Statista Mobility Market Outlook

Product & Methodology

September 2021
The Statista Mobility Market Outlook provides data on 5 mobility markets for over 150 countries

About the Statista Mobility Market Outlook (1/2)

What is the Statista Mobility Market Outlook?

The Statista Mobility Market Outlook is a tool that provides key market indicators, independent forecasts, and detailed market insights for the most relevant mobility markets. Mobility market data is often available in inconsistent forms, scopes, and segmentations, which makes it impossible to get reliable comparisons between two or more data sets. Our goal is to simplify your research and planning by providing all the necessary data for 5 mobility markets for over 150 countries with a clearly defined market scope.

The Statista Mobility Market Outlook is built on resources from the Statista platform as well as on in-house market research and the experience of our analysts. We evaluate the status quo of the markets, monitor trends, and create an independent forecast regarding market developments of global mobility solutions.

The tool provides data on financial and operating figures (revenue, unit sales, pricing, or comparable KPIs) and user-related figures (number of users, user penetration, average revenue per user (ARPU)) – on the platform and in multiple download formats.

The data for each market is updated at least twice a year, and our analysts create Outlook Reports for all markets and segments, giving an extensive overview of the current state of the market and its latest trends.

Source: Statista Mobility Market Outlook 2021
The key to our data is independent market modeling and primary research

About the Statista Mobility Market Outlook (2/2)

The data of the Statista Mobility Market Outlook is composed of countless pieces of information. Our analysts build on Statista’s primary research, relevant market data taken from independent databases, various market and macroeconomic indicators, historical developments, current trends, reported performance indicators from key market players, and interviews with market experts conducted by Statista. Continuous market monitoring allows us to take into consideration relevant changes along the value chain of the mobility industry.

The market estimates for our 46 core countries – the world’s largest economies, such as the United States, China, and Germany – are derived from bottom-up market modeling based on data from a broad range of industry-specific and national sources, the Statista Global Consumer Survey, and our industry knowledge. Demographic user data on digital markets in core countries has been taken from the Statista Global Consumer Survey.

For the non-core countries, we apply algorithmic data analysis, based on macroeconomic indicators and market drivers. Normalized indicators allow realistic assumptions and comparisons (per-capita spending, penetration rates, etc.), even for countries with low data availability.

The Statista Global Consumer Survey is a worldwide online survey exclusively carried out in 56 countries and territories among more than 1,000,000 consumers in 2021. The mobility part of the survey exactly matches the market scopes of the Statista Mobility Market Outlook and thus provides first-hand information on consumer habits, brand recognition, technology adoption, and user penetration in each market.
The MMO provides market data for over 150 countries and in-depth analyses of core countries

Country coverage (1/2)

Statista Mobility Market Outlook coverage

Core country | Non-core country | Not covered

Core countries¹

Europe
- Austria
- Belgium
- Czechia
- Denmark
- Finland
- France
- Germany
- Greece
- Ireland
- Italy
- Lithuania
- Netherlands
- Norway
- Poland
- Portugal
- Russia
- Serbia
- Spain
- Sweden
- Switzerland

Asia
- China
- India
- Indonesia
- Japan
- Pakistan
- Saudi Arabia
- South Korea
- Thailand
- Vietnam

Americas
- Argentina
- Brazil
- Canada
- Chile
- Colombia
- Dominican Rep.
- Mexico
- Peru
- United States

Australia & Oceania
- Australia
- New Zealand

Africa
- Kenya
- Morocco
- Nigeria
- South Africa

¹: Core country: a country for which an in-depth analysis is carried out
Source: Statista Mobility Market Outlook 2021
The Statista Mobility Market Outlook covers 152 countries & territories and 24 geographical regions

Country and territory coverage (1/2)

### Europe
- **Southern Europe**
  - Albania
  - Bosnia and Herzegovina
  - Croatia
  - Cyprus
  - Greece
  - Italy
  - North Macedonia
  - Malta
  - Montenegro
  - Portugal
  - Serbia
  - Slovenia
  - Spain
  - Turkey
- **Central & Western Europe**
  - Austria
  - Belgium
  - Czechia
  - France
  - Germany
  - Hungary
  - Ireland
  - Luxembourg
  - Netherlands
  - Poland
  - Slovakia
  - Switzerland
  - United Kingdom
- **Northern Europe**
  - Denmark
  - Estonia
  - Finland
  - Iceland
  - Latvia
  - Lithuania
  - Norway
  - Sweden

### Americas
- **South America**
  - Argentina
  - Bolivia
  - Brazil
  - Chile
  - Colombia
  - Ecuador
  - Guyana
  - Paraguay
  - Peru
  - Suriname
  - Uruguay
- **Central America**
  - Belize
  - Costa Rica
  - El Salvador
  - Guatemala
  - Honduras
  - Nicaragua
  - Panama
- **North America**
  - Canada
  - Mexico
  - United States

