AUTOMOTIVE
INDUSTRY REPORT

INDARU

Independent Media & Data Advisors

Who are we

INDARU is a consulting firm specialized in media and data analysis

We exist to help brands extract all the value from their media investments

INDARU

We provide services around media consulting, media audits and data & analytics with the final goal of optimizing advertisers ROI

MARKETING MIX MODELING

Measure and find the most efficient media mix

CONSULTANCY

Marketing technology selection and data strategy

MEDIA AUDITS

Evaluate your media performance

DASHBOARDING

Track media buying results in real-time

INDARU

Indaru brings unfettered and fast advice from years of experience in data analytics and media

Independent Advice

Not tied to any media agency, technology vendors or advertisers

Owner-Operated

No red-tape of a corporate firm, enabling us to be agile and responsive

Data & Media Experts

Experts in data analytics make-up half the team while the other half are experts in media

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Executive Summary

Automotive industry is finally recovering and is expected to **reach above USD 2b in global revenues with 1.7% 5 Yr. CAGR**. In terms of car makers, the industry is fragmented with only Toyota as the only double digital market share. However, the market is concentrated in terms of geographer with more than 50% of the market is in US and China. **Car prices will remain stable across all segments except for luxury car prices which is expected to increase**.(S 15, 17, 21, 25)

Technology in the automotive industry will continue to advance. Connected cars will represent almost 100% of the market. **Electric-cars are also expected to sharply increase in use with the equally fast decline in petrol-cars.** However, a breakthrough with a completely **autonomous vehicle is not expected to happen in the next 5 years**. (S 22, 23, 24)

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Executive Summary

In Europe, most countries will only start growing after 2024. More European car makers are the top manufacturers. Because of this, **average prices are relatively low except in UK and Germany**. Europe will have better results in wide usage of electric-cars and lower CO_2 emissions. **Potential new car buyers are most-likely to be male millennials in the high income group and are probably interested in an SUV**. However, Southern Europe has more potential female buyers. (S 30, 31, 33, 36-39)

In North America, US is the biggest market largely due to a handful of top local US manufacturers. Despite of this, N.A. has the highest average car prices. In terms of **technological advances, North America surprisingly will lag behind Europe. New car buyers are male millennials from the high income group and are interested in an SUV as well**. (S 42, 45-48, 50-52)

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Executive Summary

Purchasing a car is a big decision that is not normally made alone. **Data shows that majority of consumers intending to purchase a car actually do not identify as the sole purchase decision maker**. This become more apparent as the size of the household increases since more people are involved in the decision making process. In fact, even in a single household, majority of consumers still do not identify as the purchase decision maker. (S 58-60)

An explanation could be that other influential people, such as parents, still weigh in on the decision. Surprisingly, even current car owners do not identify as the primary decision maker when purchasing a car. (S 58-60)

One trigger for the intent to purchase a car is a growing family. In fact, living with just another person has a sharp increase in car ownership. (S 61-62)

Surprisingly, **majority of people with an intention to purchase a car already own a car.** Around half of current car owners would have an intention of purchasing another car. One reason for this is that fact that majority of current car owners are still willing to change brands and that the willingness to change brands is a good indicator of a consumer who has an intention to purchase a car. **Unsurprisingly, dissatisfaction has the highest incidence of willingness to change brands. However, a handful of satisfied car owners are still willing to change car brands.** (S 63-69)

Executive Summary

The criteria to pick which car to buy differs across geographies. In the US, safety, fuel efficiency, high quality, and low price are the top criteria. In China, consumers look for more high-tech features such as a good driver assistance system. These criteria are consistent between those with just an intention to purchase and current car owners in US and China. (S 70-73)

Meanwhile in Europe, **not only are there differences between countries but also the criteria between those with intention and car owners are different.** (S 74-77)

Surprisingly, **brand awareness is low even for current car owners.** Luckily, these consumers all frequent the internet. However, **ad recall is different per medium.** The challenge then is to find the right balance with maximum ROI. (S 79, 82-83)

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Recommendations

R1: Rebalance marketing mix : With multiple digital touchpoints proving effectiveness across automotive industry consumers, companies need to be deliberate with their marketing mix to get the most out of their investments.

R2: Enable your brand to deploy different buying models to target different consumers with different needs in different geographies. Consumers from different countries have different criteria when considering to buy a car. Another complicating factor is the fact that consumers from each country respond to differently to each of the digital touchpoints.

R3: Surprisingly, consumers in the automotive industry are not loyal and even a handful of satisfied customers are willing to change brands. Learn more about your consumers by **establishing your 1st party data strategy and leveraging your current customers.** Improve conversion and enable your company to create targeted campaigns that are more likely to resonate and persuade potential new customers.

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Recommendations

R4: Though most of the last mile transactions in car dealerships, consumers interact with car brands from different channels including online. **Gain a competitive advantage and learn what consumers do before and after car dealership transactions. Upgrade data-tracking with dashboards that can track results in real-time.**

R5: With pricing and volume remaining stable and below inflation rate over the next 5 years, competition will become more fierce. Apart from this, technological advancement will play a crucial role and every dollar spent on R&D can be a competitive advantage. **Start evaluating your media performance and know how each medium contributes to your sales.**

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MARKET OVERVIEW

Market overview highlights

The automotive industry is slowly reaching its highs from the mid 2010's. Global revenue growth will be at a **1.7% 5 Yr. CAGR** reaching above **USD 2b in revenues**. This market is **fairly fragmented** with only 1 car maker, Toyota, reaching double digit market share. However, **more than 50% of the market value comes from US and China**. **Volume** will grow a bit faster at a **1.9% 5 Yr. CAGR** suggesting stable car prices. In fact, **all car segments will maintain average prices except for luxury cars prices** which are expected to increase. **SUVs** remain to be the **most popular** segment.

Technology will continue to improve the industry. **Cars considered to be connected** whether through an accessory or as a whole car are expected to represent almost **100% of the market**. **Electric-cars are also expected to sharply increase** in use with the equally fast decline in petrol-cars. The other major technological breakthrough **without** an expected leap in the next 5 years would be **a completely autonomous vehicle**.

In Europe, **most European countries will only start growing after 2024**. This has become an opportunity for **UK and France to control more of the market share**. Unsurprisingly, more **European car makers are the top manufacturers**. Because of this, **average prices are relatively low except in UK and Germany**. Europe will also enjoy more of the technological advances as seen from their **better results in popularity of electric-cars and lower CO2 emissions**. **Potential new car buyers are most-likely to be male millennials in the high income group** and are probably **interested in an SUV**. However, **Southern Europe has more potential female buyers**.

In North America, US is the big market as they have a number of top local manufacturers. Despite of this, **US has the highest average car prices**. Technological advances are also evident in this market but at a lower rate vs Europe. **New car buyers are male millennials from the high income group and are interested in an SUV as well.**
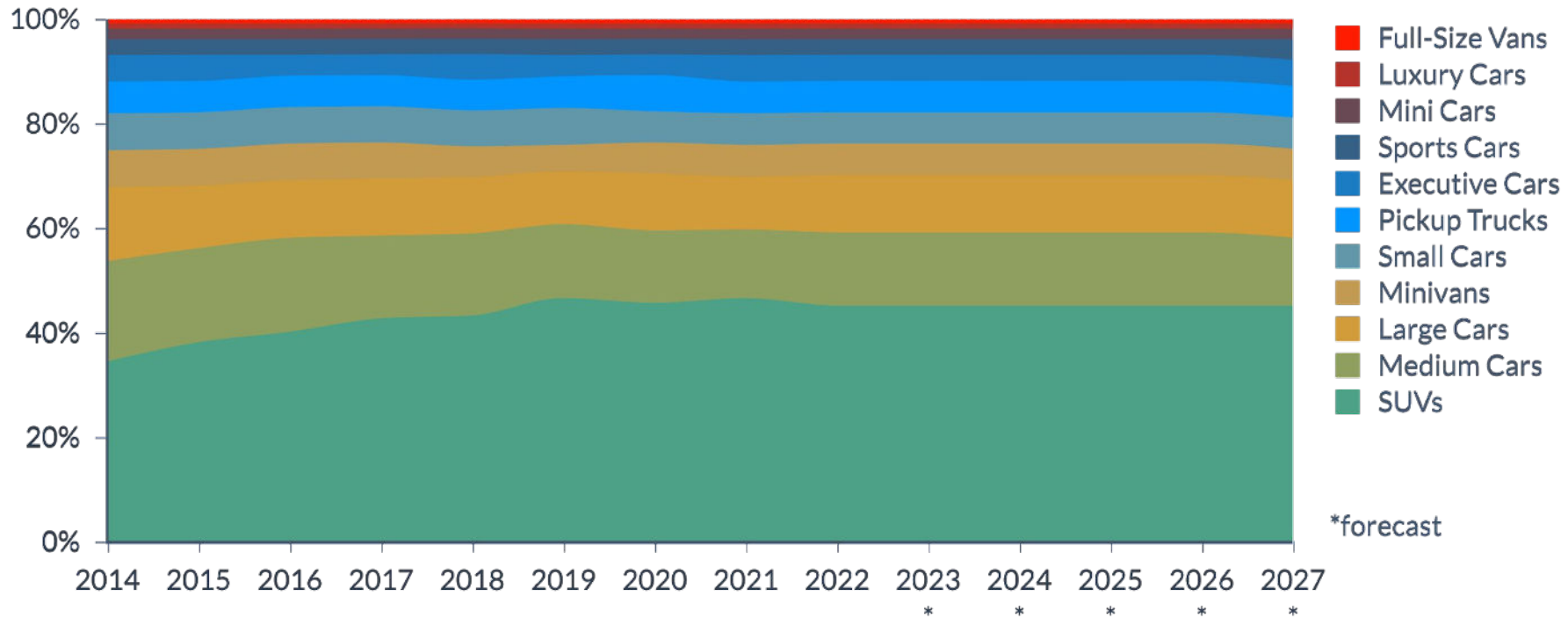
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Global automotive industry is forecasted to grow at 1.7% 5 Yr. CAGR and will finally breach the USD 2b revenue mark again
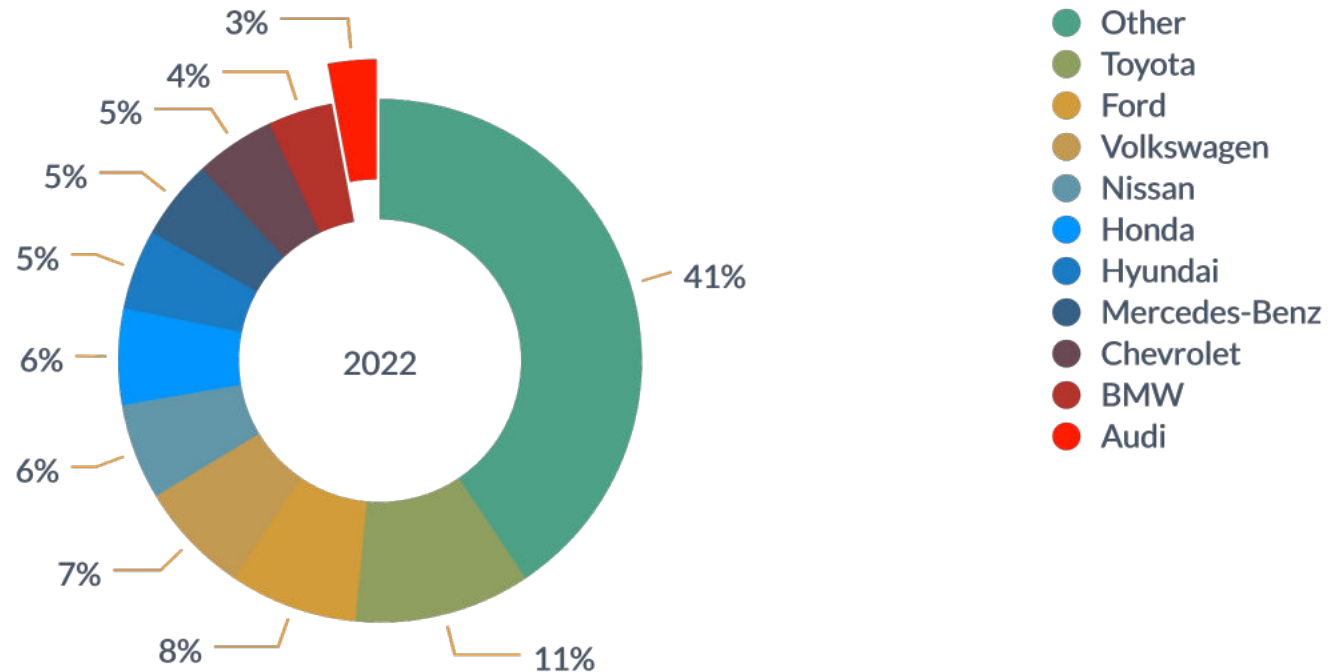

Automotive industry revenue and growth

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15
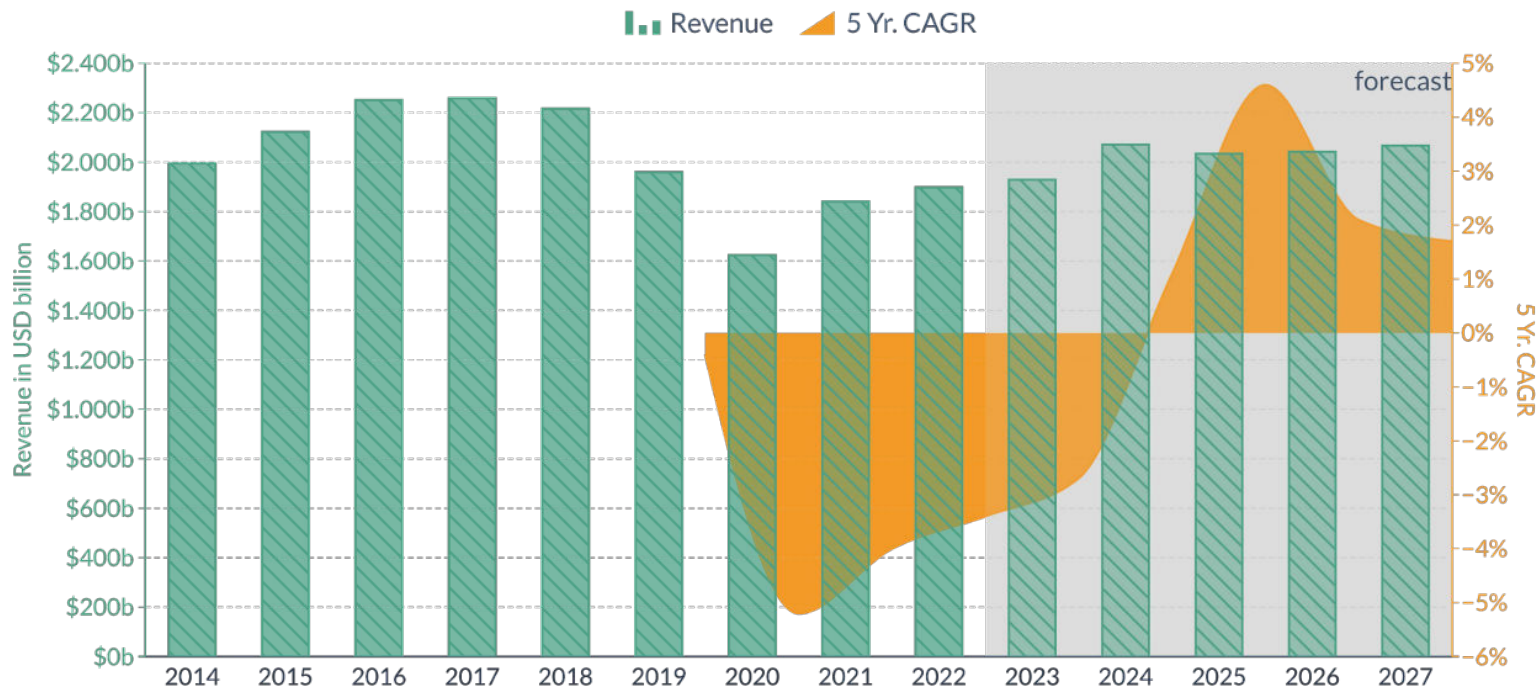
SUVs will continue to be the most popular segment contributing to almost 50% of the market

Auto industry global revenue by segment

*forecast

Legend: Full-Size Vans, Luxury Cars, Mini Cars, Sports Cars, Executive Cars, Pickup Trucks, Small Cars, Minivans, Large Cars, Medium Cars, SUVs

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Automotive industry is fairly fragment with only 1 car maker with a double digit market share

Automotive global revenue by make

2022

Legend:
- Other — 41%
- Toyota — 11%
- Ford — 8%
- Volkswagen — 7%
- Nissan — 6%
- Honda — 6%
- Hyundai — 5%
- Mercedes-Benz — 5%
- Chevrolet — 5%
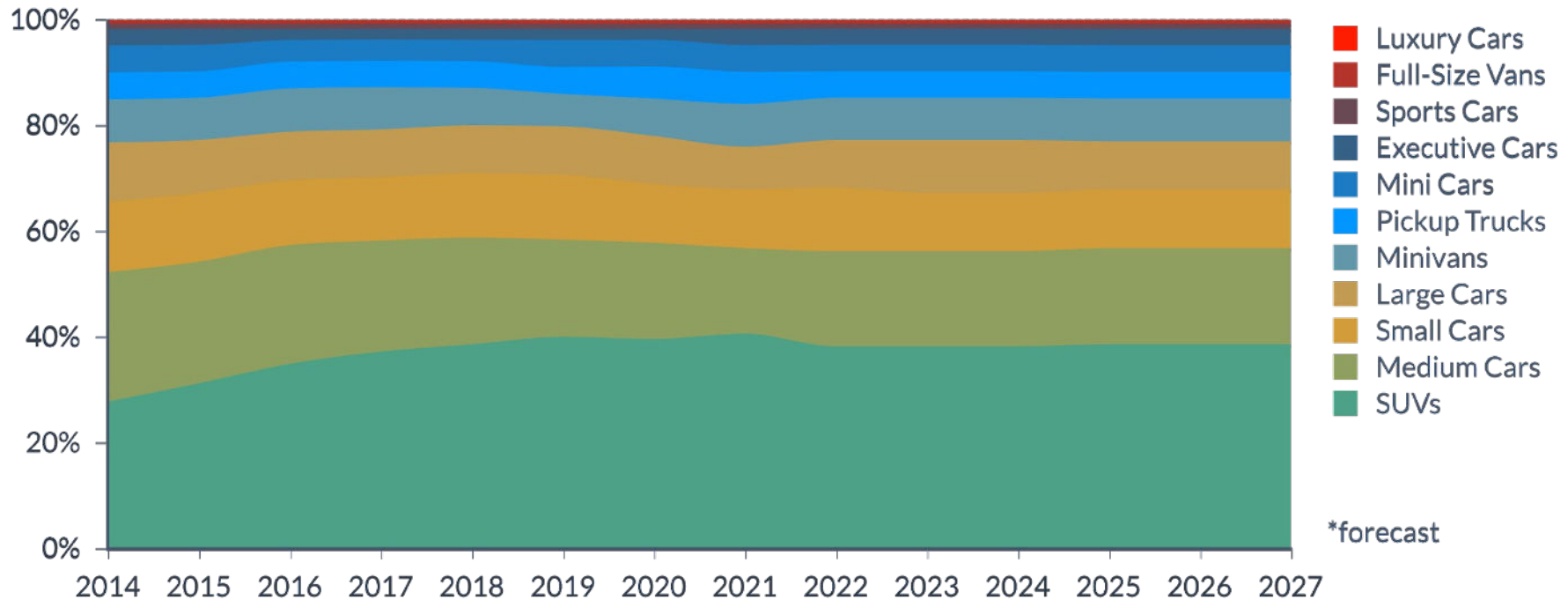- BMW — 4%
- Audi — 3%

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Automotive industry volume will grow at a 1.9% 5 Yr. CAGR as the industry inches close to breaking 75m units a decade ago

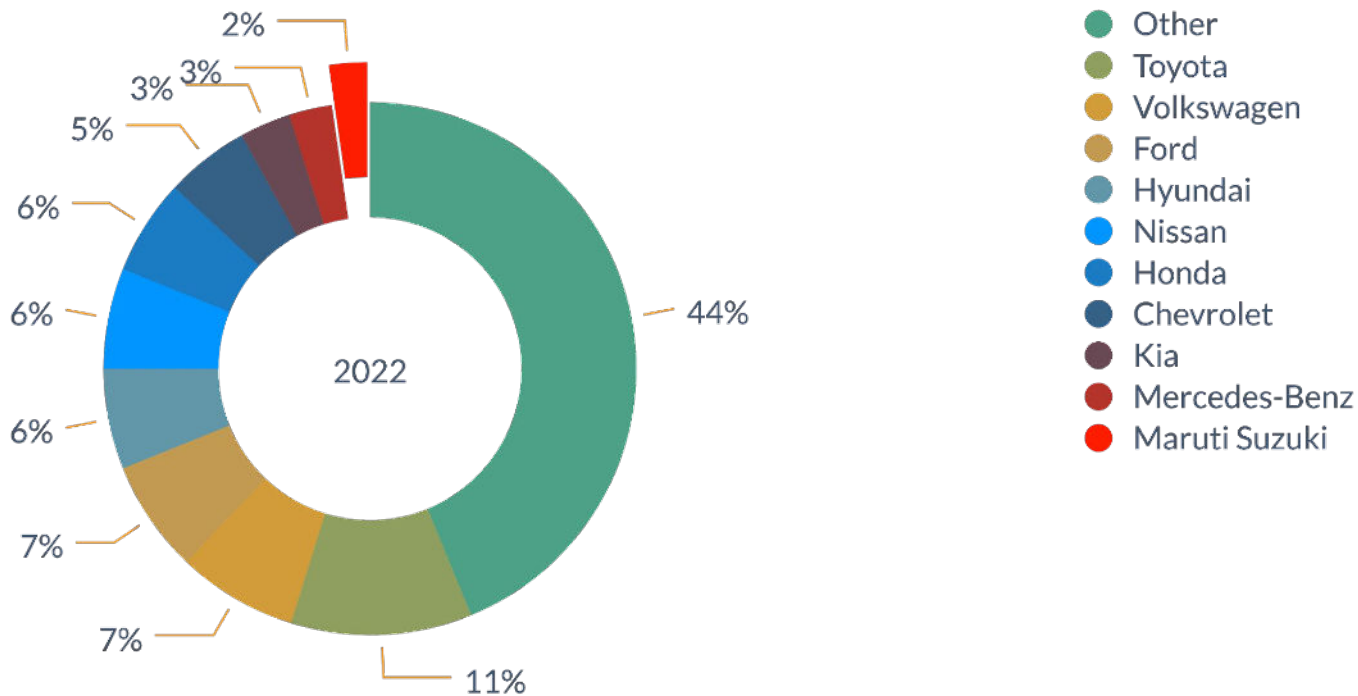## Auto industry global volume & growth

Volume • 5 Yr. CAGR

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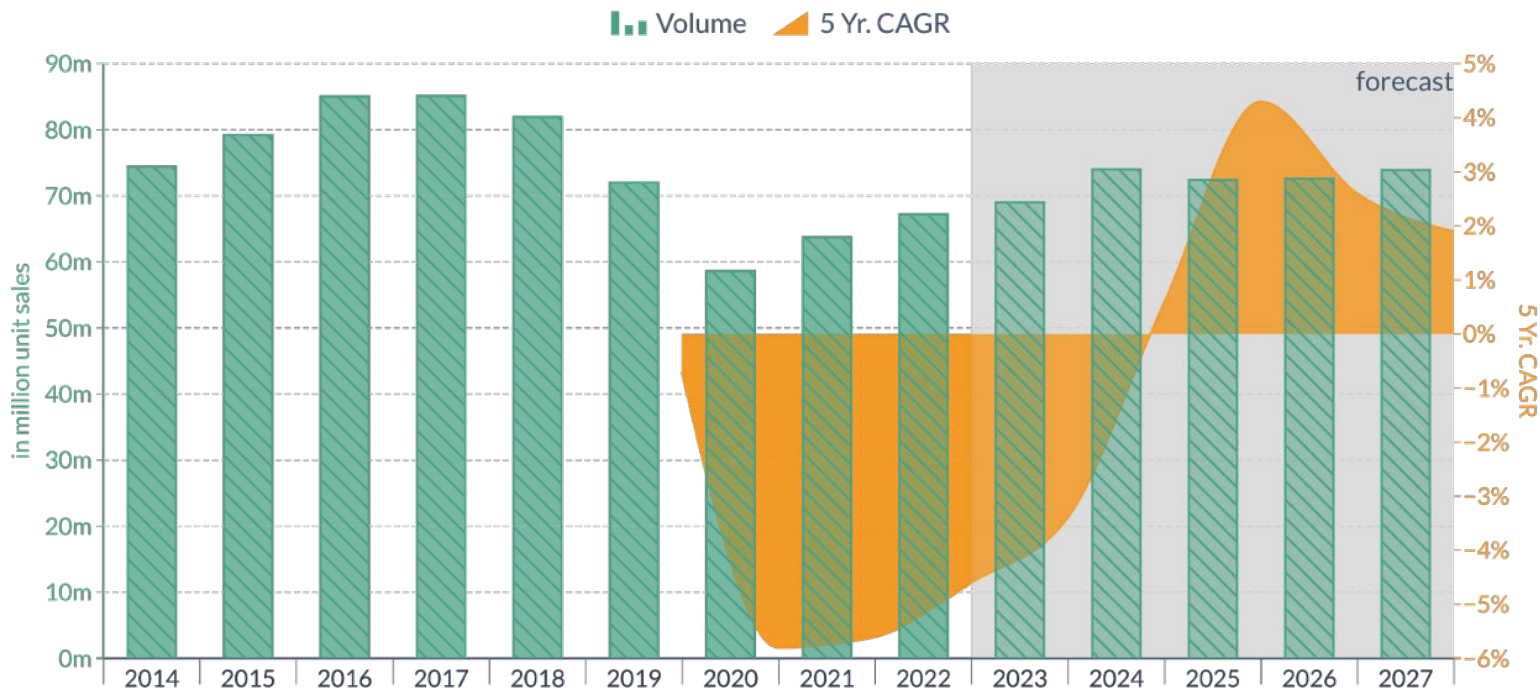
No major changes in volume share across segments

Auto industry global volume split by segment

Legend:
- Luxury Cars
- Full-Size Vans
- Sports Cars
- Executive Cars
- Mini Cars
- Pickup Trucks
- Minivans
- Large Cars
- Small Cars
- Medium Cars
- SUVs

*forecast

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Similar to revenue share, volume share is fairly fragmented

Automotive industry global volume

2022

- Other — 44%
- Toyota — 11%
- Volkswagen — 7%
- Ford — 7%
- Hyundai — 6%
- Nissan — 6%
- Honda — 6%
- Chevrolet — 5%
- Kia — 3%
- Mercedes-Benz — 3%
- Maruti Suzuki — 2%

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Average car prices will remain stable across segments except for luxury car prices which will become more expensive

