

Deloitte.



2020 Global Automotive Consumer Study

Is consumer interest in advanced automotive technologies on the move?

Europe



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

For more than 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:

- 2010 Overall value ranked as the primary factor when evaluating brands
- 2011 "Cockpit technology" and the shopping experience led 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)
- 2019 Consumers "pump the brakes" on interest in autonomous vehicles

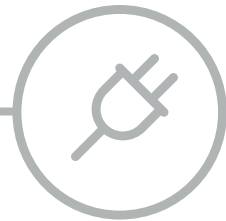
The Global Automotive Consumer Study helps inform Deloitte's work and insights into the evolution of mobility, smart cities, connectivity, transportation, and other changes transforming the movement of people and goods.

2020 Deloitte Global Automotive Consumer Study

From September through October 2019, Deloitte surveyed more than 35,000 consumers in 20 countries to explore opinions regarding a variety of critical issues affecting 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.

Interest in EVs continues to grow across Europe

The number of people who most want an alternative engine in their next vehicle is growing rapidly across the European region as people look to hybrids going forward.



Interest in AVs stalled in most markets

At least half of consumers across Europe agree that media reports of accidents involving vehicles in autonomous mode make them more cautious of the technology.



Consumers remain resistant to multimodal mobility

European consumer behavior regarding multimodal mobility may be difficult to shift, as most people do not regularly combine different modes of transportation in a single trip.



Mixed feelings about increased connectivity

There is a significant difference between European countries regarding the percentage of people that believe increased vehicle connectivity is beneficial.



Even as OEMs continue to spend billions on R&D in advanced vehicle features, questions remain regarding consumers' willingness to pay for them.

Percentage of consumers that are unwilling to pay more than €400¹ for a vehicle with advanced technologies

Advanced technology category	Austria	Belgium	France	Germany	Italy	Spain	UK
Safety	64%	72%	76%	71%	69%	64%	68%
Connectivity	76%	80%	79%	79%	74%	69%	70%
Infotainment	86%	88%	84%	84%	79%	78%	76%
Autonomy	66%	70%	70%	67%	59%	62%	61%
Alternative engine solutions	53%	65%	64%	58%	52%	54%	59%

¹ For United Kingdom, the amount is £400.

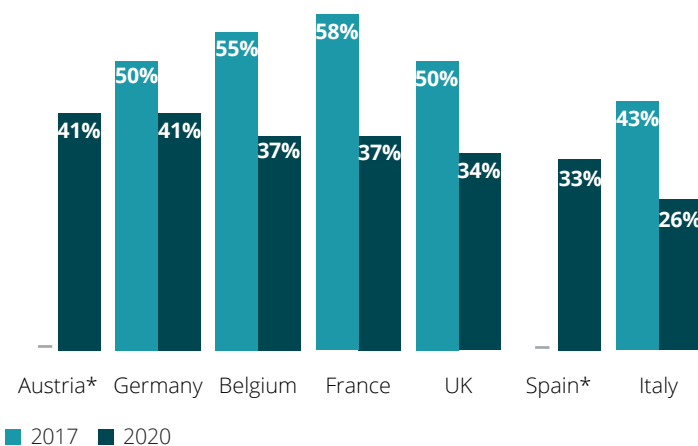
Q7. How much more would you be willing to pay for a vehicle that had each of the technologies listed below and that met your wants and needs?

Sample size: Austria=1,279; Belgium=1,286; France=1,266; Germany=3,002; Italy=1,274; Spain=1,268; UK=1,264

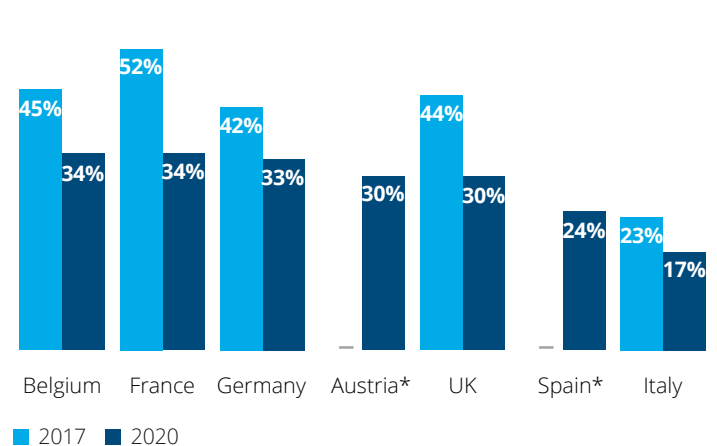
However, there is some evidence to suggest that consumers' willingness to pay at least something for advanced technologies has improved over the last few years.

Percentage of consumers who are unwilling to pay any more for...

Autonomous technologies



Alternative engine technologies



*Austria and Spain were not part of the 2017 study.

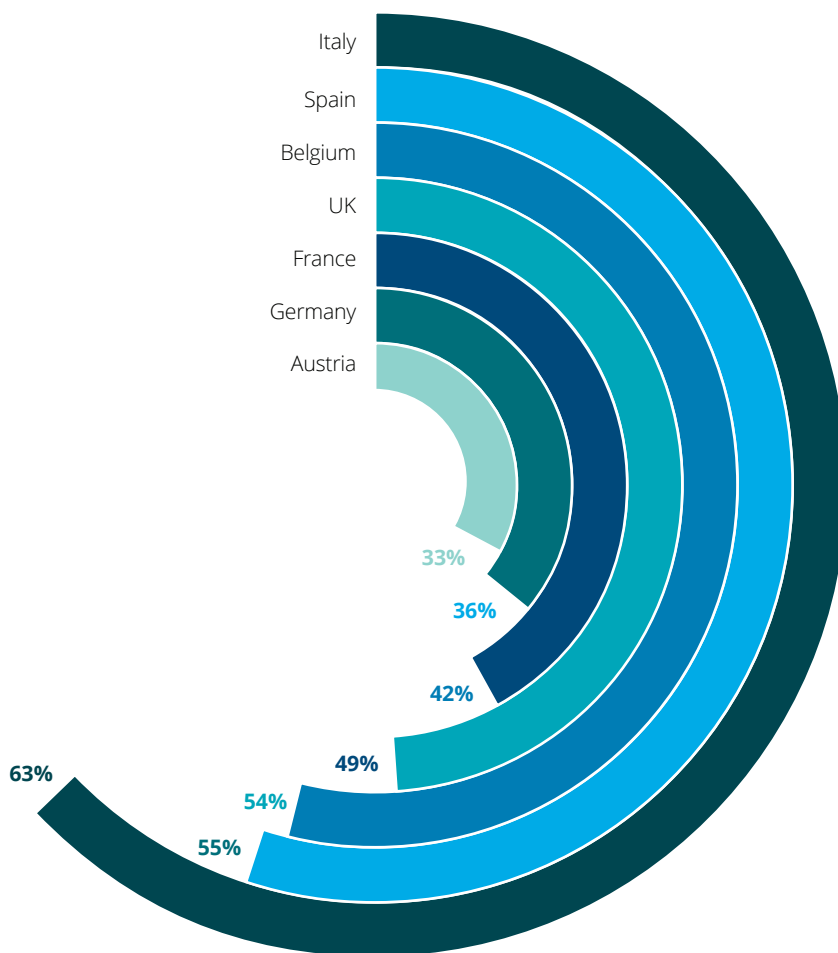
Q7. How much more would you be willing to pay for a vehicle that had each of the technologies listed below and that met your wants and needs?

Sample size (2020/2017): Austria=1,279/NA; Belgium=1,286/1,240; France=1,266/1,241; Germany=3,002/1,740; Italy=1,274/1,244; Spain=1,268/NA; UK=1,264/1,244

What do consumers think about connected vehicles?

While consumers are split on the benefits of increased vehicle connectivity overall, people in Italy are embracing the idea at nearly twice the rate compared to Austria.

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

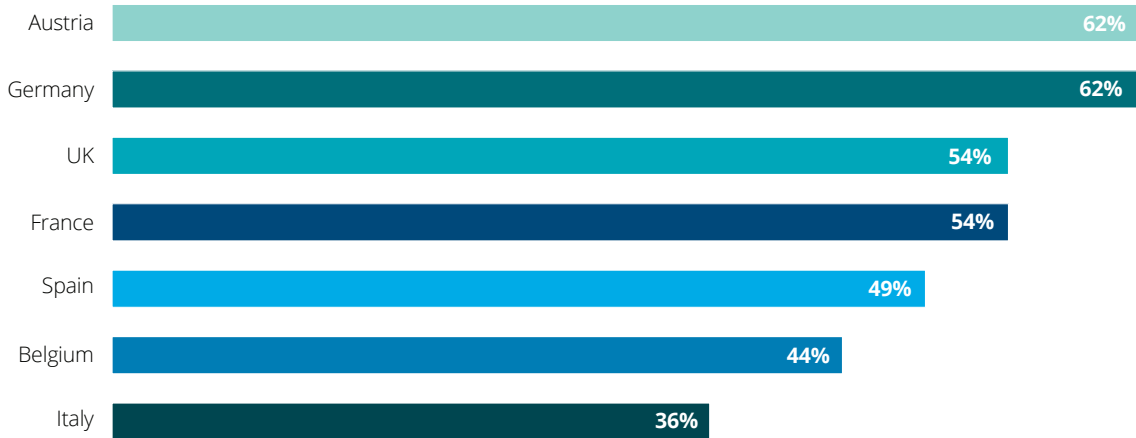


Note: Percentage of respondents who strongly agreed or agreed have been added together; did not consider "NA/don't know" responses Q3. To what extent do you agree with the following statements regarding future vehicle technology?

