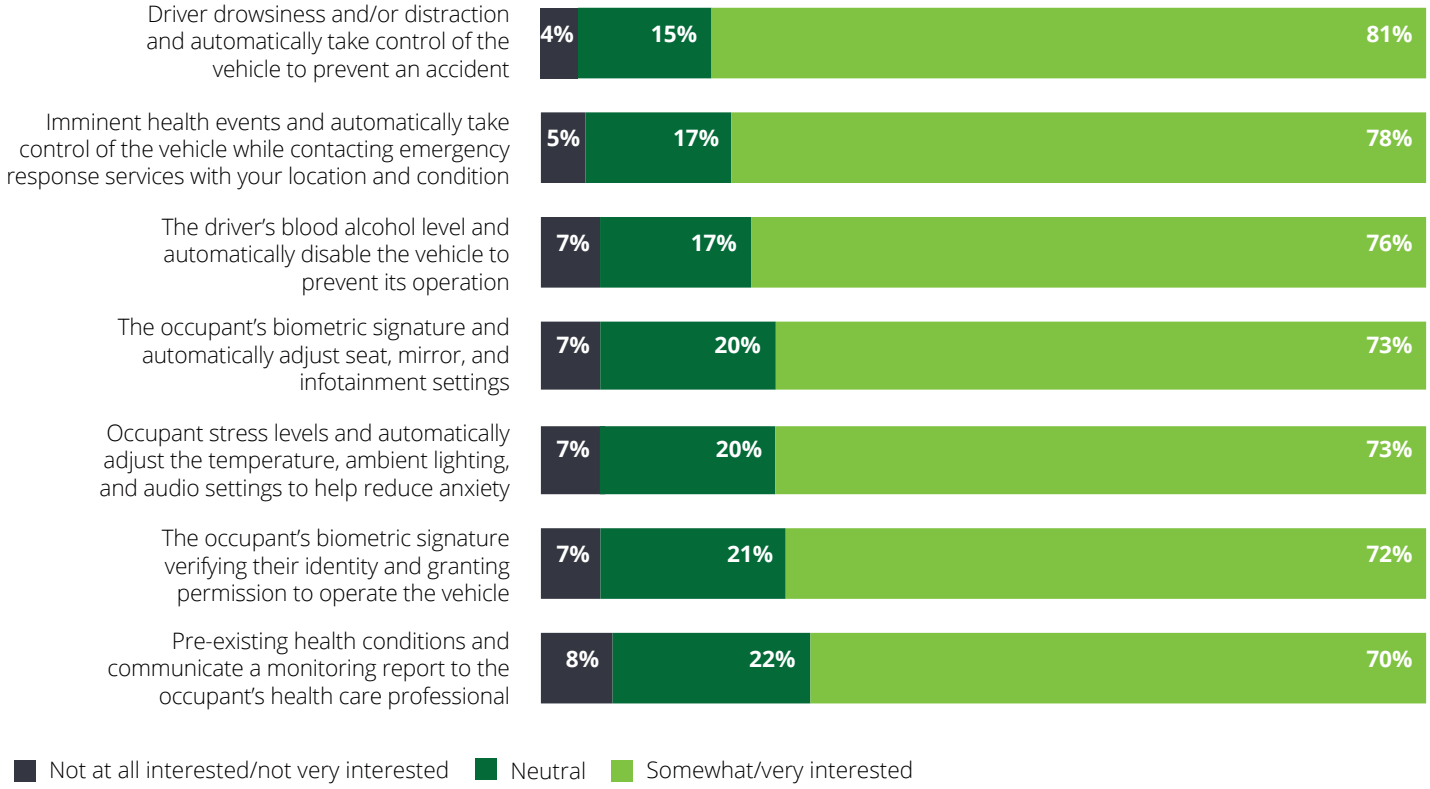


Q23: In a scenario where you owned a connected vehicle, which of the following entities would you trust the most to manage the data being generated and shared?

Sample size: n=1,229

...by providing connected services designed to make the mobility experience safer and more convenient.

Consumer opinions on benefits of connected vehicles



Q24: As vehicle interiors are equipped with more connected sensors and/or autonomous driving technology, how interested are you in each of the following?

Sample size: n=1,229

While cars, bicycles, and walking represent the most frequent daily mobility options, ride-hailing has become an important alternative to occasional taxi and rental car use.