Global ave. price per unit by segment

Legend: 2019, 2020, 2021, 2022, 2023*, 2024*, 2025*, 2026*, 2027*

Luxury Cars: +14%
Sports Cars: −1%
Executive Cars: +2%
Large Cars: +4%
SUVs: +2%
Pickup Trucks: +2%
Minivans: −3%
Medium Cars: +1%
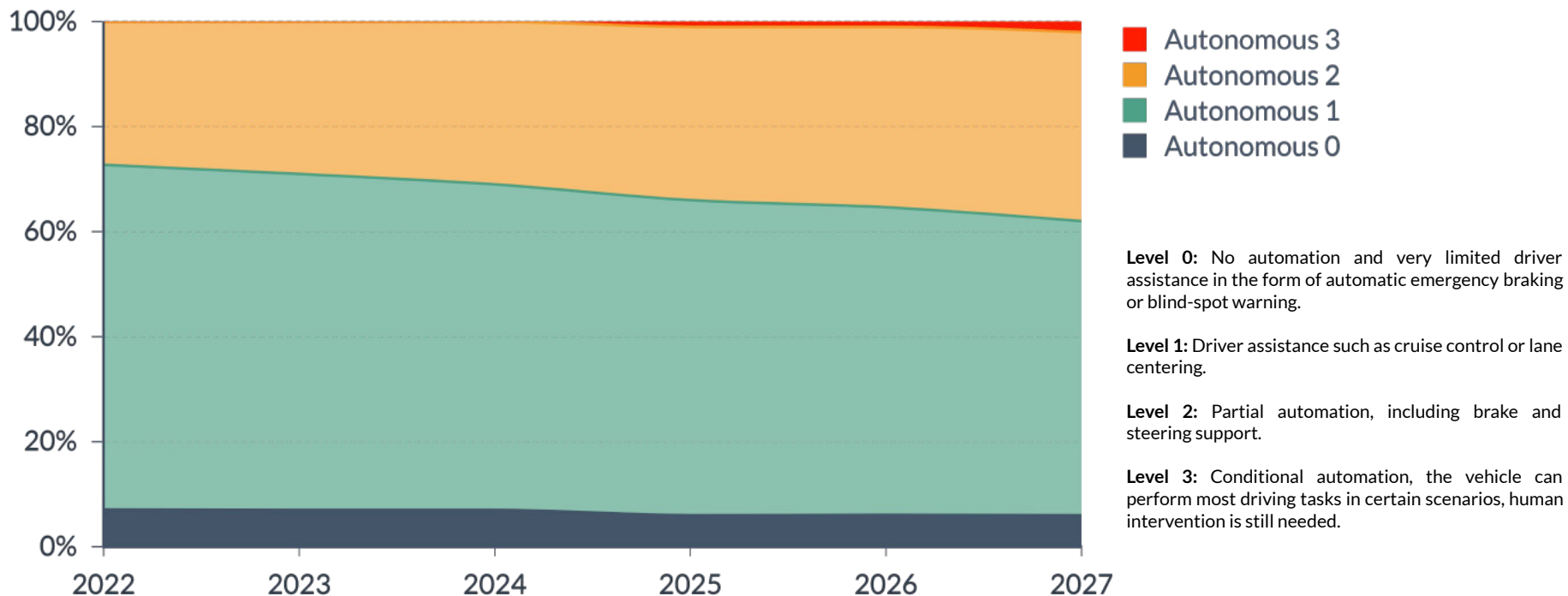Full-Size Vans: +2%
Small Cars: 0%
Mini Cars: +2%

*forecast

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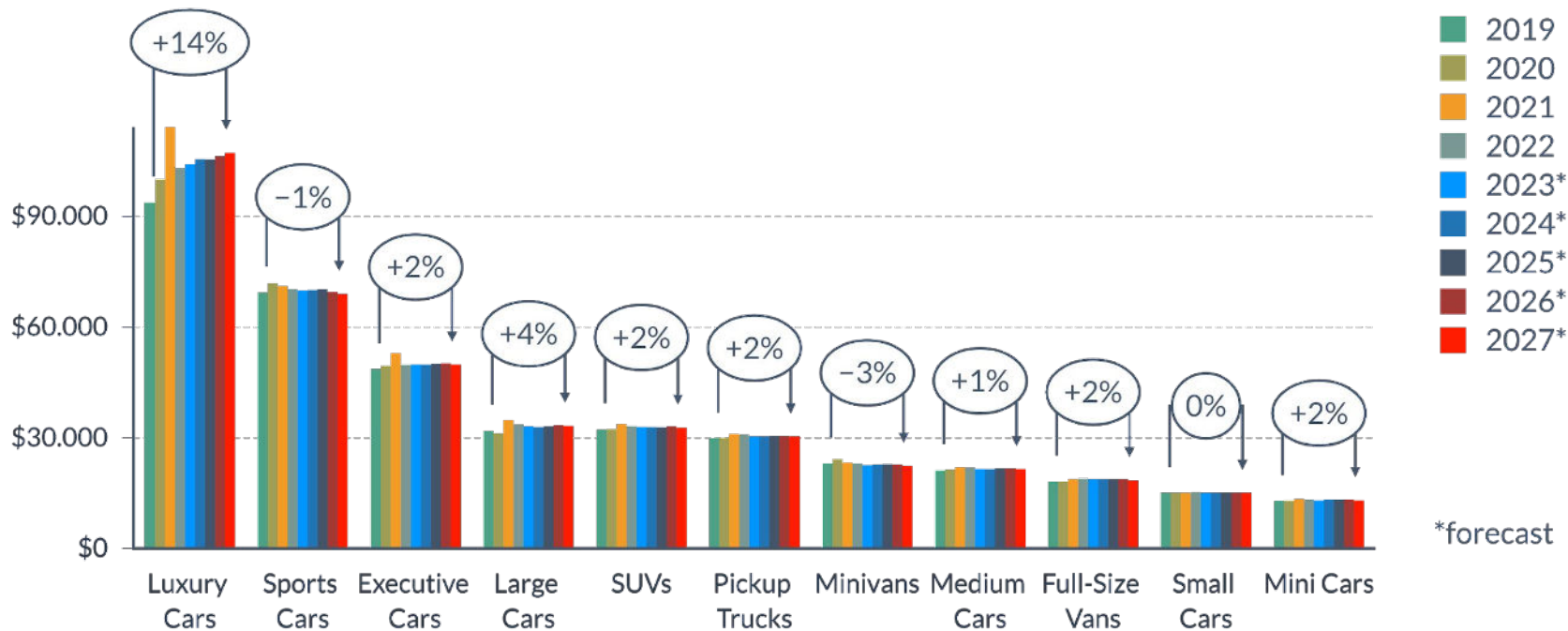
Most cars are already considered connected whether via a small device or the car as a whole

Connected cars share in percent

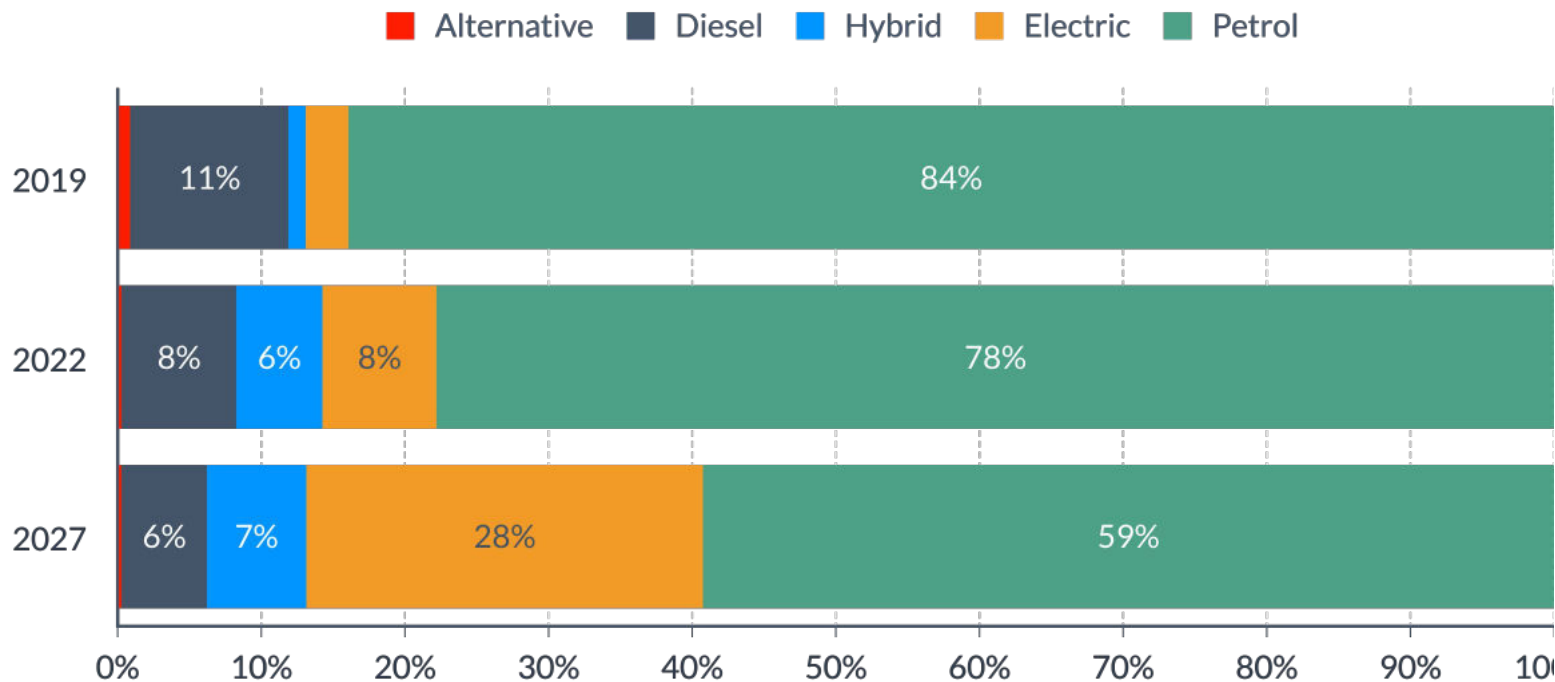Legend: Not Connected, Connected

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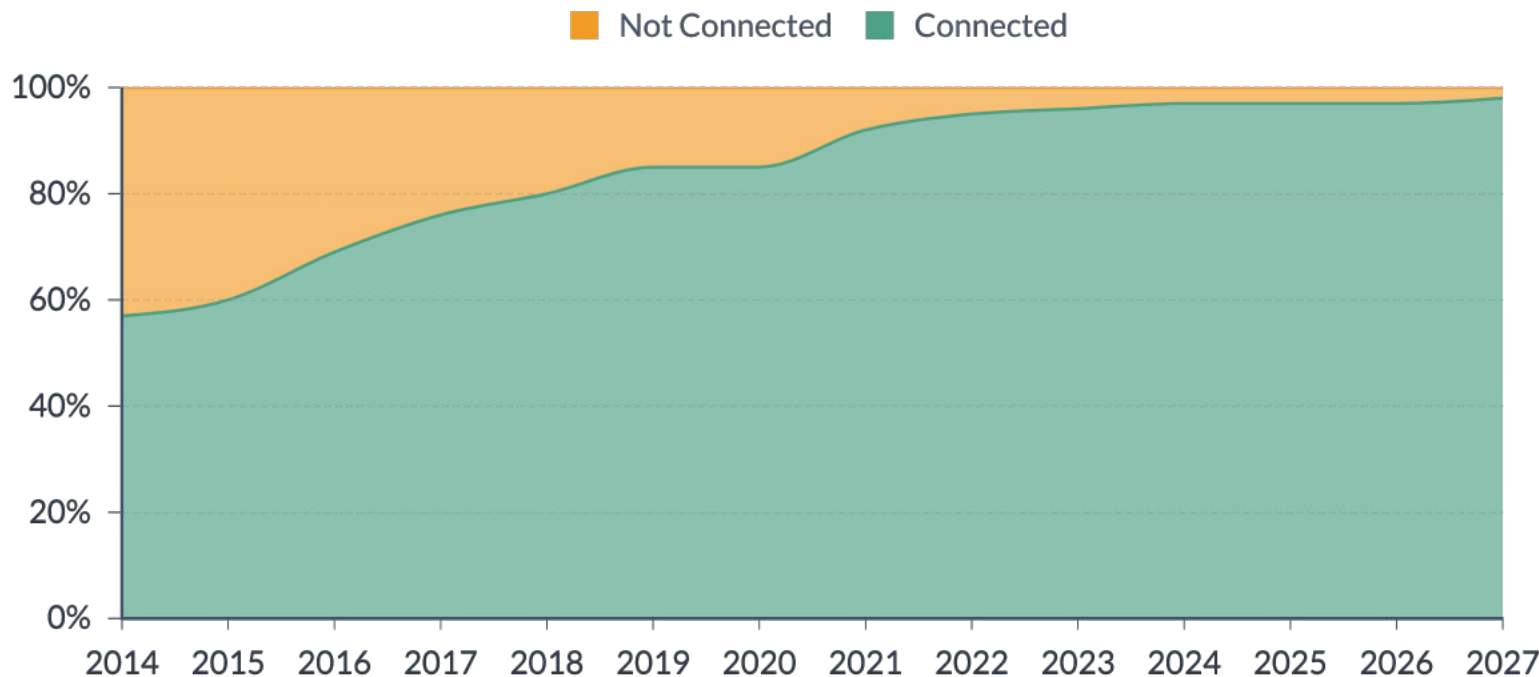
Without a major breakthrough, most cars are not expected to achieve full autonomous driving

Autonomous driving level share

Legend:
- ■ Autonomous 3 (red)
- ■ Autonomous 2 (orange)
- ■ Autonomous 1 (green)
- ■ Autonomous 0 (dark blue)

Level 0: No automation and very limited driver assistance in the form of automatic emergency braking or blind-spot warning.

Level 1: Driver assistance such as cruise control or lane centering.

Level 2: Partial automation, including brake and steering support.

Level 3: Conditional automation, the vehicle can perform most driving tasks in certain scenarios, human intervention is still needed.
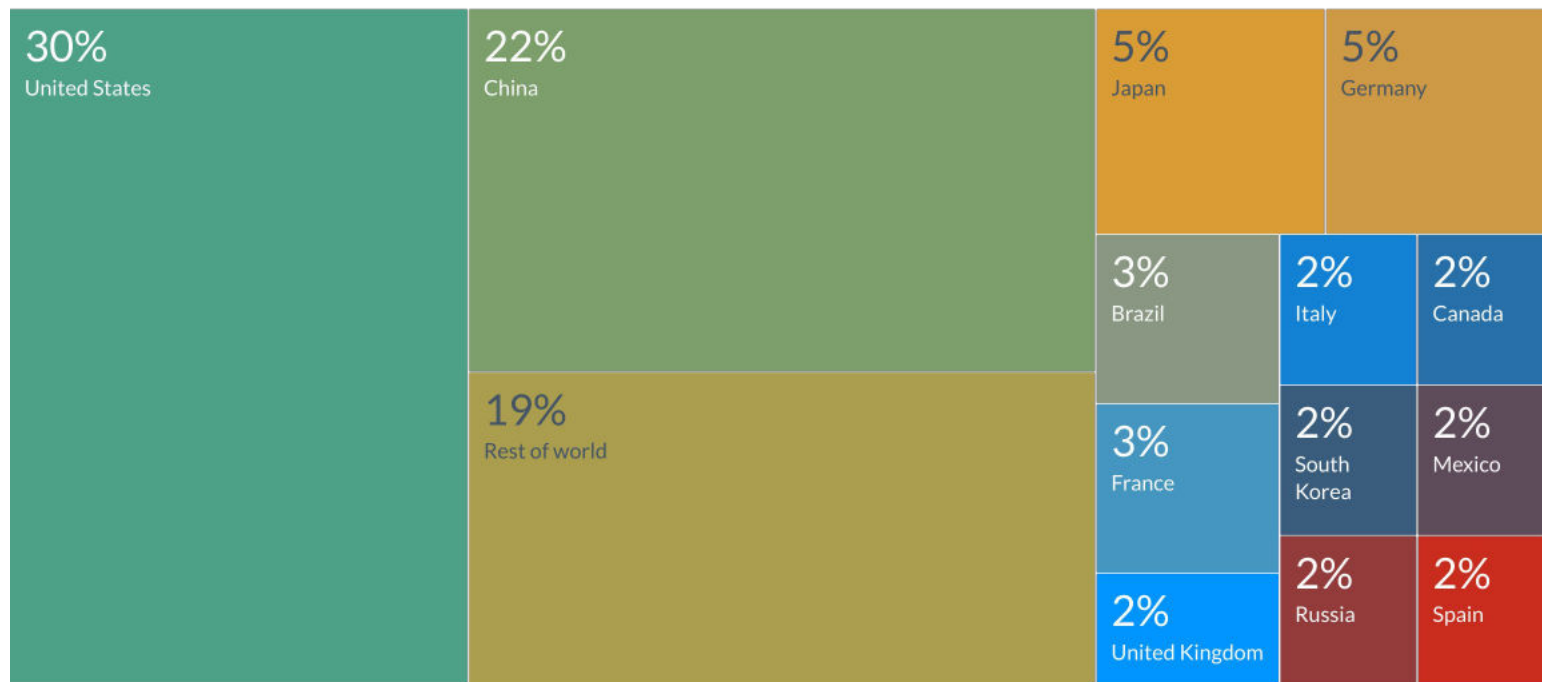
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Petrol use is declining with electric the preferred alternative as the world shifts towards Net Zero Carbon by 2050

Fuel or drive-type share in percent

Legend: ■ Alternative ■ Diesel ■ Hybrid ■ Electric ■ Petrol

2019: Diesel 11%, Petrol 84%

2022: Diesel 8%, Hybrid 6%, Electric 8%, Petrol 78%

2027: Diesel 6%, Hybrid 7%, Electric 28%, Petrol 59%

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United States and China contribute to more than 50% to the automotive industry market value in 2022

Global revenue share by country 2022

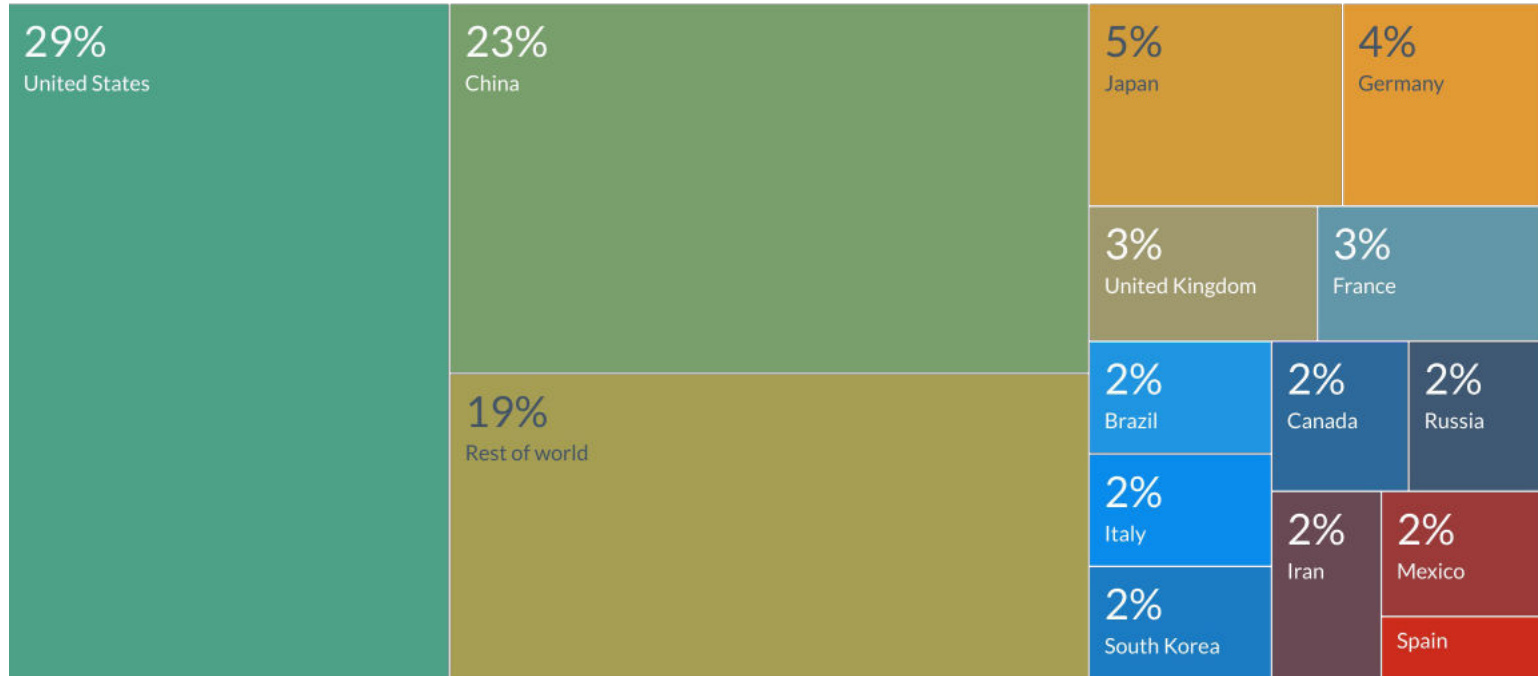|			
30% United States	22% China	5% Japan	5% Germany
	19% Rest of world	3% Brazil	2% Italy / 2% Canada
		3% France	2% South Korea / 2% Mexico
		2% United Kingdom	2% Russia / 2% Spain

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In 2027, United States and China still contribute more than 50% of the automotive industry market share

Global revenue share by country 2027

29% United States	23% China	5% Japan	4% Germany
	19% Rest of world	3% United Kingdom	3% France
		2% Brazil / 2% Canada / 2% Russia	
		2% Italy / 2% Iran / 2% Mexico	
		2% South Korea / Spain	

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In Western Europe, Germany, France, UK, Italy, Spain, and Belgium contribute to 80% of market revenue
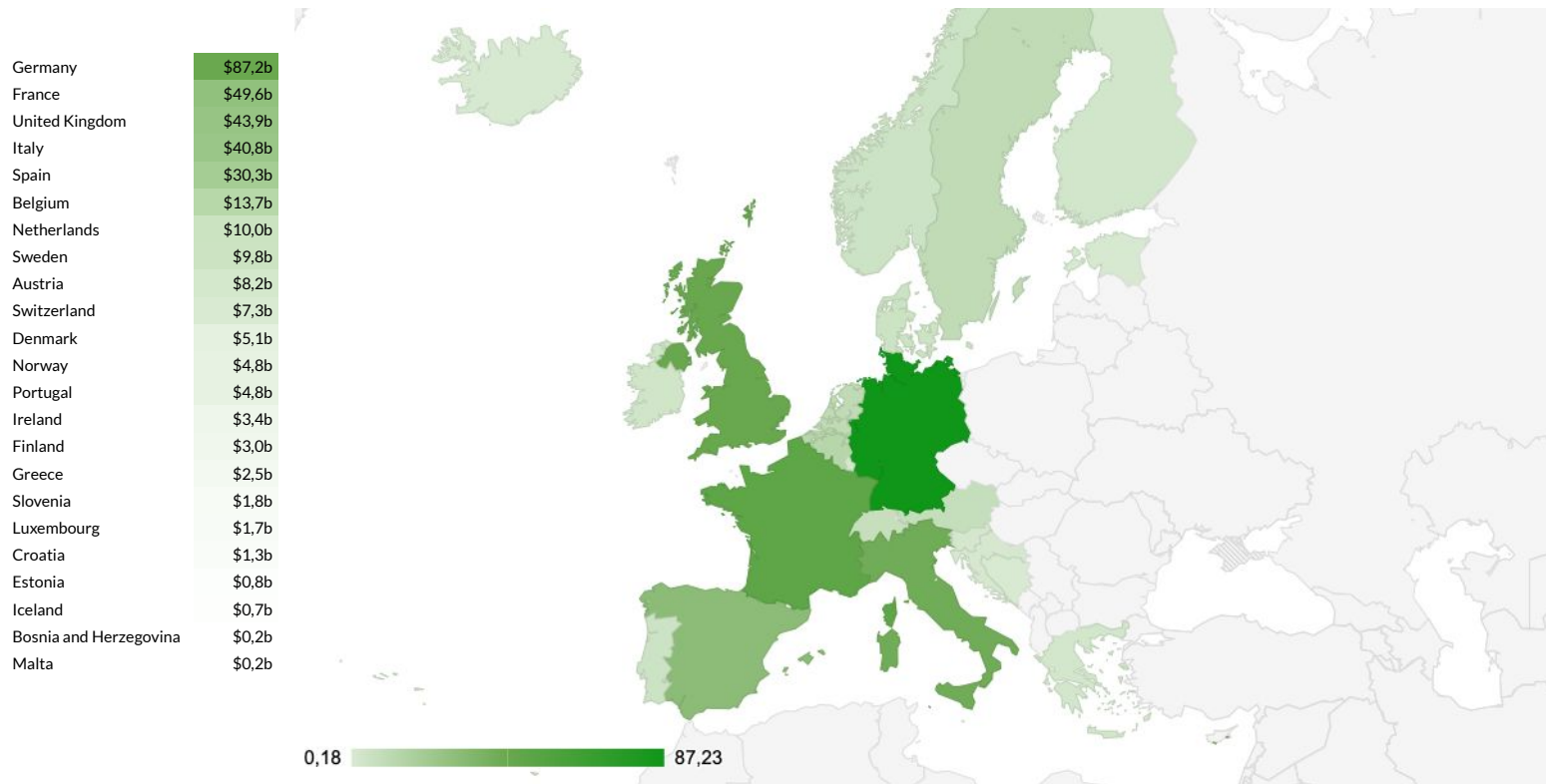
Country	Revenue
Germany	$87,2b
France	$49,6b
United Kingdom	$43,9b
Italy	$40,8b
Spain	$30,3b
Belgium	$13,7b
Netherlands	$10,0b
Sweden	$9,8b
Austria	$8,2b
Switzerland	$7,3b
Denmark	$5,1b
Norway	$4,8b
Portugal	$4,8b
Ireland	$3,4b
Finland	$3,0b
Greece	$2,5b
Slovenia	$1,8b
Luxembourg	$1,7b
Croatia	$1,3b
Estonia	$0,8b
Iceland	$0,7b
Bosnia and Herzegovina	$0,2b
Malta	$0,2b

0,18 — 87,23

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In Eastern Europe, Russia, Turkey, Poland, and Czechia contribute to 80% of market revenue

Russia	$33,1b
Turkey	$19,1b
Poland	$12,2b
Czechia	$5,7b
Hungary	$3,2b
Romania	$2,9b
Slovakia	$2,3b
Ukraine	$1,4b
Lithuania	$0,8b
Bulgaria	$0,8b
Belarus	$0,7b
Latvia	$0,5b
Serbia	$0,4b
Cyprus	$0,4b
Moldova	$0,1b
Armenia	$0,1b
Georgia	$0,1b
North Macedonia	$0,1b
Albania	$0,0b
Montenegro	$0,0b