### Caribbean
- Cuba
- Dominican Republic
- Haiti
- Jamaica
- Puerto Rico

### Asia
- **South Asia**
  - Bangladesh
  - Bhutan
  - India
  - Nepal
  - Pakistan
  - Sri Lanka
- **Central Asia**
  - Kazakhstan
  - Kyrgyzstan
  - Tajikistan
  - Turkmenistan
  - Uzbekistan

### Southeast Asia
- Brunei Darussalam
- Cambodia
- Indonesia
- Laos
- Malaysia
- Myanmar
- Philippines
- Singapore
- Thailand
- Timor-Leste
- Vietnam

### Africa
- **North Africa**
  - Algeria
  - Egypt
  - Morocco
  - Sudan
  - Tunisia
- **Central Africa**
  - Angola
  - Cameroon
  - Chad
  - Equatorial Guinea
  - Gabon
  - Republic of the Congo
- **East Africa**
  - Burundi
  - Ethiopia
  - Kenya
  - Madagascar
  - Malawi
  - Mozambique
  - Rwanda
  - Seychelles
  - Tanzania
  - Uganda
  - Zambia
  - Zimbabwe
- **Southern Africa**
  - Botswana
  - Lesotho
  - Mauritius
  - Namibia
  - South Africa

### Australia & Oceania
- Australia
- Fiji
- New Zealand
- Papua New Guinea

### Full list of countries & territories and geographical regions covered in the Statista Mobility Market Outlook

Sources: [Statista Mobility Market Outlook](https://www.statista.com) 2021
The Statista Mobility Market Outlook data can be combined to form 13 political regions

Country and territory coverage (2/2)

Full list of political regions covered in the Statista Mobility Market Outlook

**ASEAN**
- Brunei Darussalam
- Cambodia
- Indonesia
- Japan
- Laos
- Myanmar
- Philippines
- Singapore
- Thailand
- Vietnam

**Baltics**
- Estonia
- Latvia
- Lithuania

**Benelux**
- Belgium
- Luxembourg
- Netherlands

**BRICS**
- Brazil
- China

**CIS**
- Armenia
- Azerbaijan
- Belarus
- Kazakhstan
- Kyrgyzstan
- Moldova
- Russia
- Tajikistan
- Uzbekistan

**D-A-CH**
- Austria
- Germany
- Switzerland

**EAEU**
- Armenia
- Belarus
- Kazakhstan
- Kyrgyzstan

**EU-27**
- Austria
- Belgium
- Bulgaria
- Croatia
- Cyprus
- Czechia
- Denmark
- Estonia
- Finland
- France
- Germany
- Greece
- Hungary
- Ireland
- Italy
- Japan
- United Kingdom
- United States

**G7**
- Canada
- France
- Germany
- Italy
- Japan

**GCC**
- Bahrain
- Kuwait
- Oman
- Qatar
- United Arab Emirates

**G20**
- Argentina
- Australia
- Austria
- Belgium
- Brazil
- Bulgaria
- Canada
- China
- Croatia
- Cyprus
- Czechia
- Denmark
- Estonia
- Finland
- France
- Germany
- Greece
- Hungary
- India
- Indonesia
- Ireland
- Italy
- Japan
- Latvia
- Lithuania
- Luxembourg
- Malta
- Mexico
- Netherlands
- Poland
- Portugal
- Romania
- Russia
- Saudi Arabia
- Slovakia
- Slovenia
- South Africa

**Nordics**
- Denmark
- Finland
- Iceland
- Norway
- Sweden

**NAFTA**
- Canada
- Mexico
- United States

**Nordics**
- Denmark
- Finland
- Iceland
- Norway
- Sweden

Sources: Statista Mobility Market Outlook 2021
MARKET SIZING

Mobility Services  Travel & Tourism
We use a bottom-up approach for our market sizing

Detailed analysis of the status quo in selected core countries

We obtain the data from the Statista Mobility Market Outlook for our 46 core economies, such as the United States, China, and Germany, through an in-depth analysis of each market. To evaluate the markets, we use the latest data from various country-specific sources and industry associations, survey results from our primary research (e.g., the Statista Global Consumer Survey), third-party studies and reports, as well as our industry knowledge. Because of the considerable amount of information that is incorporated in the Statista Mobility Market Outlook and all the interpretation and analysis involved in the process, a detailed representation of the data sources for each data point is not possible.

Market sizes are determined using a bottom-up approach based on an individual logic for each market segment. Demand-side factors, such as the number of users, are linked to performance factors, such as user penetration or average customer turnover. This data is calculated from market-specific input, such as product prices, purchase/usage frequency, and customer churn rates.

