Product & Methodology
The Statista Technology Market Outlook provides data for 9 markets in more than 150 countries & territories

About the Statista Technology Market Outlook (1/2)

What is the Statista Technology Market Outlook?

The Statista Technology Market Outlook is a tool that provides key market indicators, independent forecasts, and detailed market insights for the most relevant technology markets. 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 more than 69 technology markets in more than 150 countries and territories with a clearly defined market scope. The outlook will be expanded by New Technologies markets.

The Statista Technology Market Outlook is built on resources from the Statista platform as well as on in-house market research, companies and their financial statements, national statistical offices, international institutions, the trade press, 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 the global technology industry.

The tool provides data on financial operating figures (total revenue, spend per employee, and market shares for specific markets and segments) – on the platform and in multiple download formats.

The data for each market is updated 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.

Sources: Statista Technology Market Outlook 2022

Data Center
Devices
Software
IT Services
Public Cloud
Communication Services
Cybersecurity
Internet of Things
Robotics

69+ (sub-)markets
150+ countries and territories
12 years (2016-2027)
30,000+ interactive statistics
The data of the Statista Technology Market Outlook is composed of countless pieces of information. Our analysts build on reported performance indicators from key market players, relevant market data taken from independent databases, Statista's primary research, various market and macroeconomic indicators, historical developments, current trends, 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 technology industry.

The market estimates for the world’s largest economies, such as the United States, China, and Germany, are derived using a combined top-down and bottom-up approach. Key performance indicators from the key market players on country/territory level (or regional level) are taken into account, as well as regional consumption data.

For smaller economies, 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 and territories with low data availability.

Sources: Statista Technology Market Outlook 2022
The Statista Technology Market Outlook covers 152 countries & territories and 23 geographical regions

Country and territory coverage (1/2)

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

**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
- Belize
- Costa Rica
- El Salvador
- Guatemala
- Honduras
- Nicaragua
- Panama
- South America
  - Argentina
  - Bolivia
  - Brazil
  - Chile
- Colombia
- Ecuador
- Guyana
- Paraguay
- Peru
  - Suriname
- Uruguay
- Caribbean
  - Cuba
  - Dominican Republic
- Haiti
  - Jamaica
- Puerto Rico
- Asia
  - South Asia
    - Bangladesh
    - Bhutan
- India
  - Nepal
- Pakistan
  - Sri Lanka
- East Asia
  - China
  - Hong Kong
  - Japan
  - Mongolia
  - South Korea
  - Taiwan
- 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
  - West Africa
    - Benin
    - Burkina Faso
  - Gambia
  - Ghana
  - Guinea
- Australia & Oceania
  - Australia
  - Fiji
  - New Zealand
  - Papua New Guinea
  - Africa
  - Southern Africa
    - Botswana
    - Lesotho
    - Mauritius
    - Namibia
- South Africa
  - East Africa
    - Burundi
  - Ethiopia
  - Kenya
- Madagascar
  - Malawi
  - Mozambique
  - Rwanda
  - Seychelles
  - Tanzania
  - Uganda
  - Zambia
- Zimbabwe

**Sources:** Statista Technology Market Outlook 2022
The Statista Technology 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 Technology Market Outlook