0,02   33,09

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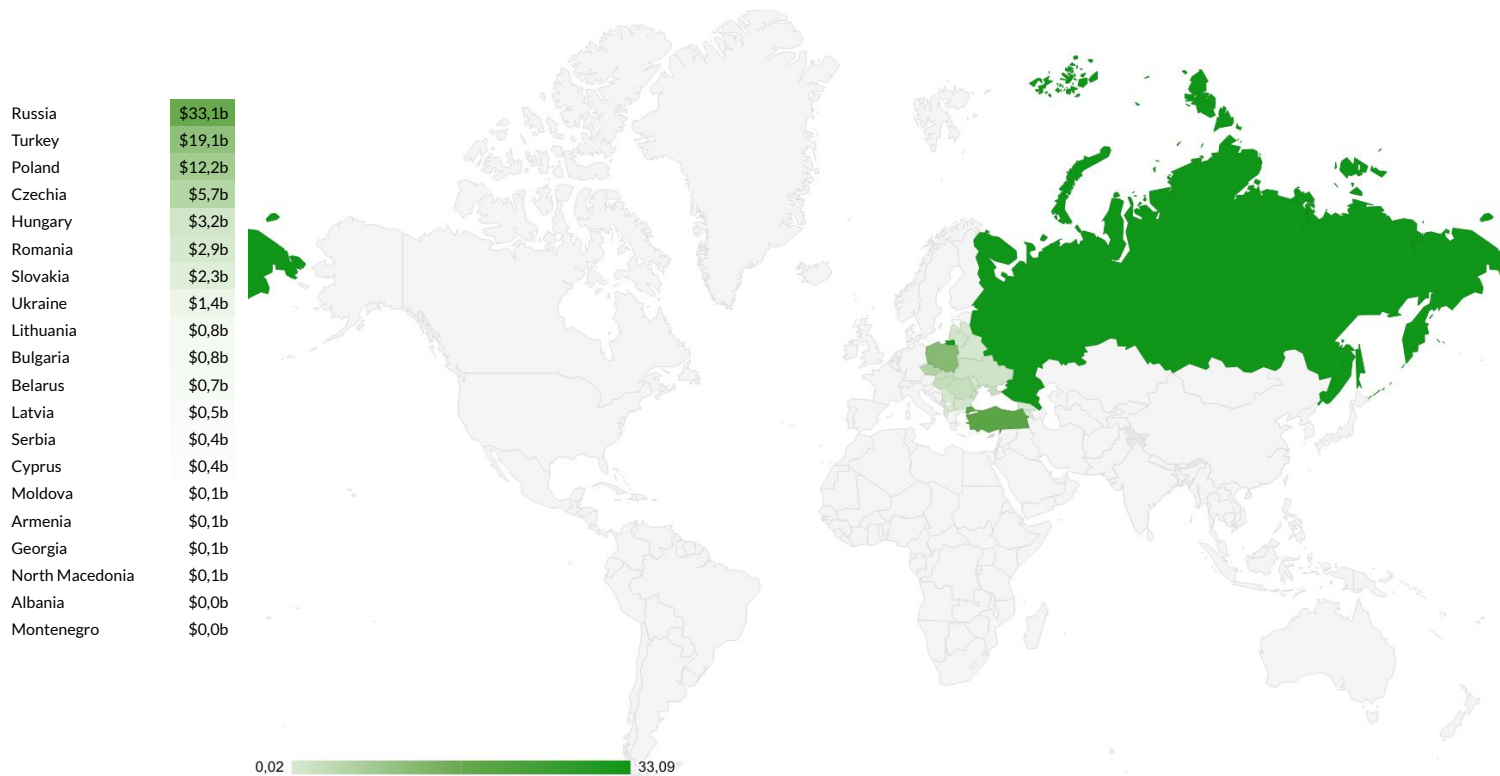
UK and France are expected to contribute more to market revenue in the next 5 years
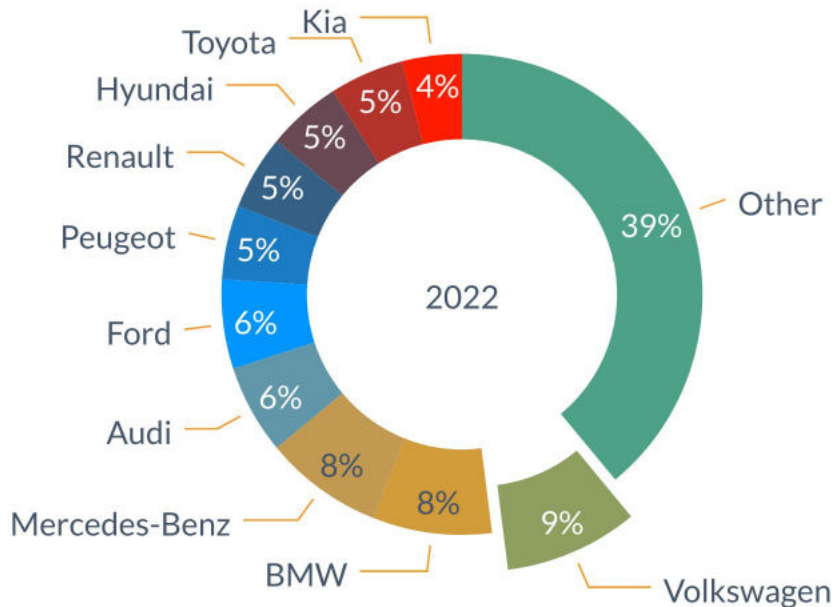
Top countries of Europe by passenger cars revenue
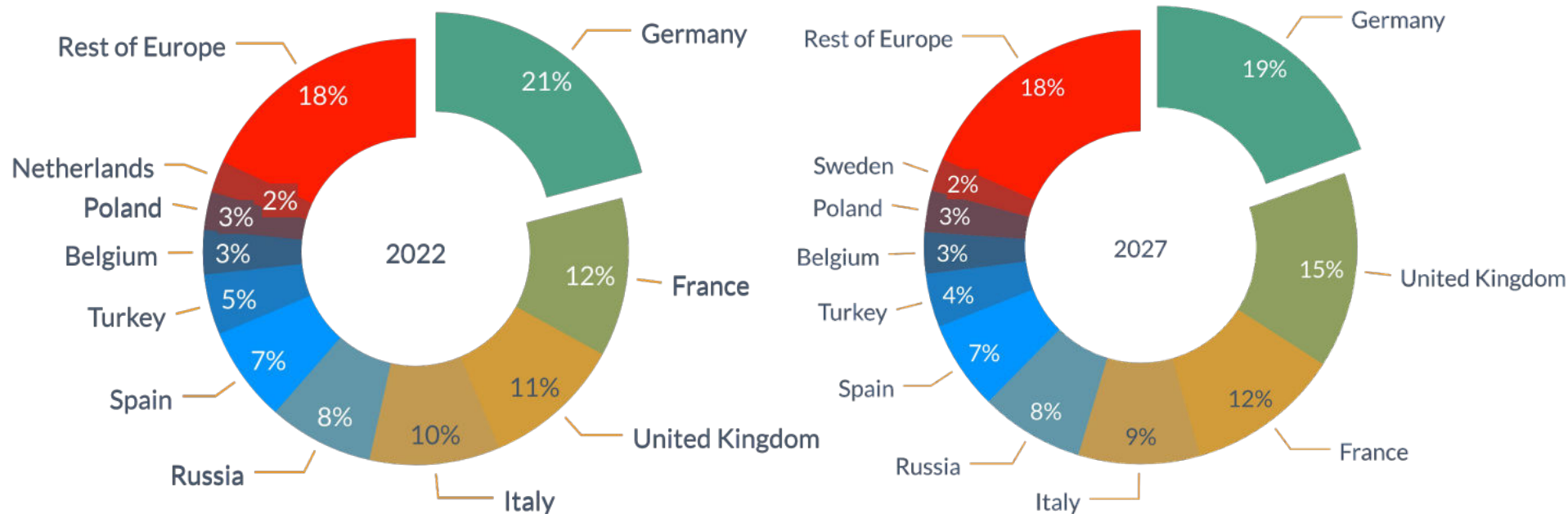
2022
- Germany — 21%
- France — 12%
- United Kingdom — 11%
- Italy — 10%
- Russia — 8%
- Spain — 7%
- Turkey — 5%
- Belgium — 3%
- Poland — 3%
- Netherlands — 2%
- Rest of Europe — 18%

2027
- Germany — 19%
- United Kingdom — 15%
- France — 12%
- Italy — 9%
- Russia — 8%
- Spain — 7%
- Turkey — 4%
- Belgium — 3%
- Poland — 3%
- Sweden — 2%
- Rest of Europe — 18%

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Auto industry growth of top Euro countries
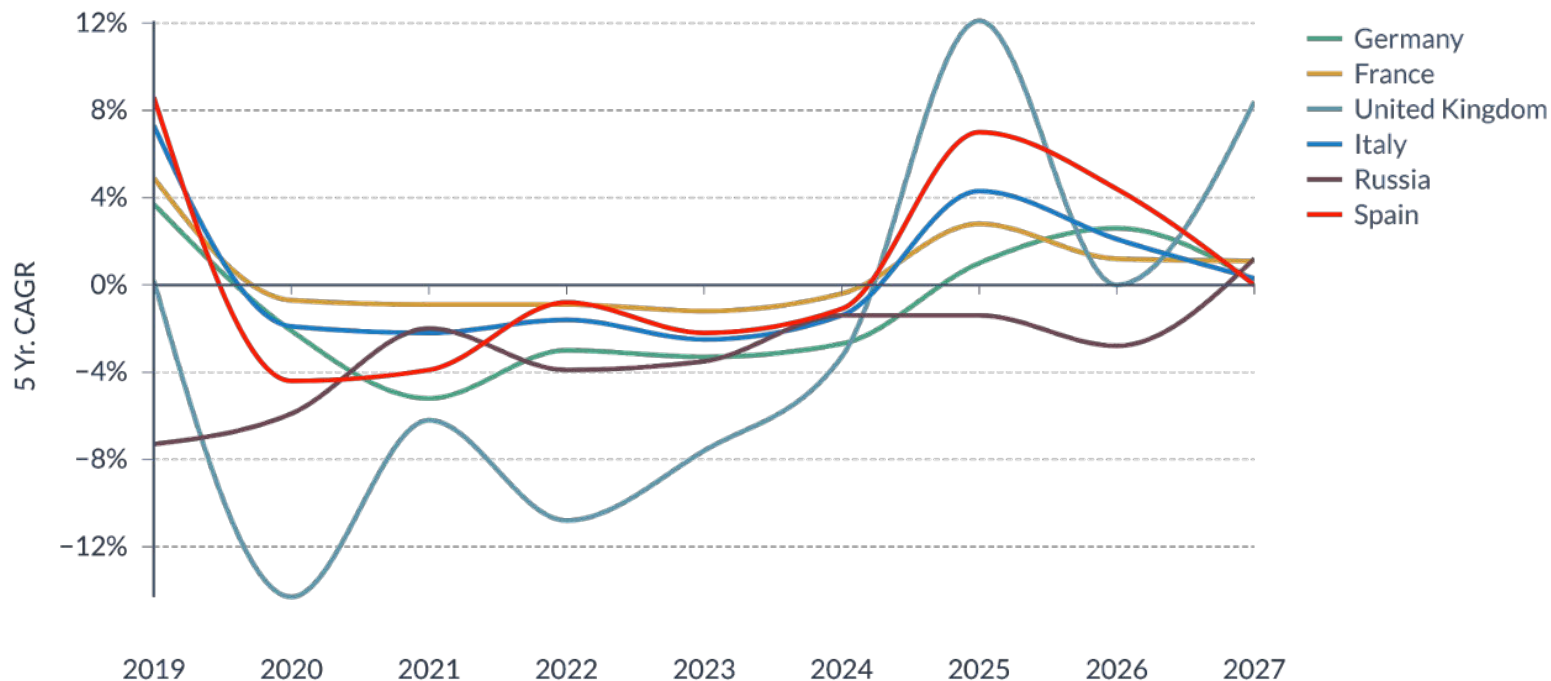
Unsurprisingly, the top 4 brands are all European car makers unlike the global ranking
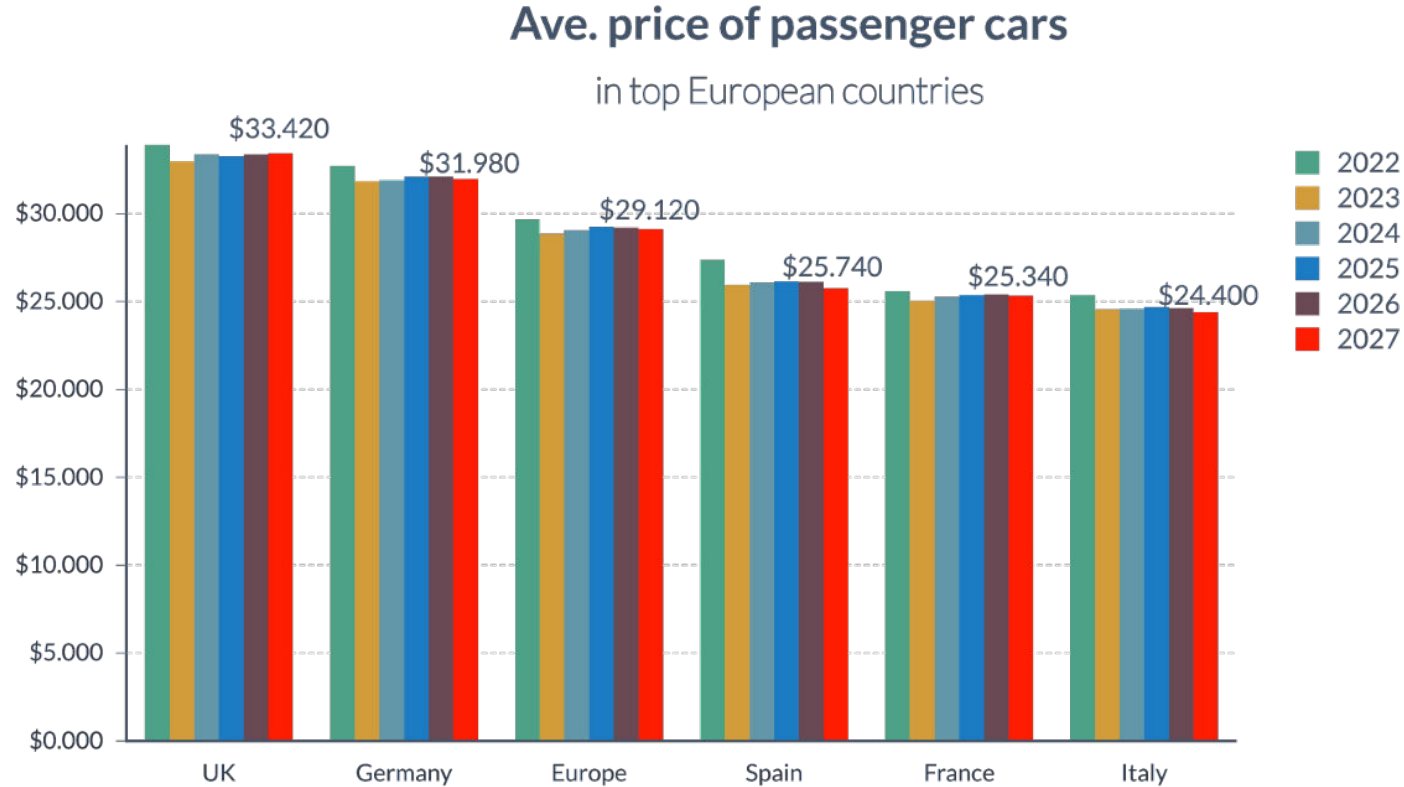
Auto revenue in Europe by make

Toyota
Kia
Hyundai
Renault
Peugeot
Ford
Audi
Mercedes-Benz
BMW

5% 4%
5%
5%
5%
6%
6%
8%
8%

2022

Other 39%

Volkswagen 9%

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SUVs are still the largest segment and not much changes are expected in the next 5 years
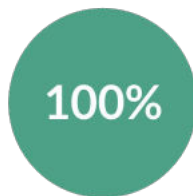
Europe auto industry share by segment

Legend:
- SUVs
- Medium Cars
- Large Cars
- Small Cars
- Minivans
- Sports Cars
- Mini Cars
- Executive Cars
- Luxury Cars
- Pickup Trucks
- Full-Size Vans

2022: SUVs 42%, Medium Cars 14%, Large Cars 10%, Small Cars 11%, Minivans 7%

2027: SUVs 43%, Medium Cars 13%, Large Cars 10%, Small Cars 10%, Minivans 7%, Sports Cars 6%

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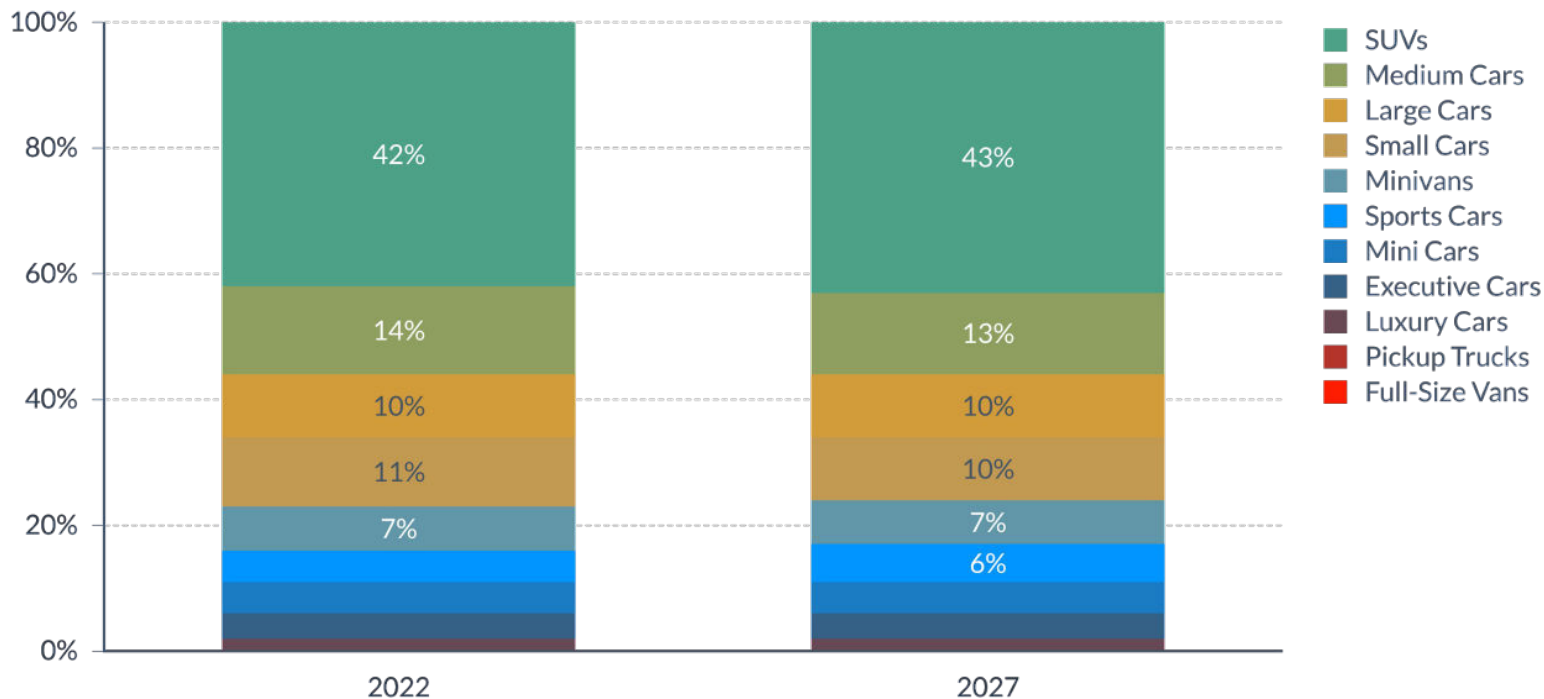
UK and Germany have a higher average price for passenger cars as compared to the rest of Europe

Ave. price of passenger cars
in top European countries

Legend:
- 2022
- 2023
- 2024
- 2025
- 2026
- 2027

UK: $33.420
Germany: $31.980
Europe: $29.120
Spain: $25.740
France: $25.340
Italy: $24.400

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Almost all cars in Europe are considered to be connected

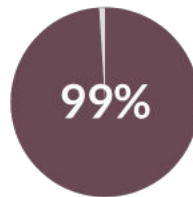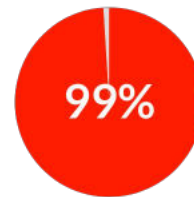## Connected cars share in % in 2022

100% UK

100% Spain

100% Germany

99% Italy

99% France

99% Europe

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Autonomous driving level in 2027

Legend:
- Autonomous 0
- Autonomous 1
- Autonomous 2
- Autonomous 3

Europe: Autonomous 1: 55%, Autonomous 2: 39%
Germany: Autonomous 1: 58%, Autonomous 2: 38%
France: Autonomous 1: 55%, Autonomous 2: 37%
UK: Autonomous 1: 57%, Autonomous 2: 41%
Italy: Autonomous 0: 7%, Autonomous 1: 54%, Autonomous 2: 37%
Spain: Autonomous 1: 54%, Autonomous 2: 39%

Level 0: No automation and very limited driver assistance in the form of automatic emergency braking or blind-spot warning.

Level 1: Driver assistance such as cruise control or lane centering.

Level 2: Partial automation, including brake and steering support.

Level 3: Conditional automation, the vehicle can perform most driving tasks in certain scenarios, human intervention is still needed.
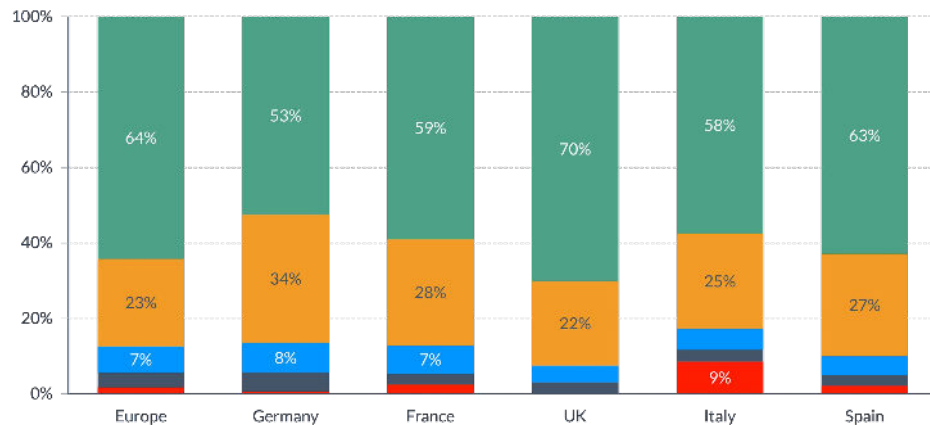
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Use of petrol across Europe will drop to below 50% by 2027

Fuel or drive-type share in percent

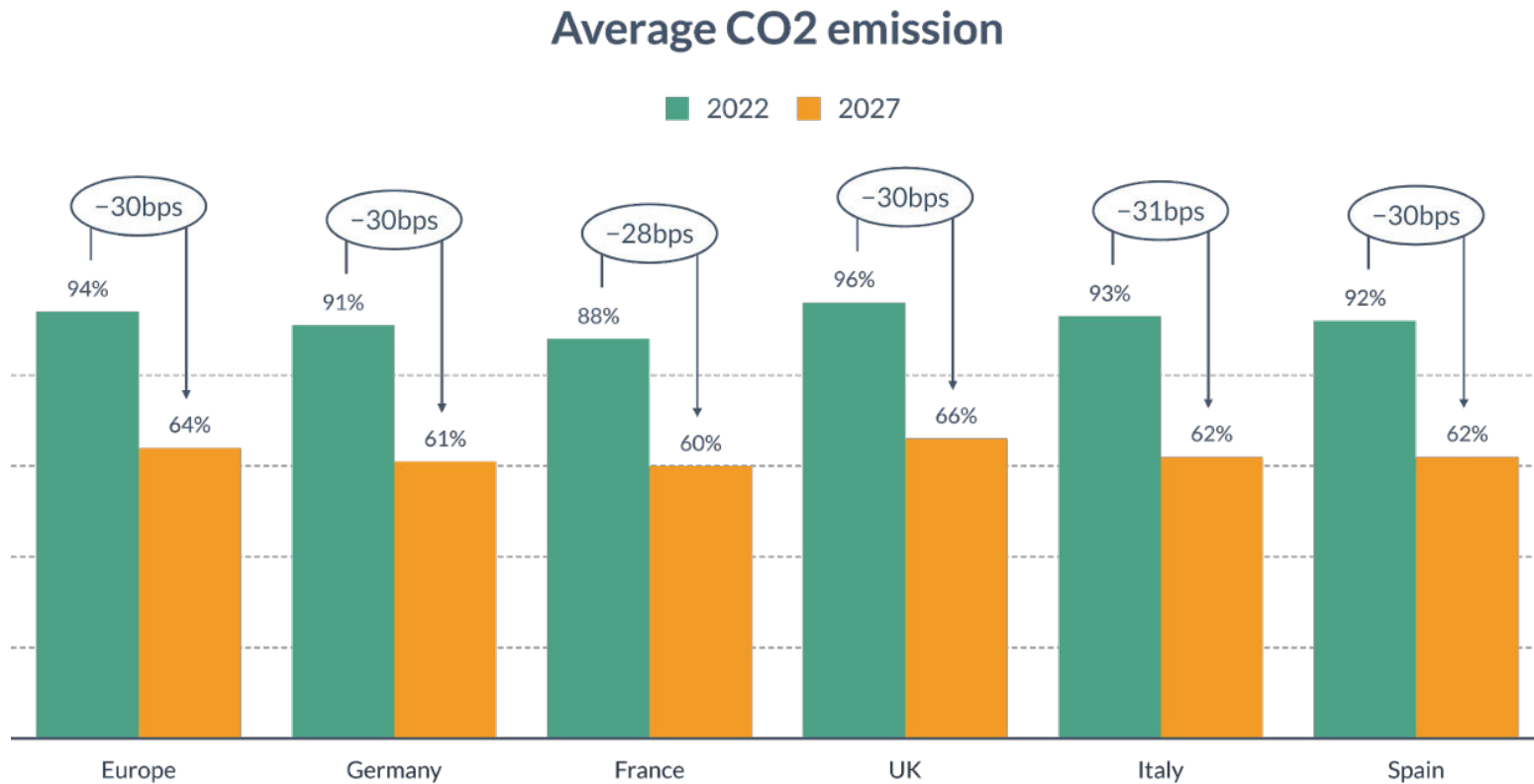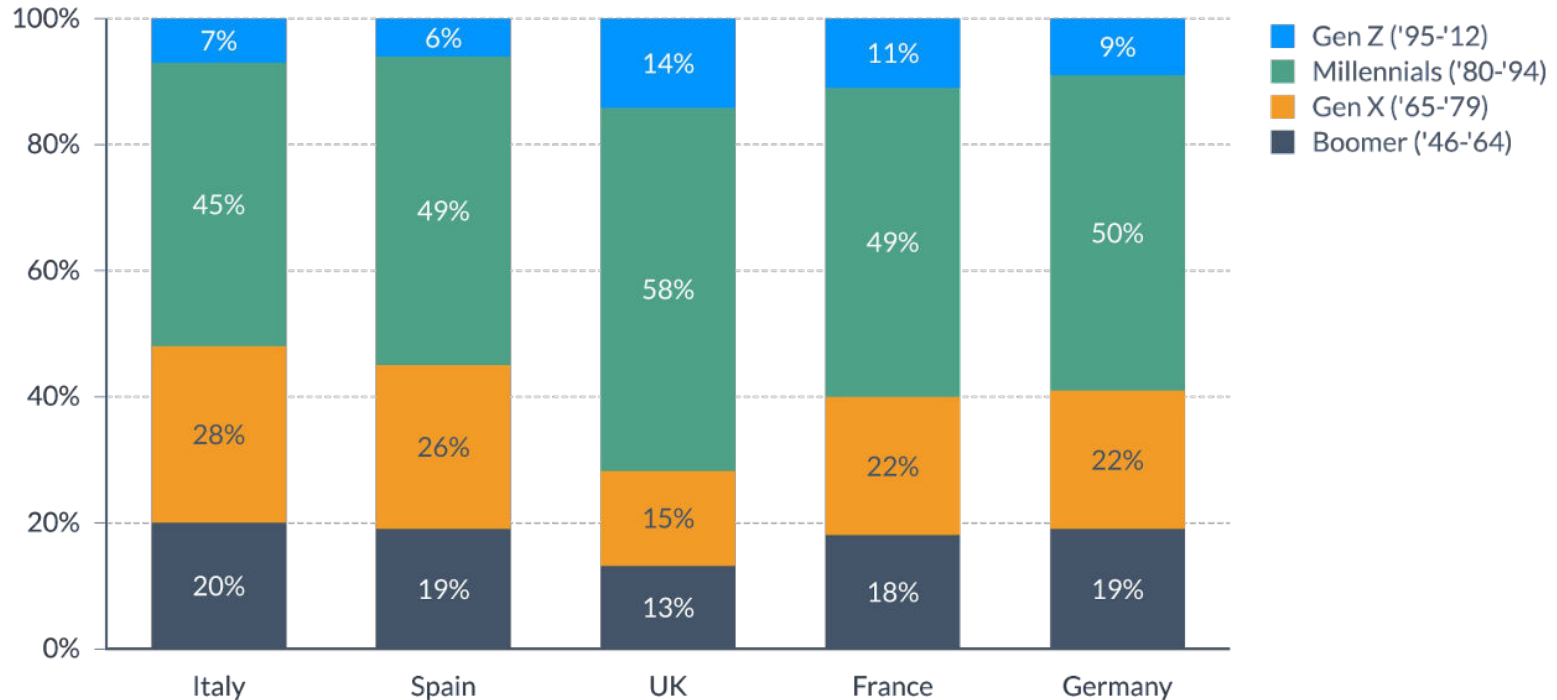Legend: ■ Petrol ■ Diesel ■ Electric ■ Hybrid ■ Alternative