Sample size: Austria=1,223; Belgium=1,224; France=1,173; Germany=2,862; Italy=1,246; Spain=1,218; UK=1,207

Consumer opinion also differs 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



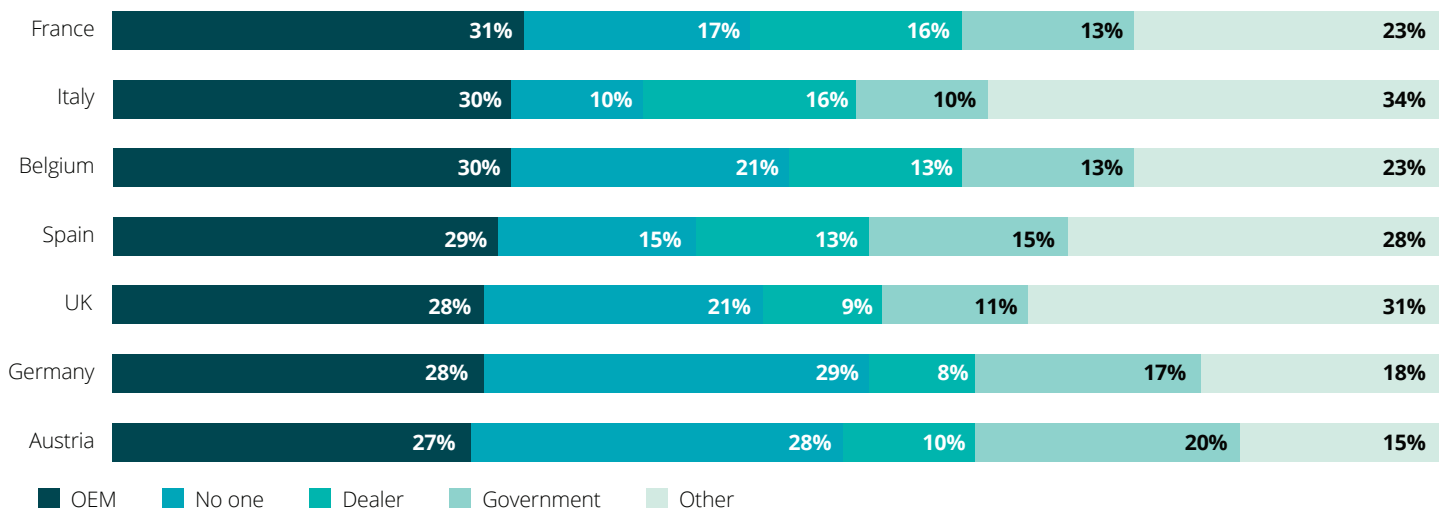
Note: Biometric data refers to information about the vehicle occupant(s) such as heart rate, blood pressure, blood alcohol level, etc.

Q34. 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: Austria=1,279; Belgium=1,286; France=1,266; Germany=3,002; Italy=1,274; Spain=1,268; UK=1,264

People are also concerned about who would best manage the data being generated and shared by the vehicle.

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



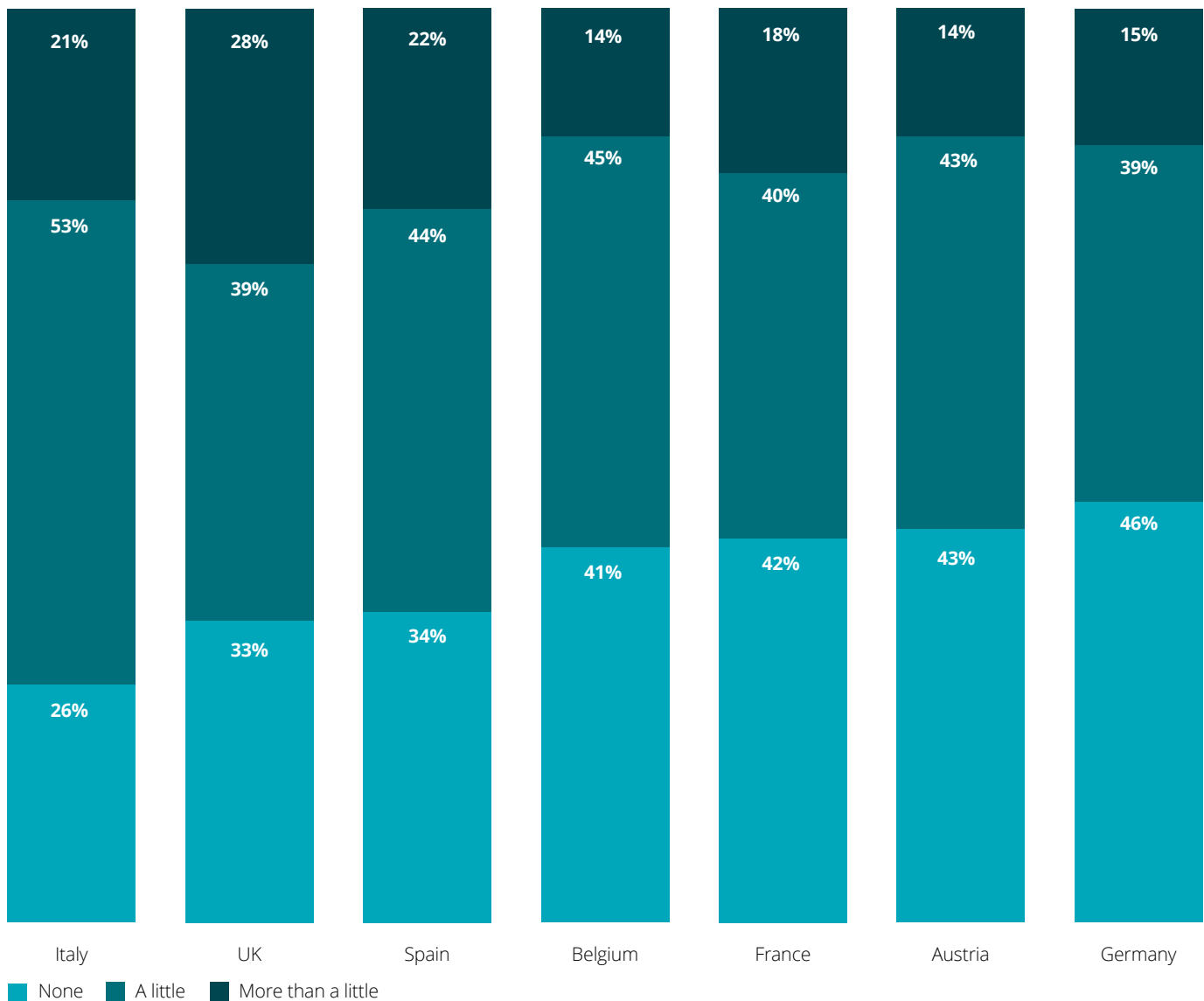
Note: The "other" category includes financial service providers, insurance companies, cellular service providers, and cloud service providers.

Q36. 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: Austria=1,279; Belgium=1,286; France=1,266; Germany=3,002; Italy=1,274; Spain=1,268; UK=1,264

OEMs may also struggle to get consumers to pay for advanced connectivity features in some European markets, even when it means increasing road safety.

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: AT (€600); BE (€600); DE (€600); FR (€600); IT (€600); ES (€600); UK (£400).

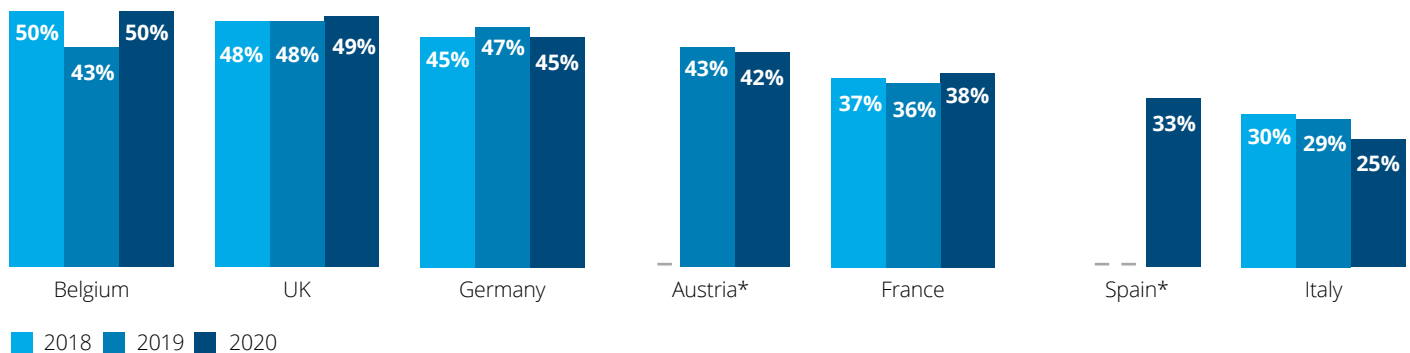
Q37. How much more would you be willing to pay for a vehicle that had the following connectivity technologies?

Sample size: Austria=1,279; Belgium=1,286; France=1,266; Germany=3,002; Italy=1,274; Spain=1,268; UK=1,264

What do consumers think about autonomous vehicle technology?

Although European consumer perception regarding the safety of self-driving vehicles varies significantly by country, overall sentiment remains relatively flat on a year-over-year basis.

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



*Austria was not part of the 2018 study, and Spain was not part of 2018 and 2019 studies.

Note: Percentage of respondents who strongly agreed or agreed have been added together; did not consider "NA/don't know" responses

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

Sample size: Austria=1,267 [2020], 1,232 [2019], NA [2018]; Belgium=1,243 [2020], 1,211 [2019], 1,206 [2018]; France=1,232 [2020], 1,203 [2019], 1,145 [2018]; Germany=2,950 [2020], 1,733 [2019], 1,705 [2018]; Italy=1,257 [2020], 1,232 [2019], 1,236 [2018]; Spain=1,239 [2020], NA [2019], NA [2018]; UK=1,241 [2020], 1,229 [2019], 1,224 [2018]

Reports of accidents involving autonomous vehicles have had a significant and lasting impact on consumers' view of the technology.

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



Note: Percentage of respondents who strongly agreed or agreed have been added together; did not consider "NA/don't know" responses

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

Sample size: Austria=1,256; Belgium=1,246; France=1,219; Germany=2,945; Italy=1,239; Spain=1,248; UK=1,231

Roughly half of consumers in Spain and the United Kingdom are concerned about the idea of autonomous vehicles being tested in areas where they live.

Percentage of consumers who are somewhat/very concerned with fully autonomous vehicles being tested on public roads where they live



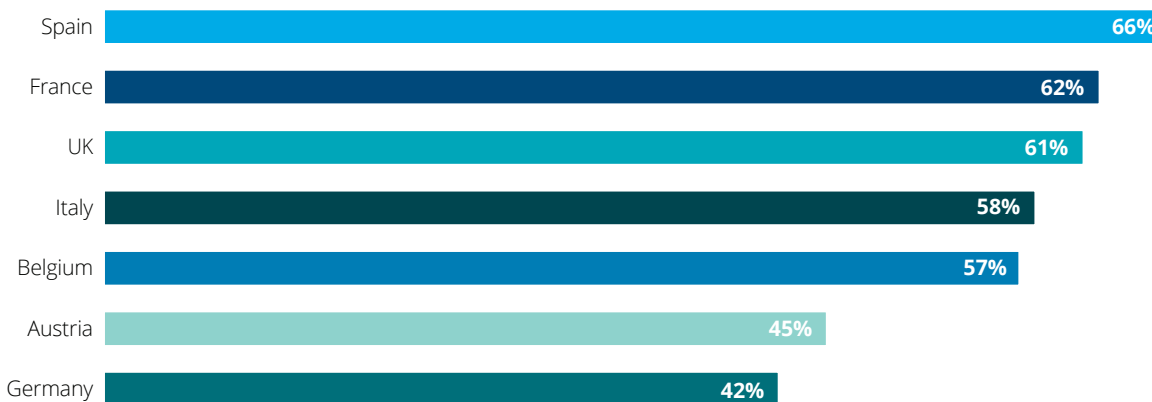
Note: Percentage of respondents who said "somewhat concerned" or "very concerned" have been added together.

