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Global Automotive Consumer Study: Future of automotive technologies

Preliminary insights for Italy

February 2017

Global Automotive Consumer Study
Module 1: Key storylines uncovered

- Consumer desirability for advanced vehicle automation is **higher in Italy** than in the UK, France, and Germany

- However, consumers' desirability for basic, limited and full self-driving automation has **significantly decreased** over the last 2 years

- Not only the desirability, but the willingness to pay has also **declined since 2014** with many consumers indicating they are not willing to pay anything for them

- However, when asked about their most preferred individual features, consumers **focus on "safety" related technologies** (on the spectrum of vehicle autonomy) while comfort/convenience features are least preferred

- **7 in 10 consumers** don't consider self-driving cars to be safe but are willing to try them if they have an established safety record

- More than half of the consumers in Italy trust a technology company to bring self-driving technology to market
  - Mercedes-Benz, BMW, Audi, and Fiat emerge as the four trusted car makers to bring self-driving technology to the market

- **9 in 10 consumers** in Italy never or rarely use ride-hailing services
  - Majority of the consumers use ride-hailing services for **personal trips**
  - **Almost half** of the consumers who use ride-hailing services, question their need of owning a vehicle in future

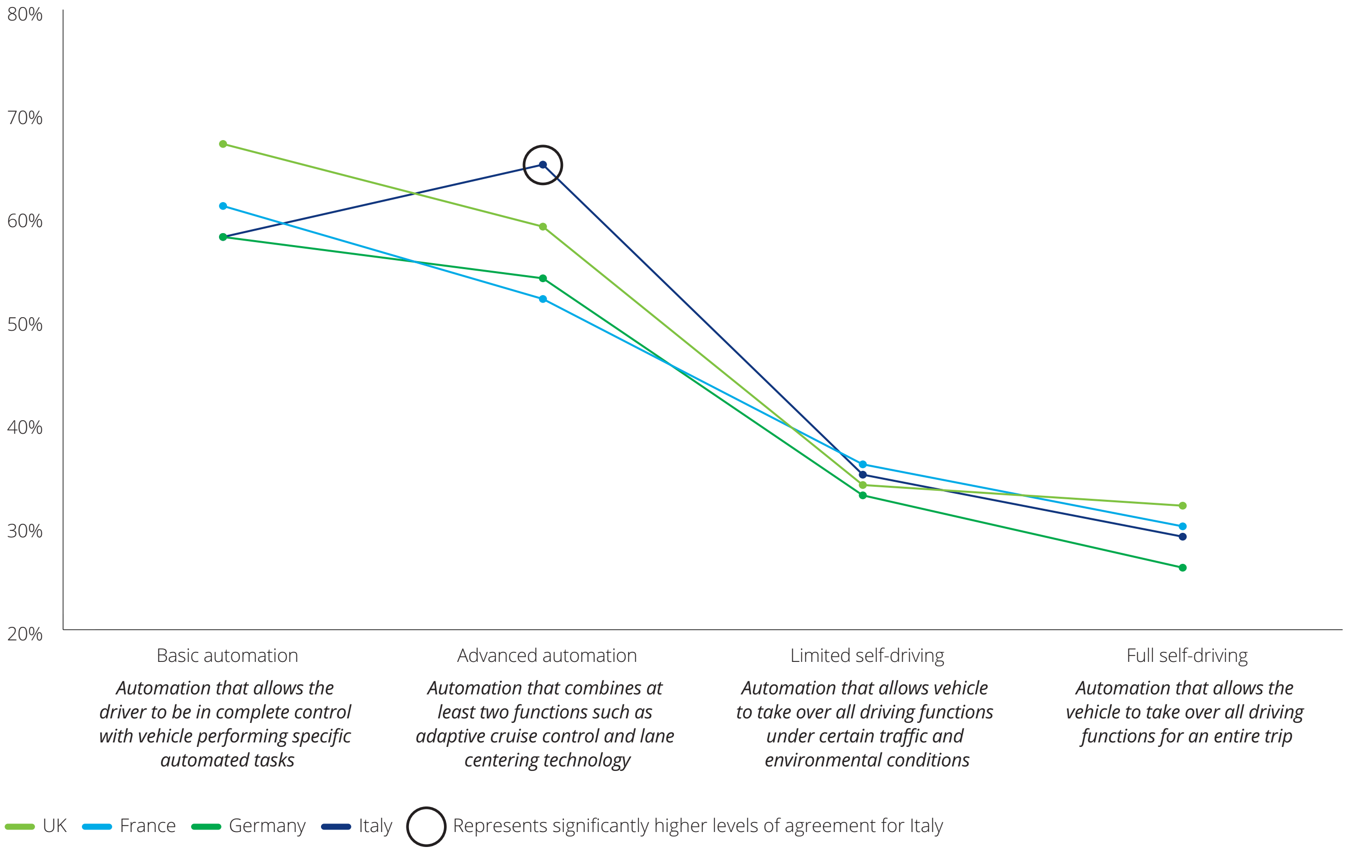
- **75% of consumers** fear "vehicle-hacking to cause personal injury" as the biggest threat to data sharing. However, equal percent of consumers would also readily share their personal information with car makers if they received a significant benefit in return

- Real-world battery technology performance remains below consumer expectations as **63% of consumers** say the maximum amount of time they are willing to wait to fully charge a vehicle is up to an hour when actual charging times are still much longer
  - **37% of consumers** want a minimum distance of **400 kilometers** or more from an electric vehicle on a single charge

Desirability for advanced vehicle automation is higher in Italy when compared to France, the UK and Germany

Consumer desirability for advanced vehicle automation is higher in Italy than in the UK, France, and Germany...