2022

	Europe	Germany	France	UK	Italy	Spain
Petrol	64%	53%	59%	70%	58%	63%
Diesel	23%	34%	28%	22%	25%	27%
Electric	7%	8%	7%			
Alternative					9%	

2027

	Europe	Germany	France	UK	Italy	Spain
Petrol	45%	39%	39%	47%	37%	41%
Diesel	32%	31%	34%	32%	31%	35%
Electric	15%	21%	18%	15%	16%	16%
Hybrid	7%	8%	6%	6%	6%	6%
Alternative					9%	

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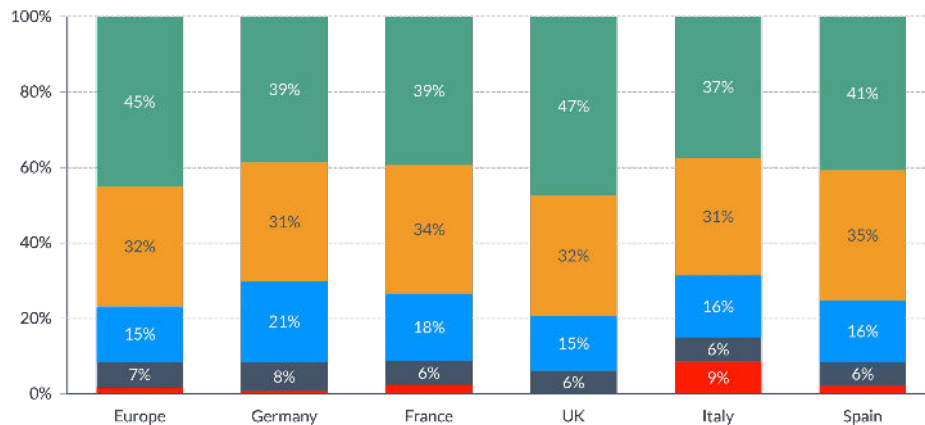
One of the results of less petrol usage, average CO2 emission will decline across Europe

Average CO2 emission

■ 2022　■ 2027

	Europe	Germany	France	UK	Italy	Spain
2022	94%	91%	88%	96%	93%	92%
2027	64%	61%	60%	66%	62%	62%
	−30bps	−30bps	−28bps	−30bps	−31bps	−30bps

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Almost half of potential new car buyers will be a millennial

Potential new car buyers by generation

Legend:
- Gen Z ('95-'12)
- Millennials ('80-'94)
- Gen X ('65-'79)
- Boomer ('46-'64)

Generation	Italy	Spain	UK	France	Germany
Gen Z ('95-'12)	7%	6%	14%	11%	9%
Millennials ('80-'94)	45%	49%	58%	49%	50%
Gen X ('65-'79)	28%	26%	15%	22%	22%
Boomer ('46-'64)	20%	19%	13%	18%	19%

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In Southern Europe, more potential new car buyers are expected to be female v.s. other parts of Europe

Potential new car buyers by gender

■ male   ■ female

Country	Male	Female
Italy	55%	45%
Spain	56%	44%
UK	64%	36%
France	63%	37%
Germany	65%	35%

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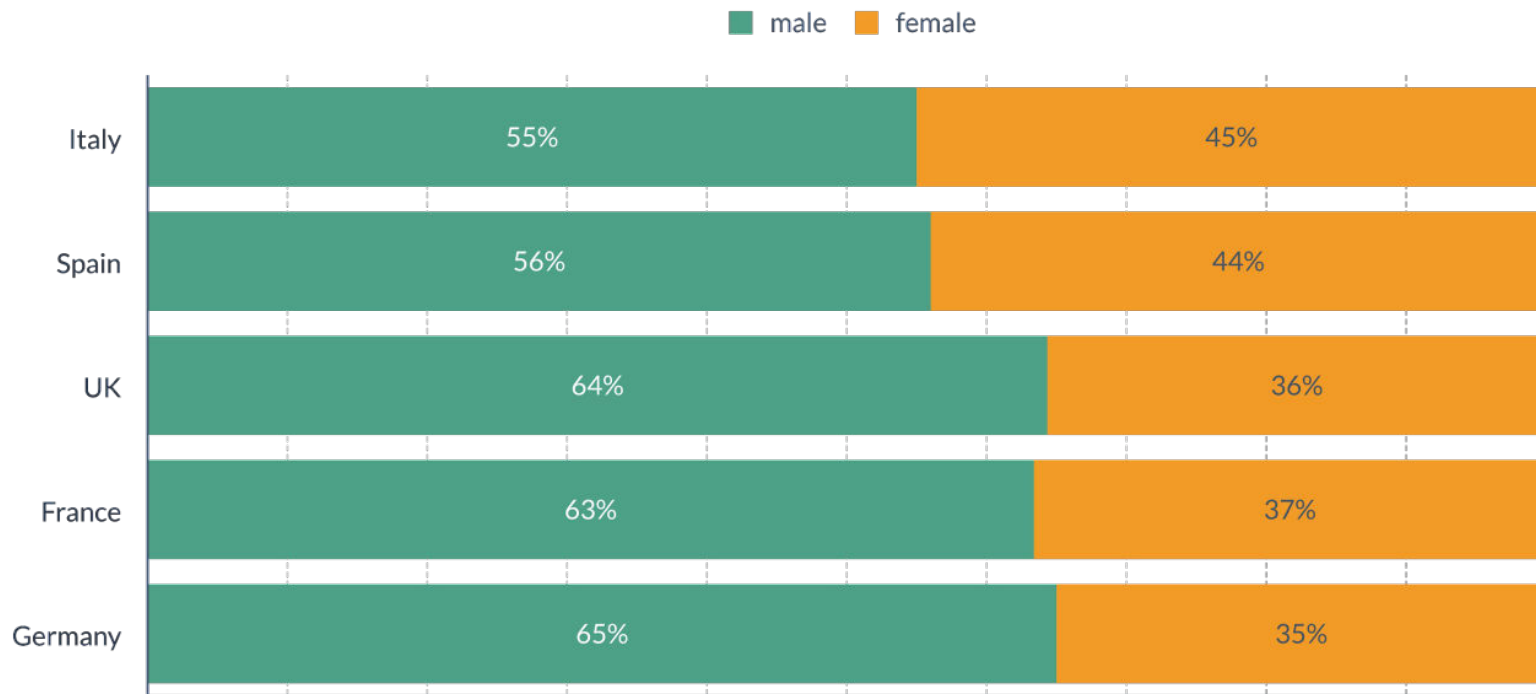
Almost half of potential new car buyers will come from a high income group


Potential new car buyers by income

Legend: high income · medium income · low income

	Italy	Spain	UK	France	Germany
high income	42%	42%	47%	50%	49%
medium income	34%	37%	32%	31%	35%
low income	24%	21%	21%	19%	16%

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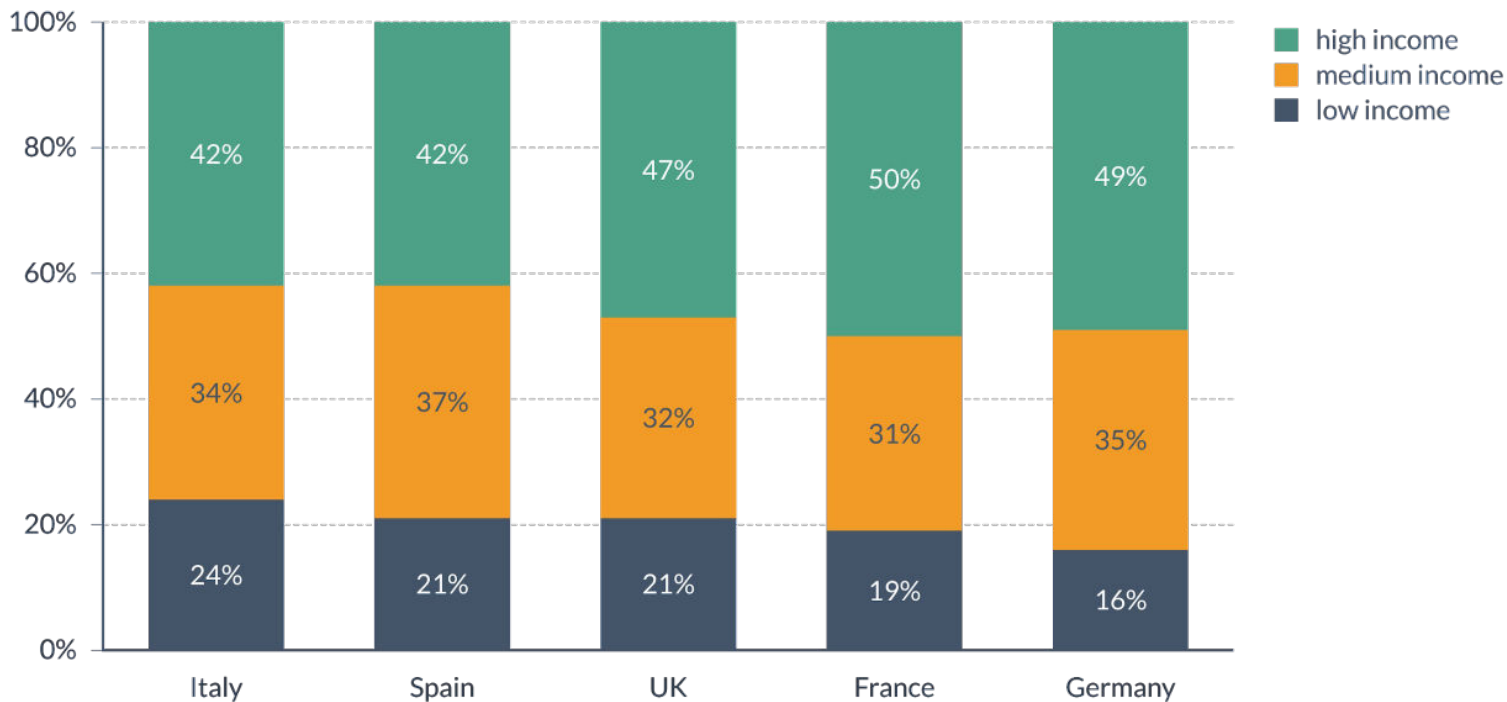
In North America, US contributes to majority of the market revenue

38,68 ▭▭▭▭▭▭▭ 557,6

INDARU
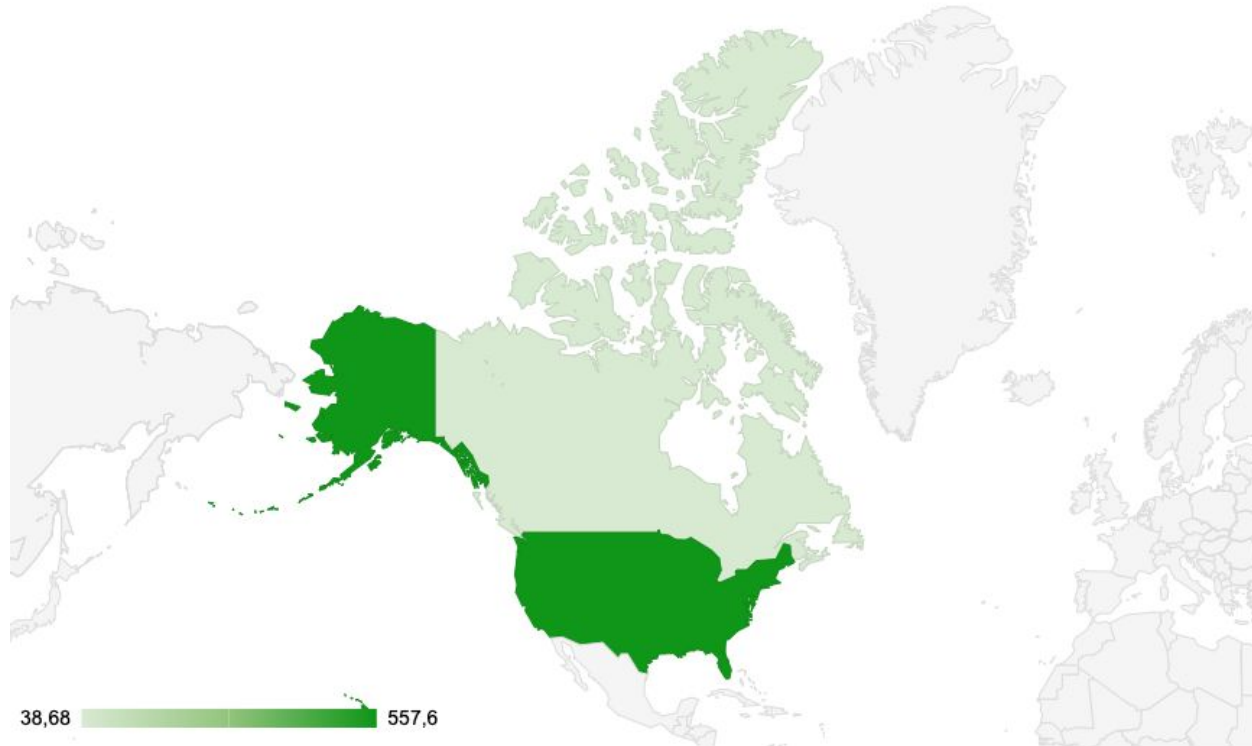
To be exact, USA contributes almost 94% of the automotive industry revenues in North America

North America by automotive industry revenue

Canada
7%

United States
93%

2022

Canada
6%

United States
94%

2027

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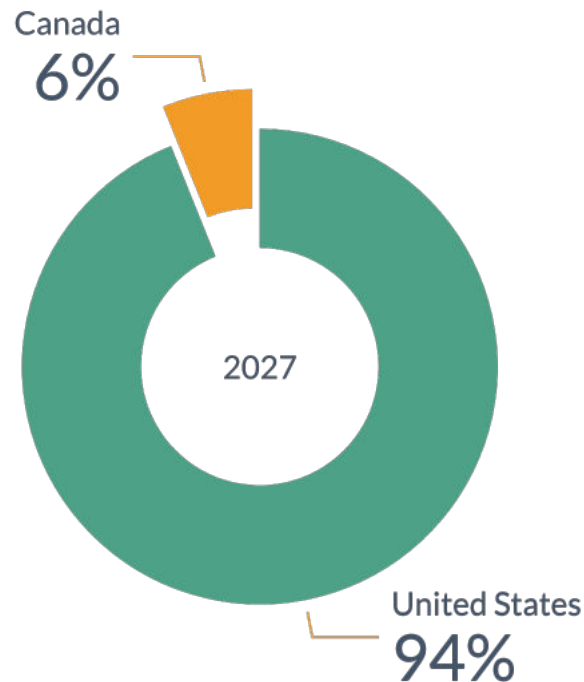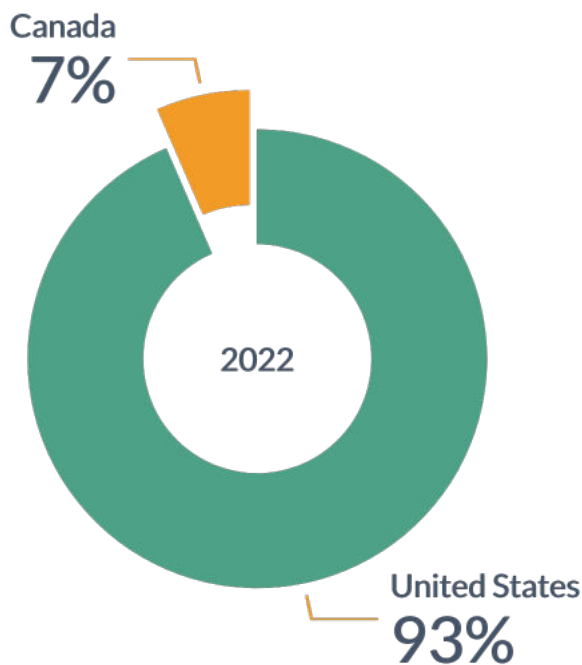
Ford, is the #1 car maker in the US followed closely by Toyota. As compared to Europe, more American brands are in the top
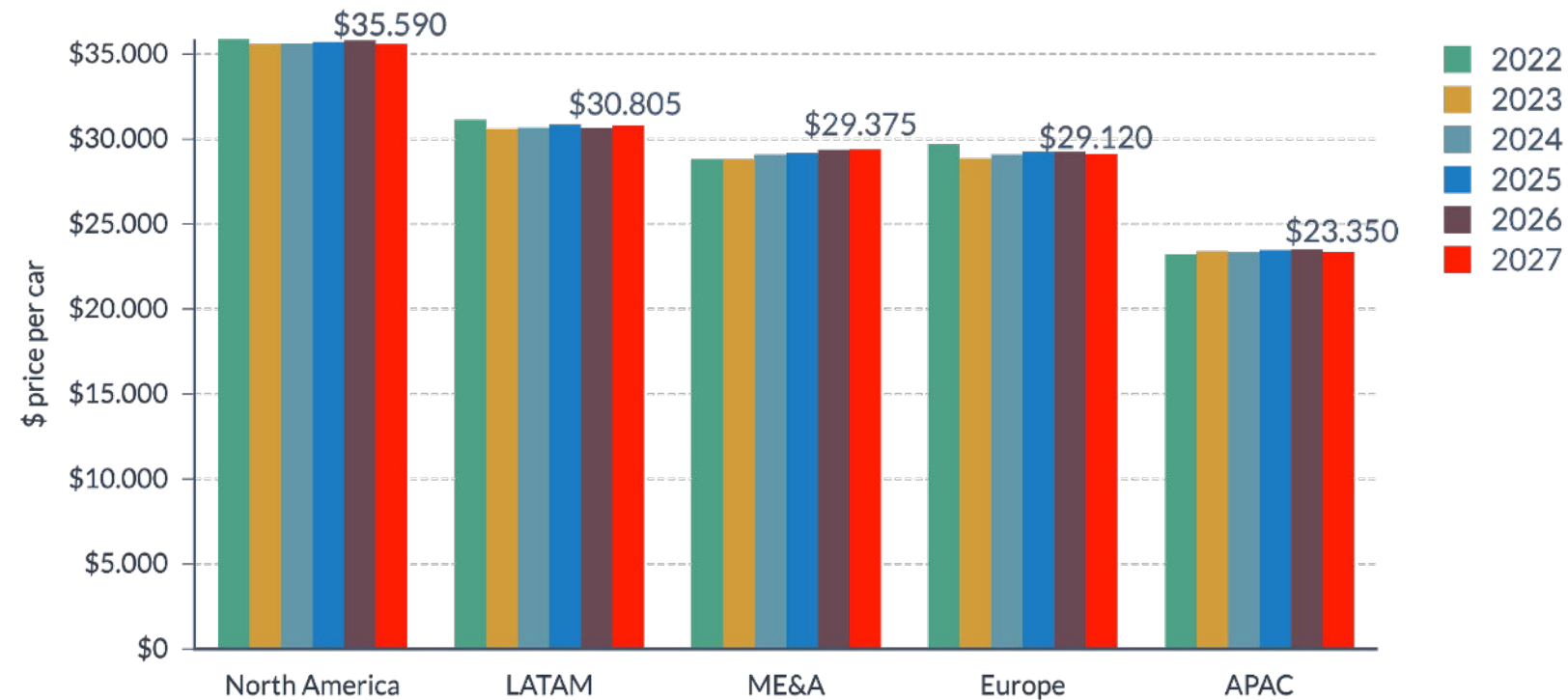
Auto industry revenue by make

BMW 3%
Mercedes-Benz 4%
Kia 4%
Hyundai 5%
Jeep 6%
Nissan 7%
Honda 7%
Chevrolet 9%
Toyota 11%
Ford 12%
Other 34%

2022

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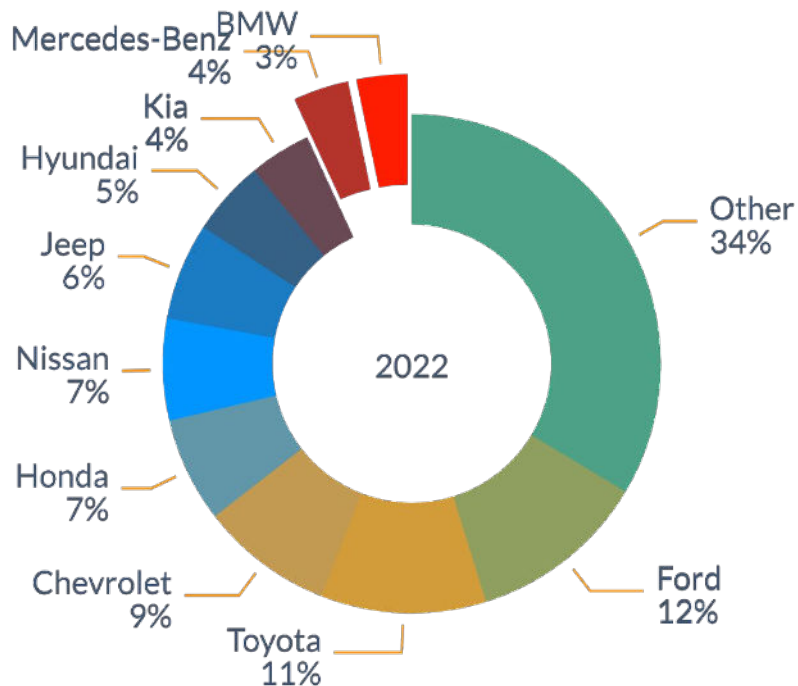
United States is expected to have a fairly stable growth rate while Canada will start growing only after 2025

Auto industry growth in N.America

United States
Canada

forecast

INDARU
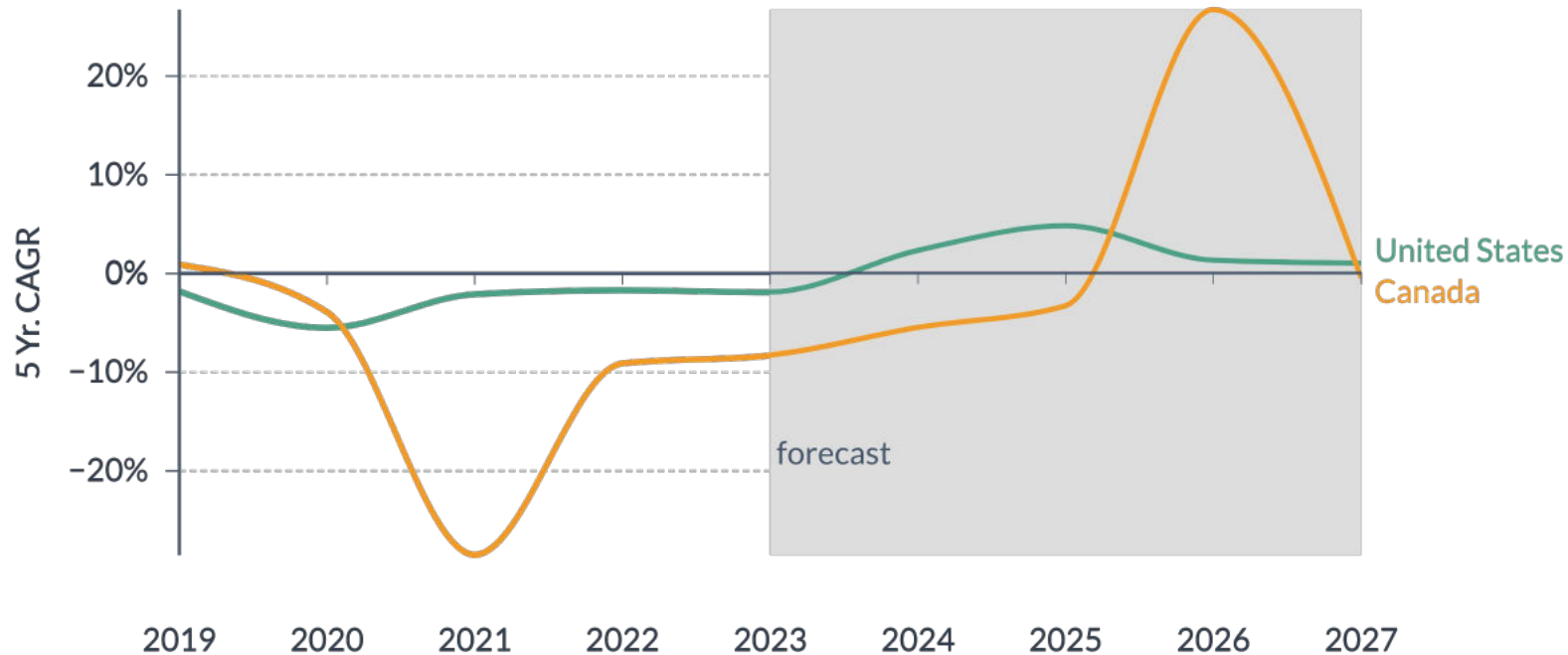
North America has the highest average price for passenger cars