Q4. How concerned are you with each of the following scenarios?

Sample size: Austria=1,279; Belgium=1,286; France=1,266; Germany=3,002; Italy=1,274; Spain=1,268; UK=1,264

More than 6 in 10 consumers in the United Kingdom, France, and Spain would feel more comfortable with the idea of riding in an AV if it were government-certified.

Percentage of consumers who feel that government safety certification makes them more likely to ride in a self-driving car



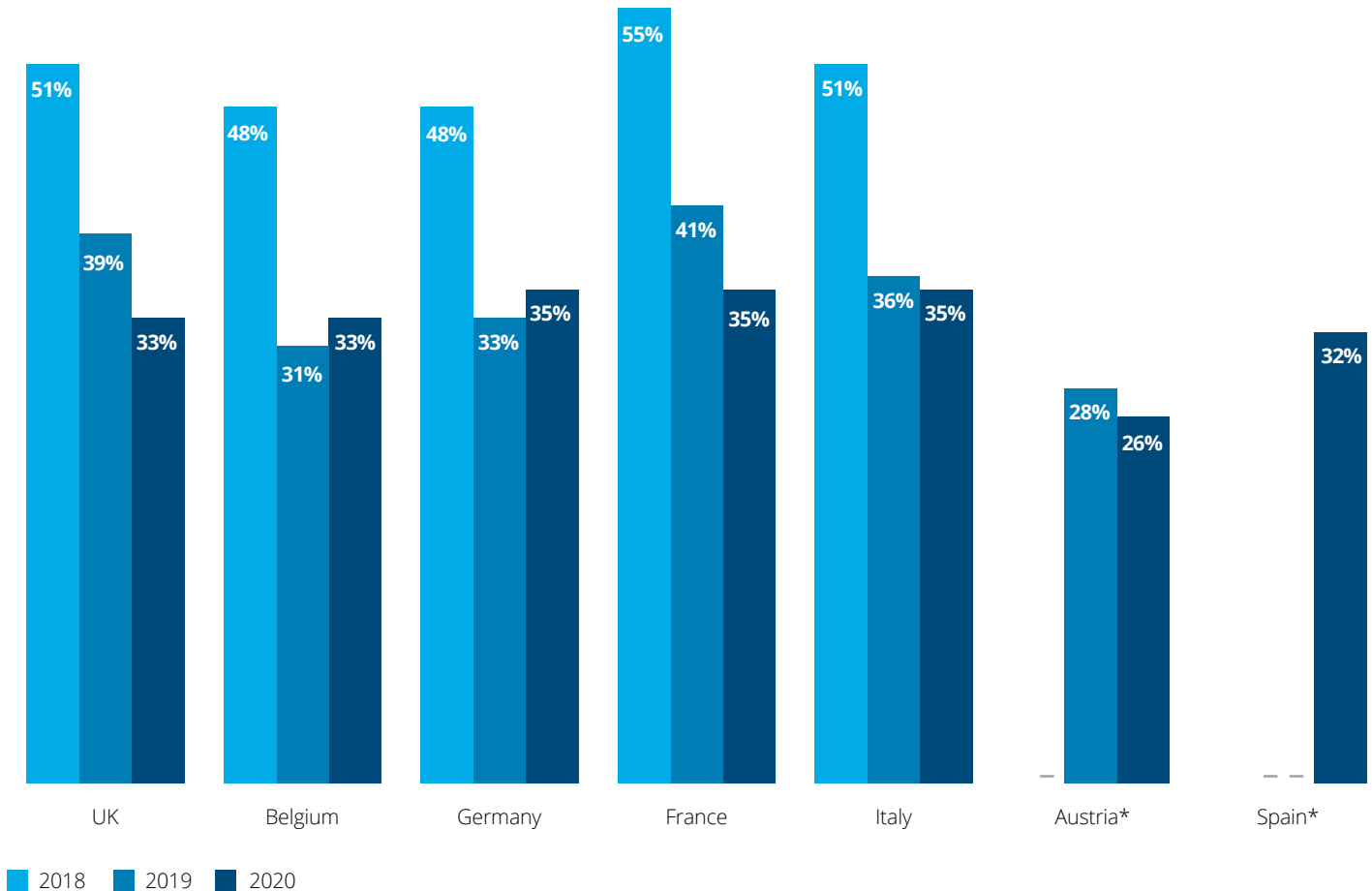
Note: Percentage of respondents who said "somewhat more likely" or "significantly more likely" have been added together; did not consider "don't know" responses

Q5. To what extent do you agree with the following statements regarding future vehicle technology?

Sample size: Austria=1,245; Belgium=1,230; France=1,213; Germany=2,903; Italy=1,251; Spain=1,239; UK=1,233

Consumer trust in traditional manufacturers to bring AV technology to market continues to decline in some markets across the European region...

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



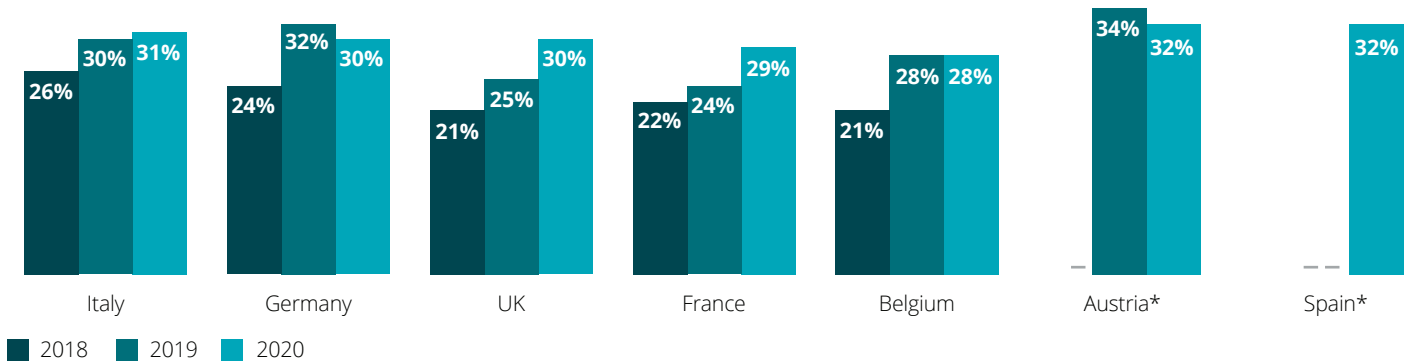
*Austria was not part of the 2018 study, and Spain was not part of 2018 and 2019 studies.

Q6. 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: Austria=1,279 [2020], 1,256 [2019], NA [2018]; Belgium=1,286 [2020], 1,254 [2019], 1,275 [2018]; France=1,266 [2020], 1,254 [2019], 1,258 [2018]; Germany=3,002 [2020], 1,773 [2019], 1,759 [2018]; Italy=1,274 [2020], 1,258 [2019], 1,260 [2018]; Spain=1,268 [2020], NA [2019], NA [2018]; UK=1,264 [2020], 1,250 [2019], 1,261 [2018]

...as trust in existing technology companies continues to grow, with the notable exception of Germany and Austria...

Percentage of consumers that would most trust an existing technology company to bring fully autonomous technology to market



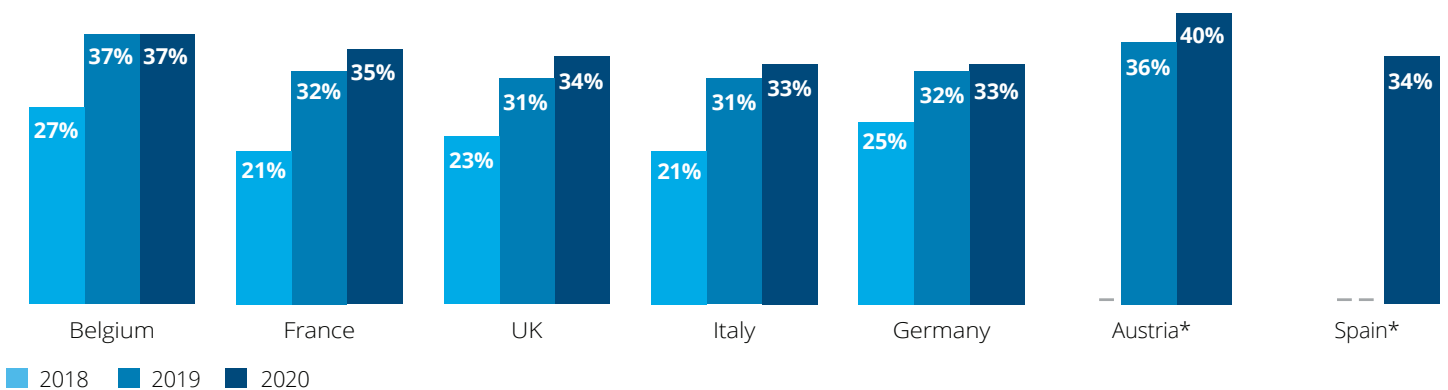
*Austria was not part of the 2018 study, and Spain was not part of 2018 and 2019 studies.

Q6. 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: Austria=1,279 [2020], 1,256 [2019], NA [2018]; Belgium=1,286 [2020], 1,254 [2019], 1,275 [2018]; France=1,266 [2020], 1,254 [2019], 1,258 [2018]; Germany=3,002 [2020], 1,773 [2019], 1,759 [2018]; Italy=1,274 [2020], 1,258 [2019], 1,260 [2018]; Spain=1,268 [2020], NA [2019], NA [2018]; UK=1,264 [2020], 1,250 [2019], 1,261 [2018]

...and trust in a new player that specializes in autonomous vehicle technology also inches up across the region.

Percentage of consumers that would most trust a new company that specializes in autonomous vehicles to bring fully autonomous technology to market



*Austria was not part of the 2018 study, and Spain was not part of the 2018 and 2019 studies.