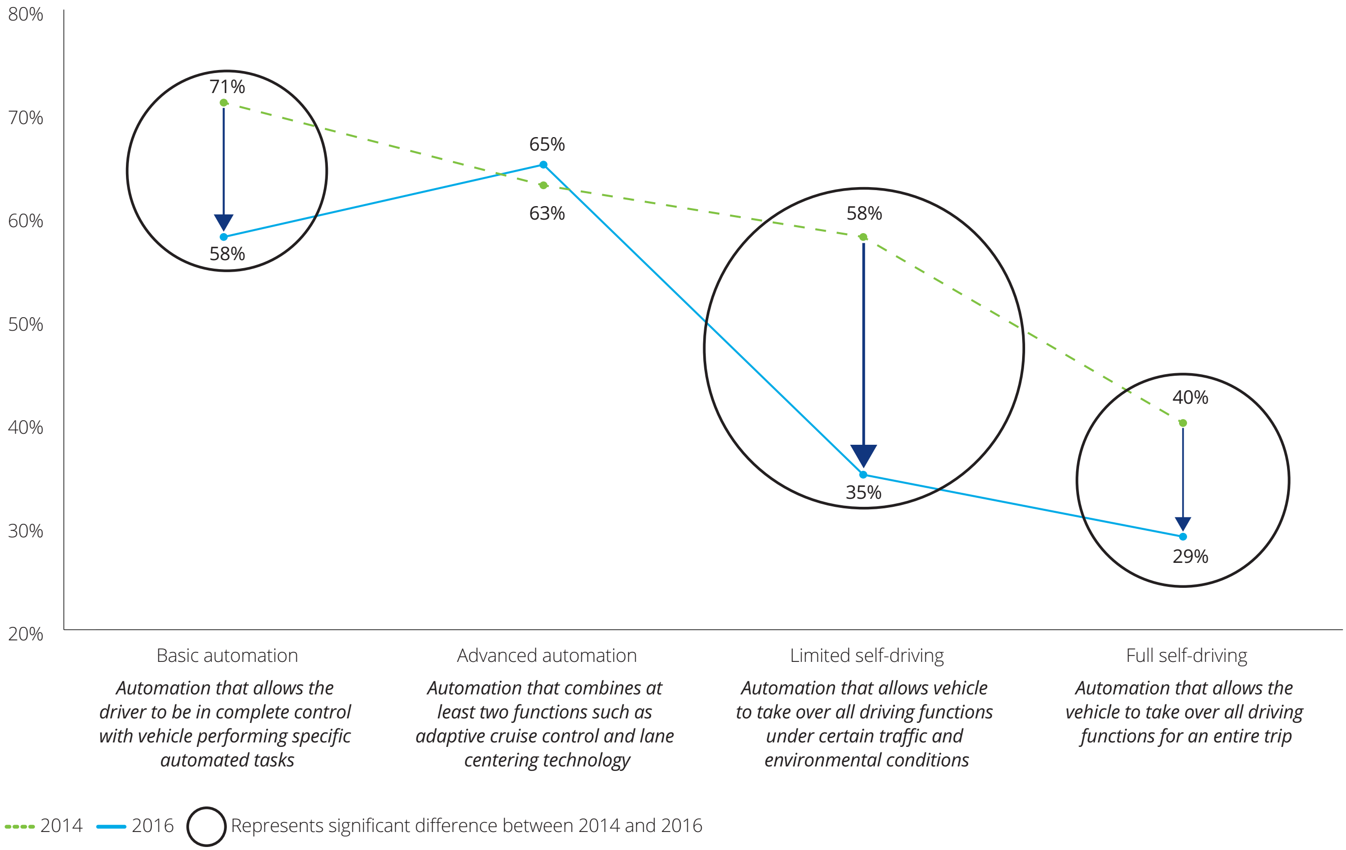
Consumers' level of agreement with different automation levels, 2016



Note: Percentage of respondents who strongly agreed or agreed have been added together.
Sample size – [Italy: N= 1,217; France: N= 1,175; Germany: N= 1,672; UK: N=1,202]
Source: 2016 and 2014 global automotive consumer survey, Deloitte.

…however, desirability for basic, limited and full self-driving automation has significantly decreased over the last 2 years…

Consumers' level of agreement with different automation levels

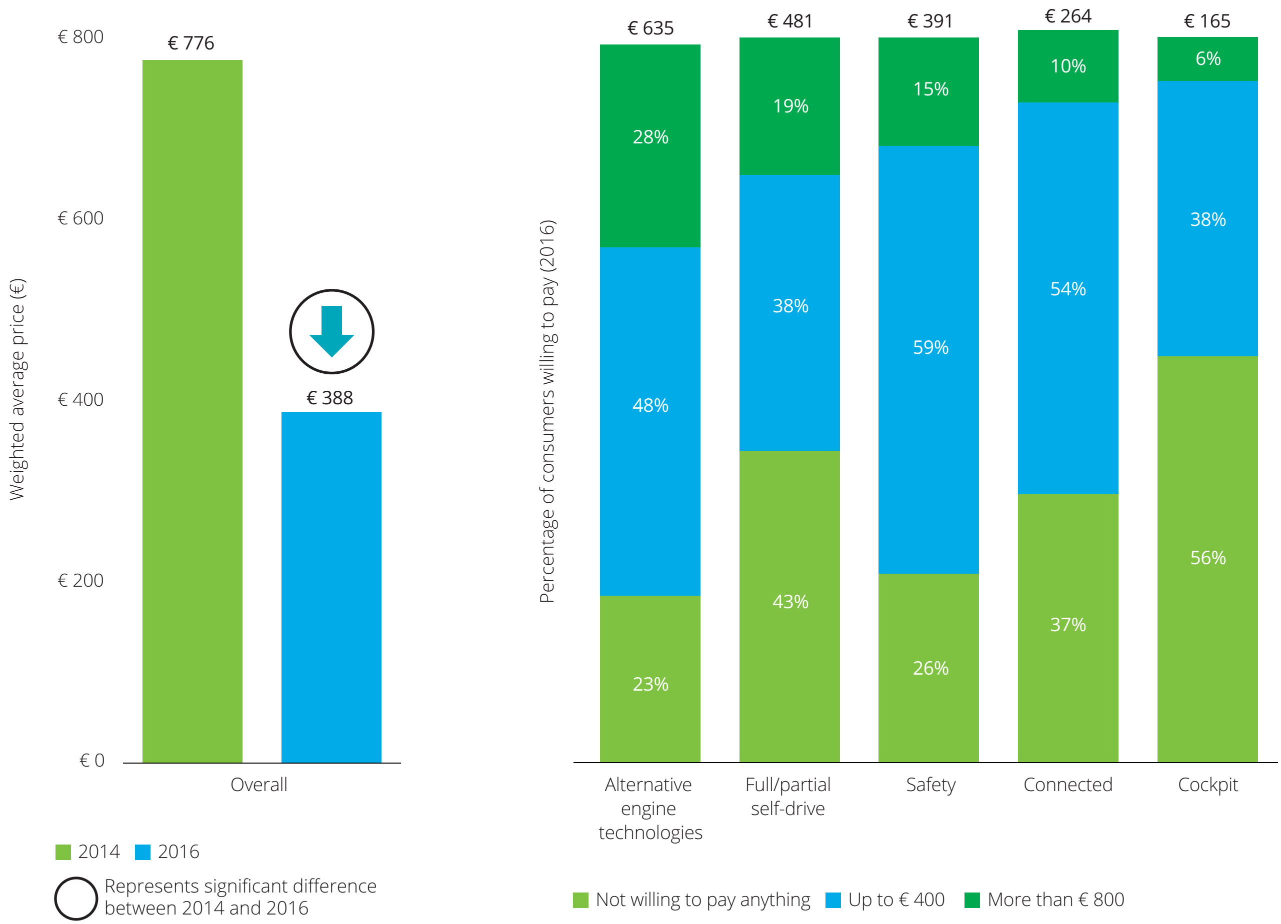


Note: Percentage of respondents who strongly agreed or agreed have been added together.
Sample size – [2014: N= 867, 2016: N= 1,217]
Source: 2016 and 2014 global automotive consumer survey, Deloitte.

Not only the desirability, but the willingness to pay for advanced vehicle technologies has also decreased since 2014

Willingness to pay vehicle automation has declined since 2014 For cockpit features, stated price point is relatively low

Average expected price and consumers' willingness to pay by technology type, 2014 and 2016



Sample sizes – [2014: N= 873, 2016: N= 1,245]

Source: 2016 and 2014 global automotive consumer survey, Deloitte.