Average price of passenger cars by region

$ price per car

North America: $35.590
LATAM: $30.805
ME&A: $29.375
Europe: $29.120
APAC: $23.350

Legend:
- 2022
- 2023
- 2024
- 2025
- 2026
- 2027

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In terms of connected cars, North America falls behind Europe who is already at almost 100%
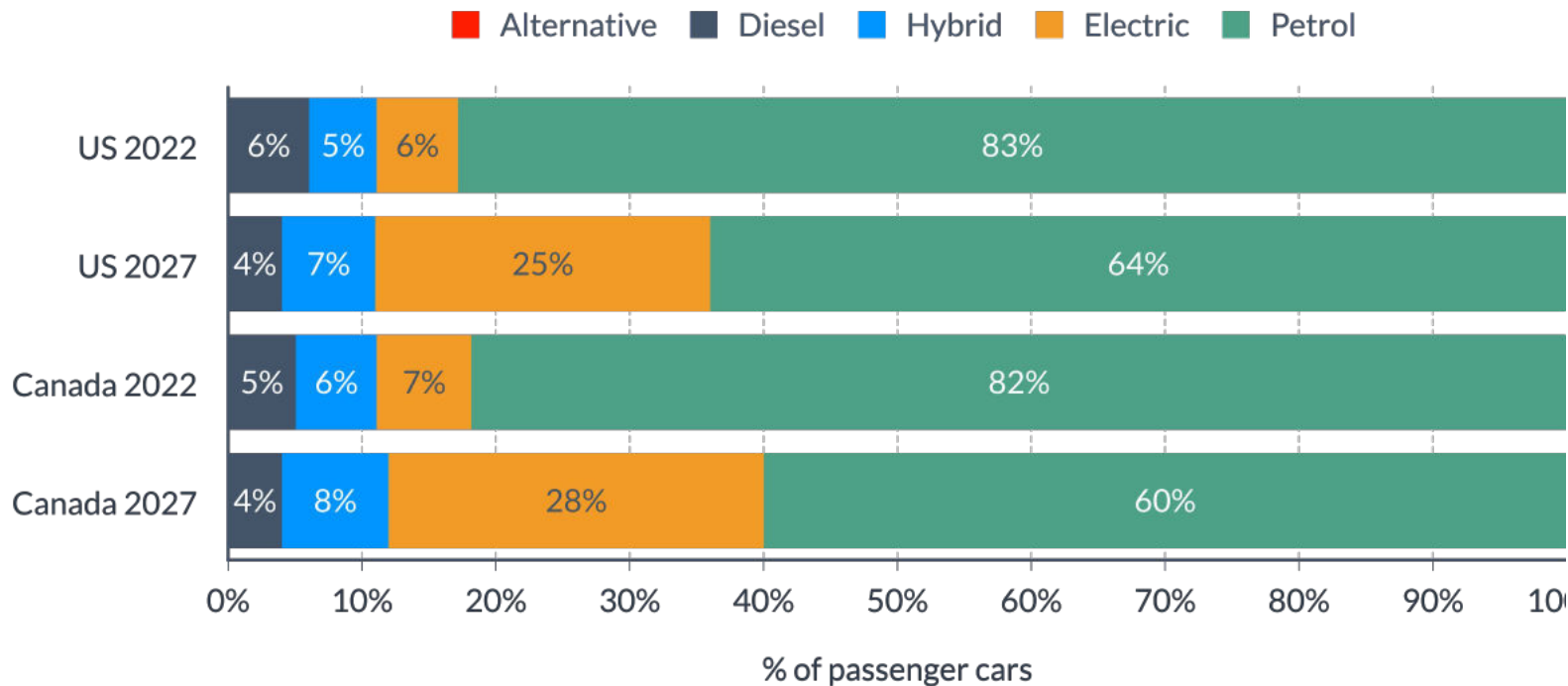
Connected cars share percent

% of cars that are connected

98%   96%   99%   98%

■ United States
■ Canada

2022   2027

INDARU
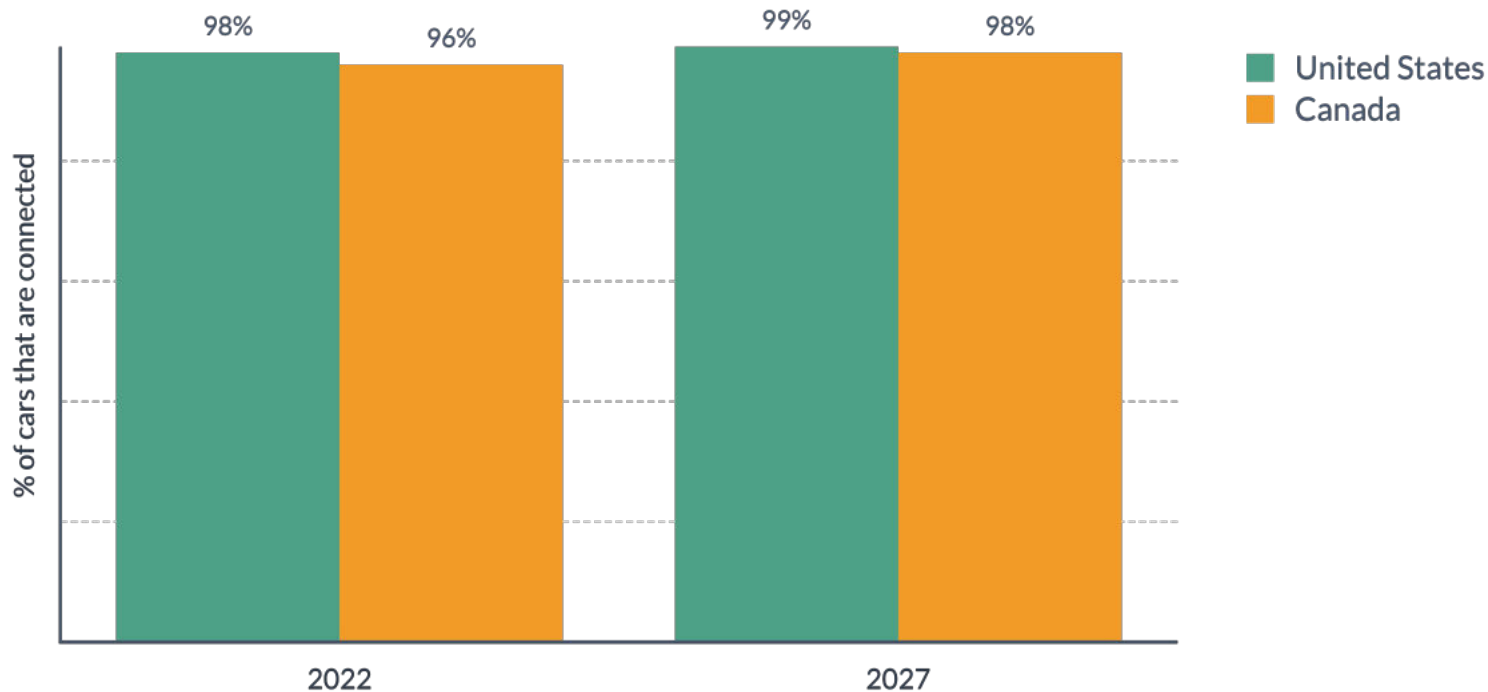
Similar to the rest of the world, fully autonomous cars is not expected to be widely available by 2027

Autonomous driving level in % share

Legend:
- Autonomous 0
- Autonomous 1
- Autonomous 2
- Autonomous 3

US 2022: 63% (Autonomous 1), 35% (Autonomous 2)
US 2027: 55% (Autonomous 1), 41% (Autonomous 2)
Canada 2022: 67% (Autonomous 1), 31% (Autonomous 2)
Canada 2027: 56% (Autonomous 1), 41% (Autonomous 2)

Level 0: No automation and very limited driver assistance in the form of automatic emergency braking or blind-spot warning.

Level 1: Driver assistance such as cruise control or lane centering.

Level 2: Partial automation, including brake and steering support.

Level 3: Conditional automation, the vehicle can perform most driving tasks in certain scenarios, human intervention is still needed.

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Petrol use will also decline in North America even if it is at a slower rate compared to Europe

Fuel or drive-type in % share

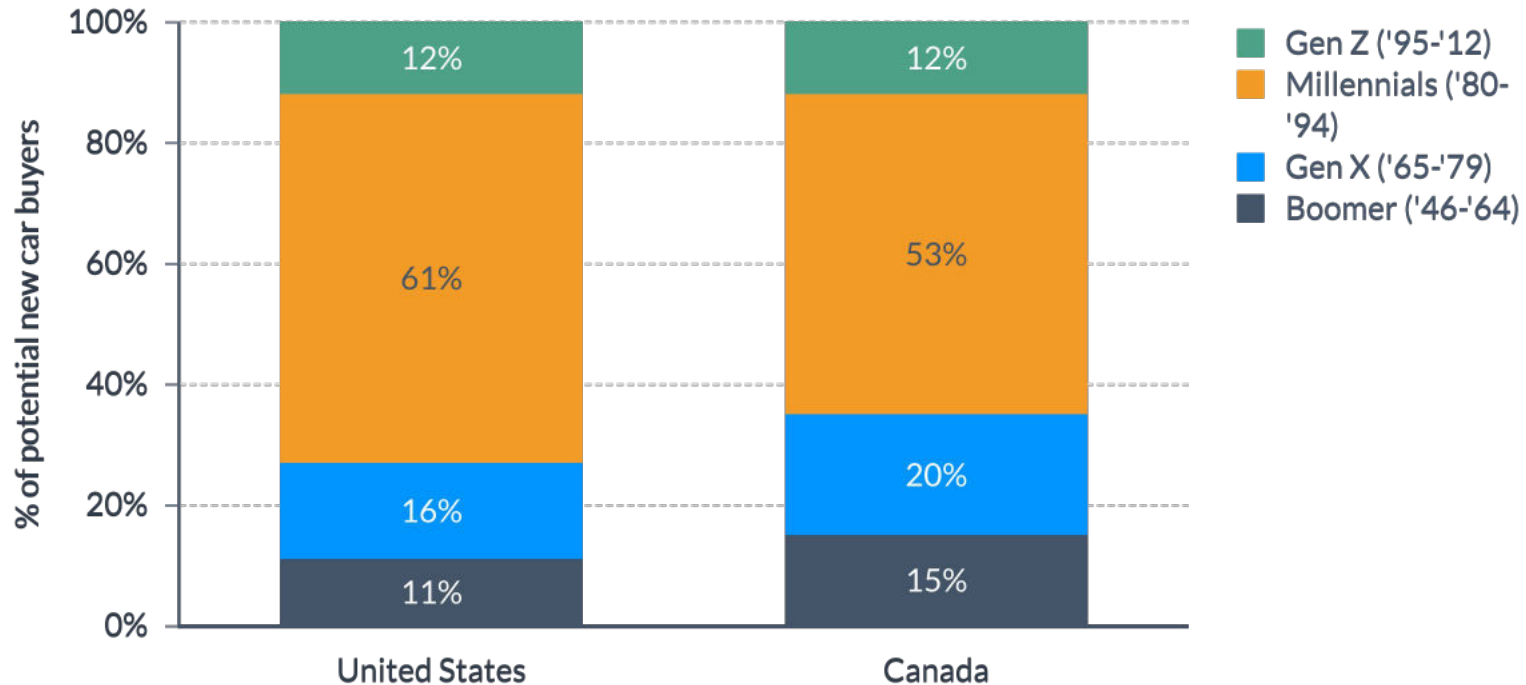Legend: ■ Alternative ■ Diesel ■ Hybrid ■ Electric ■ Petrol

US 2022: Diesel 6%, Hybrid 5%, Electric 6%, Petrol 83%

US 2027: Diesel 4%, Hybrid 7%, Electric 25%, Petrol 64%

Canada 2022: Diesel 5%, Hybrid 6%, Electric 7%, Petrol 82%

Canada 2027: Diesel 4%, Hybrid 8%, Electric 28%, Petrol 60%

% of passenger cars

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Average CO2 emission in North America will decrease by more than 50%

Average CO2 emission in N.America

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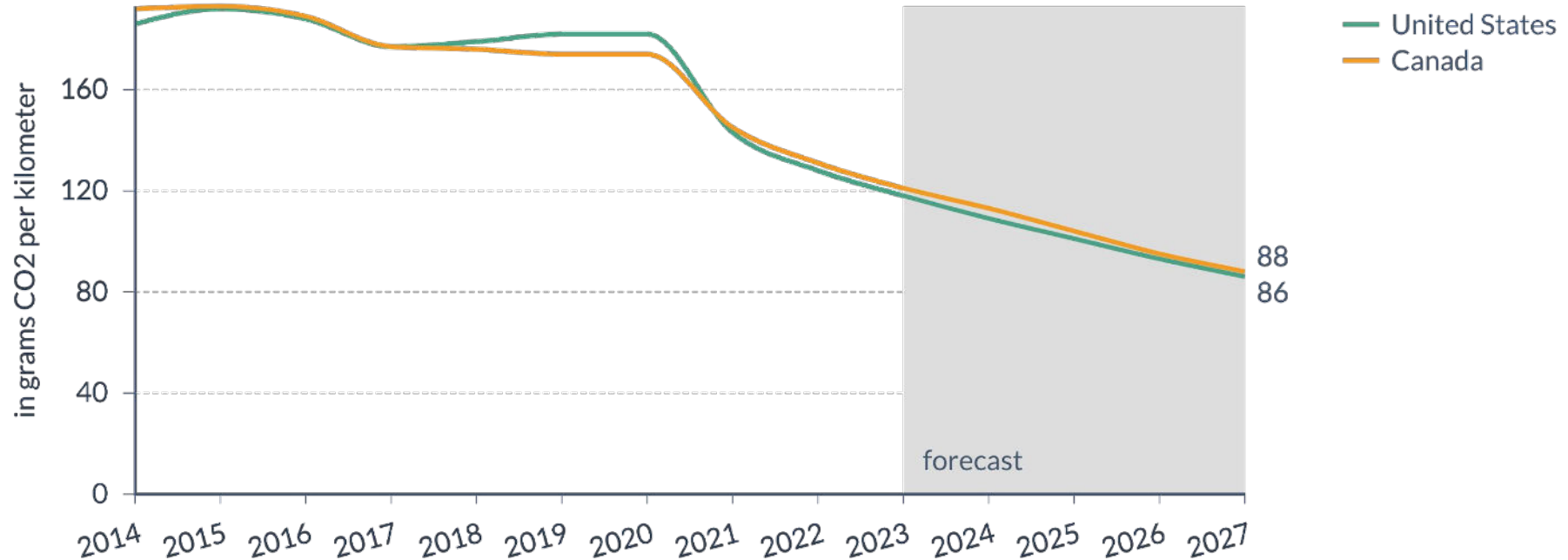
Similar to Europe, most potential new car buyers will be millennials

Potential new car buyers

Chart: % of potential new car buyers

Generation	United States	Canada
Gen Z ('95-'12)	12%	12%
Millennials ('80-'94)	61%	53%
Gen X ('65-'79)	16%	20%
Boomer ('46-'64)	11%	15%

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Similar to the northern parts of Europe, more potential new car buyers will be male

Potential new car buyers by gender
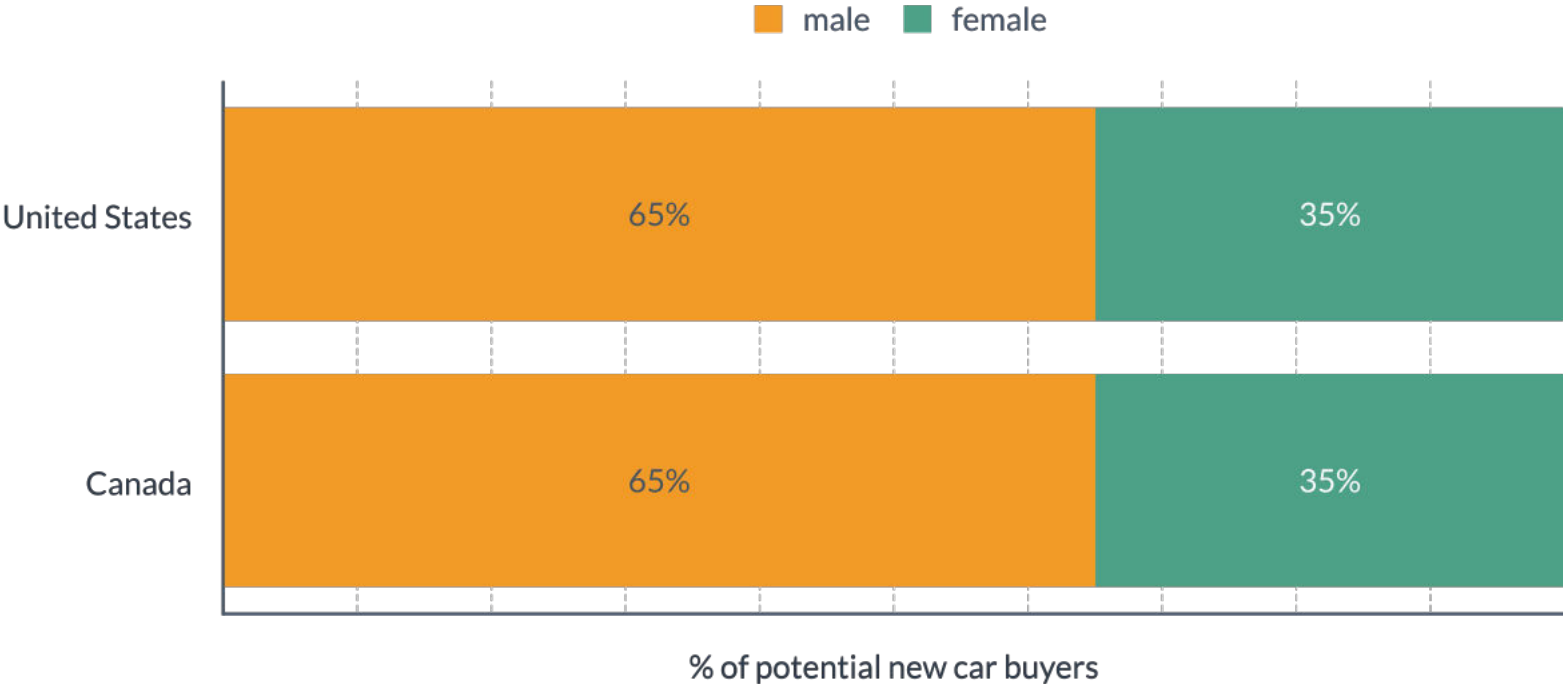
■ male   ■ female

United States	65%	35%
Canada	65%	35%

% of potential new car buyers

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Similar to European countries, most potential new car buyers will be part of the high income group

Potential new car buyers by income

% of potential new car buyers

- high income
- medium income
- low income

United States
- 53% (high income)
- 30% (medium income)
- 17% (low income)

Canada
- 47% (high income)
- 34% (medium income)
- 20% (low income)

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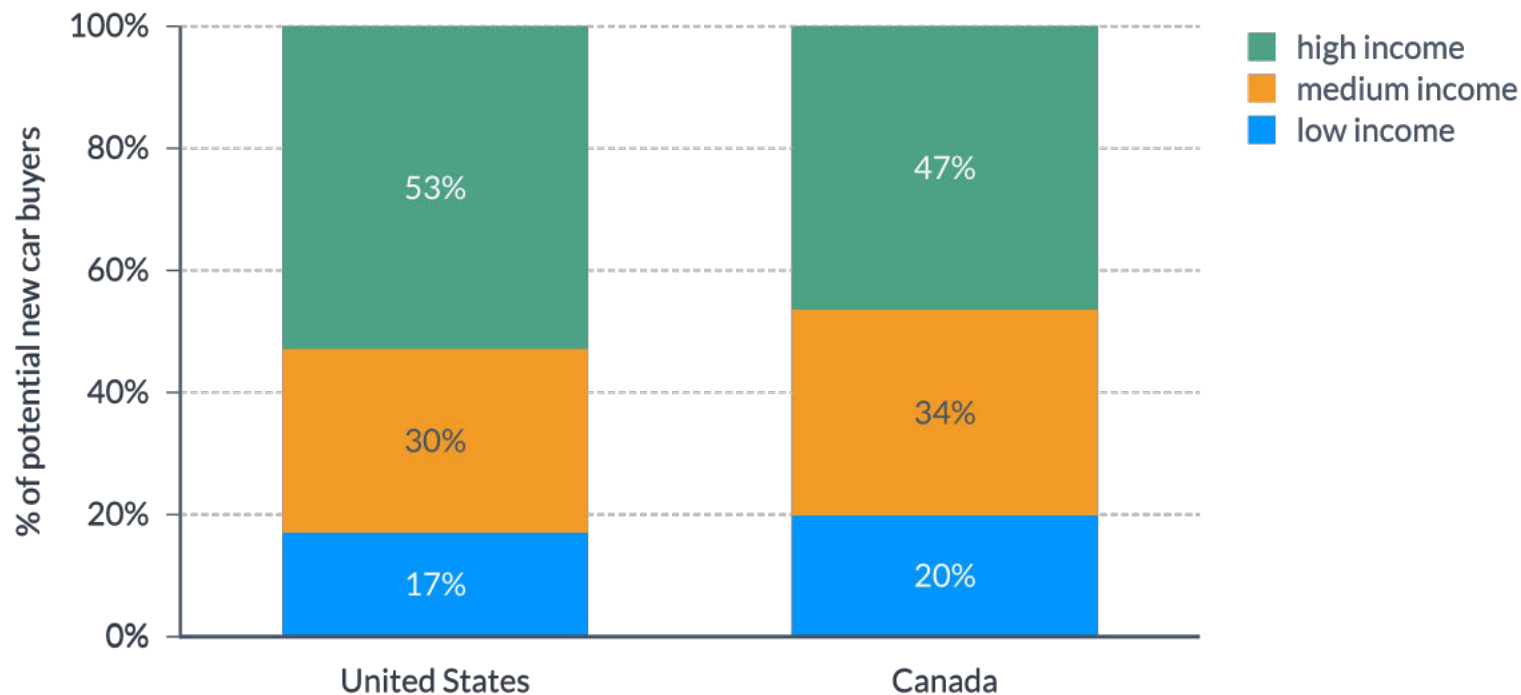
In APAC, China, Japan, and South Korea contribute to 80% of market revenue
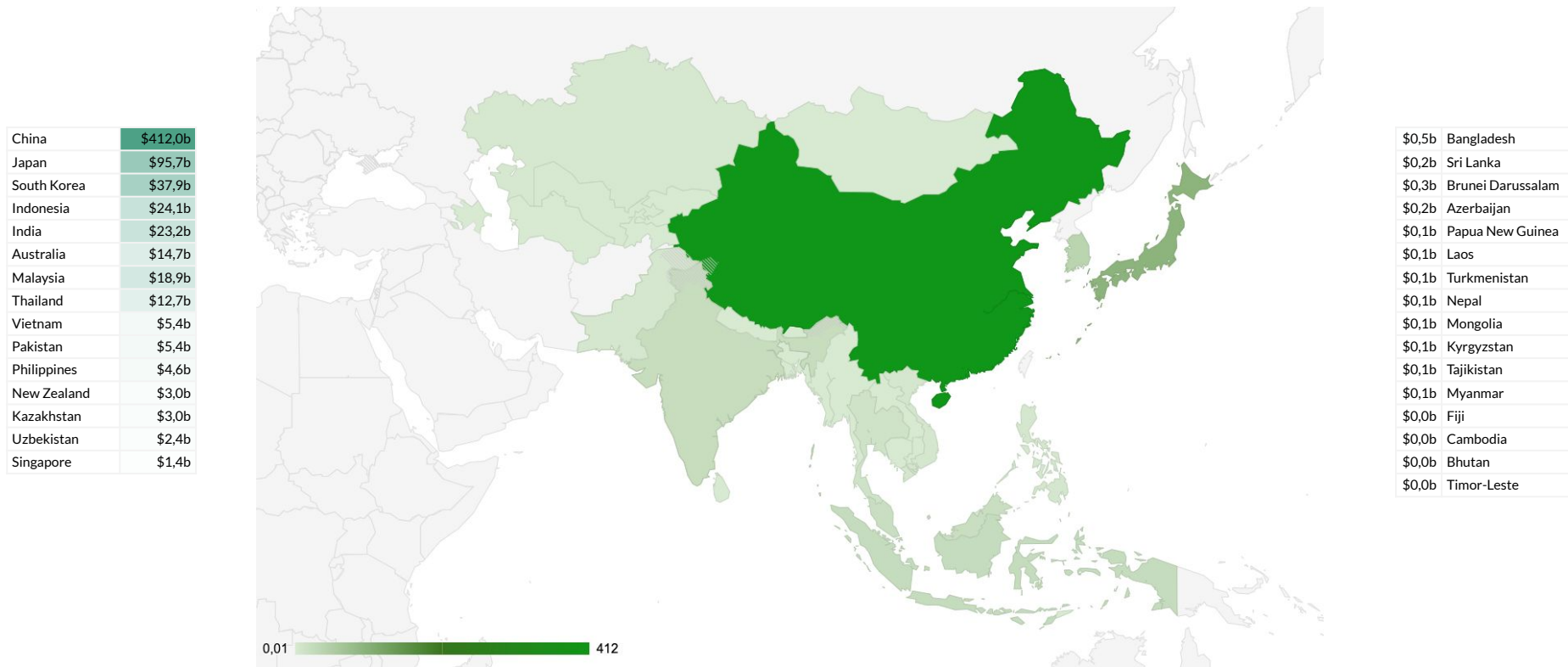
China	$412,0b
Japan	$95,7b
South Korea	$37,9b
Indonesia	$24,1b
India	$23,2b
Australia	$14,7b
Malaysia	$18,9b
Thailand	$12,7b
Vietnam	$5,4b
Pakistan	$5,4b
Philippines	$4,6b
New Zealand	$3,0b
Kazakhstan	$3,0b
Uzbekistan	$2,4b
Singapore	$1,4b

$0,5b	Bangladesh
$0,2b	Sri Lanka
$0,3b	Brunei Darussalam
$0,2b	Azerbaijan
$0,1b	Papua New Guinea
$0,1b	Laos
$0,1b	Turkmenistan
$0,1b	Nepal
$0,1b	Mongolia
$0,1b	Kyrgyzstan
$0,1b	Tajikistan
$0,1b	Myanmar
$0,0b	Fiji
$0,0b	Cambodia
$0,0b	Bhutan
$0,0b	Timor-Leste

0,01 ————————— 412

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In LATAM, Brazil, Mexico, and Argentina contribute to 80% of market revenue