Q6. 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: Austria=1,279 [2020], 1,256 [2019], NA [2018]; Belgium=1,286 [2020], 1,254 [2019], 1,275 [2018]; France=1,266 [2020], 1,254 [2019], 1,258 [2018]; Germany=3,002 [2020], 1,773 [2019], 1,759 [2018]; Italy=1,274 [2020], 1,258 [2019], 1,260 [2018]; Spain=1,268 [2020], NA [2019], NA [2018]; UK=1,264 [2020], 1,250 [2019], 1,261 [2018]

What do consumers think about new mobility models?

European consumers are unanimous in their support for greater access to mass transit as the top method to reduce traffic congestion.

Ways to reduce traffic congestion

	Austria	Belgium	France	Germany	Italy	Spain	UK
Road tolls/congestion charges	6%	13%	6%	7%	5%	5%	13%
High-occupancy express lanes	7%	20%	10%	8%	12%	8%	14%
Greater access to mass transit	62%	33%	54%	62%	45%	54%	30%
V2V connectivity	10%	10%	11%	9%	13%	9%	12%
Regulations that restrict car use	4%	11%	9%	5%	14%	13%	14%
Creation of low- or zero-emission zones	5%	7%	6%	5%	9%	9%	13%
Other	6%	6%	4%	4%	2%	2%	4%

■ Top option

Q43. In your opinion, what is the best way to reduce traffic congestion?

Sample size: Austria=1,279; Belgium=1,286; France=1,266; Germany=3,002; Italy=1,274; Spain=1,268; UK=1,264

Having said that, the idea of combining different modes of transportation into a single trip remains largely an occasional behavior for most consumers.

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

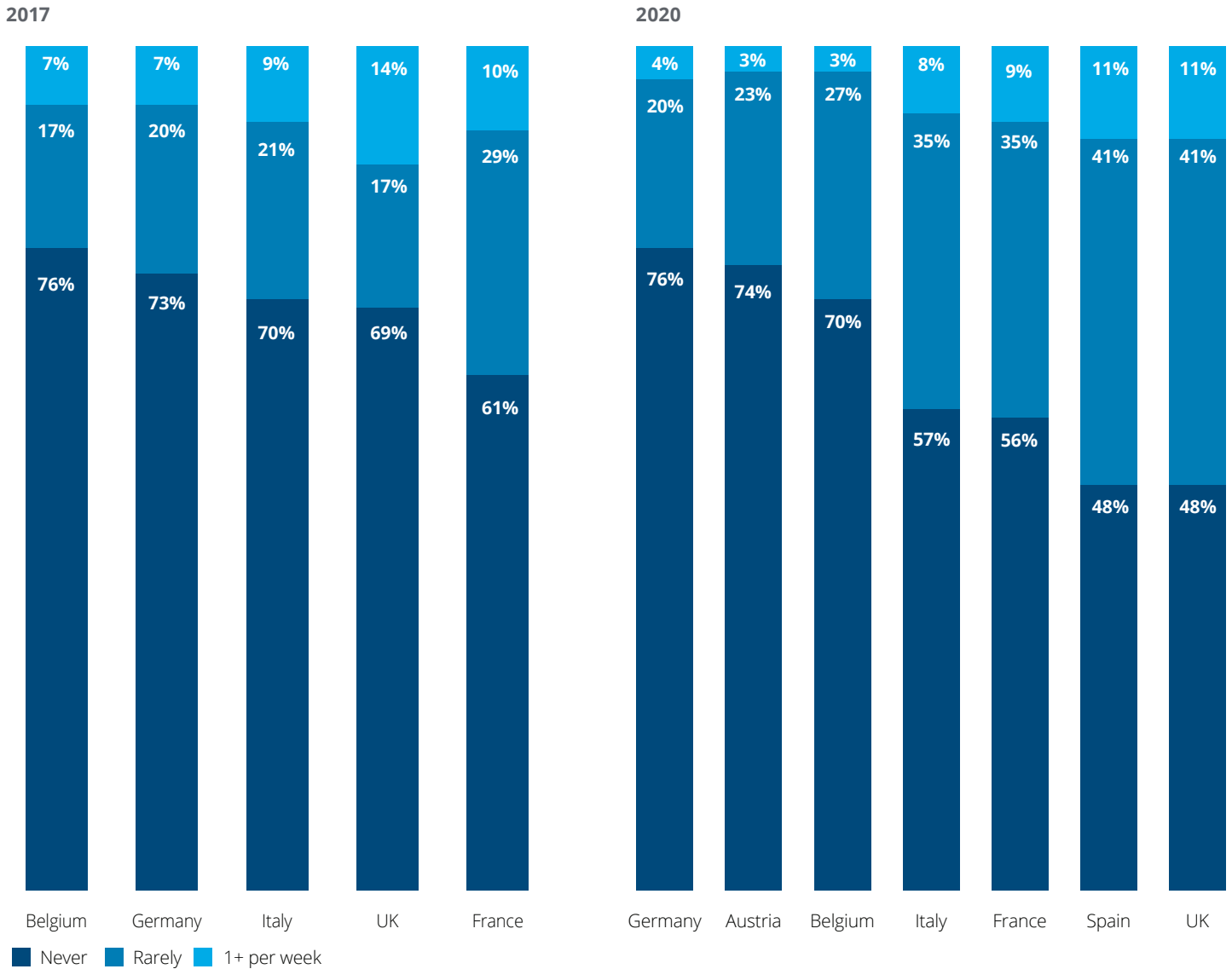


Q39. How often do you use multiple modes of transportation in the same trip (such as a trip using a subway, commuter train, and your own vehicle)?

Sample size: Austria=1,279; Belgium=1,286; France=1,266; Germany=3,002; Italy=1,274; Spain=1,268; UK=1,264

The number of people reporting at least occasional use of ride-hailing services has increased in the last few years as consumers see multiple benefits, such as...

Frequency of ride-hailing usage



Note: Austria and Spain were not part of the 2017 study.

Q40. How often do you currently use ride-hailing services?

Sample size: Austria=1,279 [2020], NA [2017]; Belgium=1,286 [2020], 1,246 [2017]; France=1,266 [2020], 1,249 [2017]; Germany=3,002 [2020], 1,752 [2017]; Italy=1,274 [2020], 1,253 [2017]; Spain=1,268 [2020], NA [2017]; UK=1,264 [2020], 1,255 [2017]

...an ability to multitask, lower costs versus owning a vehicle, reduced concerns regarding drunk driving, and finding a place to park.

Top three benefits of using ride-hailing services (2019)

Austria		Belgium	
Less costly than owning/driving a car	26%	No need to find or pay for parking	25%
Better for the environment	21%	No worries about alcohol consumption	21%
No need to find or pay for parking	17%	Less costly than owning/driving a car	18%
France		Germany	
Less costly than owning/driving a car	27%	Less costly than owning/driving a car	27%
No need to find or pay for parking	24%	Better for the environment	19%
Ability to multitask (e.g. text/check email/watch a video)	20%	Ability to multitask (e.g. text/check email/watch a video)	18%
Italy		United Kingdom	
Ability to multitask (e.g. text/check email/watch a video)	27%	No need to find or pay for parking	25%
Less costly than owning/driving a car	25%	Less costly than owning/driving a car	21%
No need to find or pay for parking	22%	No worries about alcohol consumption	18%

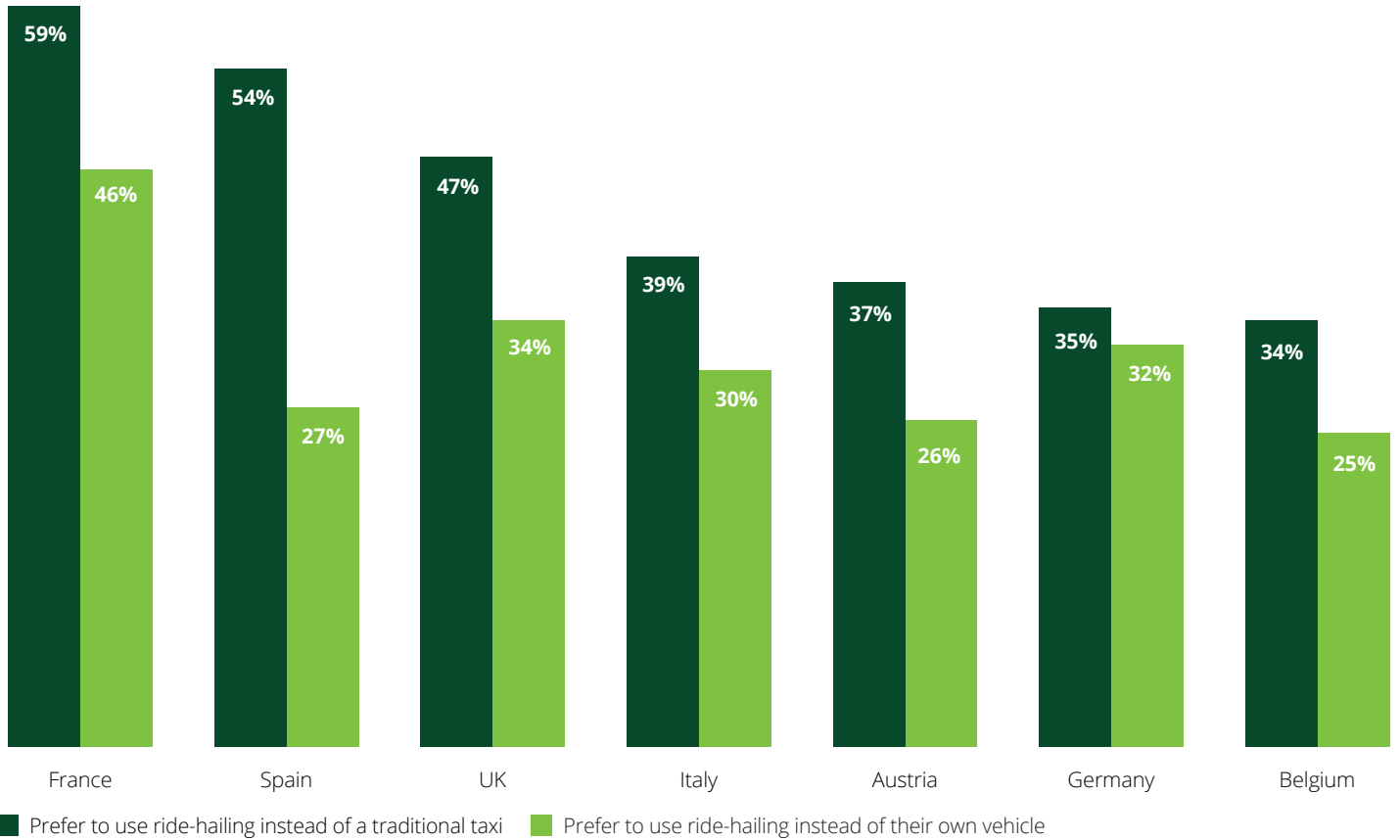
Note: Spain was not part of the 2019 study.