But, there is good news for automakers to be found among younger consumers

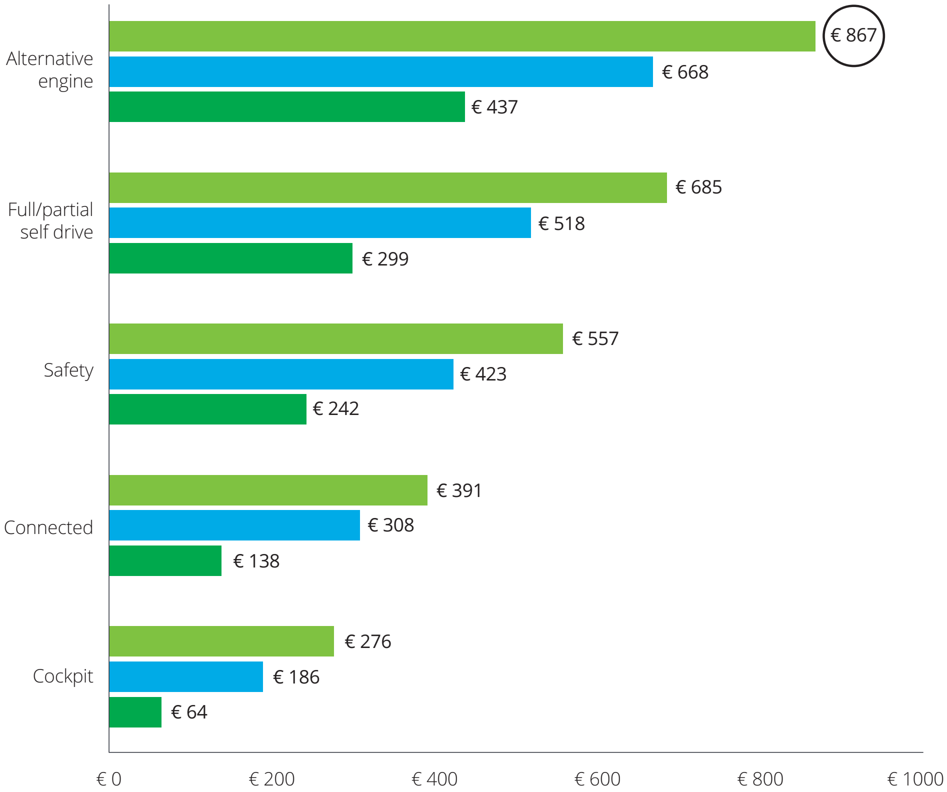
Younger consumers are more desirable of limited and full self-driving than older generations

% of consumers who agree or strongly agree with different levels of automation by generation, 2014 and 2016

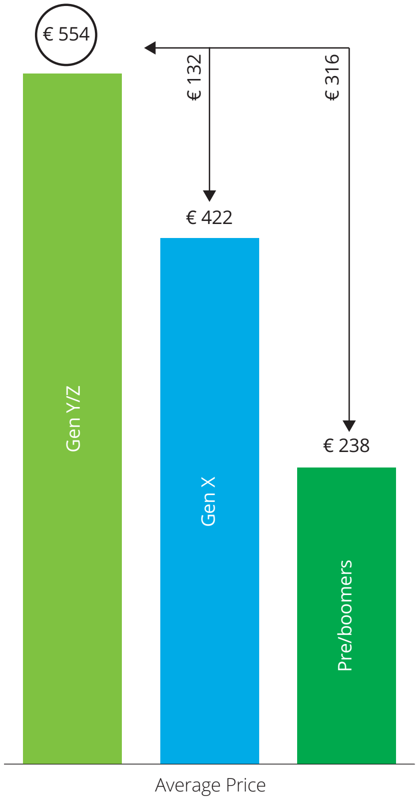
Sample sizes – [2014: Pre/boomers, N= 362; Gen X, N= 234; Gen Y/Z, N= 271]
[2016: Pre/boomers, N= 494; Gen X, N= 341; Gen Y/Z, N= 382]
Year of birth for various Generations – Pre/boomers: Before 1964; Gen X:1965-1976; Gen Y/Z:1977 and later
Source: 2016 and 2014 global automotive consumer survey, Deloitte

With younger generations willing to pay more for vehicle technologies vs. older generations