Demographic user data originates from the Statista Global Consumer Survey, whose market definitions and scopes completely match those of the Statista Mobility Market Outlook. We use the data to calculate the user penetration for each of the markets and to provide the split between male/female users with low/medium/high income levels for the different age groups. This gives us insights into the user behavior of 30 different demographic sets.

Underlying data

Market research
- Consumer profiling – the Statista Global Consumer Survey
- Exclusive representative ad hoc surveys in selected countries on specific current topics

Key player analysis & monitoring
- Company profiles and key performance indicators
- Product and price monitoring
- News and trends

Macroeconomic indicators
- Country-specific statistical offices and census data
- International organizations and associations

Studies & third-party data
- Market analyses and analyst opinions
- Annual reports and industry analyses
- Academic studies
The Mobility Services market as an example of a bottom-up approach

Market sizing : travel and mobility services (2/4)

<table>
<thead>
<tr>
<th>Mobility Services market revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buses ARPU</td>
</tr>
<tr>
<td>Average price</td>
</tr>
<tr>
<td>x</td>
</tr>
<tr>
<td>Average yearly frequency</td>
</tr>
</tbody>
</table>

Sources and benchmark:
Validation through third-party studies

National statistics, primary research, third-party studies, expert interviews

<table>
<thead>
<tr>
<th>Share of people buying bus tickets</th>
<th>Share of train ticket bookers</th>
<th>Share of people renting cars</th>
<th>Share of ride-hailing &amp; taxi bookers</th>
<th>Share of people booking flights</th>
<th>Share of car-sharing users</th>
</tr>
</thead>
<tbody>
<tr>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>

Population

Note: For countries in which no surveys were conducted or which have missing values, we have calculated user and ARPU figures with a driver-based projection method.
Source: Statista Mobility Market Outlook 2021
The Travel & Tourism market as an example of a bottom-up approach

Market sizing: travel and mobility services (3/4)

<table>
<thead>
<tr>
<th>Travel &amp; Tourism market revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cruises ARPU</strong></td>
</tr>
<tr>
<td>Average booking price §</td>
</tr>
<tr>
<td>Average length of stay §</td>
</tr>
<tr>
<td>Average frequency §</td>
</tr>
<tr>
<td>Average size of travel party §</td>
</tr>
<tr>
<td><strong>Vacation Rentals ARPU</strong></td>
</tr>
<tr>
<td>Average booking price §</td>
</tr>
<tr>
<td>Average length of stay §</td>
</tr>
<tr>
<td>Average frequency §</td>
</tr>
<tr>
<td>Average size of travel party §</td>
</tr>
<tr>
<td><strong>Hotels ARPU</strong></td>
</tr>
<tr>
<td>Average booking price §</td>
</tr>
<tr>
<td>Average length of stay §</td>
</tr>
<tr>
<td>Average frequency §</td>
</tr>
<tr>
<td>Average size of travel party §</td>
</tr>
<tr>
<td><strong>Package Holidays ARPU</strong></td>
</tr>
<tr>
<td>Average booking price §</td>
</tr>
<tr>
<td>Average length of stay §</td>
</tr>
<tr>
<td>Average frequency §</td>
</tr>
<tr>
<td>Average size of travel party §</td>
</tr>
</tbody>
</table>

Average revenue per user (traveler)

Sources and benchmark:

Validation through third-party studies

- National statistics, third-party sources, independent databases, surveys, expert interviews

- Statista Global Consumer Survey

- National statistics

Note: For countries in which no surveys were conducted or which have missing values, we have calculated user and ARPU figures with a driver-based projection method.
Source: Statista Mobility Market Outlook, 2021
We estimate the potential of non-core countries with the help of macroeconomic and infrastructural drivers

Market sizing: travel and mobility services (4/4)

**Driver-based transfer of market data to non-core countries**

The market data for non-core countries is generated using algorithmic models. To compensate for the lack of available data and to evaluate a country's potential, we use the performance ratios of core countries with a similar infrastructure and similar development conditions as benchmark values. Then we apply an algorithm-based calculation to create market KPI estimations, using the country's key market indicators as drivers.

Over 100 driver data sets for over 150 countries and territories have been collected from a variety of sources, including the International Monetary Fund (IMF), the International Organization of Motor Vehicle Manufacturers (OICA), the World Bank, and many others. The data sets either include a forecast from the source or are forecast by Statista using trend analysis and prediction techniques based on historical data from 2000 to 2020. The drivers are categorized and assigned to the markets so that the top three correlating drivers can then be selected for each market segment.

The chosen drivers do not only have the best mathematical fit, but they must also have an actual influence on the performance of the markets. If specific drivers are not available for one country, they can be replaced with a set of backup economic development drivers of more general nature.