Q36b. What is the most important benefit of using a ride-hailing service?

Sample size: Austria=238; Belgium=366; France=514; Germany=360; Italy=390; UK=512

For the most part, consumers prefer to use ride-hailing services as a replacement for a traditional taxi.

Consumer preferences regarding the usage of ride-hailing services



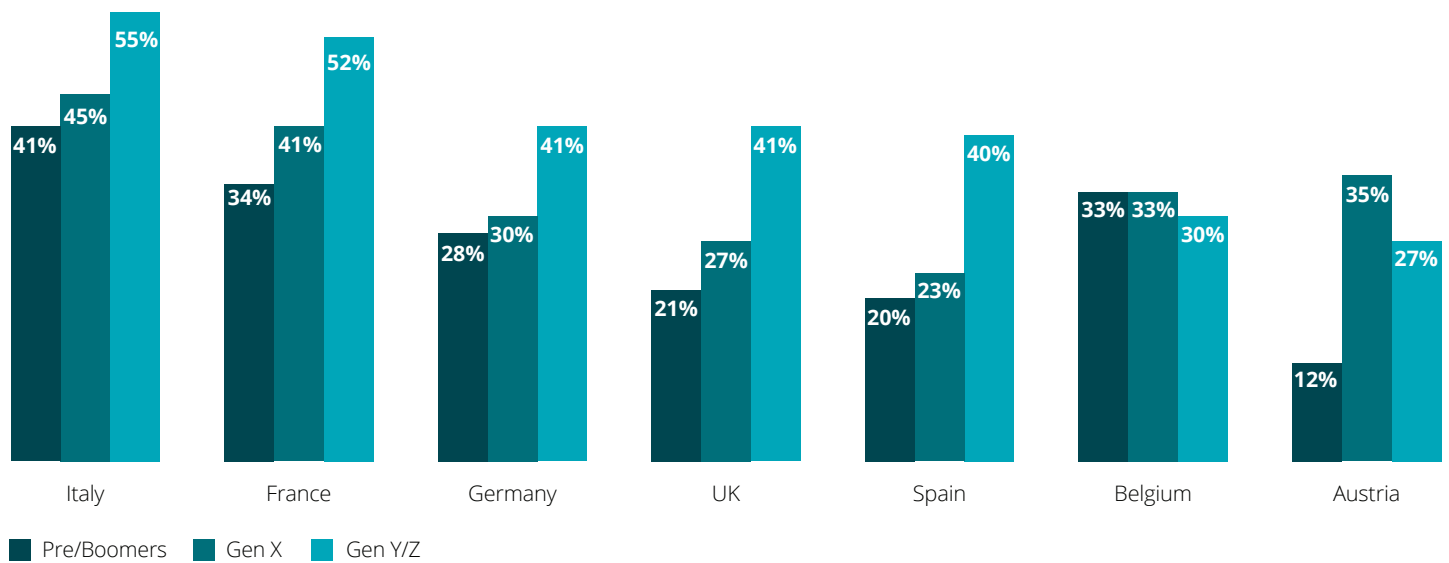
Note: Percentage of respondents who strongly agreed or agreed have been added together

Q41. To what extent do you agree with the following statements?

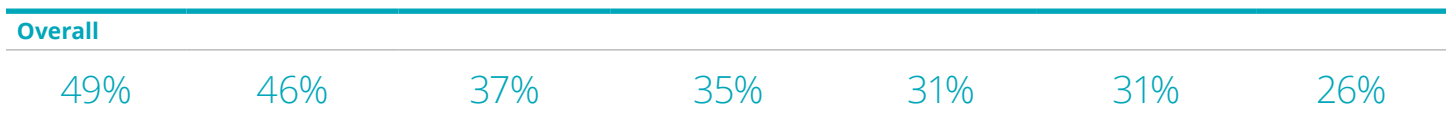
Sample size: Austria=331; Belgium=386; France=562; Germany=723; Italy=544; Spain=659; UK=649

Having said that, younger people in most markets appear to be more in tune with alternative mobility, even to the point of wondering if they still need to own a vehicle.

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



Average across all generations



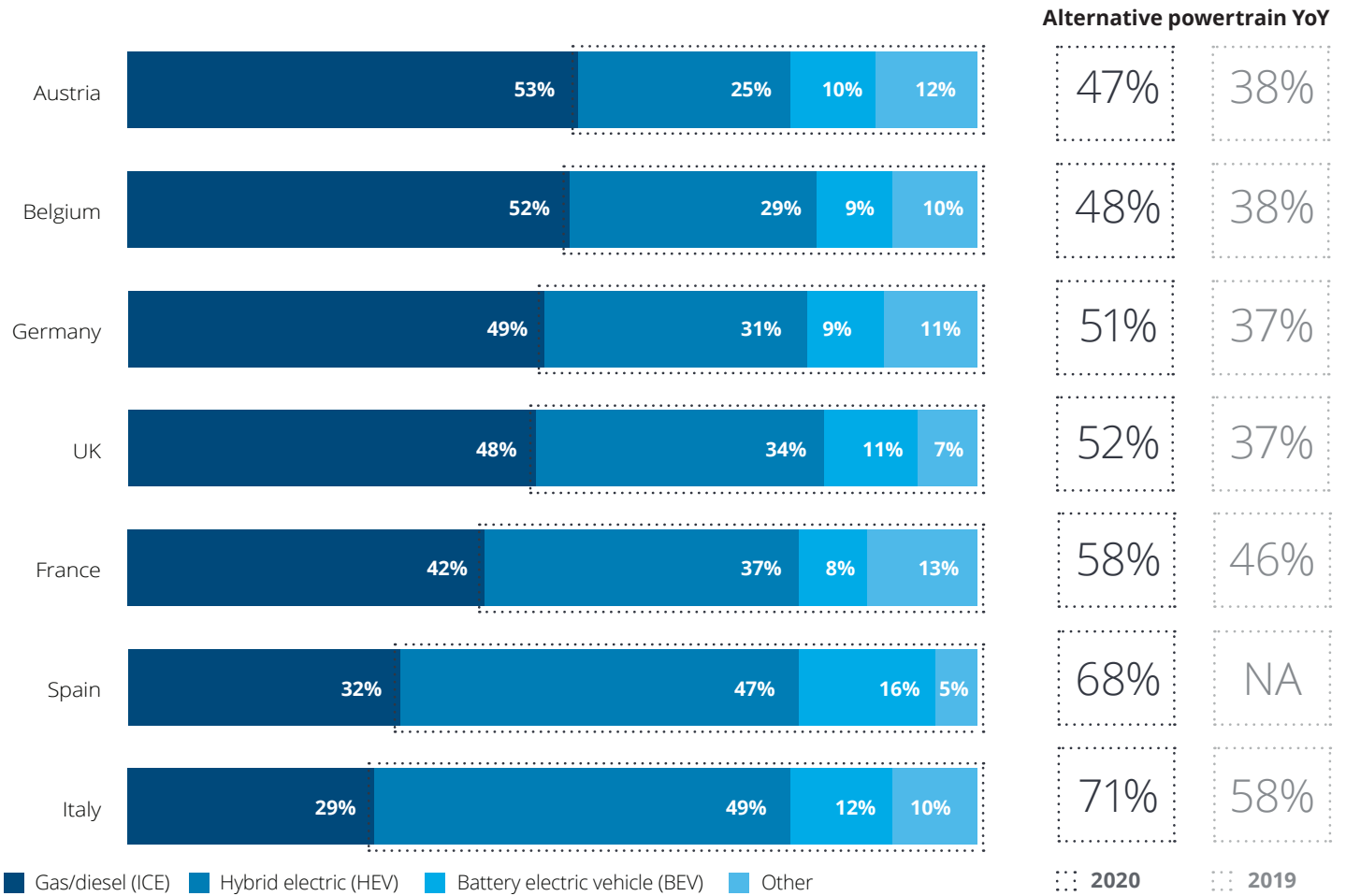
Q42. Does your use of ride-hailing services make you question whether you need to own a vehicle going forward?

Sample size: Austria=Pre/Boomers (59), Gen X (66), Gen Y/Z (206); Belgium=Pre/Boomers (84), Gen X (64), Gen Y/Z (238); France=Pre/Boomers (148), Gen X (80), Gen Y/Z (334); Germany=Pre/Boomers (115), Gen X (154), Gen Y/Z (454); Italy=Pre/Boomers (103), Gen X (134), Gen Y/Z (307); Spain=Pre/Boomers (161), Gen X (159), Gen Y/Z (339); UK=Pre/Boomers (136), Gen X (104), Gen Y/Z (409)

What do consumers think about electric vehicle (EV) technology?

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

Consumer powertrain preferences for their next vehicle (2020)

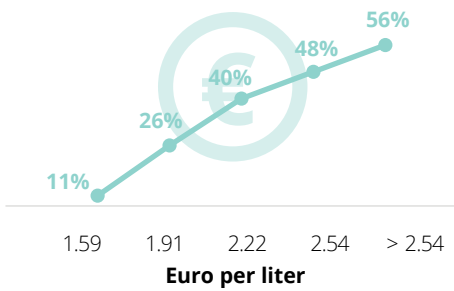


Note: "Other" category includes ethanol, CNG, and hydrogen fuel cell; Spain was not part of the 2019 study.
 Q52. What type of engine would you prefer in your next vehicle?
 Sample size: Austria=954; Belgium=964; France=1,003; Germany=2,139; Italy=1,043; Spain=1,073; UK=924

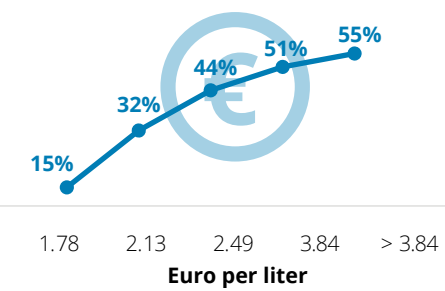
Interest in battery electric vehicles (BEVs) would likely rise if fossil fuel prices increased significantly.

Percentage of consumers (cumulative) who are MUCH MORE likely to consider BEVs if gasoline prices reach...