Weighted average price of technologies by generation



Average price for all technologies



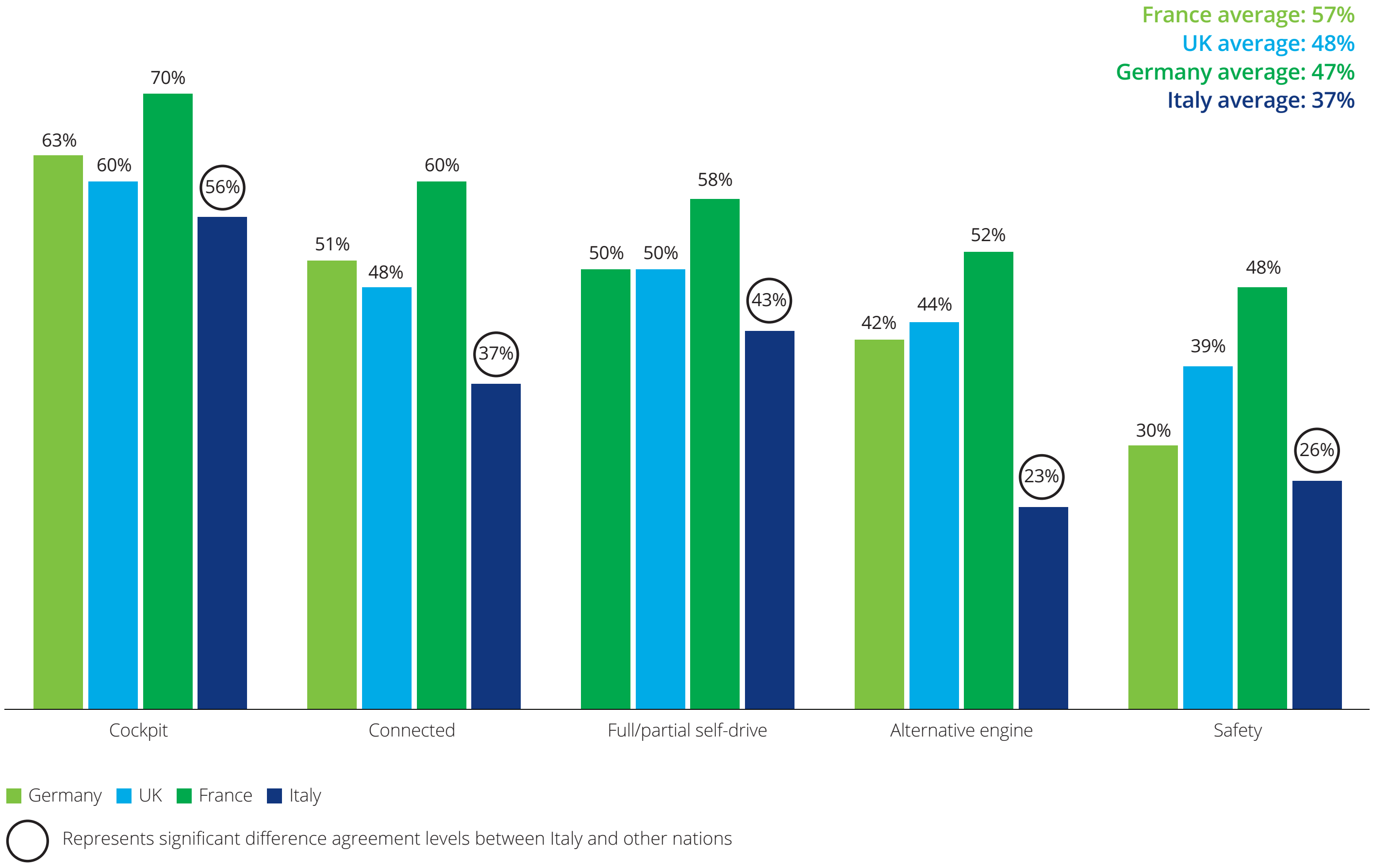
Gen Y/Z Gen X Pre/boomers

Represents significant difference between Gen Y/Z and other generations

Sample sizes – [2016: Pre/boomers, N= 510; Gen X, N= 346; Gen Y/Z, N= 390]

...and a higher proportion of consumers in Italy are willing to pay for future vehicle technologies, compared to UK, France, and Germany

% of consumers who want to pay nothing by technology type (2016)



Sample sizes – [Italy: N=1,245; Germany: N=1,742; UK: N=1,247; France: N= 1,244]

Source: 2016 and 2014 global automotive consumer survey, Deloitte.

Which technology features do Italian consumers find most useful?
Safety...Safety...Safety

	Rank	Technology that...	Category
Most useful	1	Recognizes objects on road and avoids collision	Safety
Most useful	2	Blocks driver from dangerous driving situations	Safety
Most useful	3	Informs driver of dangerous driving situations	Safety
Most useful	4	Enables usage of alternative fuels	Environment
Most useful	5	Takes steps in medical emergency or accident	Safety
Most useful	6	Monitors the physical health of the driver	Safety
Most useful	7	Lowers the impact on the environment	Environment
Most useful	8	Enables remote shutdown of stolen vehicle	Cyber security
Moderatly useful	9	Enables use of advanced lightweight materials	Fuel efficiency
Moderatly useful	10	Enables vehicles-to-vehicle and road communication	Connectivity
Moderatly useful	11	Helps enhance fuel efficiency	Fuel efficiency
Moderatly useful	12	Diagnoses and sends maintenance notifications	Connectivity
Moderatly useful	13	Prevents theft by restricting unauthorized access	Cyber security
Moderatly useful	14	Coaches the driver to drive safely	Cost efficiency

Note: Break points for most, moderate and least preferred technologies are derived based on percentage of times a technology is rated the best.
Sample size – [N= 1,246]

while connected and self-driving technology features resonate the least with consumers

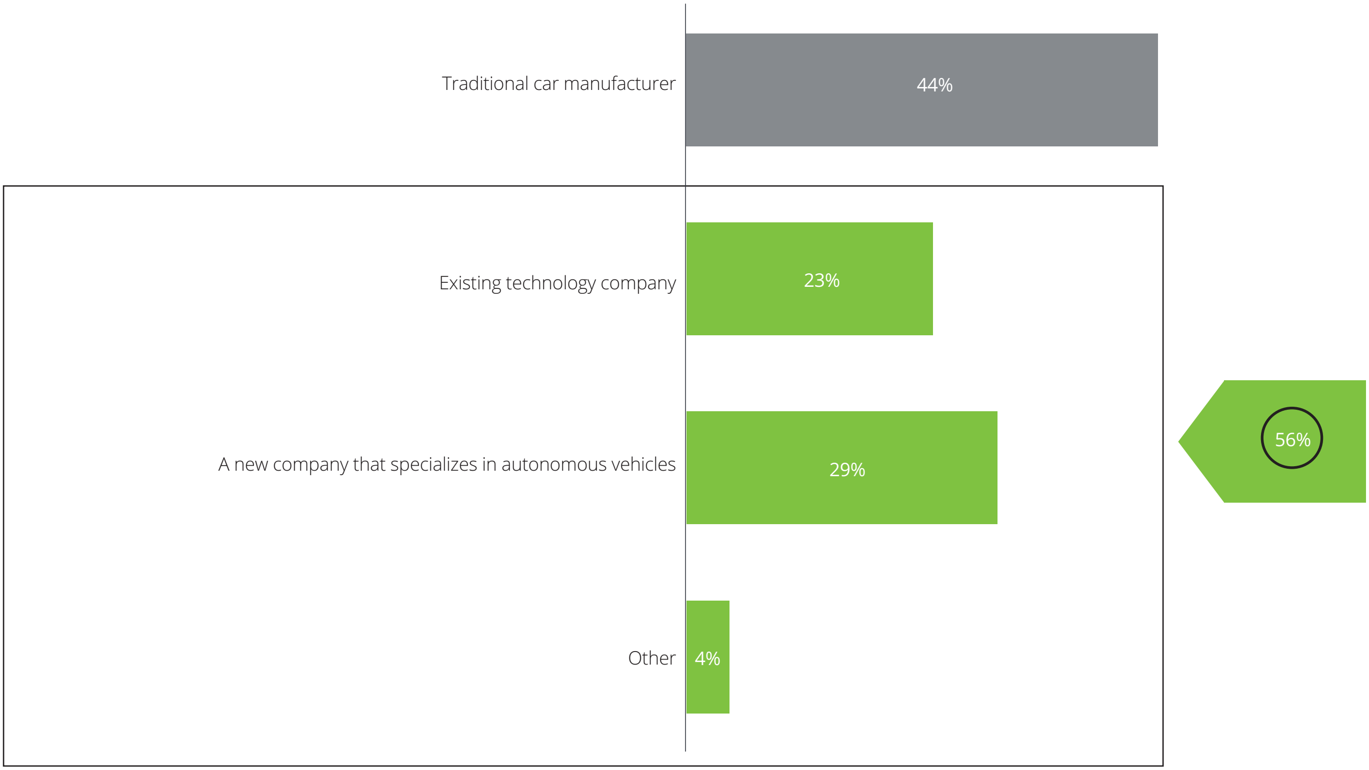
	Rank	Technology that...	Category
Least useful	15	Enables high speed, long distance, highway ‘auto-pilot’ mode	Self-drive
	16	Makes available adjustable settings to enhance vehicle performance	Performance
	17	Automates tasks for comfort and convenience	Convenience
	18	Enables interactive vehicle operational information	Convenience
	19	Enables hands-free interior controls	Convenience
	20	Enables low-speed urban 'auto pilot' mode	Self-drive
	21	Enables full self-driving capabilities	Self-drive
	22	Enables the use of self-healing paint	Miscellaneous
	23	Enables remote/automatic software updates of the vehicle	Connectivity
	24	Automatically pays parking and toll fees	Service enabler
	25	Prevents hacking into vehicle systems	Cyber security
	26	Assists in locating, reserving, and navigating to a parking space	Service enabler
	27	Allows the driver to control automated home systems	Service enabler
	28	Allows use of smartphone applications through the vehicle dashboard	Connectivity
	29	Empowers customer to personalize vehicles	Miscellaneous
	30	Provides notifications when places of interest are near	Service enabler
	31	Provides passengers with customized entertainment while driving	Convenience
	32	Helps manage daily activities	Convenience