Brazil	$55,5b
Mexico	$37,4b
Argentina	$12,3b
Chile	$8,7b
Colombia	$6,3b
Peru	$3,1b
Ecuador	$2,0b
Costa Rica	$0,9b
Panama	$0,6b
Uruguay	$0,5b
Paraguay	$0,4b
Guatemala	$0,3b
Bolivia	$0,3b
Haiti	$0,2b
Nicaragua	$0,2b
El Salvador	$0,1b
Honduras	$0,1b
Guyana	$0,2b
Cuba	$0,1b
Dominican Republic	$0,1b
Jamaica	$0,1b
Suriname	$0,0b
Belize	$0,0b
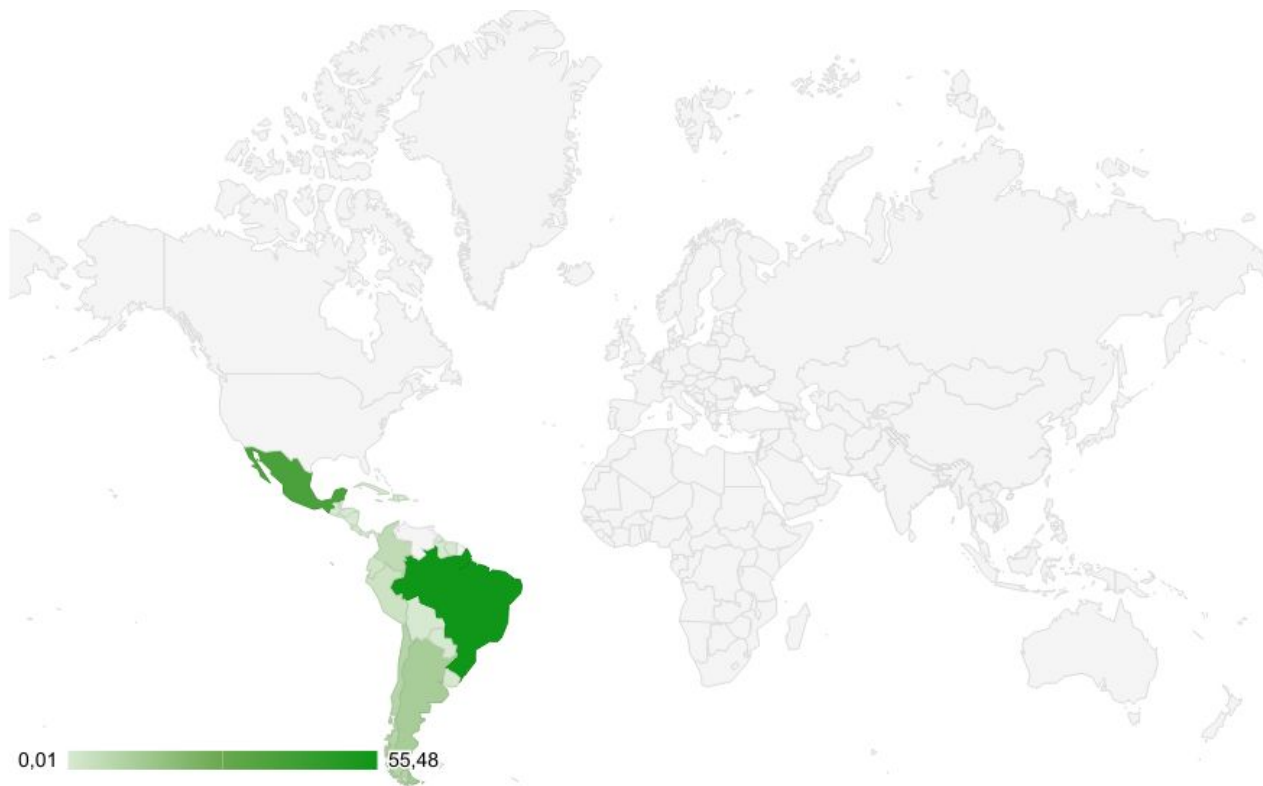
0,01   55,48

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In Middle East & Africa, Iran, Saudi Arabia, South Africa, Israel, UAE, Egypt, and Morocco contribute to 80% of market revenue

Iran	$20,0b
Saudi Arabia	$12,6b
South Africa	$9,1b
Israel	$7,4b
United Arab Emirates	$6,2b
Egypt	$5,1b
Morocco	$4,9b
Kuwait	$3,5b
Algeria	$2,1b
Oman	$1,2b
Lebanon	$0,9b
Iraq	$0,9b
Tunisia	$0,8b
Bahrain	$0,8b
Qatar	$0,8b
Nigeria	$0,5b
Jordan	$0,2b
Mauritius	$0,2b
Chad	$0,2b
Angola	$0,1b
Ghana	$0,1b
Ivory Coast	$0,1b
Sudan	$0,1b
Botswana	$0,1b
Republic of the Congo	$0,1b
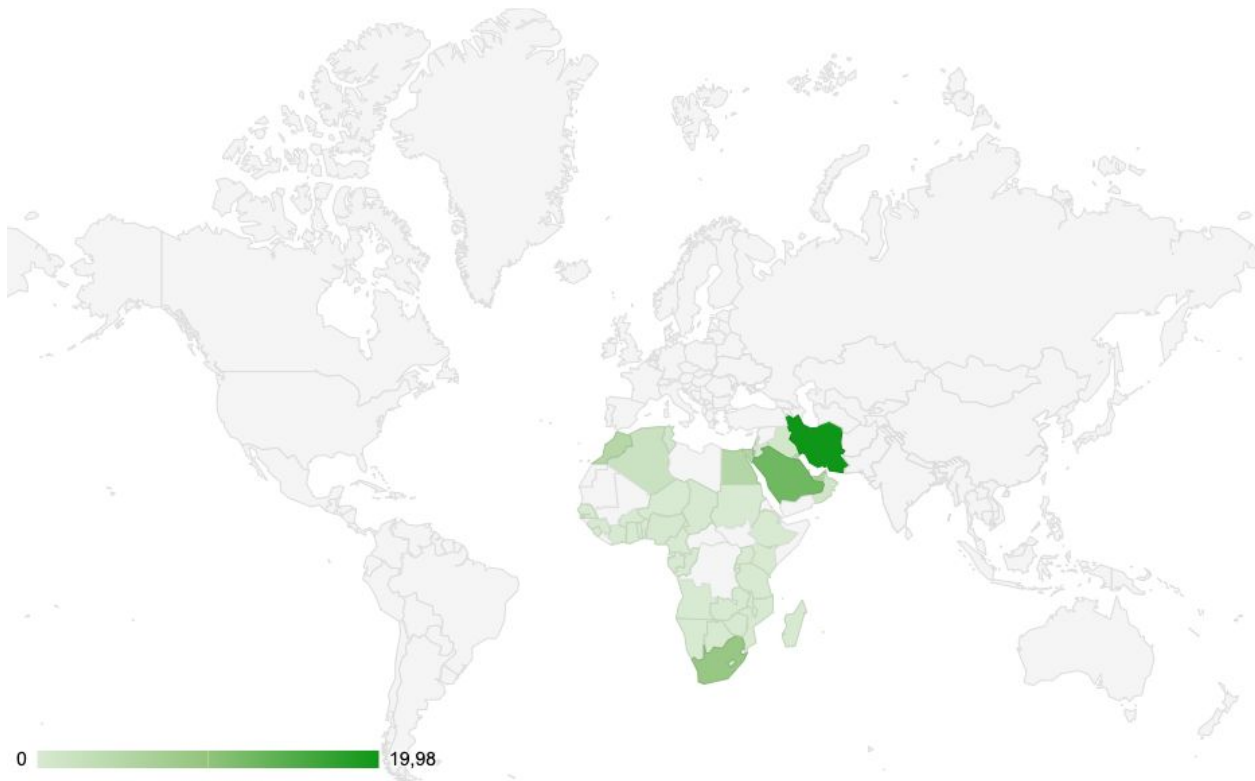
$0,1b	Senegal
$0,1b	Kenya
$0,0b	Zimbabwe
$0,0b	Ethiopia
$0,0b	Malawi
$0,0b	Namibia
$0,0b	Tanzania
$0,0b	Uganda
$0,0b	Zambia
$0,0b	Cameroon
$0,0b	Guinea
$0,0b	Benin
$0,0b	Gabon
$0,0b	Rwanda
$0,0b	Equatorial Guinea
$0,0b	Mozambique
$0,0b	Madagascar
$0,0b	Niger
$0,0b	Burkina Faso
$0,0b	Sierra Leone
$0,0b	Togo
$0,0b	Gambia
$0,0b	Burundi
$0,0b	Seychelles
$0,0b	Lesotho

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CONSUMER OVERVIEW

Consumer overview highlights

Purchasing a car is a big decision that is not normally made alone. Data shows that majority of consumers intending to purchase a car actually do not identify as the purchase decision maker. This becomes more apparent as the size of the household increases as more people are involved in the decision making process who are most likely a life partner. In fact, **even in a single household, consumers still do not identify as the purchase decision maker.** An explanation could be that other influential people, such as parents, still weigh in on the decision. Taking a step back, even current car owners do not identify as the primary decision maker when purchasing a car.

One trigger for the intent to purchase a car is a growing family. In fact, living with just another person has a sharp increase in car ownership.

Surprisingly, majority of people with an intention to purchase a car already own a car. However, around a 50% chance a current car owner would have an intention of purchasing another car.

Most consumers are already satisfied with their current car maker but current car owners are still willing to change brands. **The willingness to change brands is a good indicator of a consumer who has an intention to purchase a car.** Unsurprisingly, dissatisfaction has the highest incidence of willingness to change brands.

In the US, safety, fuel efficiency, high quality, and low price are the top criteria in choosing a car. In China, consumers look for more high-tech features such as a good driver assistance system. These criteria are consistent between those with intention to purchase and current car owners in US and China. Meanwhile in Europe, not only are there differences between countries but also the criteria between those with intention and car owners are different. **Which criteria that actually converts intention to actual purchase must be isolated.**

Surprisingly, **brand awareness is low even for current car owners.** Luckily, these consumers all frequent the internet. However, ad recall is different per medium.
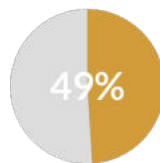
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Purchasing a car is as much a group decision as a personal decision

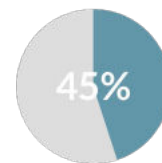**Purchase decision makers among consumers with intentions to buy a car**

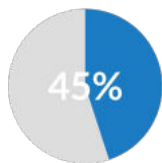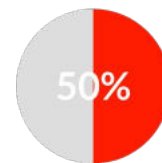% of respondents who have the intentions to purchase a car

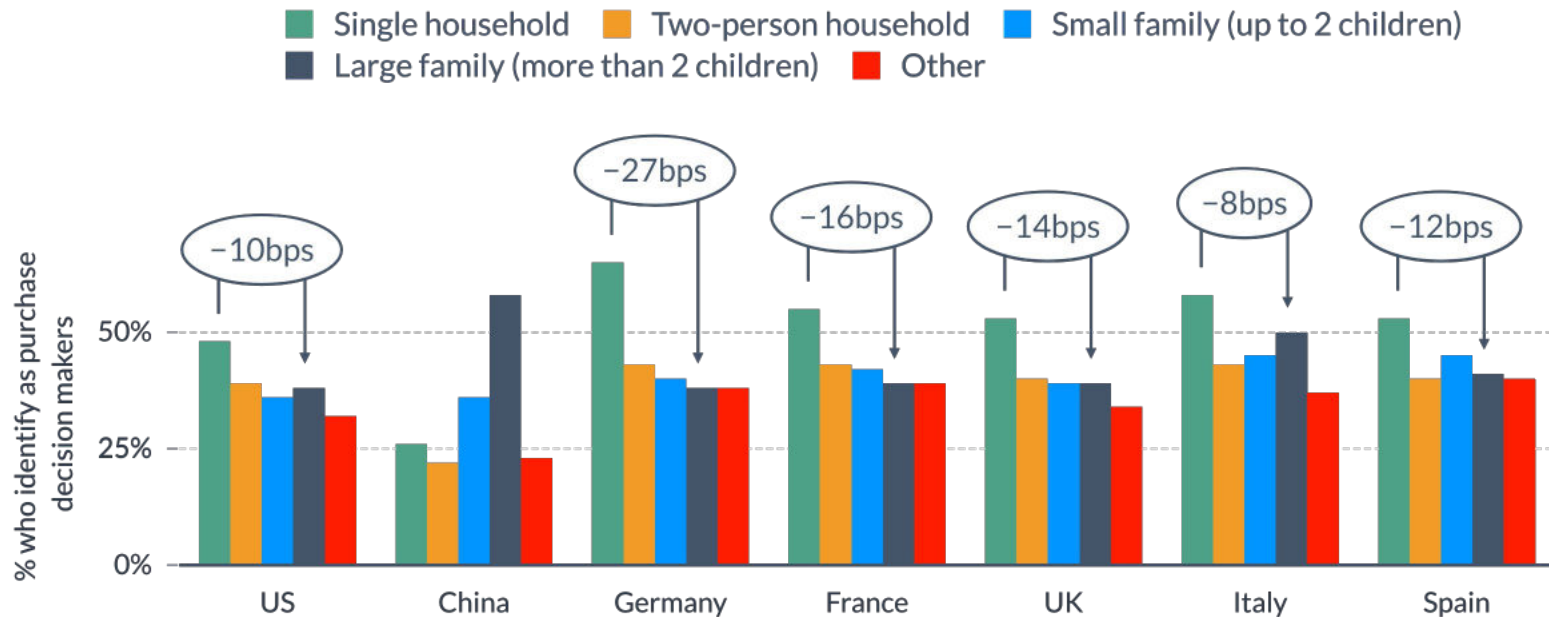|		
41%	49%	45%
US	Germany	France
45%	49%	50%
UK	Italy	Spain

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58
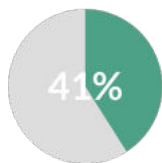
The % of respondents who identify as purchase decision makers for vehicles normally decrease as the household size increases
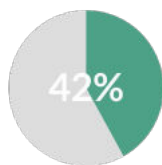

Purchase decision makers for vehicles purchases and their respective household sizes

- Single household
- Two-person household
- Small family (up to 2 children)
- Large family (more than 2 children)
- Other

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Even the current car owners are not the designated purchase decision maker for vehicles

Car owners and purchase decision makers for vehicles as of end 2022
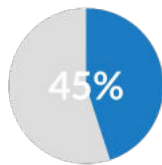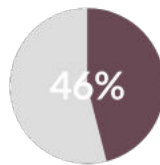
% of respondents (car owners)
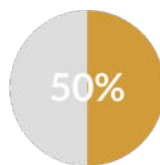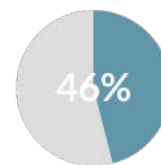
42% US
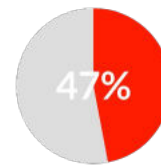
50% Germany

46% France

45% UK

46% Italy

47% Spain

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Car purchase intention of consumers and their respective household sizes

as of end 2022

Legend:
- Single household
- Two-person household
- Small family (up to 2 children)
- Large family (more than 2 children)

Callouts: +26bps (US), +25bps (China), +22bps (Germany), +21bps (France), +25bps (UK), +16bps (Italy), +15bps (Spain)
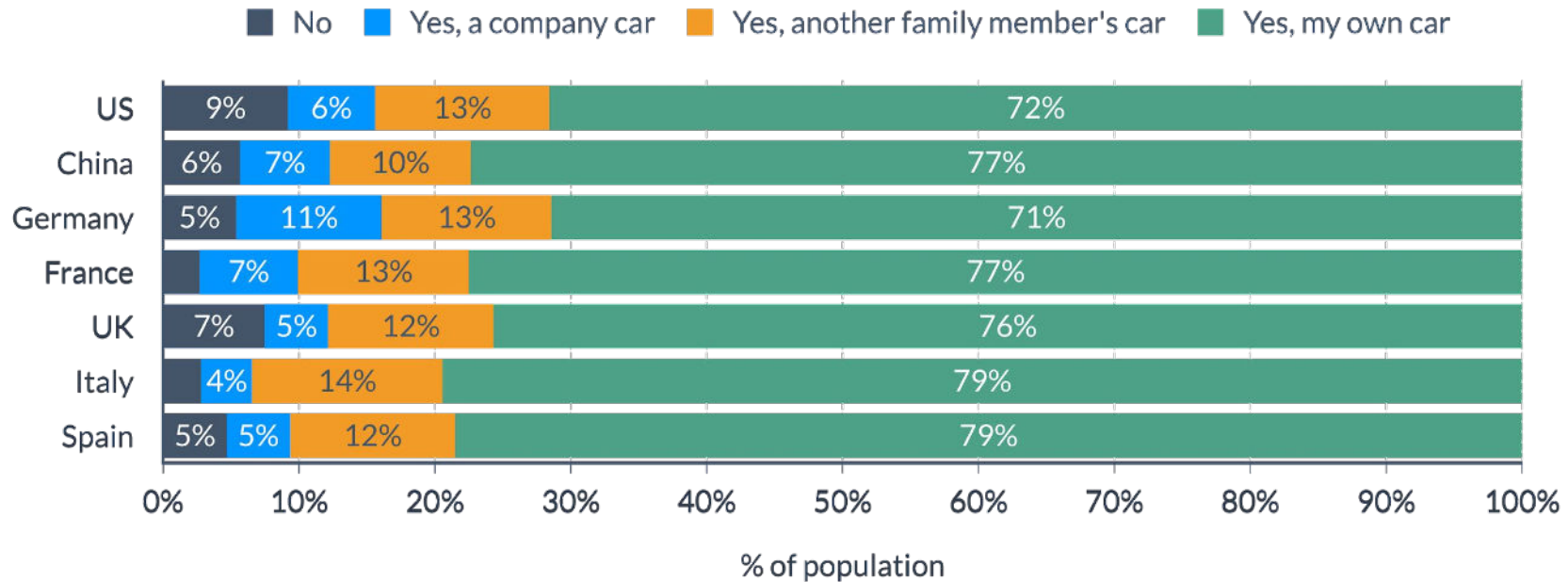
Y-axis: % with car purchase intention

INDARU
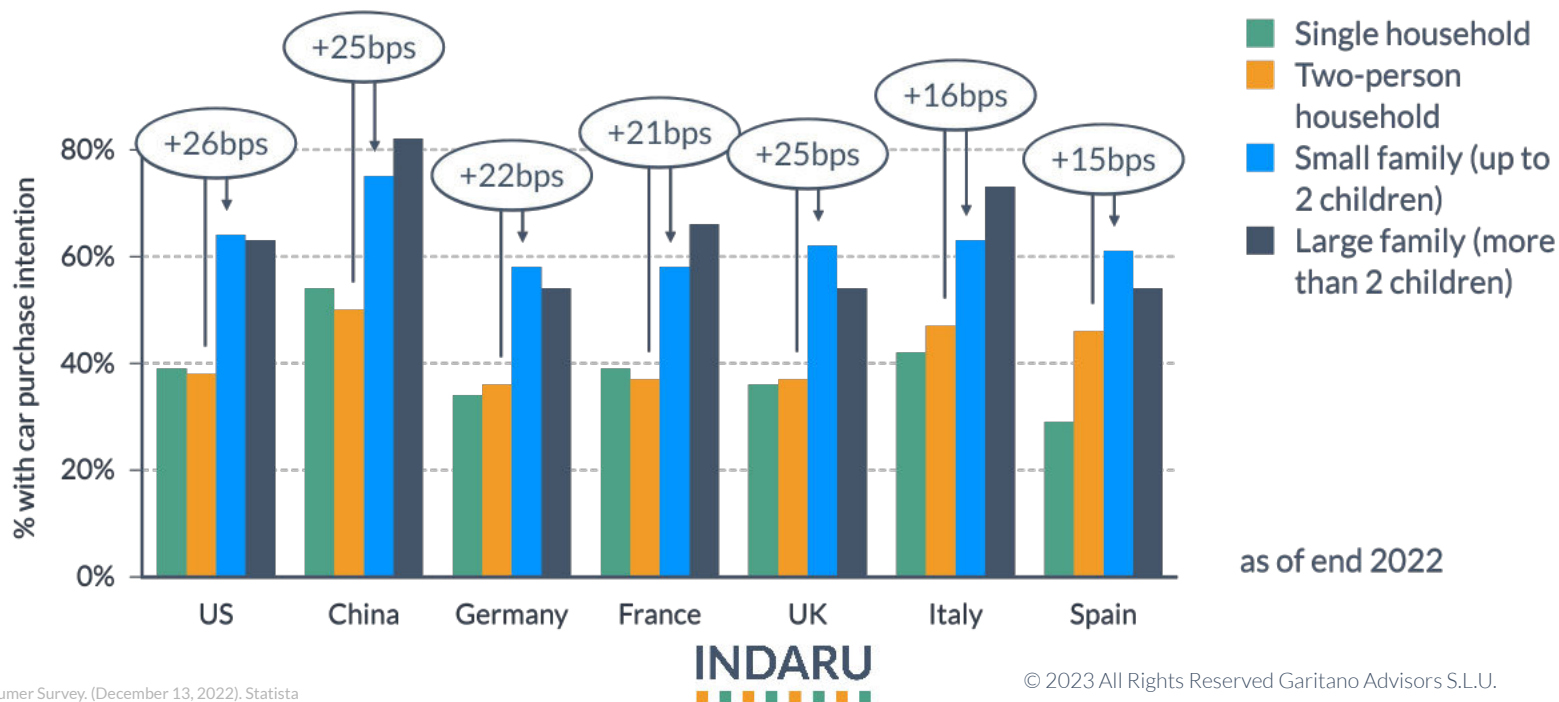
Living with another person has a sharp increase in instances of car ownership

Car ownership and respective household sizes

+13bps +23bps +13bps +22bps +9bps +10bps

Legend:
- Single household
- Two-person household
- Small family (up to 2 children)
- Large family (more than 2 children)

Y-axis: % who are car owners (0% to 100%)

X-axis: US, China, Germany, France, UK, Italy, Spain

as of end 2022

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Majority of consumers who intend to purchase a car already own or have access to their own car

Car ownership of consumers with intent to purchase a car

Legend:
- ■ No
- ■ Yes, a company car
- ■ Yes, another family member's car
- ■ Yes, my own car

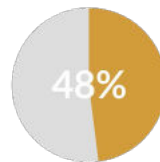| Country	No	Yes, a company car	Yes, another family member's car	Yes, my own car
US	9%	6%	13%	72%
China	6%	7%	10%	77%
Germany	5%	11%	13%	71%
France		7%	13%	77%
UK	7%	5%	12%	76%
Italy		4%	14%	79%
Spain	5%	5%	12%	79%

% of population

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But not all current car owners have intention to purchase a car with most of top countries at 50-50 split

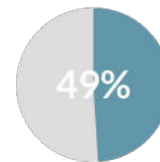## Car ownership affecting intention to purchase a car

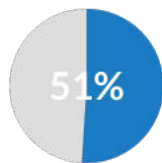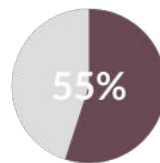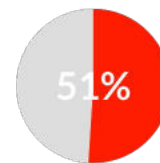% of respondents (car owners) with intention to purchase

50%
US

48%
Germany

49%
France

51%
UK

55%
Italy

51%
Spain

as of end 2022

INDARU

64
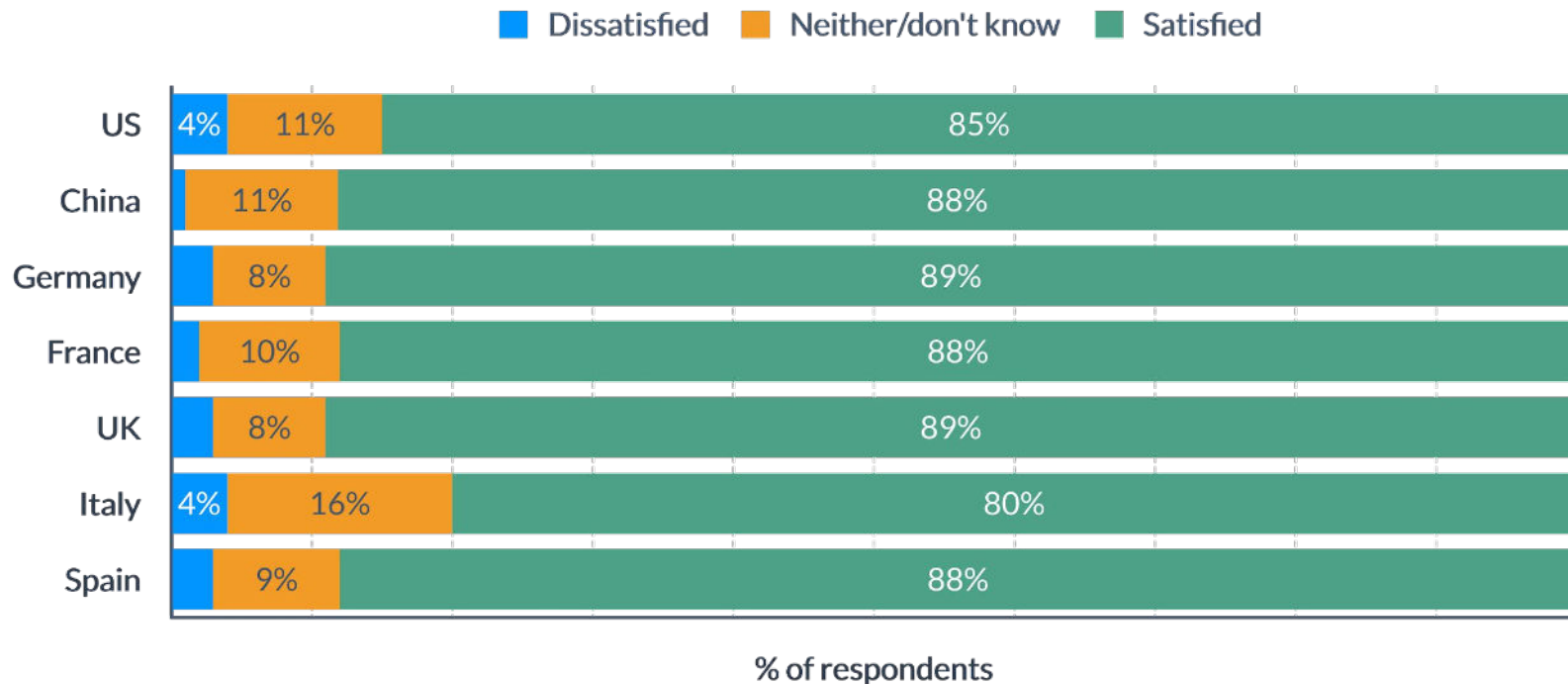
Whether with an intention to buy a new car or not, most consumers are already satisfied with their current car makers

Satisfaction with car maker of currently owned car

■ Dissatisfied   ■ Neither/don't know   ■ Satisfied

Country	Dissatisfied	Neither/don't know	Satisfied
US	4%	11%	85%
China		11%	88%
Germany		8%	89%
France		10%	88%
UK		8%	89%
Italy	4%	16%	80%
Spain		9%	88%

% of respondents

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Half of current car owners are willing to change car makers. Even more people in China are willing to do the same