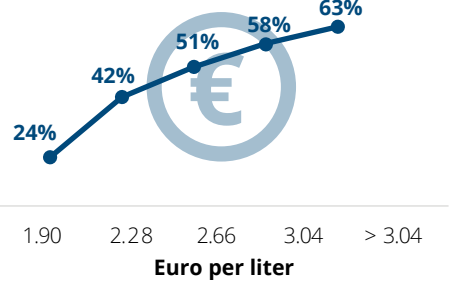
Austria



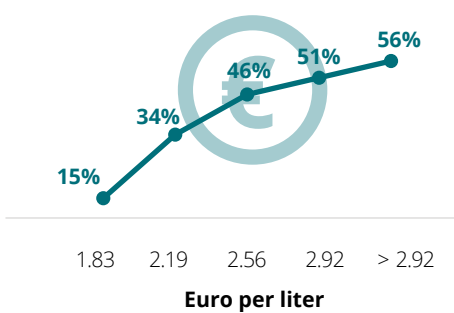
Belgium



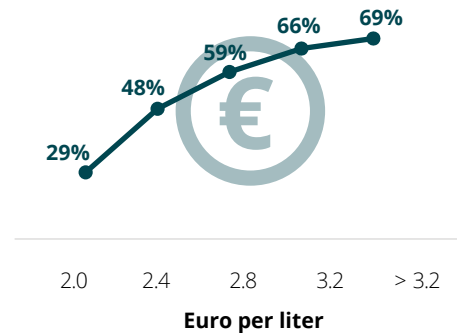
France



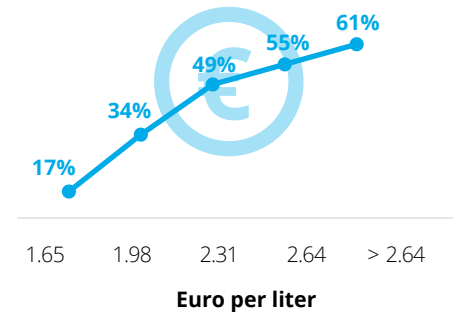
Germany



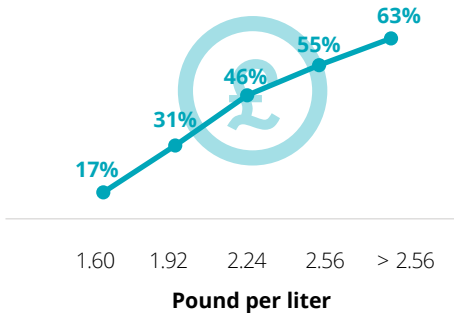
Italy



Spain



UK



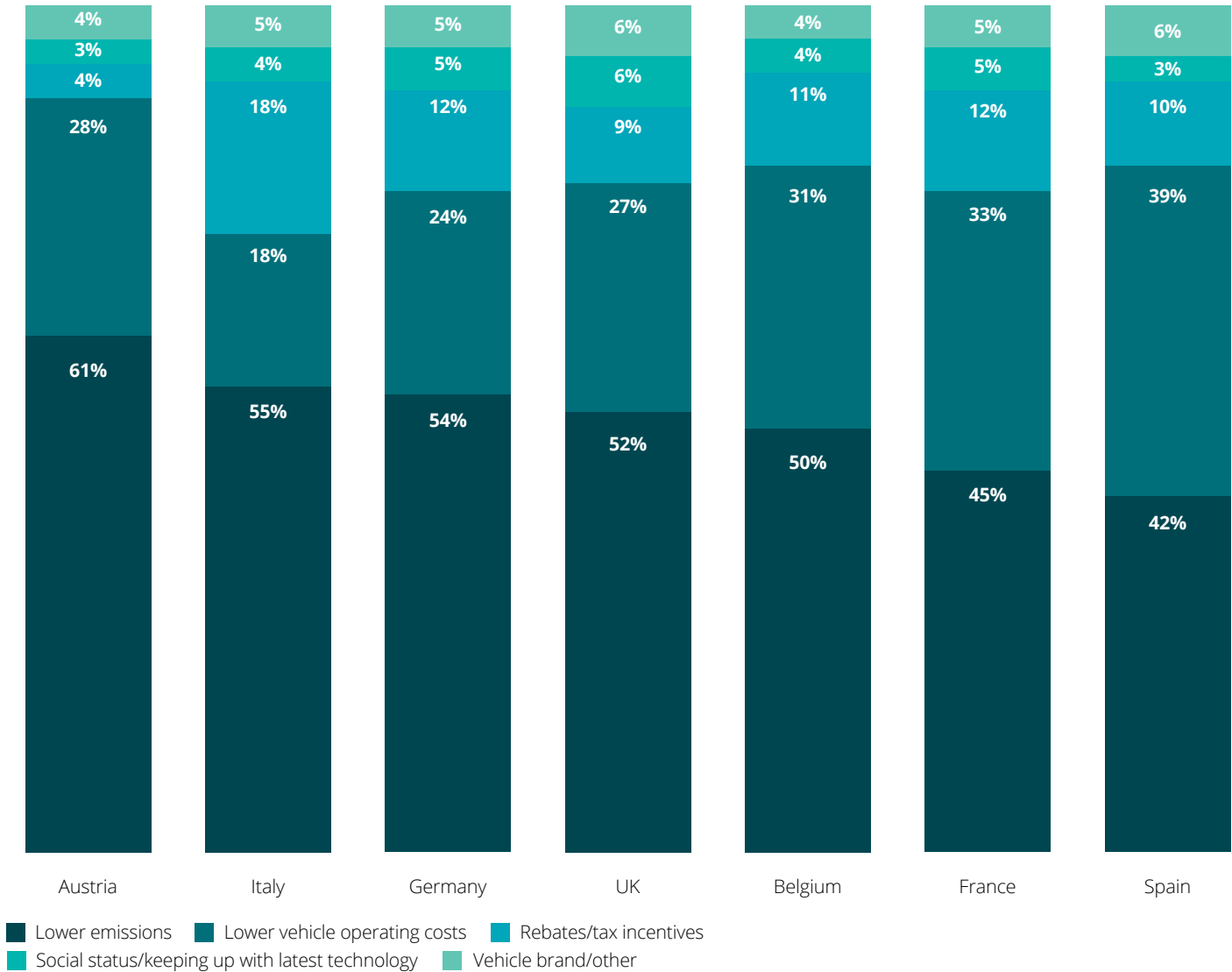
Note: Remaining percentage of consumers for each nation are those for whom price of gasoline is not a deciding factor in whether to choose a BEV or not and those who said "don't know"

Q29. At what price for gasoline would you be much MORE likely to consider buying or leasing an all-battery-powered electric vehicle (BEV)?

Sample size: Austria=1,279; Belgium=1,286; France=1,266; Germany=3,002; Italy=1,274; Spain=1,268; UK=1,264

Lower emissions, as well as lower operating costs, are the primary reasons consumers consider hybrids or BEVs.

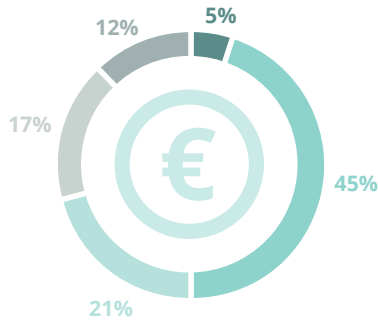
Reasons consumers consider hybrids or BEVs



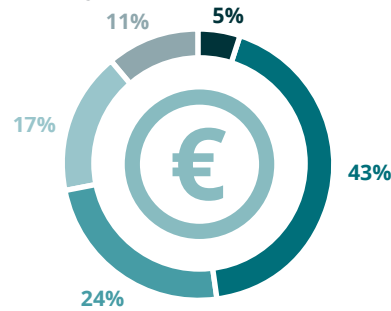
Q54. What is the main reason you are considering an electrified vehicle?
 Sample size: Austria=339; Belgium=371; France=454; Germany=865; Italy=641; Spain=675; UK=416

Consumers in some countries are not willing to pay very much extra for an EV.