Note: Break points for most, moderate and least preferred technologies are derived based on percentage of times a technology is rated the best.
Sample size – [N= 1,246]

More than half of the consumers in Italy trust a tech company or a new company which specializes in autonomous vehicle to bring self-driving technology to market

More than half of the consumers in Italy trust a technology company to bring self-driving technology to market

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



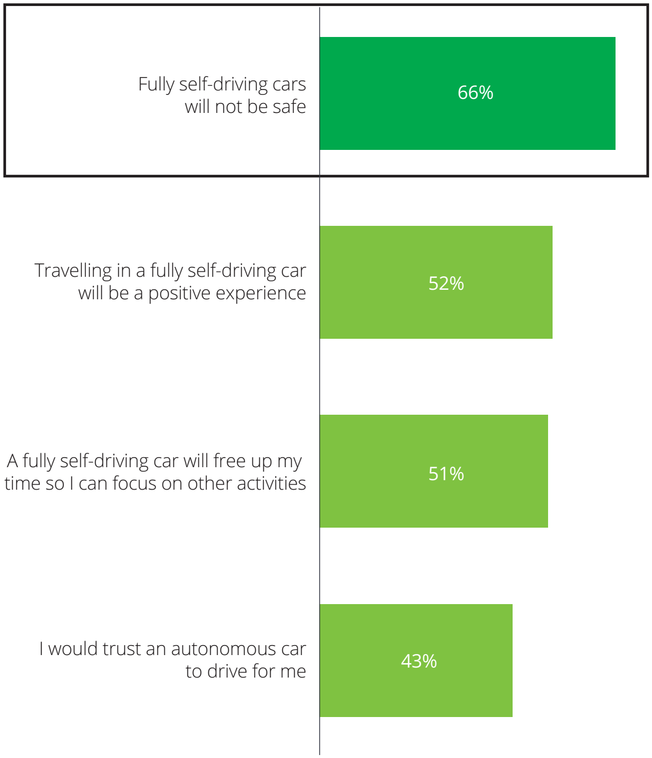
Significant higher than traditional car manufacturer

Sample size – [N= 1,249]

Individual safety features rule, but how do consumers feel about fully self-driving vehicles?

7 in 10 consumers don't consider self-driving cars to be safe but are willing to try them if they have an established safety record

Consumer opinion on fully self-driving vehicles

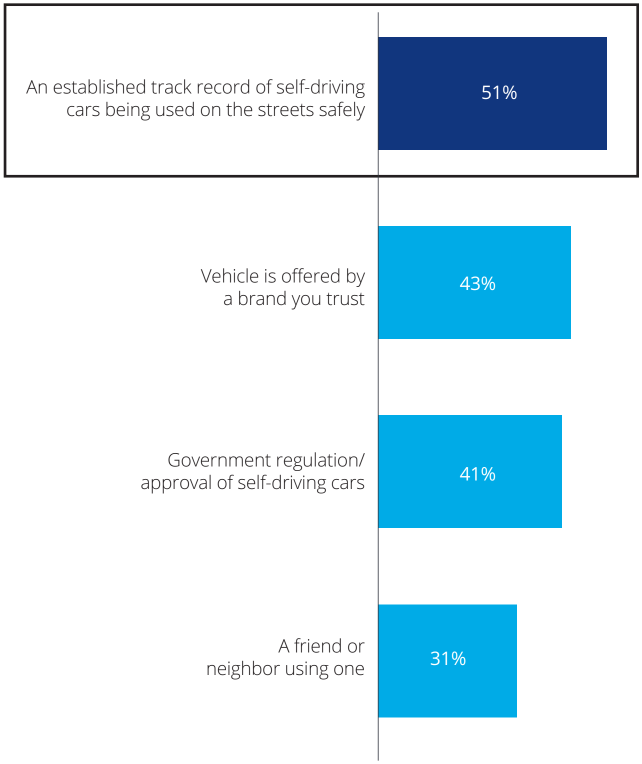


Represents significant differences with other consumer opinions

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

Sample size – [N= 1,112]

Factors making consumers ride in fully self-driving vehicles



Represents significant differences with other factors

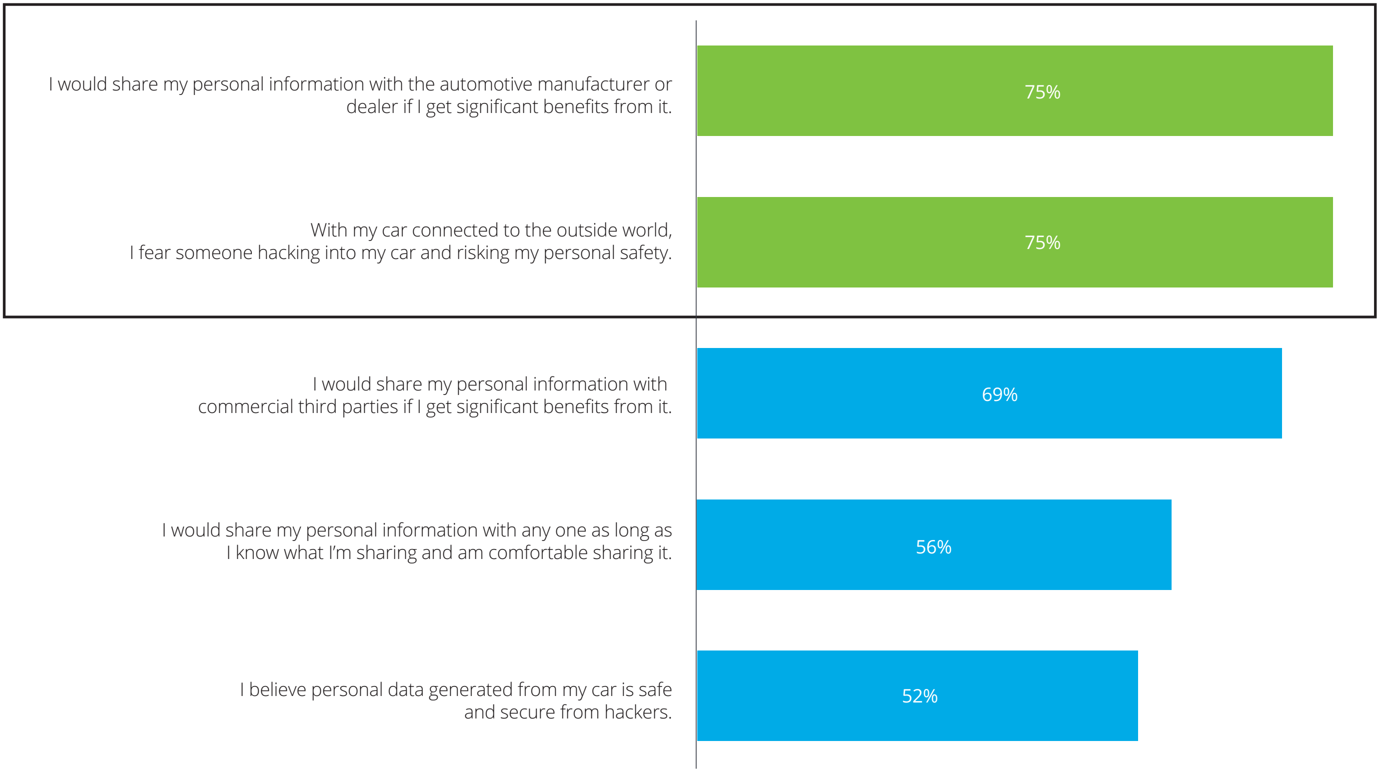
Note: Percentage of respondents who said 'significantly more likely' or 'more likely' have been added together