Frequency of transportation use by type

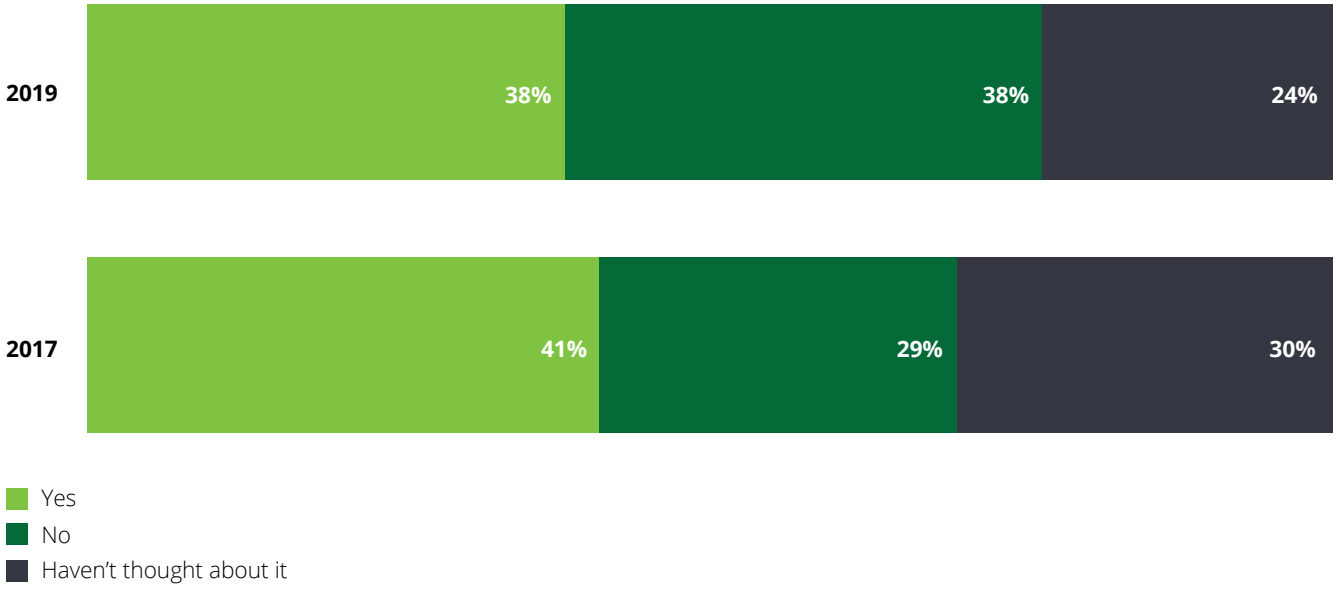
	Daily	Weekly	Monthly	Occasionally	Never
My own vehicle (4-wheeler)	**38%**	**29%**	**5%**	**6%**	**22%**
Car share	**1%**	**12%**	**11%**	**30%**	**46%**
Ride-hail	**3%**	**13%**	**20%**	**41%**	**23%**
Rental car	**2%**	**7%**	**9%**	**38%**	**44%**
Taxi	**3%**	**12%**	**19%**	**55%**	**11%**
Carpool/minibus/micro-transit	**3%**	**10%**	**13%**	**36%**	**38%**
Commuter train	**5%**	**10%**	**12%**	**25%**	**48%**
Light rail/tram	**3%**	**13%**	**15%**	**31%**	**38%**
Subway/metro	**9%**	**24%**	**19%**	**32%**	**16%**
City bus	**12%**	**27%**	**24%**	**31%**	**6%**
Rapid transit bus	**5%**	**14%**	**18%**	**34%**	**29%**
Bicycle (including urban bike-sharing programs)	**14%**	**23%**	**14%**	**31%**	**18%**
Motorcycle/scooter/moped	**6%**	**10%**	**9%**	**23%**	**52%**
Water-based ferry/sea taxi	**2%**	**5%**	**6%**	**23%**	**64%**
Walk	**55%**	**17%**	**10%**	**13%**	**5%**

Top 3 transportation types

Q26: Please select how often you currently use each transportation method.
Sample size: n=1,760

In fact, even though the percentage of ride-hail users questioning vehicle ownership appears to be slipping, it still represents a worrisome potential headwind for market sales…

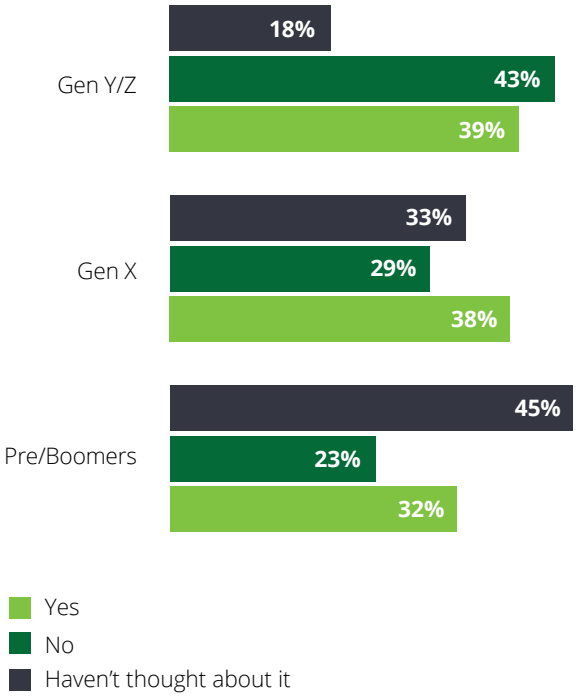
Percentage of consumers who question the need to own a vehicle in the future due to use of ride-hailing services