**Non-core country market sizing exemplified by the Hungarian Ride Hailing market in 2018**

**Step 1:** Choose reference core country

- **Poland**
  - core country

- **Hungary**
  - non-core country

**Step 2:** Compare key market indicators

<table>
<thead>
<tr>
<th>Benchmark Country</th>
<th>Non-Core Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>37.9m</td>
</tr>
<tr>
<td>Population Penetration</td>
<td>73.2%</td>
</tr>
<tr>
<td>Consumer spending per capita</td>
<td>US$8,496</td>
</tr>
<tr>
<td>Consumer spending on transportation</td>
<td>US$1,060</td>
</tr>
<tr>
<td>Price level index – transportation</td>
<td>90.9</td>
</tr>
</tbody>
</table>

**Step 3:** Apply an algorithm to estimate market KPIs, using data from the core country as base and the country's key market indicators as drivers

**Result:**

- **Ride Hailing ARPU**
  - **Poland** (benchmark): US$166
  - **Hungary** (KPI estimated): US$147

- **Ride Hailing user penetration**
  - **Poland** (benchmark): 7.5%
  - **Hungary** (KPI estimated): 6.5%

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1: Simplified illustration  
2: Several core countries are used to get the final result  
3: Further key market indicators were used in the final algorithm

Source: Statista Mobility Market Outlook 2021
MARKET SIZING

Passenger Car Sales
Motorcycle Sales
The methodology of the Passenger Cars and Motorcycles market model explained step-by-step

Market sizing: passenger cars and motorcycles

<table>
<thead>
<tr>
<th>Step</th>
<th>Goal</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research and data collection</td>
<td>Find and combine reliable sources on car models, motorcycle makes, and their sales figures and prices</td>
<td>Our team of international experts identifies and evaluates available data sources. These include national statistical offices and environment agencies, international associations, and annual reports by makes, as well as their media centers and websites.</td>
</tr>
<tr>
<td>Data pre-processing</td>
<td>Standardize input format, inspect missing data points and outliers, ensure consistency</td>
<td>We ensure that the information used in our models is comparable and expressed in standard units. Using an algorithmic approach, outliers are eliminated, and missing data points are either estimated (if enough information is already available) or further researched.</td>
</tr>
<tr>
<td>Modeling and forecasting</td>
<td>Classification of different car models and forecasting of Passenger Cars and Motorcycles</td>
<td>Using international classification tables and model specifications, each car is assigned to its appropriate segment. The forecasting is done on a model level for Passenger Cars and on a make level for Motorcycles, using a mix of standard approaches, e.g., exponential smoothing, using parameters which best fit the historical data.</td>
</tr>
<tr>
<td>Quality assurance and output</td>
<td>Validation, adjustments and publication of comparable key market indicators</td>
<td>Extensive plausibility and consistency checks of derived time series are done in order to assure the high level of quality of our market analysis. This quality assurance also includes validations which are done using external sources. Model/make data is finally aggregated into indicators for the Statista platform.</td>
</tr>
</tbody>
</table>

Source: Statista Mobility Market Outlook 2021
Our market growth forecasting is done differently for new and mature markets

Forecasting (1/5)

Traditional mobility markets

When it comes to markets existing for long periods of time, such as the Passenger Cars market, we have a lot of data on which we can base our forecast. In these cases, we use standard methods, like exponential smoothing, ARIMA, or the Holt-Winters seasonal smoothing method, on detailed data sets to arrive at our market estimate.

New mobility markets

Digital products and services, such as the online Ride Hailing market, are not embraced by all individuals at the same time. The market maturity can be evaluated according to the Bass diffusion model, which describes how new products penetrate the market. Users can be classified into different categories based on how long it takes until they adopt the new product. This lifecycle of technology penetration can be represented as a graph:

The Bass model is suitable for making predictions for all products despite possible differences in product characteristics and complexity – the curve can shift in time and its steepness might differ, but its shape is always similar.

Once the status quo has been established, we assess the recent market growth and the macroeconomic environment of the country in question and its region. Then we move on to trend scouting, looking out for business-critical developments in the industries that provide the basis for the future growth of the markets.

A market growth forecast is generated with the help of our tool, which combines historical market data with predictions regarding the development of key market drivers by creating an S-curve function. The S-curve constitutes a special case of the logistic function and is well suited to forecast new mobility markets due to the non-linear growth of technology adoption.