Sample size – [N= 1,143]

Consumers are also concerned about the safety of their data

Majority of consumers fear hacking as the biggest threat to data sharing but would readily share their personal information if they get significant benefits

Consumer opinion on personal data sharing and privacy



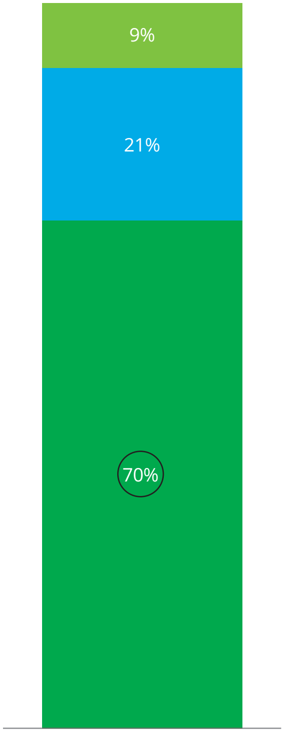
Represents significant differences with other consumer opinions

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

Sample size – [N= 1,088]

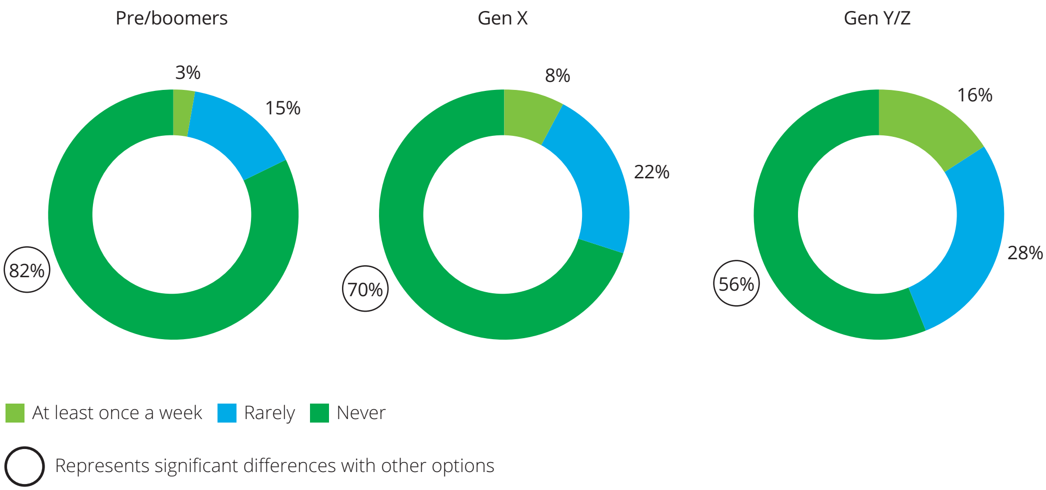
Ride-hailing certainly not a threat for Italian car ownership...for now

9 in 10 consumers in Italy never or rarely use ride-hailing services



Ride–sharing frequency
Sample size – [N= 1,253]

% of Gen Y/Z consumers who use ride-hailing services are twice that of Gen X consumers, and four times that of Pre/boomer consumers



Sample sizes – [Pre/boomers, N= 514; Gen X, N= 347; Gen Y/Z, N= 392]

Majority of the consumers use ride-hailing services for personal trips

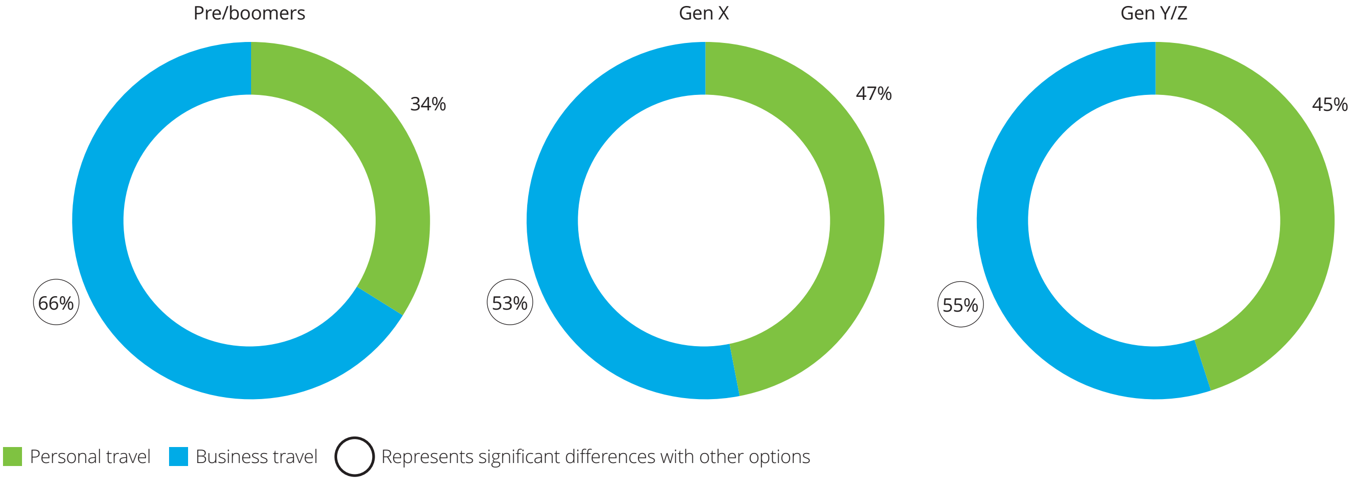
% use of ride-hailing services for business vs. personal travel

Business travel   Personal travel   Represents significant differences with other options

Sample size – [N= 369]
Sample sizes – [Pre/boomers, N= 93; Gen X, N= 105; Gen Y/Z, N= 171]