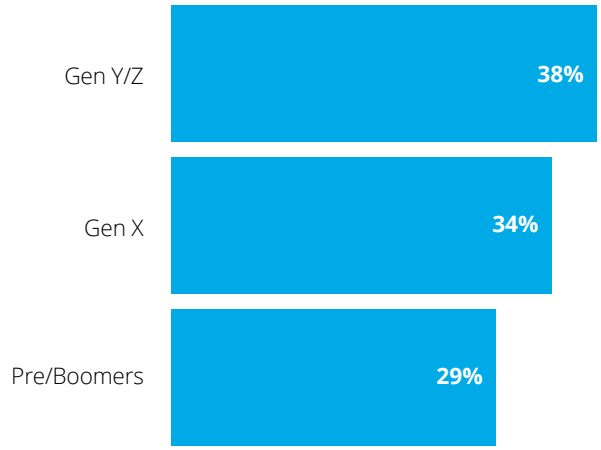
Q36c: Does your use of ride-hailing services make you question whether you need to own a vehicle going forward?
Sample size: n= 1,465 [2019], 1,317 [2017]

...particularly among younger consumers that may be looking for more convenient solutions to reduce their travel time.

Percentage of consumers who question the need to own a vehicle in the future due to use of ride-hailing services



Percentage of consumers that think speed of travel is the most important aspect of mobility



Q36c: Does your use of ride-hailing services make you question whether you need to own a vehicle going forward?

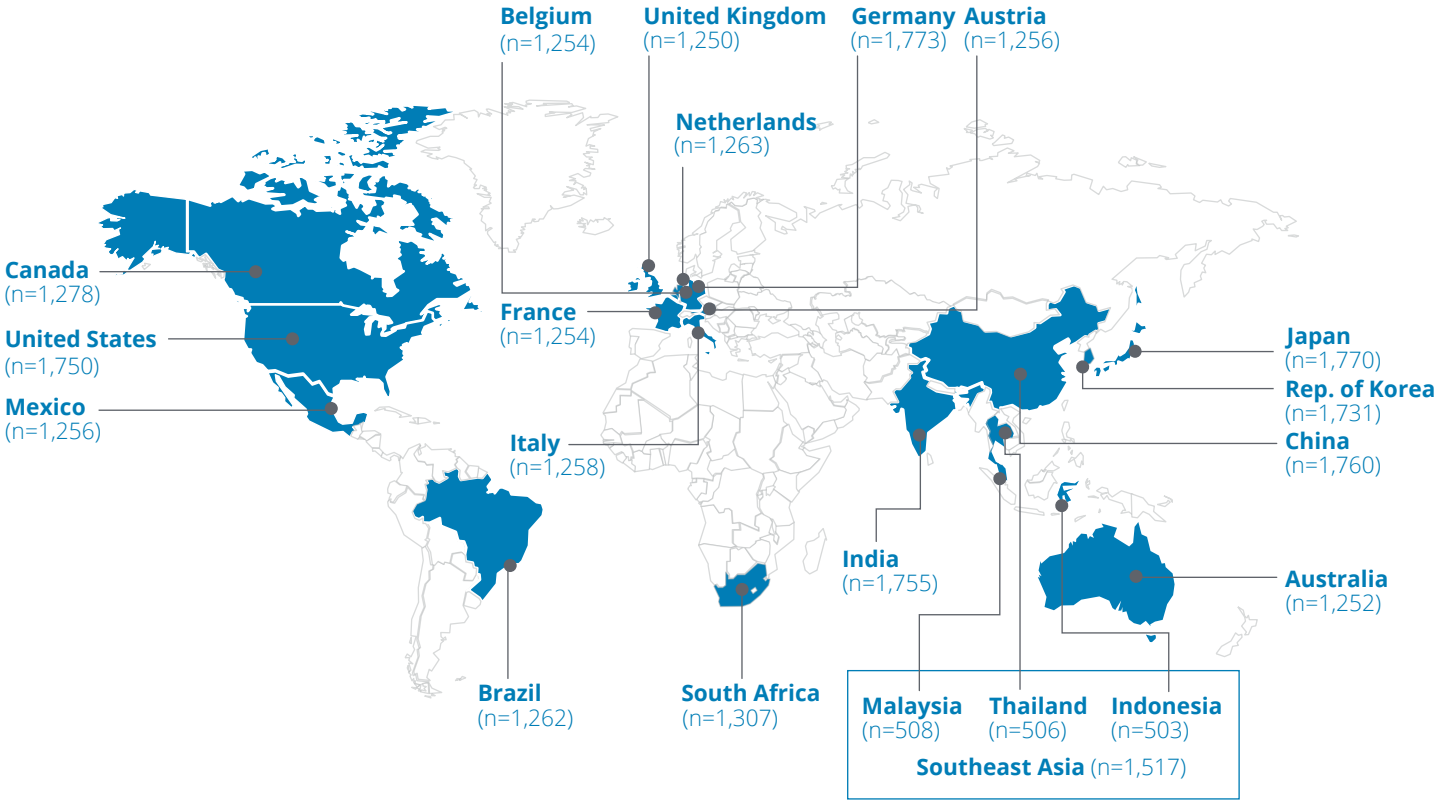
Sample sizes: Pre/Boomers, N=111; Gen X, N=289; Gen Y/Z, N=1,065