The result is an algorithm-backed forecast based on relevant market drivers (e.g., internet penetration, consumption spending, infrastructure development, share of urban population, etc.) and the lifecycle of technology adoption in the given market. We validate our data through collaboration with other Statista teams, third-party forecasts, regional comparisons, and the analysis of development cycles in different markets.
Exponential trend smoothing

Parameters that determine the projected market development

- **h**: Forecast horizon – number of years to be forecast
- **α**: Level reactivity – reactivity of the model towards changes in the level
- **β**: Trend reactivity – reactivity of the model towards changes in the trend

\[
\hat{y}_{t+h} = h\hat{a}_{1,t} + \hat{a}_{0,t} \\
\hat{a}_{0,t} = \alpha y_t + (1 - \alpha)\hat{y}_t = \alpha y_t + (1 - \alpha)(\hat{a}_{0,t} + \hat{a}_{1,t}) \\
\hat{a}_{1,t} = \beta (\hat{a}_{0,t} - \hat{a}_{0,t-1}) + (1 - \beta)\hat{a}_{1,t-1}
\]

Source: Statista Mobility Market Outlook 2021
Where applicable, we use seasonal forecast algorithms

Forecasting (3/5)

Pre-processing / model identification

Seasonal input

Identify base function

Calculate season length

Estimate type of seasonality

Deseasonalize data

Parameter estimation / parallel forecasting

Fit parameters

Calculate seasonless forecast

Calculate seasonal impact

Normalize seasonality

Combine

Finalization/assembly

\[ y = a \cdot x + b \]

\[ y = b \cdot a^x \]

\[ y = a \cdot \log x + b \]

\[ \gamma = \sum_{n=0}^{N-1} y_n \cdot e^{-i2\pi kn/N} \]

\[ y_s = S \cdot S_u \]

\[ y_s = S + S_u \]

\[ S_{ln+} = S_{ln} - \mu_s \]

\[ S_{ln,*} = S_{ln} / \mu_s \]
The application of the Bass innovation diffusion model exemplified by Ride Hailing market growth

Forecasting (4/5)

Innovation diffusion curve 2018

The diffusion of innovations graph shows successive groups of consumers adopting ride hailing (the graph above shows the penetration rate of selected countries). In general, innovations are not adopted by all individuals at the same time. Instead, they tend to adopt them successively, and it is possible to classify customers into different adopter categories based on how long it takes them to adopt the innovation. Diffusion is considered to be the rate and volume at which innovations spread among their users. An adoption rate of 100% is theoretically possible but not realistic. Thus, the high online share in Singapore can be considered close to saturation. Given the already high diffusion rates, the Ride Hailing market is likely to grow slower in the next few years.

Source: Statista Mobility Market Outlook 2021
The S-curve function and its parameters

Forecasting (5/5)

Parameters that determine the projected market development

\[ y = A + \frac{G}{1 + T \cdot e^{-k \cdot (x-M)/T}} \]

- **A: Base level** – starting point of market development / known threshold
- **G: Jumping height** – remaining potential until maximum market penetration
- **T: Symmetry** – progression of market diffusion
- **k: Steepness** – development speed / intensity of growth
- **M: Inflection point** – point of transition to incipient market saturation

1: Depending on the market for which the forecast is made, a market maturity metric might be user penetration, revenue, saturation, etc.
Source: Statista Mobility Market Outlook 2021
All forecasts take projected currency effects into account

Exchange rates in the Outlooks (1/2)

- Statista Outlook data is presented in current, or nominal, prices, which means it is not adjusted for inflation (unless explicitly stated otherwise).
- Correspondingly, the underlying exchange rates used to convert market data from local currencies into the reported currencies refer to the current value in the relevant year.
- The usage of current exchange rates marks a change compared to previous releases of the Market Outlooks (prior to Q4 2021), where the average exchange rates of the year 2017 were applied to all years. This artificial stabilization provided a clear view of the relevant market’s underlying growth rates in local currencies but hid currency risks associated with certain regions. Since the Outlooks are mostly used to compare regions, we decided to no longer use constant exchange rates in order to enable a more realistic assessment of market potential from the perspective of international investors, who have to factor in currency risks. In short, current exchange rates make forecasts more comparable across regions.
- When looking at markets in a currency other than the local one, the growth rates of new market data will be different and can appear more volatile than before because currency effects are now visible. The underlying growth rate of the market can still be seen when looking at the data in the respective local currency.
- Statista’s exchange rate data is sourced from international institutions, such as the International Monetary Fund, the World Bank, or the United Nations, and reflects official rates set or reported by a country’s, territory’s, or region’s foreign exchange administration (usually the central bank).
- To take account of potential regional currency risks, we also make forecasts of exchange rates. These forecasts are based on the outlook of the relevant region’s overall economy as well as on its projected inflation differential relative to other regions. They are updated twice a year and do not take into account sudden and drastic changes that might result from crises such as wars, natural disasters, or similar events.
Current exchange rates enable a more realistic assessment of actual market potential and dynamics

Exchange rates in the Outlooks (2/2)