…with slightly more than 45 percent Gen X and Gen Y/Z consumers using ride-hailing services for business trips

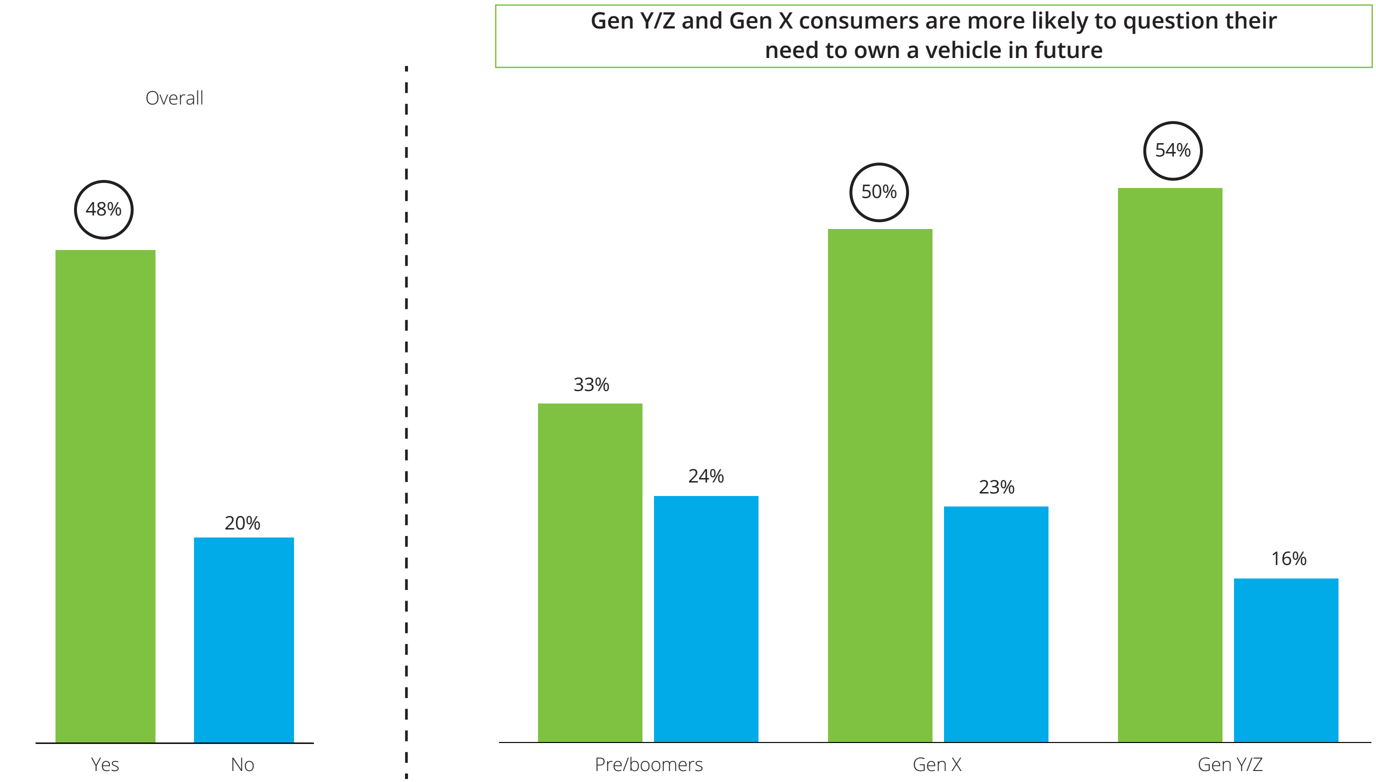
% use of ride-hailing services by generation



Sample size – [N= 369]
Sample sizes – [Pre/boomers, N= 93; Gen X, N= 105; Gen Y/Z, N= 171]

Almost half of the consumers who use ride-hailing services, question their need of owning a vehicle in future

% of consumers who question their future vehicle ownership due to use of ride-hailing services, Italy, 2016



Represents significant differences with other options

Sample size – [N= 368]
Rest percentage of the consumers haven't thought about it.

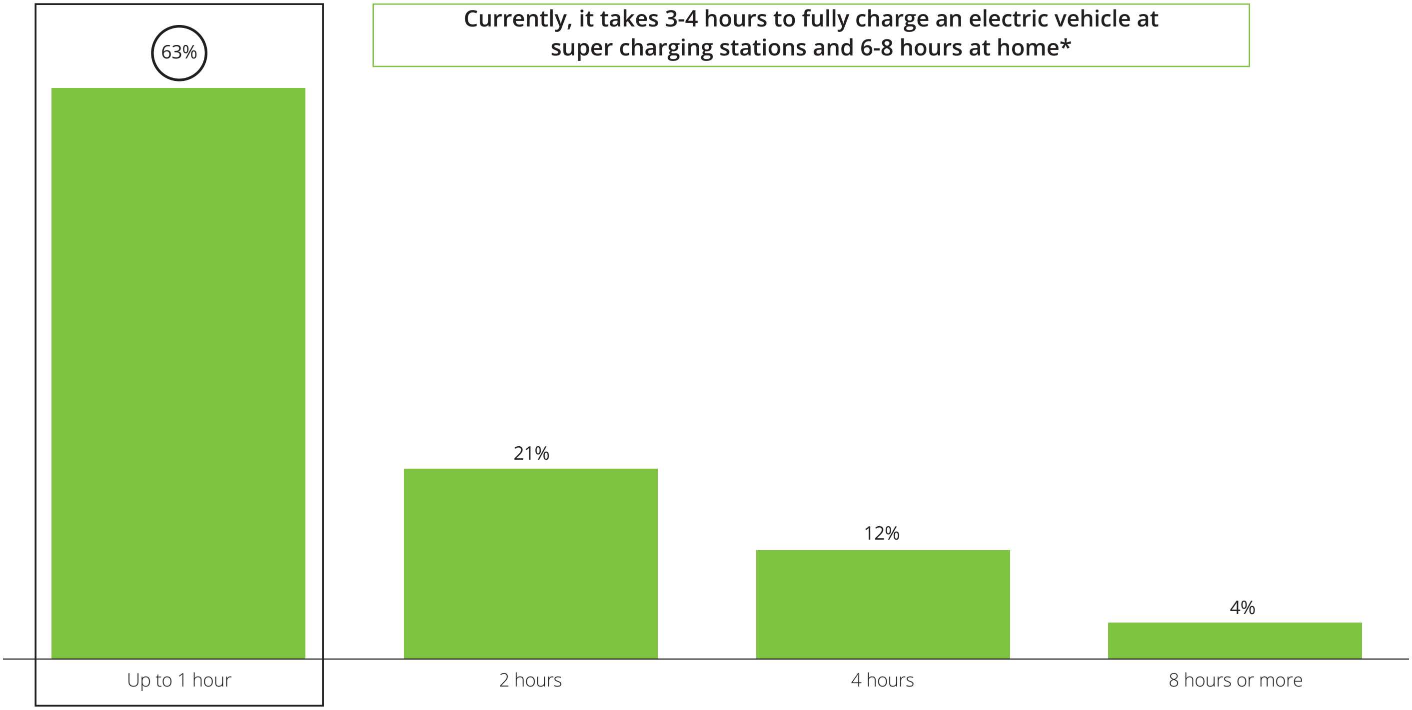
Yes No

Sample sizes – [Pre/boomers, N= 92; Gen X, N= 105; Gen Y/Z, N= 171]
Rest percentage of the consumers in each category haven't thought about using it.