Q35: In your opinion, what is the most important aspect of mobility?

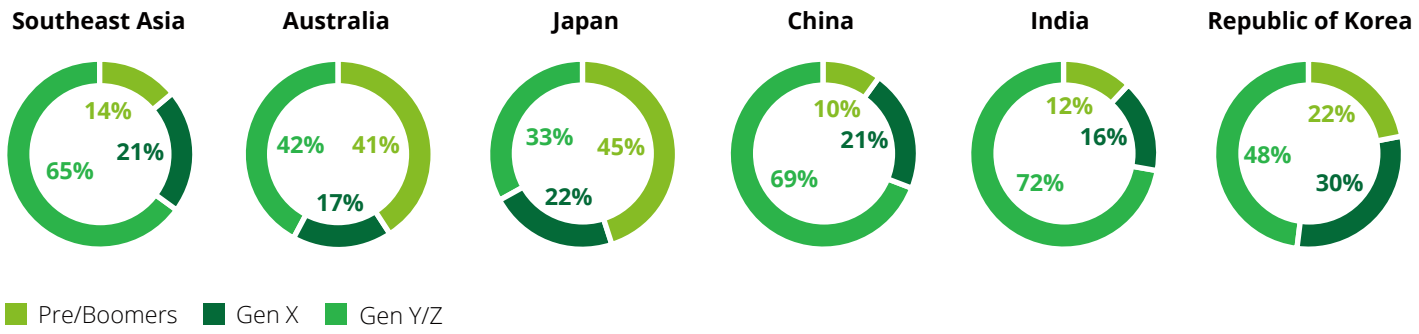
Sample sizes: Pre/Boomers, N=175; Gen X, N=366; Gen Y/Z, N=1,219

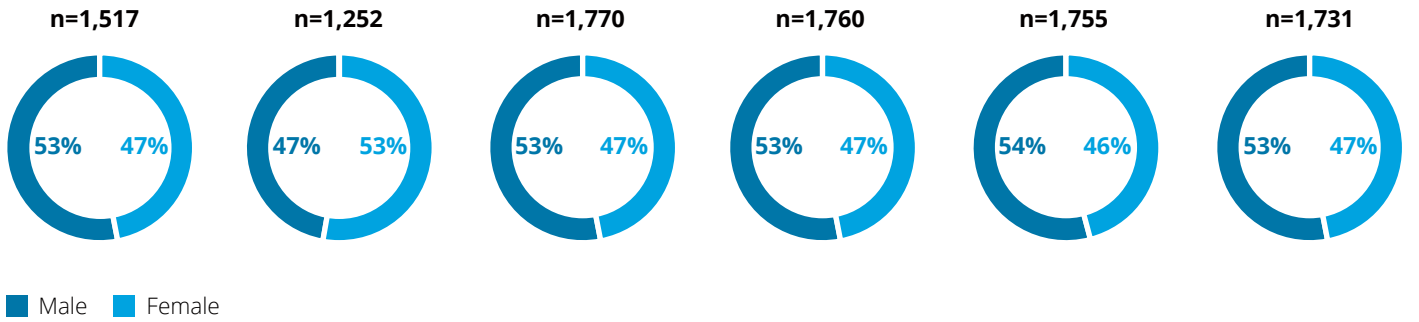
About the 2019 Deloitte Global Automotive Consumer Study

The 2019 Deloitte Global Automotive Consumer Study includes more than 25,000 consumer responses across 20 global markets.



The study is fielded using an online panel and designed to be representative of the population in each market.





Note: Pre/boomers: born before 1965; Gen X: Born between 1965 and 1976; Gen Y/Z: Born after 1976 (sample excludes consumers under 16 years of age); Southeast Asia includes Indonesia, Malaysia, and Thailand.

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