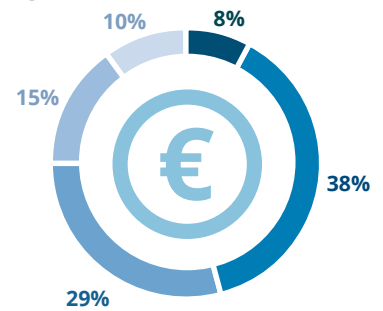
Austria



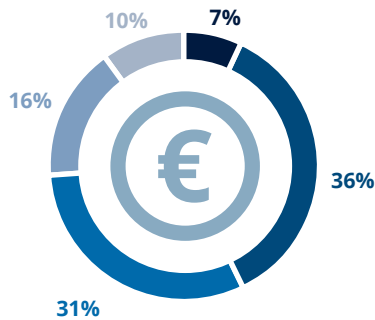
Germany



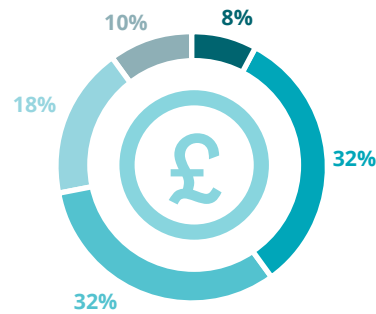
Belgium



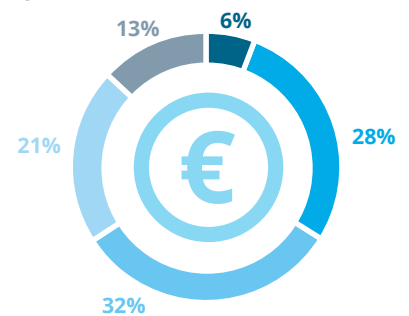
France



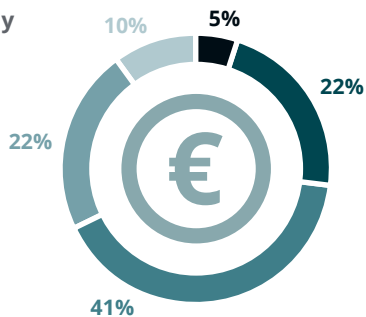
UK*



Spain



Italy



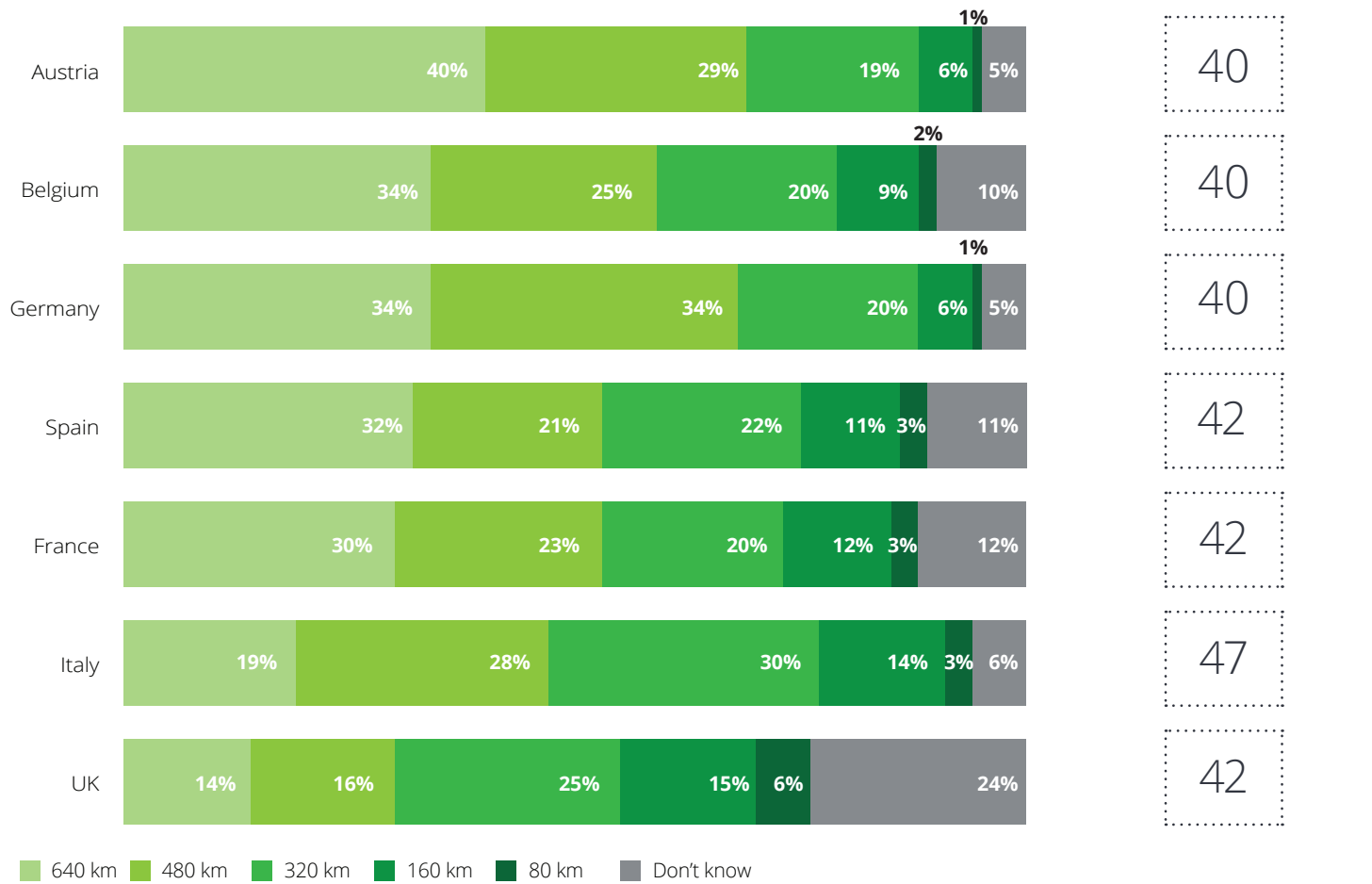
*For United Kingdom, willingness to pay is to be read in £.

Q25. How much more would you be willing to pay for an electric vehicle, compared with a similar vehicle with a traditional internal combustion engine?

Sample size: Austria=1,279; Belgium=1,286; France=1,266; Germany=3,002; Italy=1,274; Spain=1,268; UK=1,264

Expectations regarding the acceptable range of a BEV are quite significant, even though daily transportation requirements are modest by comparison.

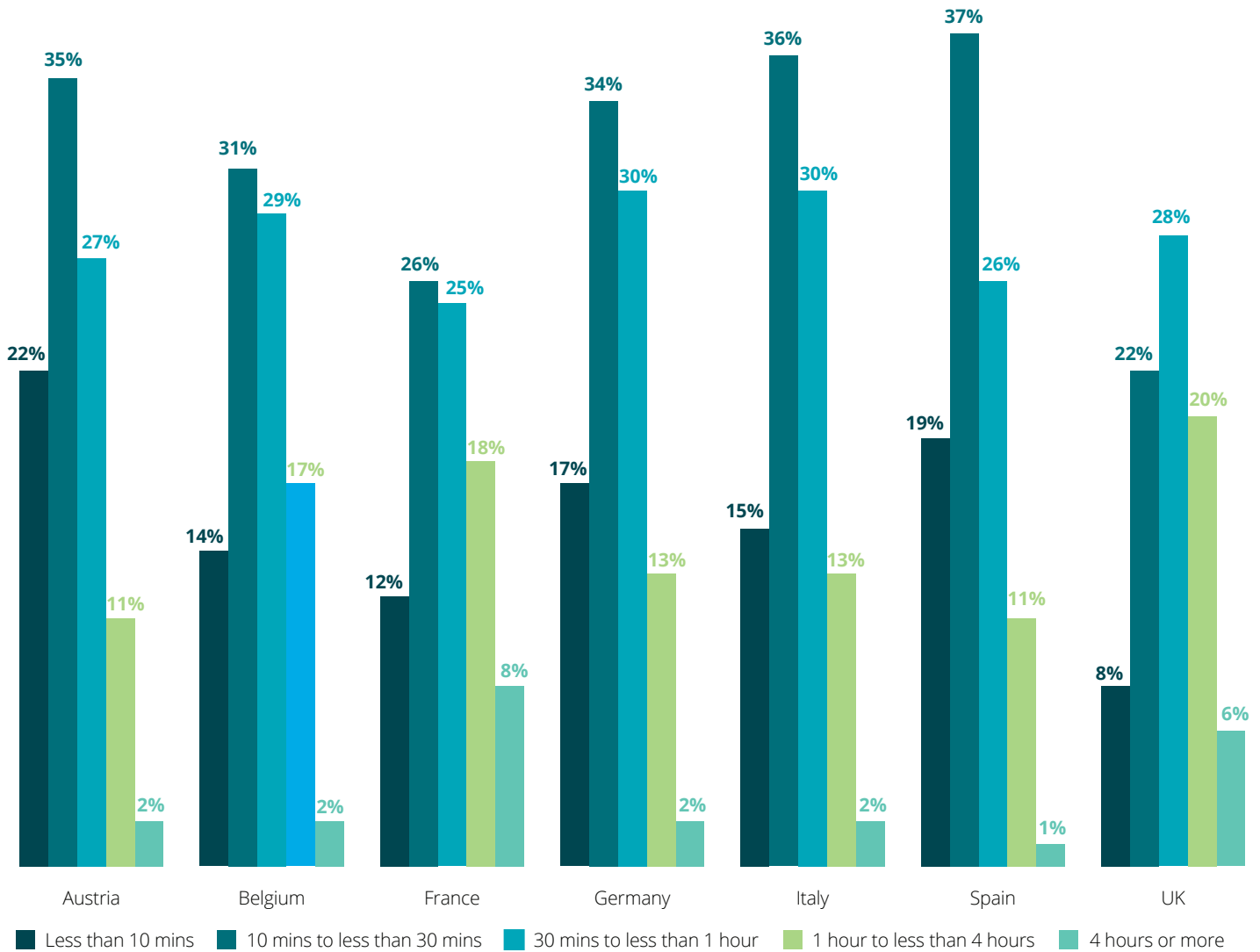
Minimum driving range consumers are expecting from a BEV (km)



Q27. What is the minimum driving range that an all-battery-powered electric vehicle (BEV) needs to have?
 Sample size: Austria=1,279; Belgium=1,286; France=1,266; Germany=3,002; Italy=1,274; Spain=1,268; UK=1,264

In addition, a large proportion of consumers are willing to wait at least 30 minutes to fully charge a BEV.

Amount of time consumers are willing to wait to fully recharge a BEV



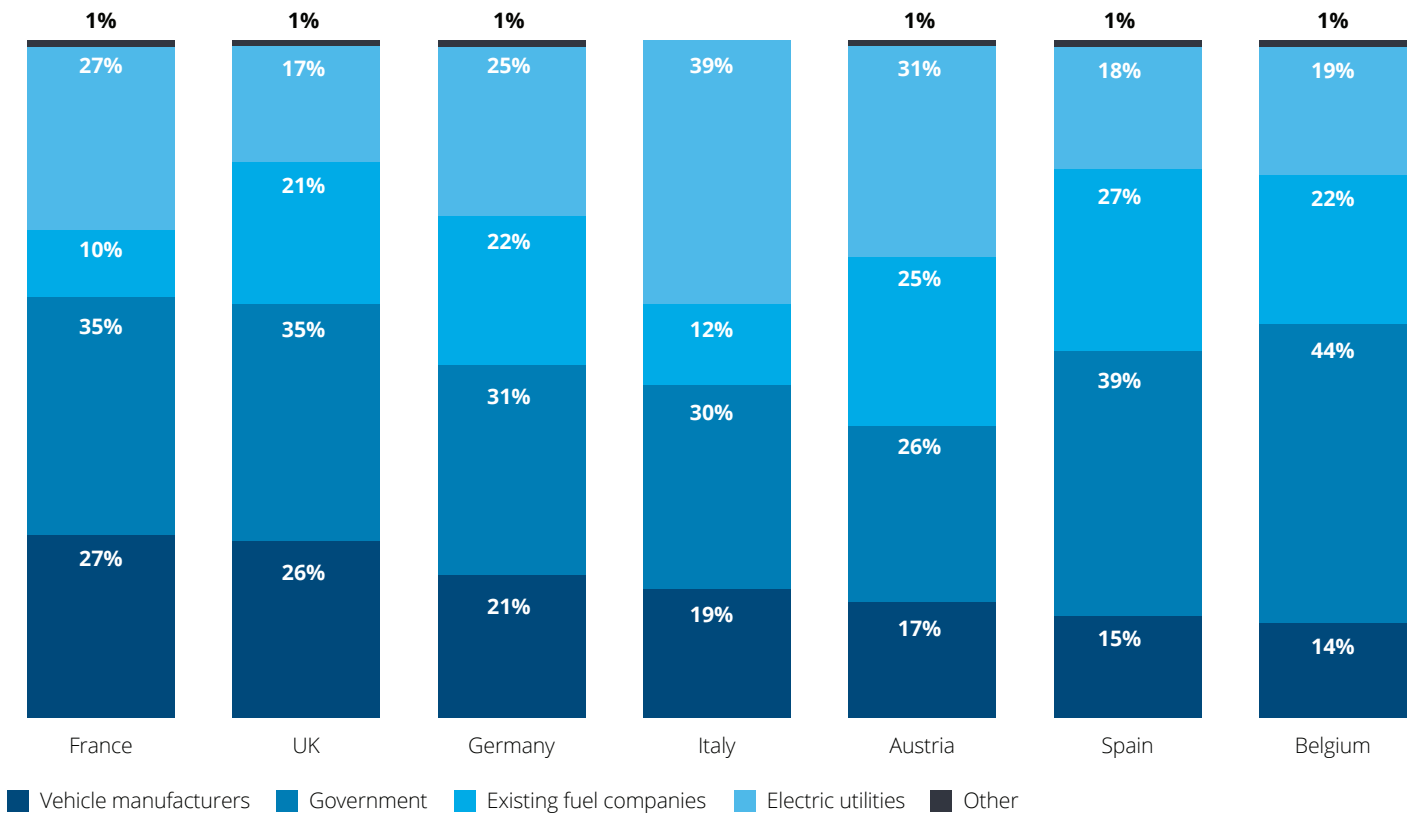
Note: Sum of percentages for a country may not add up to 100%, as "don't know" percentage is not shown above.