Willingness to change car make
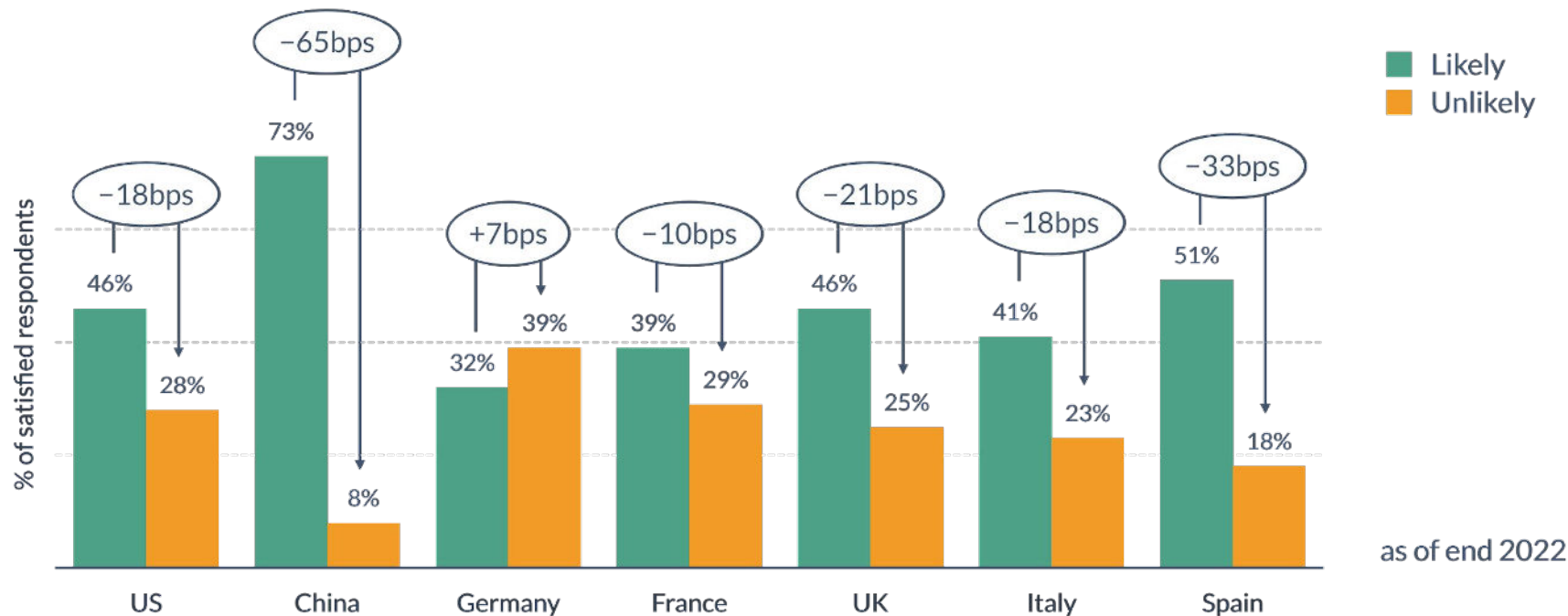
Legend: ■ Likely ■ Unlikely ■ Neither/don't know

Country	Neither/don't know	Unlikely	Likely
US	28%	26%	47%
China	20%	8%	72%
Germany	30%	36%	34%
France	32%	27%	40%
UK	30%	23%	47%
Italy	35%	20%	45%
Spain	31%	17%	52%

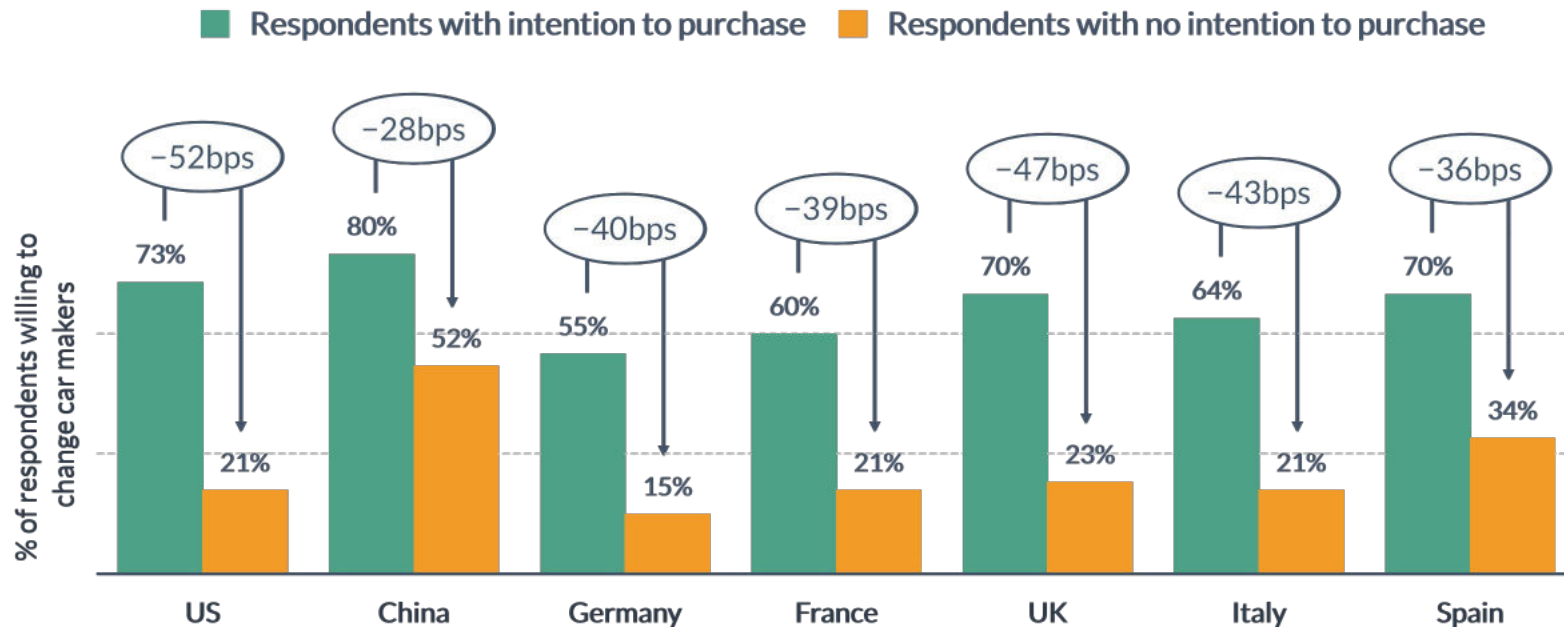% of respondents (car owners)

as of end 2022

INDARU
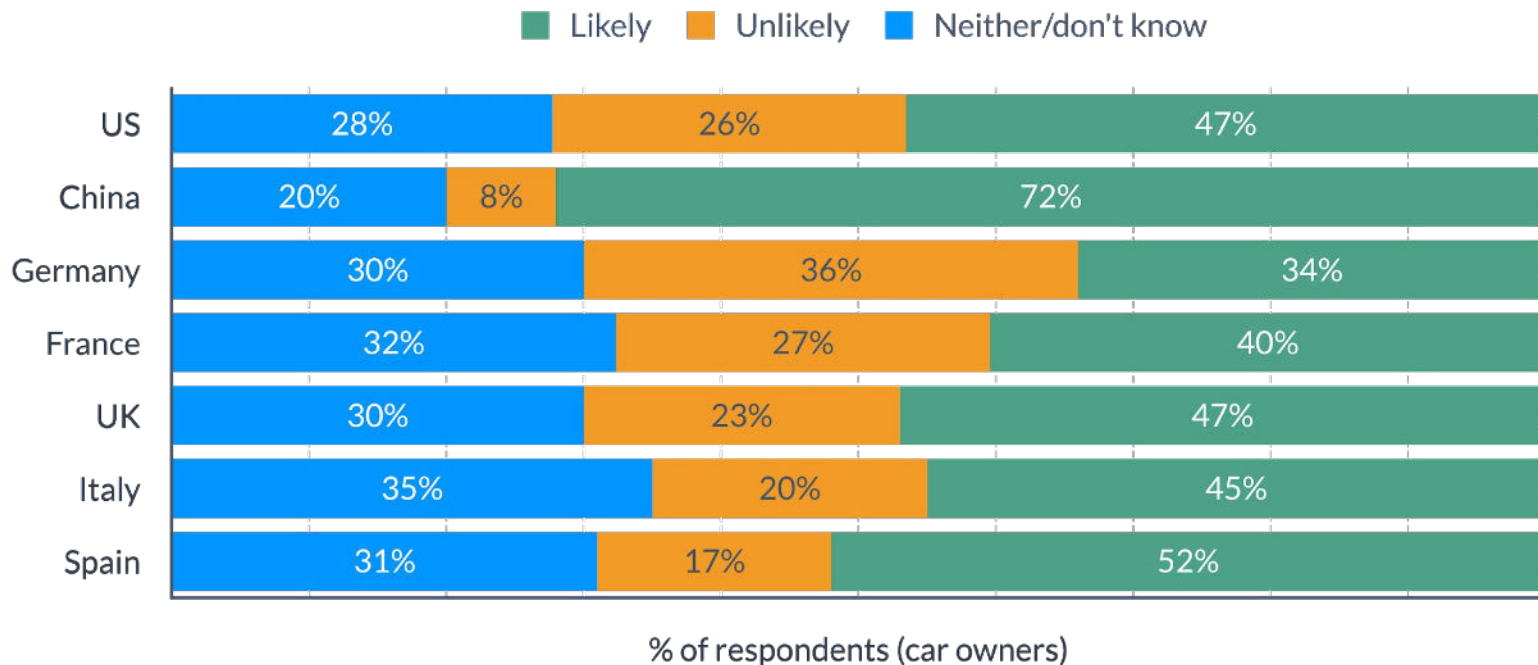
Even with satisfied consumers, around half are still willing to change brands

Effects of satisfaction on willingness to change car makers

Legend:
- Likely (green)
- Unlikely (orange)

Y-axis: % of satisfied respondents

Country	Likely	Unlikely	bps
US	46%	28%	−18bps
China	73%	8%	−65bps
Germany	32%	39%	+7bps
France	39%	29%	−10bps
UK	46%	25%	−21bps
Italy	41%	23%	−18bps
Spain	51%	18%	−33bps

as of end 2022

INDARU

The consumer's willingness to change car makers is a good predictor of an intention to purchase a car

Willingness to change car make

■ Respondents with intention to purchase   ■ Respondents with no intention to purchase

% of respondents willing to change car makers

| | −52bps | −28bps | −40bps | −39bps | −47bps | −43bps | −36bps |

US: 73% / 21%
China: 80% / 52%
Germany: 55% / 15%
France: 60% / 21%
UK: 70% / 23%
Italy: 64% / 21%
Spain: 70% / 34%

as of end 2022

INDARU

68

Unsurprisingly, dissatisfaction is a great predictor of willingness to change car makers

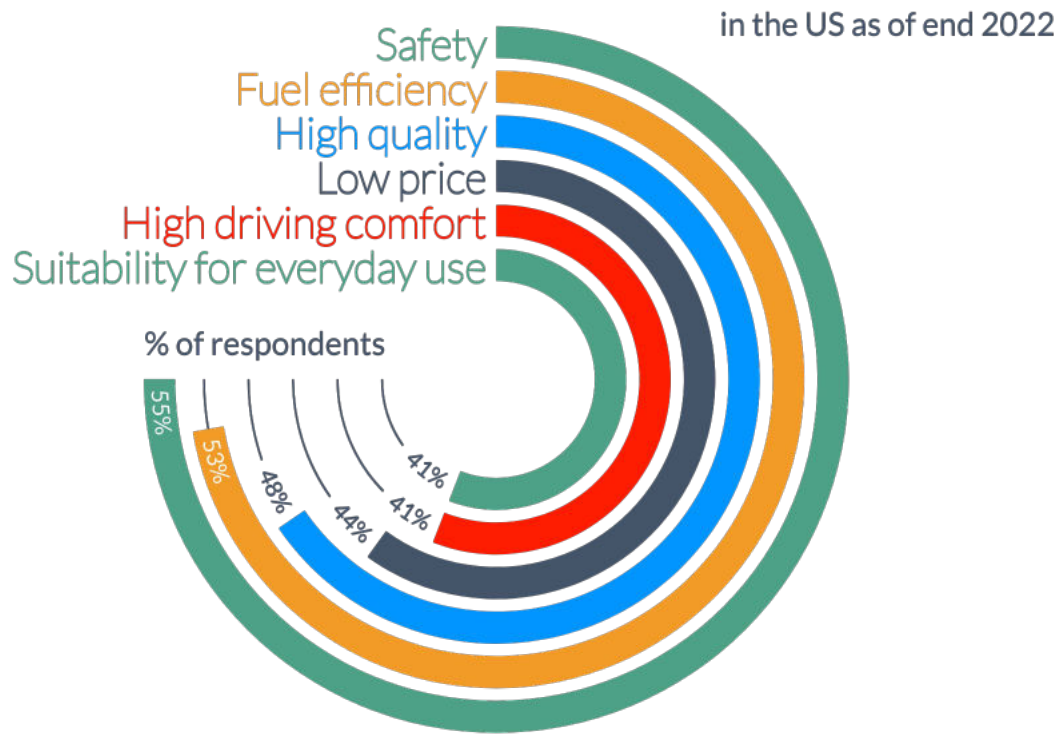## Effects of dissatisfaction on willingness to change car makers

Legend: ■ Neither/don't know ■ Unlikely ■ Likely

Country	Neither/don't know	Unlikely	Likely
US	20%	17%	63%
China	21%	25%	54%
Germany	24%	17%	59%
France	17%	26%	57%
UK	20%	12%	68%
Italy	16%	15%	69%
Spain	16%	14%	70%

% of dissatisfied respondents

as of end 2022

INDARU
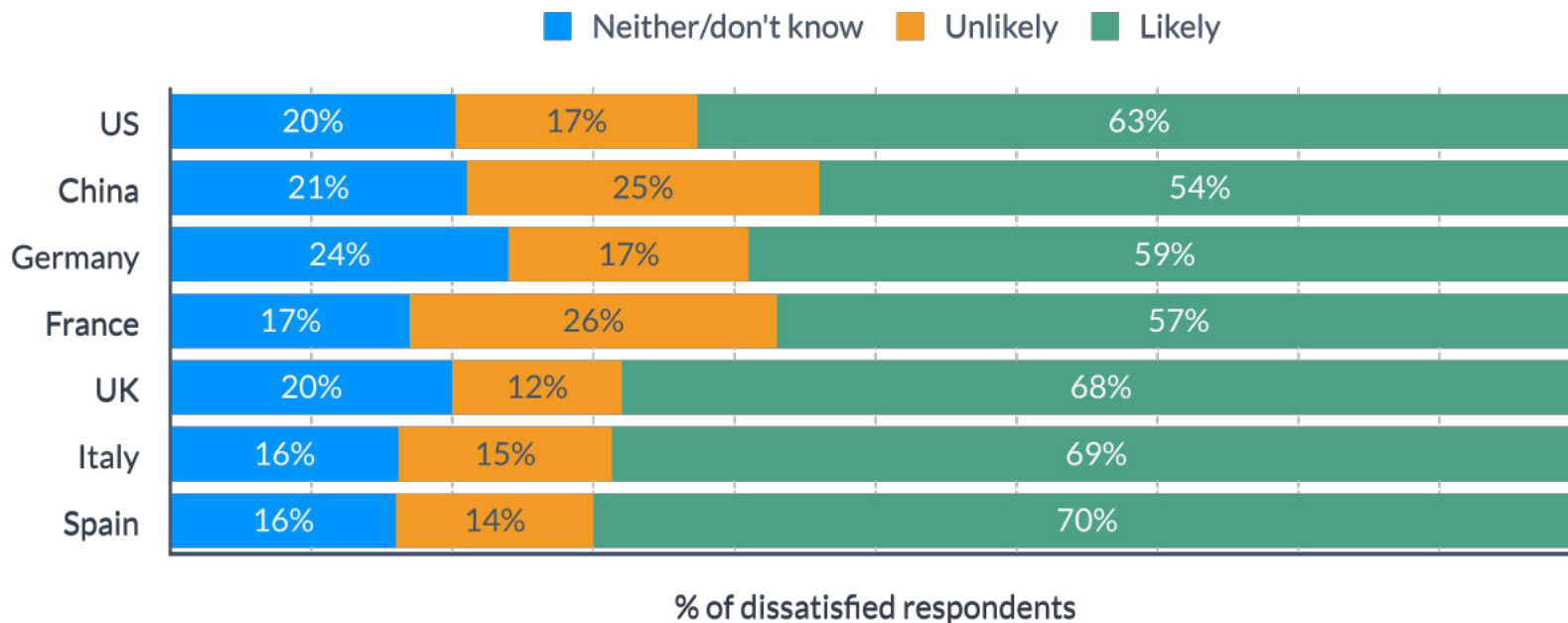
US consumers look for a safe, efficient, and high quality car at a somewhat reasonable price

Top purchase criteria of those seeking to buy a car

in the US as of end 2022

Safety
Fuel efficiency
High quality
Low price
High driving comfort
Suitability for everyday use

% of respondents

55%
53%
48%
44%
41%
41%

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US top purchase criteria can indeed lead to conversion since car owners and potential customers have similar metrics

Top purchase criteria for car owners
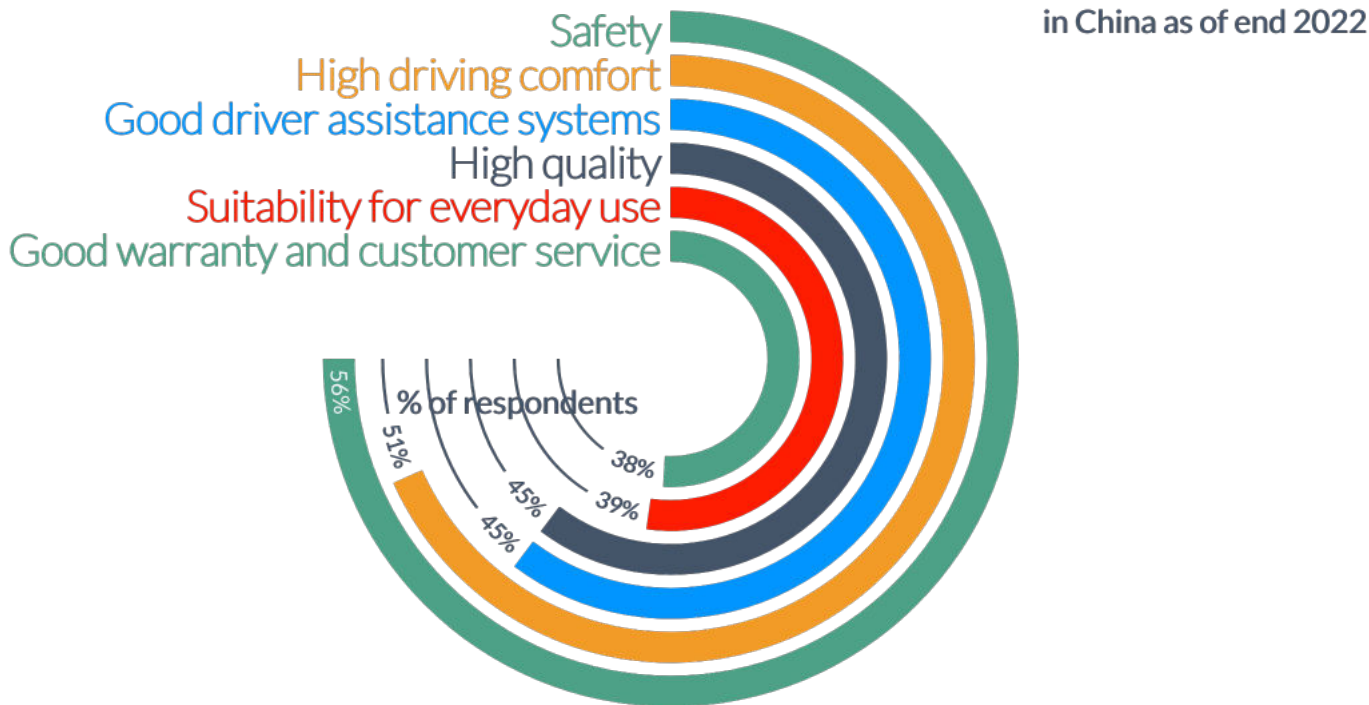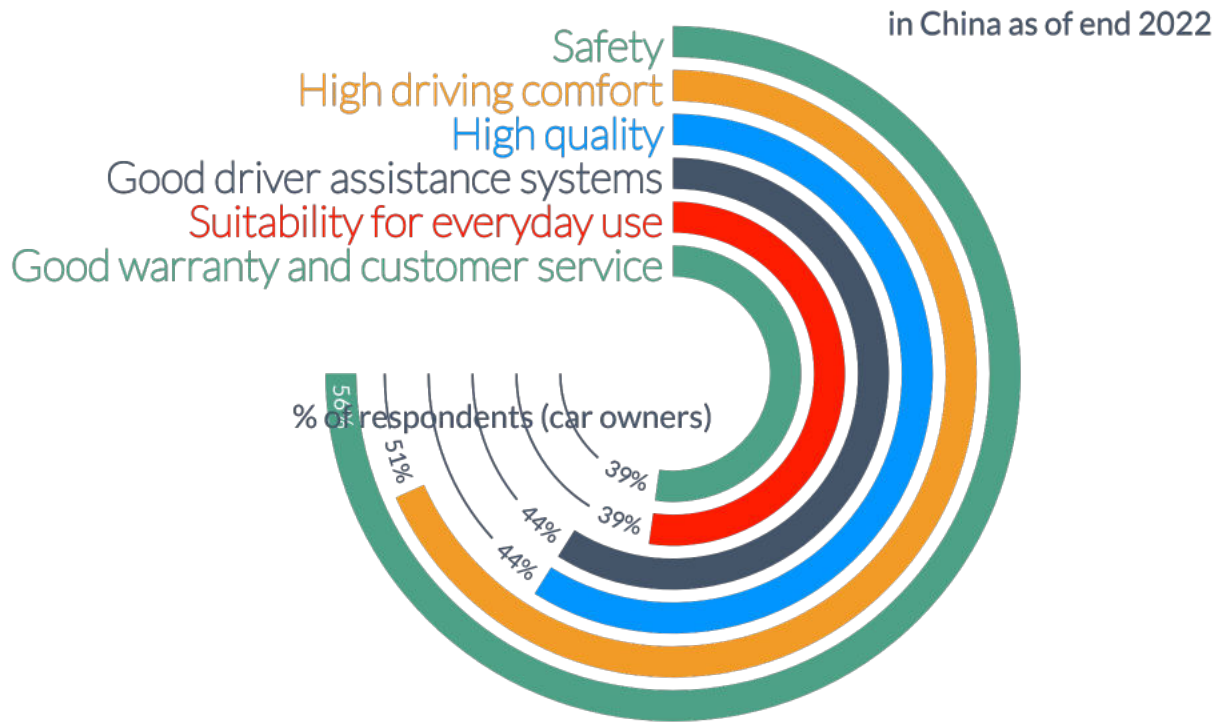in the US as of end 2022

Fuel efficiency — 58%
Safety — 57%
Low price — 47%
High quality — 45%
Suitability for everyday use — 44%
High driving comfort — 42%

% of respondents (car owners)

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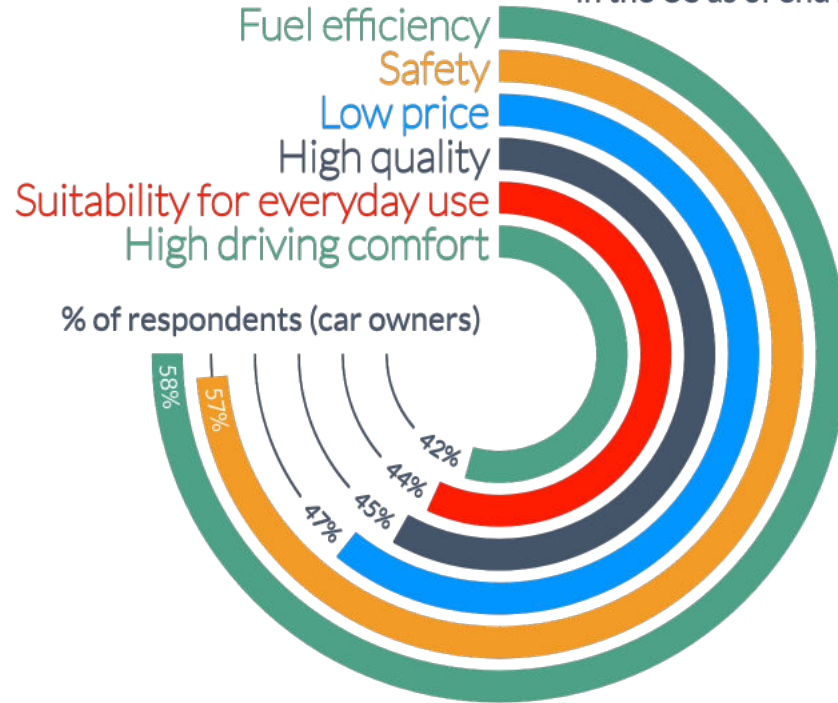
Chinese consumers look for a safe, comfortable, and high quality car with good driver assistance systems

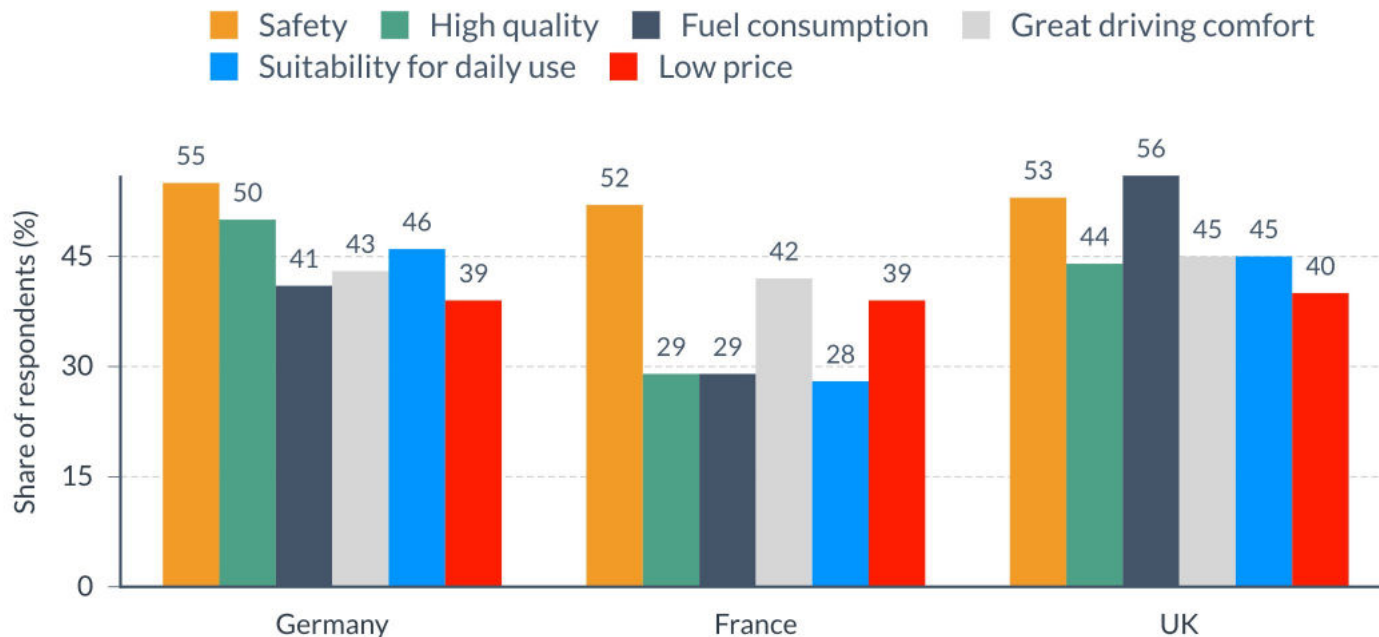
Top purchase criteria of those seeking to buy a car

in China as of end 2022

- Safety
- High driving comfort
- Good driver assistance systems
- High quality
- Suitability for everyday use
- Good warranty and customer service