Made-up market value (constant exchange rate)

<table>
<thead>
<tr>
<th>Currency value</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Country A</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Country B</td>
<td>0.81</td>
<td>0.72</td>
<td>0.78</td>
<td>0.79</td>
<td>0.81</td>
</tr>
<tr>
<td>Country C</td>
<td>0.8</td>
<td>0.72</td>
<td>0.65</td>
<td>0.59</td>
<td>0.53</td>
</tr>
</tbody>
</table>

Made-up market value (current exchange rate)

<table>
<thead>
<tr>
<th>Currency value</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Country A</td>
<td>255</td>
<td>263</td>
<td>260</td>
<td>265</td>
<td>271</td>
</tr>
<tr>
<td>Country B</td>
<td>250</td>
<td>255</td>
<td>227</td>
<td>250</td>
<td>259</td>
</tr>
<tr>
<td>Country C</td>
<td>150</td>
<td>163</td>
<td>177</td>
<td>192</td>
<td>208</td>
</tr>
</tbody>
</table>

Compared to constant exchange rates (on the left), current exchange rates put the seemingly high nominal growth rates in country C into perspective. Due to the country’s unstable currency, international investors must expect diminishing returns from that country. In contrast, country B shows some fluctuations in the value of its currency, but, overall, it remains fairly stable, leading to only minor currency effects.

1: CAGR: Compound Annual Growth Rate / average growth rate per year
All values represent made-up numbers for exemplary purposes and are not based on any existing country, market, or currency.
COVID-19

This part contains information about the general methodology how the COVID-19 factor was implemented.
An uneven recovery leads to quick initial gains while some scarring is expected to remain

COVID-19 impact (2/4)

A swift but uneven recovery is underway

- COVID is here to stay, but a combination of vaccination initiatives and quarantine measures will push against the pure pandemic-induced impact in most countries
- Economies have adapted to the situation better than originally feared, e.g., by shifting spending from services to goods and/or by transitioning to remote work options. But other sectors such as in-person services are likely to be subdued for a while
- Recovery in reopening societies will be quick at first but likely not be sufficient to compensate for all lost potential
- Uncertainties remain about herd immunity and if/when it can be achieved and about inflationary pressure that stems from a combination of stimulus measures, reduced spending for services, and supply chain issues

We do not anticipate a reversal of long-term trends but a gradual dissipation of the pandemic-induced shock

We will likely see an intensification of some existing long-term trends (e.g., digitization)

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1: "Global" refers to the 152 countries and territories covered in the Statista Market Outlooks (representative of c. 99% of worldwide GDP)
2: Gross domestic product in constant 2017 prices, converted from local currencies using the annual average exchange rates of 2017

Sources: Chart data based on IMF, World Economic Outlook, April 2021, own calculations and estimates
We routinely monitor the economic situation as it unfolds and update our forecasts accordingly

COVID-19 impact (1/4)

Macro-economic outlook
- Updated general economic outlook (GDP, exchange rates, inflation, consumer spending, investments, etc.)
- Gathering of short-term indicators from national statistical offices and international institutions (e.g. IMF, World Bank)

Pandemic outlook
- Monitoring of current and projected case load, government restrictions, and vaccination campaigns

Market environment

Market shock

Directly affected markets
- Driven primarily by pandemic outlook (e.g., travel & tourism)
- Recession impact & recovery assessment based on short-term indicators and pandemic outlook

Indirectly affected markets
- Driven primarily by overall macro-economic performance or pandemic-induced shifts in spending (e.g. semiconductors)
- Recession impact and recovery assessment based on short-term indicators, company filings, and analyst assessments

Rebound and recovery
- Markets expected to asymptotically approach long-term trend
- Pace and completeness of recovery dependent on local macro-economic expectations and outlook related to the pandemic

Shock dissipation
APPENDIX

This appendix contains answers to frequently asked questions about the general methodology.
FAQ: Statista Mobility Market Outlook

Frequently asked questions (1/3)

What macroeconomic data was used to model the forecast?
You can find the key market indicators used for the forecasting at the bottom of the market and/or segment page.

What currency rates were used to convert the values in local currency into US$?
The Statista Mobility Market Outlook uses the constant average currency rate. It can be found on the top right of each segment's page.

Has the monetary data been adjusted for inflation?
The forecasts in the Statista Mobility Market Outlook are in real value (adjusted for inflation).

Are the markets broken down by brands/companies?
The Passenger Cars market is broken down by car makes. The market shares for other markets will be added in 2020. For an idea on user shares, you can refer to the Statista Global Consumer Survey for all markets of the Statista Mobility Market Outlook.

How often do you update the information?
We update the data in our Market Outlooks at least twice a year. The updates are scattered throughout the year. Thus, one market might be updated in January and July, while others are updated later. If something major happens that influences our estimations or if we find inconsistencies, we will update the information immediately.