Majority of consumers are still very demanding when it comes to expectations around electric vehicle performance

Over 6 in 10 consumers are willing to wait up to 1 hour to fully charge an all-battery powered electric vehicle

% of consumers who wait to fully charge electric vehicle

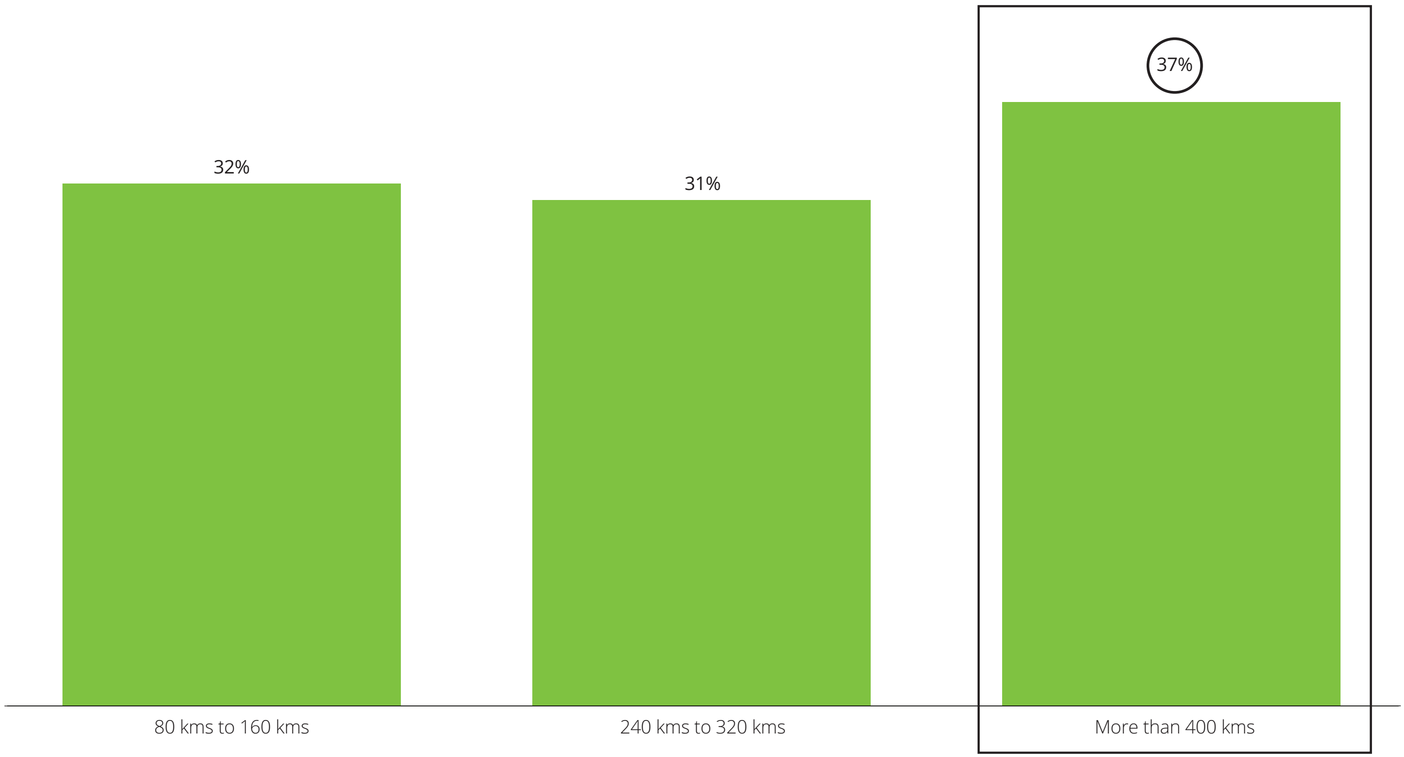


Represents significant difference agreement levels between Italy and other nations

Sample size – [N= 1,251]
*http://www.ibtimes.co.uk/electric-cars-could-be-charged-just-15-minutes-using-new-intermediate-storage-system-1539999

Almost 4 in 10 consumers would want a minimum distance of at least 400 kilometers from an electric vehicle on full charge

% consumers by minimum distance an electric vehicle can drive on a full charge

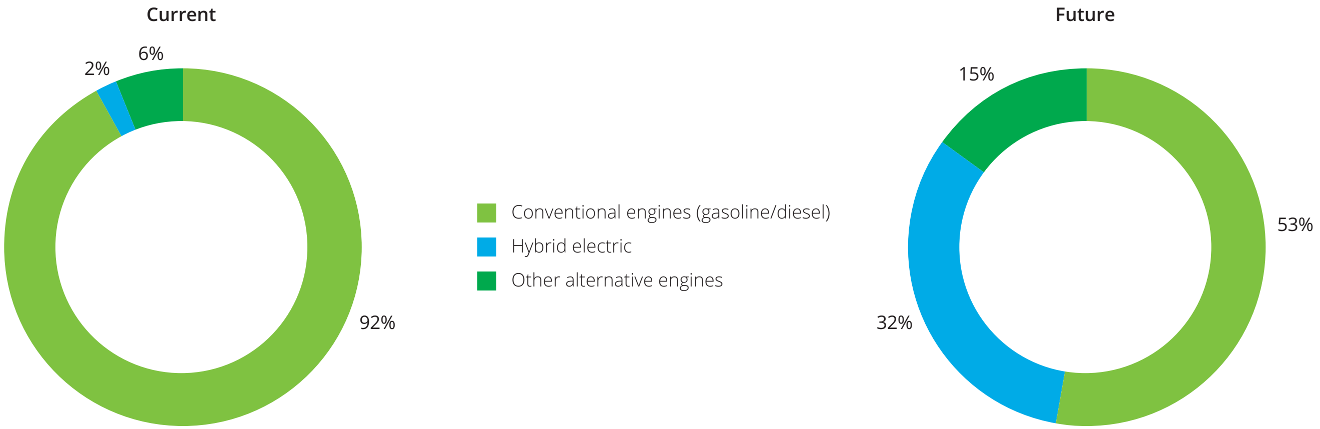


Represents significant differences with other options

Sample size – [N= 1,252]

Though conventional engines are going to be the preferred choice even in the future, acceptance of alternative engines is on the rise, across generations

Engine preferences



Alternative engines by generations

Sample sizes – [Overall, N = 991; Pre/boomers, N= 774; Gen X, N= 583; Gen Y/Z, N= 312]

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