% of respondents

56%
51%
45%
45%
39%
38%

INDARU

Chinese top purchase criteria can indeed lead to conversion since car owners and potential customers have similar metrics
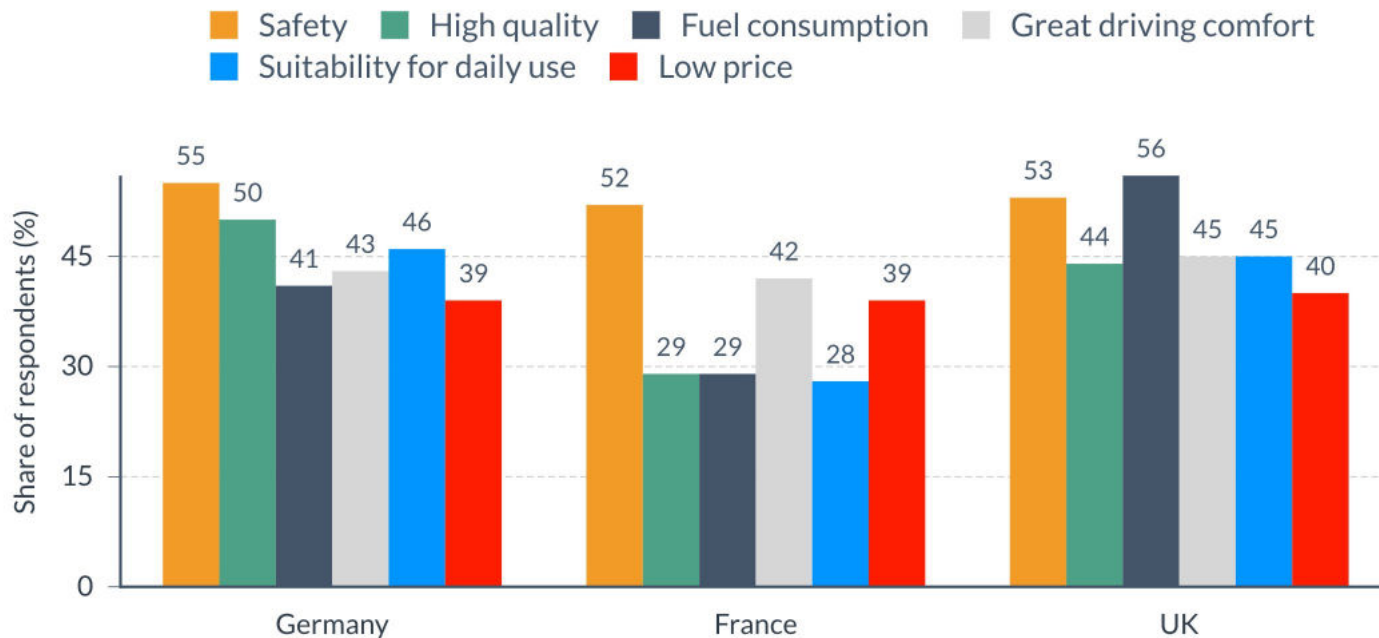

Top purchase criteria for car owners

in China as of end 2022

- Safety
- High driving comfort
- High quality
- Good driver assistance systems
- Suitability for everyday use
- Good warranty and customer service

% of respondents (car owners)

56%
51%
44%
44%
39%
39%

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Germans look for high quality, French look for comfort, and British look for fuel efficiency. Safety is important across all 3

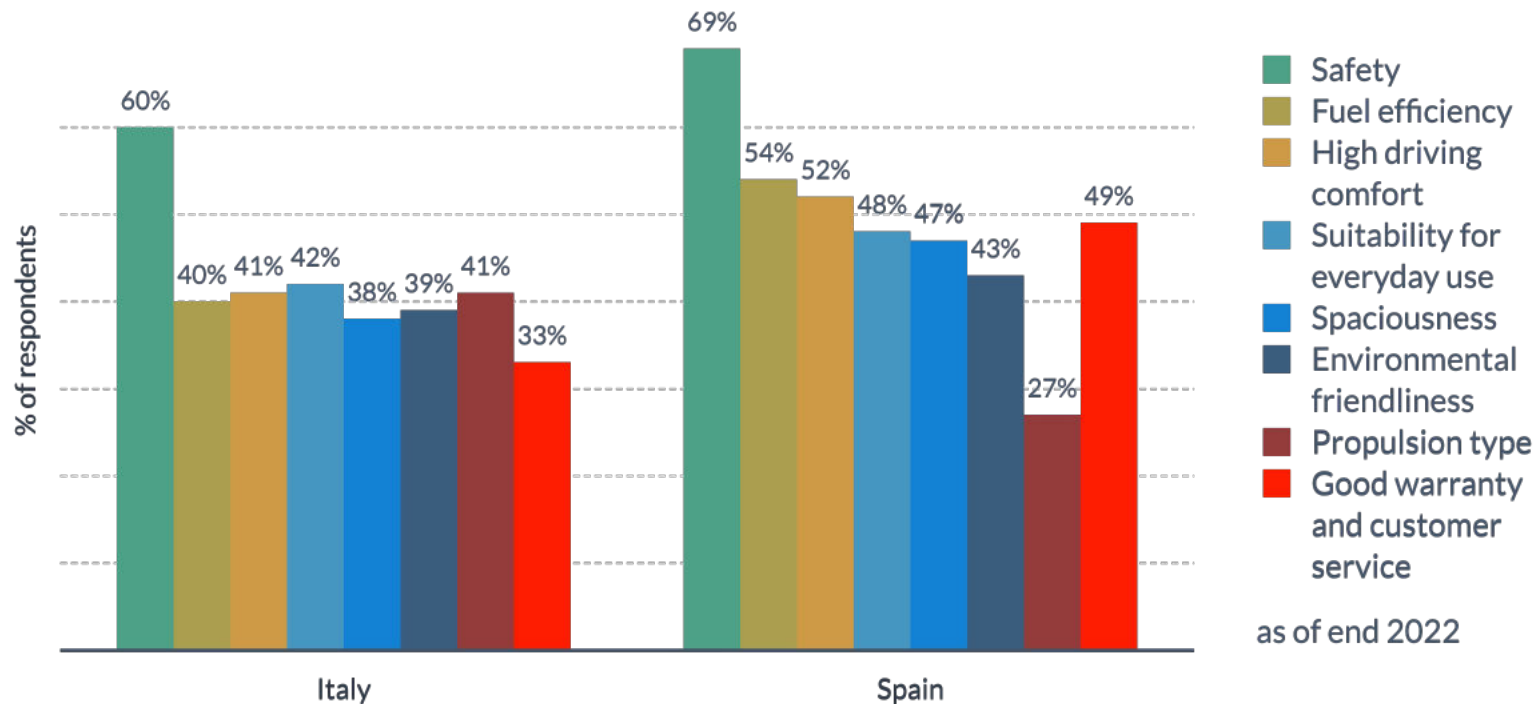Top purchasing criteria of those seeking to buy a car

Legend: Safety, High quality, Fuel consumption, Great driving comfort, Suitability for daily use, Low price

Share of respondents (%)

Germany: Safety 55, High quality 50, Fuel consumption 41, Great driving comfort 43, Suitability for daily use 46, Low price 39

France: Safety 52, High quality 29, Fuel consumption 29, Great driving comfort 42, Suitability for daily use 28, Low price 39

UK: Safety 53, High quality 44, Fuel consumption 56, Great driving comfort 45, Suitability for daily use 45, Low price 40

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Safety is still important across car owners. Germans really look for suitable for daily use and the French look for low price

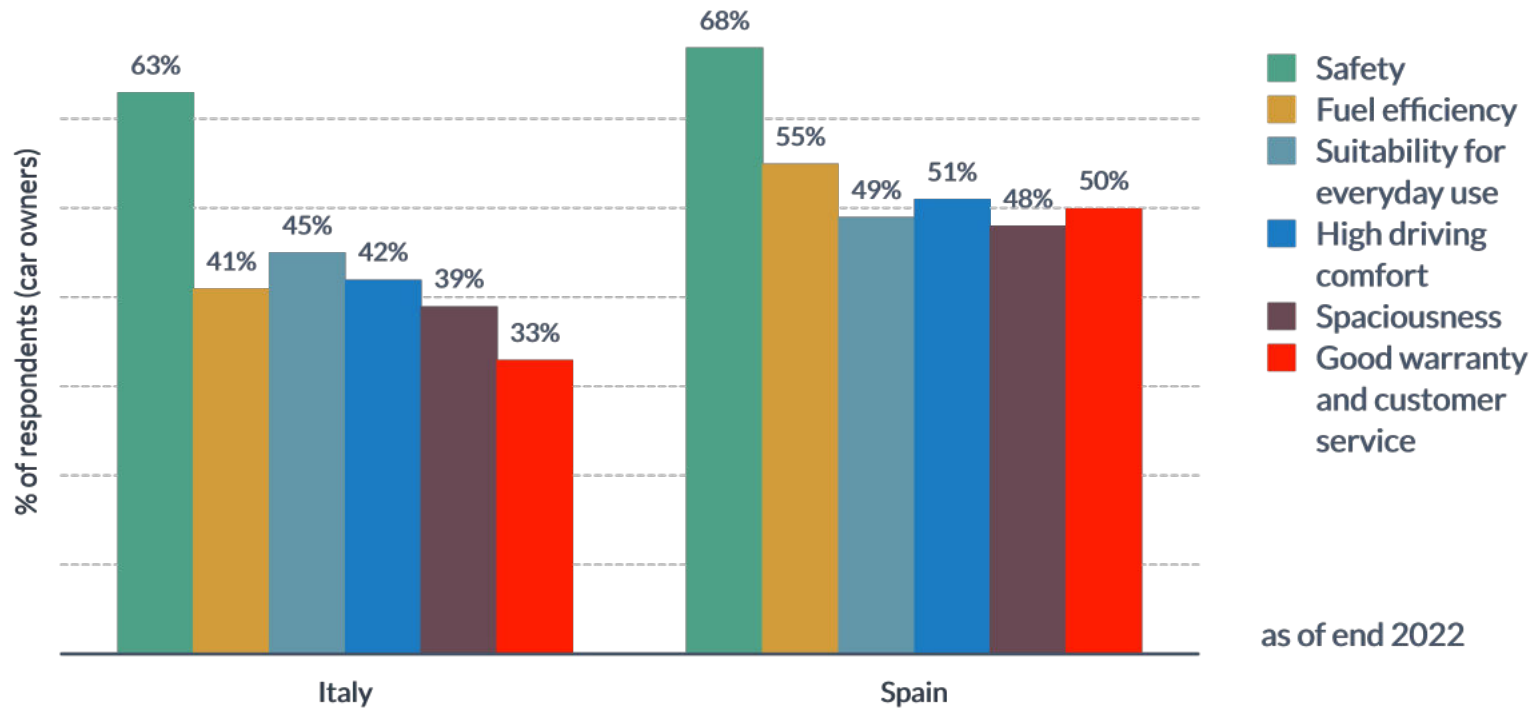Top purchasing criteria of those seeking to buy a car

Legend: Safety, High quality, Fuel consumption, Great driving comfort, Suitability for daily use, Low price

Germany: Safety 55, High quality 50, Fuel consumption 41, Great driving comfort 43, Suitability for daily use 46, Low price 39

France: Safety 52, High quality 29, Fuel consumption 29, Great driving comfort 42, Suitability for daily use 28, Low price 39

UK: Safety 53, High quality 44, Fuel consumption 56, Great driving comfort 45, Suitability for daily use 45, Low price 40

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Spaniards and Italians both look for safety but have a lot of different but equally important criteria

Top purchase criteria of those seeking to buy a car

Italy
- 60%
- 40%
- 41%
- 42%
- 38%
- 39%
- 41%
- 33%

Spain
- 69%
- 54%
- 52%
- 48%
- 47%
- 43%
- 27%
- 49%

% of respondents

Legend:
- Safety
- Fuel efficiency
- High driving comfort
- Suitability for everyday use
- Spaciousness
- Environmental friendliness
- Propulsion type
- Good warranty and customer service

as of end 2022

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For Italian and Spanish car owners, these 6 metrics convince them to purchase a car

Top purchase criteria for car owners

as of end 2022

Legend:
- Safety
- Fuel efficiency
- Suitability for everyday use
- High driving comfort
- Spaciousness
- Good warranty and customer service

Italy: 63%, 41%, 45%, 42%, 39%, 33%

Spain: 68%, 55%, 49%, 51%, 48%, 50%

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Brand awareness is low even for consumers who have an intention to purchase a car

Brand awareness for consumers with intention to buy a car

% of those with intention to purchase a car as of end 2022

28% US	33% Germany	34% France
30% UK	38% Italy	39% Spain

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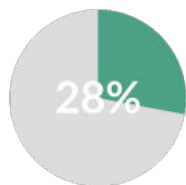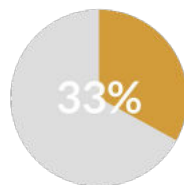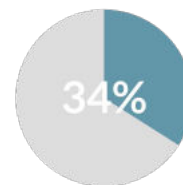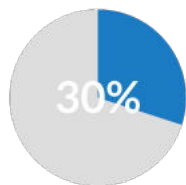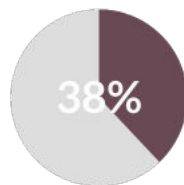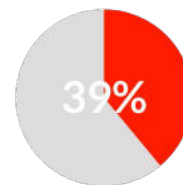
Surprisingly, brand awareness is still low for current car owners

Brand awareness for car owners
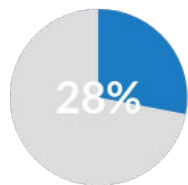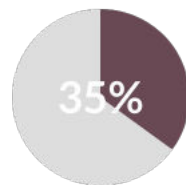
% of respondents (car owners) as of end 2022

29% US

31% Germany
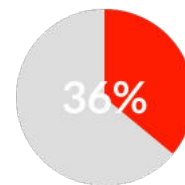
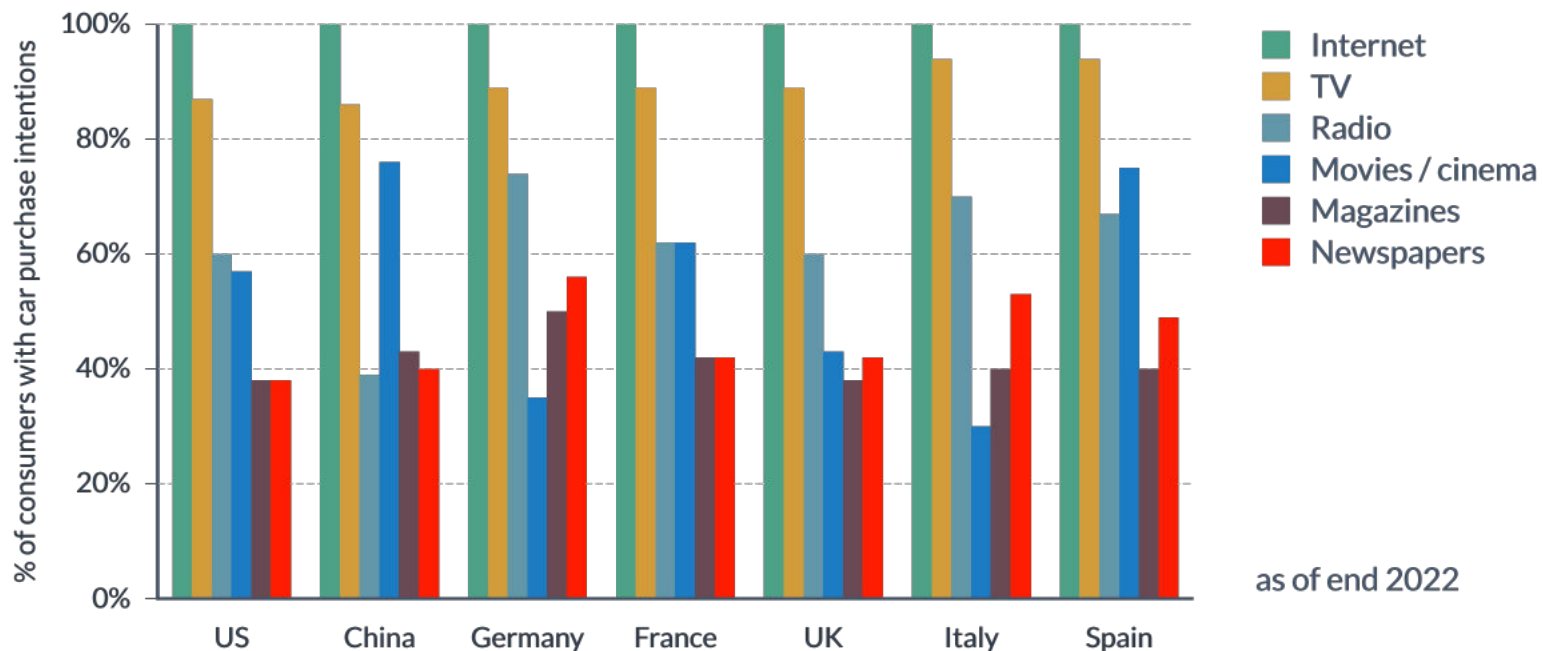**35%** France

28% UK

35% Italy

36% Spain

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79
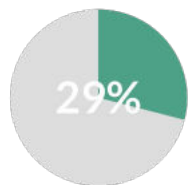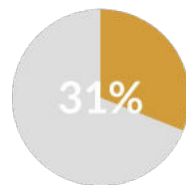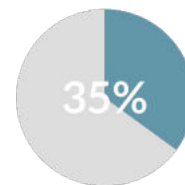
Internet is the #1 media channel consumed by those with just car purchase intentions

Media channel consumed by consumers with car purchase intentions

as of end 2022

Legend: Internet, TV, Radio, Movies / cinema, Magazines, Newspapers

Not much difference in media channel consumed by car owners as compared to those with only an intention to buy a car
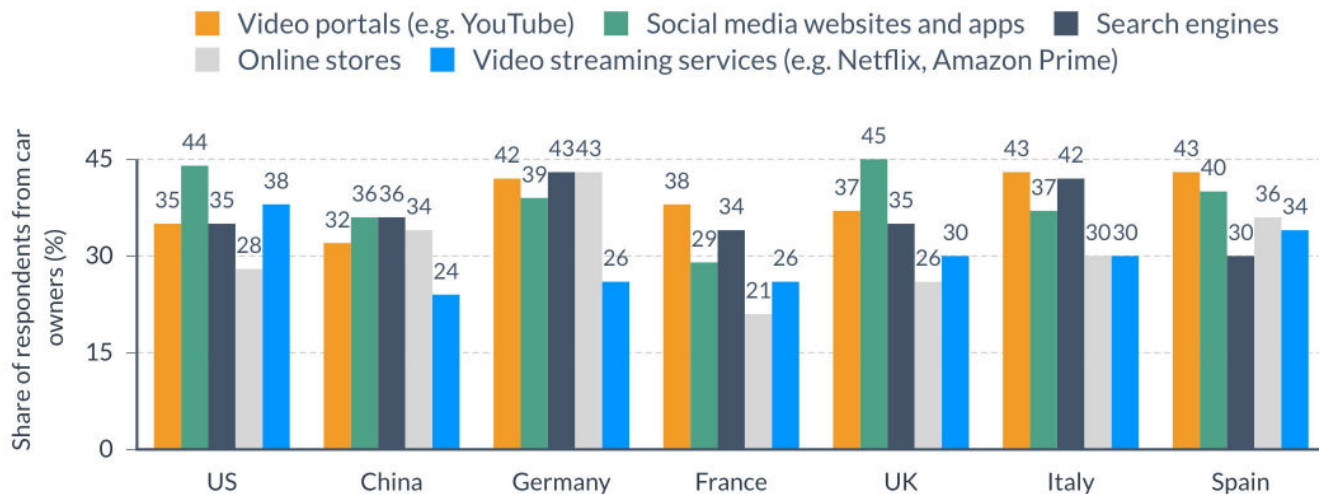

Media channel consumed by car owners

as of end 2022

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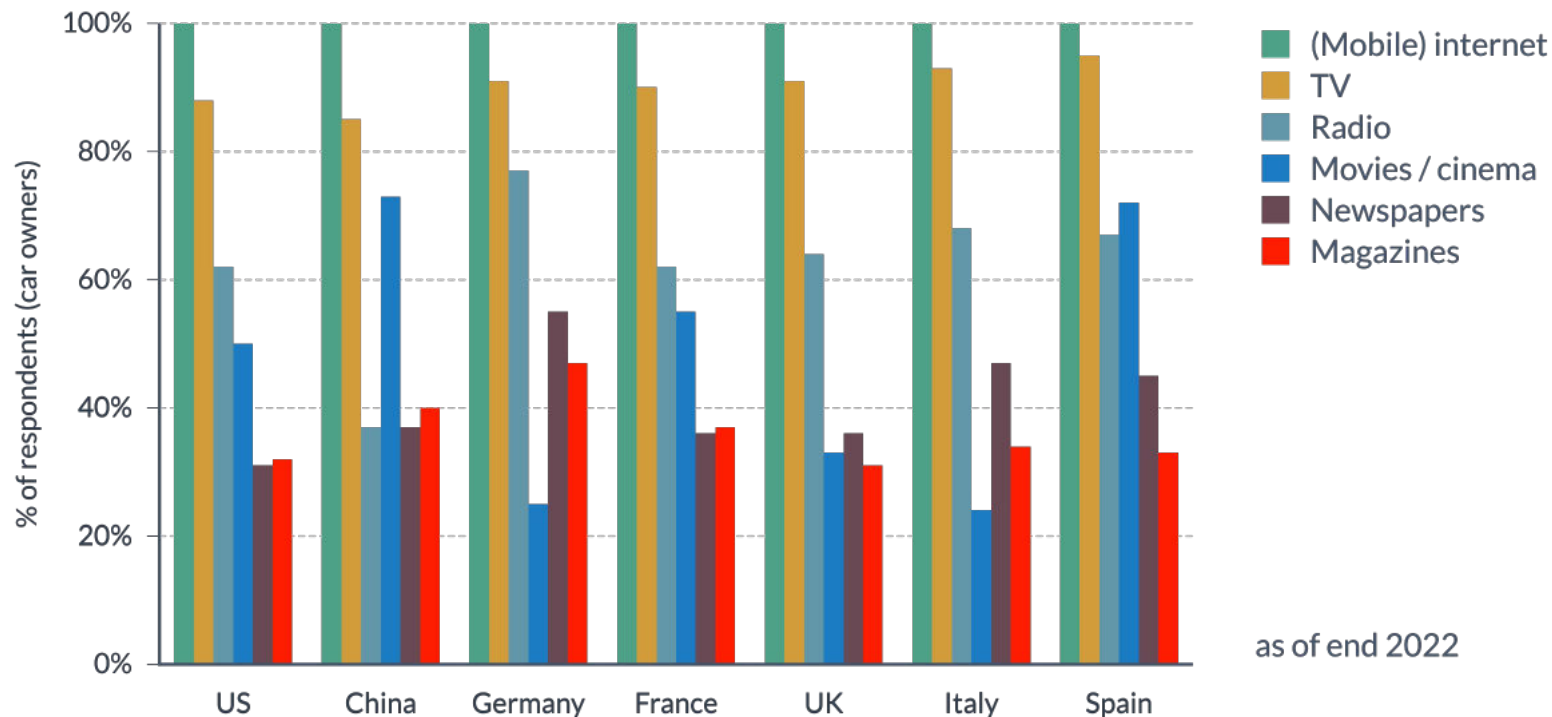
For those with purchase intent, ad recall is high in video portals for Europeans. Americans recall ads from social media best
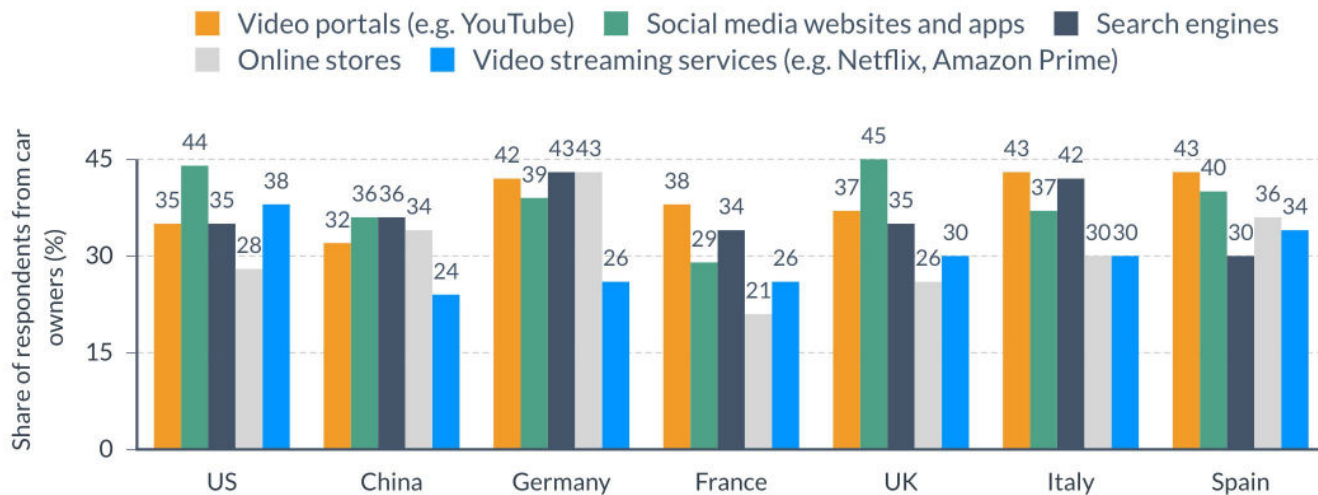

Digital advertising touchpoints

Where respondents remember encountering advertisments in December 2022

- 🟧 Video portals (e.g. YouTube)
- 🟩 Social media websites and apps
- ⬛ Search engines
- ⬜ Online stores
- 🟦 Video streaming services (e.g. Netflix, Amazon Prime)

Share of respondents from car owners (%)

US: 35, 44, 35, 28, 38
China: 32, 36, 36, 34, 24
Germany: 42, 39, 43, 43, 26
France: 38, 29, 34, 21, 26
UK: 37, 45, 35, 26, 30
Italy: 43, 37, 42, 30, 30
Spain: 43, 40, 30, 36, 34

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For car owners, high ad recall is more spread out through the difference online channels

Digital advertising touchpoints

Where respondents remember encountering advertisments in December 2022

Legend: Video portals (e.g. YouTube) | Social media websites and apps | Search engines | Online stores | Video streaming services (e.g. Netflix, Amazon Prime)

THANK YOU

hello@indaru.com