Is data on different years comparable?
Yes, that is the main feature of our Market Outlooks: comparability across markets, countries, and years. If we change market definitions to adapt to the ever-changing business models in the mobility world, we adapt the whole market estimate & forecasts so that all revenue data corresponds again to the new definition and is comparable across years.

Is it possible to get historical data for years prior to the data published in the tool?
When it comes to new mobility markets, historical data for these years is rare, and we would have to estimate it. These markets are still emerging and are influenced by many unpredictable factors, which, in the past, were hard to capture and therefore not easy to measure.

For more traditional mobility markets, like vehicle sales, we include data starting from 2013. The availability of earlier years differs depending on the location. Therefore, we do not include these years in order to ensure a consistent regional aggregation.

Source: Statista Mobility Market Outlook 2021
The figures now differ significantly from those of the previous year. Why has the data changed?

Approaches, assumptions, input data, and scope are improved from update to update. Therefore, data from previous updates might not necessarily be comparable with current data. In addition to that, our own primary research is expanding, and we are replacing third-party data sources with data from the Statista Global Consumer Survey, which can lead to a one-time significant change in data.

The data in the downloadable files and/or in the report differs from the data shown on the platform. Which is correct?

The data on the platform is always updated first. In the reports and in downloadable files, the new data might be available a little later due to limited IT capacity and time lags.

Can we download the information as an Excel/PPT file?

The data in our Market Outlooks can be downloaded as an Excel or PDF file. Our reports are available for download as a PDF file only.

Can I get the raw data or the original file where you modeled the market?

We do not offer our working files for download.

How can I ascertain how reliable the data is? Do you have an indicator on how precise these forecasts are?

There is little data we can compare our forecasts to as no statistical office monitors new mobility markets such as ride hailing, and most sources differ in methodology. But we certainly compare our estimates with those from other companies, and, in some cases, company reports and press releases serve as a good indicator.

Who do I contact in case of feedback or questions regarding the content of the Mobility Market Outlook?

For all content support requests, please contact our customer support. The request will be immediately forwarded to the responsible market analyst, who can give you relevant feedback.

Source: Statista Mobility Market Outlook 2021
**Definitions**

**What is the methodology of the Travel & Tourism market?**

In the last two decades, travel booking has been increasingly made online. For this reason, we use the Global Consumer Survey, which is conducted online, as a main source of our research. Furthermore, we rely on market data from independent databases and third-party sources, analyses of various key market and macroeconomic indicators, historical developments, current trends, and reported performance indicators from key market players.

Our analysts have developed a bottom-up modeling approach for the Travel & Tourism market based on the number of individual travelers, the average frequency of traveling per year, average prices, the average size of travel parties, and the average length of trips. This approach has been implemented for our 46 core countries — the world’s largest economies, such as the United States, China, and Germany. For the 106 non-core countries, we apply algorithmic data analysis, based on macroeconomic indicators and market drivers. Normalized indicators allow realistic assumptions and comparisons (per-capita spending, penetration rates, etc.), even for countries with low data availability.

**What is the definition of the Travel & Tourism market?**

The Travel & Tourism market contains package holidays, hotel stays, private vacation rentals, and cruises. Well-known providers of package holidays are online travel agencies (OTAs) such as Expedia and Opodo and tour operators such as TUI. Specialized providers of hotels and private accommodation booked online are, for example, Hotels.com, Booking.com, and Airbnb. The booking volume includes all travel bookings made by users from the selected region, regardless of the place of departure and destination.

**What does revenue in the Travel & Tourism market refer to?**

All monetary figures refer to the gross spending on cruises, vacation rentals, hotels, and package holiday bookings via online and offline channels. In general, we use the following formula for calculating the revenue: (average revenue per user) * (user).

**What do users in the Travel & Tourism market refer to?**

Users represent all travelers. Paying and non-paying travelers are both included in the calculations.

**How is the online/offline share of the market calculated?**

We use the Global Consumer Survey as a base for calculating the share of online and offline bookings since the survey contains separate questions about booking travel products online and purchasing travel products in general, without mentioning the specific sales channel.
FAQ: Statista Mobility Market Outlook – Passenger Cars

Methodology of the Passenger Cars and Motorcycles market model (1/4)

What information is available?

The Passenger Cars market offers data on vehicle sales, prices, and revenues for each country/car-class/car-make combination. As we provide information on a brand level, country coverage is limited to the major markets. Please see the footnote for more information.

Are all car makes included?

We provide a full market coverage. Some manufacturers might not operate in every country and, therefore, might not be available for selection. Small manufacturers, selling under a hundred cars per year, are not selectable but are included on an aggregate level.