Q28. How long should it take to fully recharge an all-battery-powered electric vehicle (BEV)?

Sample size: Austria=1,279; Belgium=1,286; France=1,266; Germany=3,002; Italy=1,274; Spain=1,268; UK=1,264

There are a variety of opinions when it comes to who consumers think should be responsible for building EV charging networks, potentially opening the door to public-private partnerships.

Consumer opinions on whom they think is responsible for building publicly accessible EV charging stations and other infrastructure

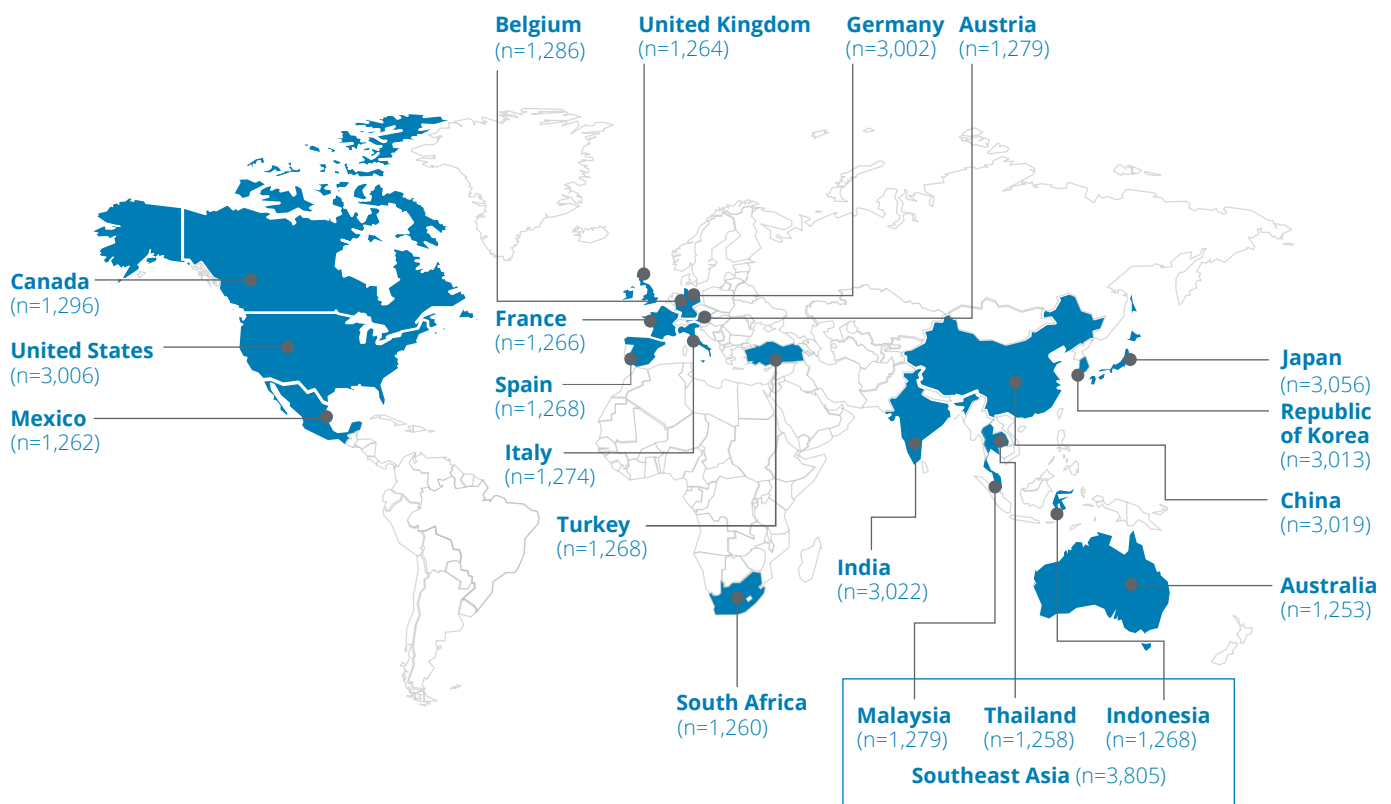


Q31. In your opinion, who should be primarily responsible for building publicly accessible electric vehicle charging stations and other EV infrastructure?
 Sample size: Austria=1,279; Belgium=1,286; France=1,266; Germany=3,002; Italy=1,274; Spain=1,268; UK=1,264

About the study

Global study coverage

The 2020 study includes more than 35K consumer responses across 20 global markets.

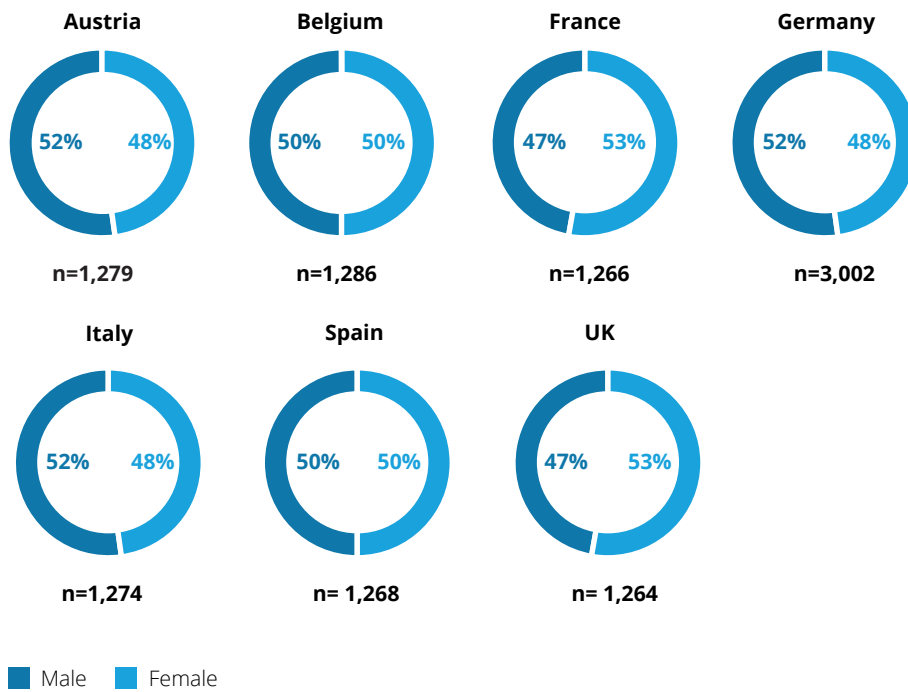
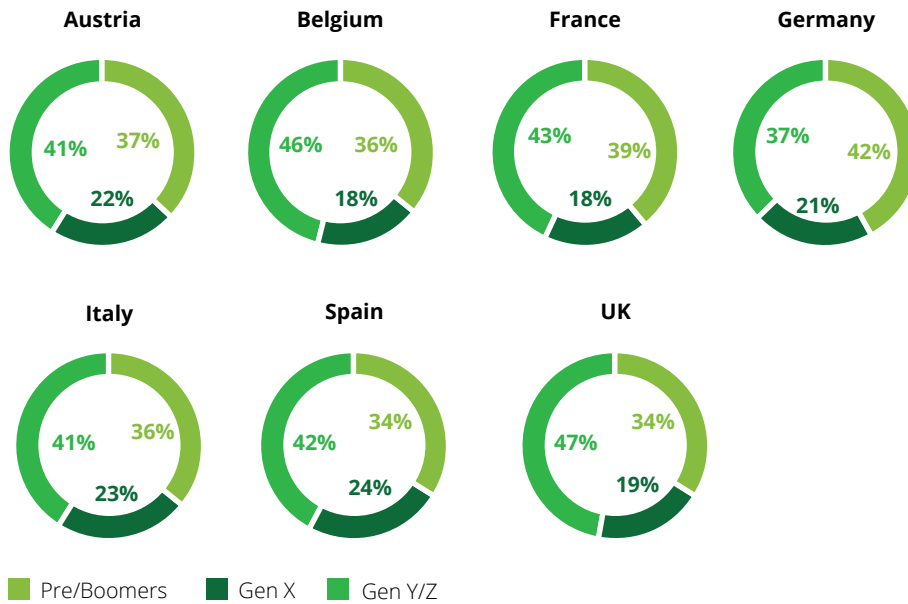


Study methodology

The study is fielded using an online panel methodology where consumers of driving age are invited to complete the questionnaire (translated into local languages) via email. It was fielded in 20 countries and designed to be nationally representative of the overall population in each market.

Note: "n" represents the number of survey respondents in each country.

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Note: "n" represents the number of survey respondents in each country

Note: Pre/Boomers: Born before 1965; Gen X: Born between 1965–1976; Gen Y/Z: Born after 1976 (sample excludes consumers under 18 years of age)

Contacts

Joseph Vitale Jr.

Global Automotive Leader
Deloitte Touche Tohmatsu Limited
jvitale@deloitte.com

Matthias Kunsch

Automotive Leader, Austria
Deloitte Austria
mkunsch@deloitte.at

Guillaume Crunelle

Automotive Leader, France
Deloitte France
gcrunelle@deloitte.fr

Jordi Llidó

Automotive Leader, Spain
Deloitte Spain
jllido@deloitte.es

Thomas Schiller

Automotive Leader, Europe and Germany
Deloitte Germany
tschiller@deloitte.de

Eric Desomer

Automotive Leader, Belgium
Deloitte Belgium
edesomer@deloitte.com

Giorgio Barbieri

Automotive Leader, Italy
Deloitte Italy
gibarbieri@deloitte.it

Michael Woodward

Automotive Leader, UK
Deloitte UK
mwoodward@deloitte.co.uk

Ryan Robinson

Automotive Research Leader
Deloitte LLP
ryanrobinson@deloitte.ca



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