How does the classification work?

Information on each car model sold is collected and processed. Our classification is based on model properties (e.g., mass, dimensions, etc.) and international classifications – the combination of these two factors leads to a comprehensive hierarchical ordering of sales information. Please see the following pages for more information.

How are prices computed?

The price and revenue box are based on the volume-weighted average prices (VWAP) of the base car models. This approach takes into account the manufacturer’s suggested retail price (MSRP) including taxes for each vehicle in the basic configuration. The average price in the segment and/or for a make is then scaled by volume sales in the following way:

\[
VWAP = \frac{\sum (\text{base model price} \times \text{volume sales})}{\sum \text{volume sales}}
\]

Revenue in each segment and of each make is then calculated by multiplying volume-weighted average price by vehicle sales.

We use the VWAP model as it provides a comparable value for the economic performance of each manufacturer across all markets from a consumer-centric point of view.

Why does the price timeline sometimes stop?

If a car make stops operating in a market or segment, price data will not be displayed. For example, Mitsubishi i-MiEV was discontinued in the U.S. in 2017. As this was the make’s only mini car, the price timeline stops in 2017.

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1: Sports and Luxury Cars are excluded from China while United States includes sales of Pickup Trucks and Full-Size Vans

Source: Statista Mobility Market Outlook 2021
FAQ: Statista Mobility Market Outlook – “Connected Cars Share” and “Fuel/Drive Type Share” boxes

Methodology of the Passenger Cars and Motorcycles market model (2/4)

What does the “Connected Cars Share” box show?
The “Connected Cars Share” box depicts the share of connected passenger cars sold in a country by class and make. We provide a full market coverage for 150 countries: Some manufacturers might not operate in every country and, therefore, might not be available for selection.

How are Connected Cars defined?
We consider a car to be connected if it is equipped with hardware which either enables internet connection or enables the addition of devices which connect the car to the internet.

How are the connected shares calculated?
We collect and analyze car feature data for each model variant. Specific car features, which indicate connectivity (e.g., remote starting, Bluetooth access, etc.) were researched and combined with our data sets. Based on the data on connectivity and the car sales, a connectivity share is calculated and assigned to each car model.

The forecasting of the connected share was done on a model and make level using a mix of standard approaches.

What does the “Fuel/Drive Type Share” box show?
The “Fuel/Drive Type Share” box shows the distribution of the energy types used to power newly sold vehicles. These include:

- Diesel
- Petrol
- Hybrid (Diesel-Electric, Petrol-Electric)
- Electric
- Alternative (E85, LPG, Natural Gas, Biomethane, etc.)

This data is presented for 150 countries. Again, some manufacturers might not operate in every country and, therefore, might not be available for selection.

Source: Statista Mobility Market Outlook 2021
Comparable international classification is used for the segmentation of the Passenger Cars market

Methodology of the Passenger Cars and Motorcycles market model (3/4)

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<th>European car segment</th>
<th>Chinese car segment</th>
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<th>Example models</th>
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<tr>
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<td>Minicompact Cars</td>
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<td>Fiat 500, Hyundai i10, Peugeot 107</td>
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<td>Small Cars</td>
<td>Subcompact Cars</td>
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<tr>
<td>Small SUVs</td>
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<tr>
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<td>Pickup Trucks</td>
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<td>Chevrolet Express, Ford Transit, Ford E-series, Mercedes-Benz Sprinter</td>
</tr>
</tbody>
</table>

Source: Statista Mobility Market Outlook, 2021
FAQ: Statista Mobility Market Outlook – Motorcycles

Methodology of the Passenger Cars and Motorcycles market model (4/4)

What information is available?

The Motorcycles market offers data on motorcycle sales, prices, and revenues for each country. As we provide information on a brand level, country coverage is limited to the major markets. Please see the following pages for more information.

Are all motorcycle makes included?

We provide a full market coverage. Some manufacturers might not operate in every country and, therefore, might not be available. Small manufacturers are included on an aggregate level. We currently display the revenue and sales market shares of top motorcycle brands on a country level.

How are prices computed?

The price and revenue box are based on the volume-weighted average prices (VWAP) of the base motorcycle models. This approach takes into account the manufacturer’s suggested retail price (MSRP) including taxes for each motorcycle in the basic configuration. The average price for a make is then scaled by volume sales in the following way:

\[
VWAP = \frac{\sum (\text{base price} \times \text{volume sales})}{\sum \text{volume sales}}
\]

Revenue of each make is then calculated by multiplying volume-weighted average price by motorcycle sales.

We use the VWAP as it provides a comparable value for the economic performance of each manufacturer across all markets from a consumer-centric point of view.

Source: Statista Mobility Market Outlook 2021
Get in touch with us - We are happy to help

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