<table>
<thead>
<tr>
<th>ASEAN</th>
<th>BRICS</th>
<th>EAEU</th>
<th>G20</th>
<th>G7</th>
<th>EU-27</th>
<th>CIS</th>
<th>D-A-CH</th>
<th>Full list of political regions covered in the Statista Technology Market Outlook</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brunei Darussalam</td>
<td>Brazil</td>
<td>Armenia</td>
<td>Argentina</td>
<td>Canada</td>
<td>Austria</td>
<td>Armenia</td>
<td>Austria</td>
<td>ASEAN: Brunei Darussalam, Cambodia, Indonesia, Japan, Laos, Myanmar, Philippines, Singapore, Thailand, Vietnam</td>
</tr>
<tr>
<td>Cambodia</td>
<td>China</td>
<td>Azerbaijan</td>
<td>Australia</td>
<td>France</td>
<td>Austria Belgium</td>
<td>Belarus</td>
<td>Germany</td>
<td>BRICS: Brazil, China, India, Indonesia, Russia, South Africa</td>
</tr>
<tr>
<td>Indonesia</td>
<td>India</td>
<td>Belarus</td>
<td>Austria</td>
<td>Germany</td>
<td>Austria Bulgaria</td>
<td>Kazakhstan</td>
<td>Hungary</td>
<td>ERCU: Armenia, Azerbaijan, Belarus, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, Uzbekistan</td>
</tr>
<tr>
<td>Japan</td>
<td>Russia</td>
<td>Kyrgyzstan</td>
<td>Germany</td>
<td>Greece</td>
<td>Denmark</td>
<td>Croatia</td>
<td>Italy</td>
<td>D-A-CH: Austria, Germany, Switzerland</td>
</tr>
<tr>
<td>Laos</td>
<td>South Africa</td>
<td>Russia</td>
<td>France</td>
<td>Hungary</td>
<td>Denmark Estonia</td>
<td>Finland</td>
<td>United Kingdom</td>
<td>EAEU: Armenia, Belarus, Georgia, Greece, Hungary, India, Indonesia, Ireland, Italy, Japan, Latvia, Lithuania, Luxembourg, Malta, Mexico, Netherlands, Poland, Portugal, Romania, Russia, Saudi Arabia, Slovakia, Slovenia, South Africa, South Korea, Spain, Sweden, Turkey, United Kingdom, United States</td>
</tr>
<tr>
<td>Myanmar</td>
<td>Siberia</td>
<td>Kyrgyzstan</td>
<td>France</td>
<td>Japan</td>
<td>Finland</td>
<td>Estonia</td>
<td>United States</td>
<td>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, South Korea, Spain, Sweden, Turkey, United Kingdom, United States</td>
</tr>
<tr>
<td>Philippines</td>
<td>Spain</td>
<td>Hungary</td>
<td>United Kingdom</td>
<td>United States</td>
<td>United Kingdom</td>
<td>United States</td>
<td>United States</td>
<td>Egypt: Bahrain, Kuwait, Oman, Qatar, United Arab Emirates</td>
</tr>
<tr>
<td>Singapore</td>
<td>United States</td>
<td>Pakistan</td>
<td>United States</td>
<td>United States</td>
<td>United States</td>
<td>United States</td>
<td>United States</td>
<td>NAFTA: Canada, Mexico, United States</td>
</tr>
<tr>
<td>Thailand</td>
<td>United States</td>
<td>United States</td>
<td>United States</td>
<td>United States</td>
<td>United States</td>
<td>United States</td>
<td>United States</td>
<td>NAFTA: Canada, Mexico, United States</td>
</tr>
<tr>
<td>Vietnam</td>
<td>United States</td>
<td>United States</td>
<td>United States</td>
<td>United States</td>
<td>United States</td>
<td>United States</td>
<td>United States</td>
<td>NAFTA: Canada, Mexico, United States</td>
</tr>
</tbody>
</table>

Sources: Statista Technology Market Outlook, 2022
Market Sizing
We size the market segments by using top-down and bottom-up approaches

Market methodology: modeling approach (1/4)

**Detailed analysis for selected countries**

We obtain data for the world’s largest economies (e.g., the United States, China, and Germany) through an in-depth analysis of each market segment. To evaluate the markets, we use the latest financial data from annual financial reports of the markets’ leading companies and industry associations, macroeconomic indicators from international institutions and statistical bureaus, third-party studies, and expert opinions. Because of the considerable amount of information that is incorporated in the Statista IT Services market segments and all the interpretation and analysis involved in the process, a detailed representation of the data sources for each data point is not possible.

Modeling is carried out through the implementation of a combined top-down and bottom-up approach for each segment. To calculate the global market size of every market segment, we analyze company financial reports and check macroeconomic developments that drive the global market. In instances where revenues are not reported for certain countries and territories (as is the case for major multinational tech players), annual reports serve as an indication for a first regional split of the company revenue. Additionally, the key market indicators that influence the market help us estimate the market size for each country and territory individually.

**Underlying data:**

**Key player analysis & monitoring**
- Company profiles and key performance indicators (KPIs)
- Quarterly earning calls and further investor information

**Market research**
- Digital consumer profiling: the Statista Global Consumer Survey
- Exclusive representative ad-hoc surveys in selected countries and territories on specific current topics

**Macroeconomic indicators**
- Indicators from statistical offices and census data
- International organizations and associations

**Studies & third-party data**
- Market analyses and analyst opinions
- Industry analyses
- Academic studies

Sources: Statista Technology Market Outlook 2022
The Network Infrastructure market as an example of the top-down approach

Market methodology: market sizing (2/4)

**Network Infrastructure hardware market**

- Global market sizing
  - Market-leading company
  - 2nd leading company
  - ... (second leading company and further companies)

- Revenue distribution on country and territory level
  - U.S.
  - China
  - Germany
  - ...

**Source and benchmark**

- Financial statements like annual reports, quarterly earning calls, further investor information, as well as expert opinions
- Validation based on third-party studies
- Allocation carried out based on country and territory level (regional level) data from financial statements, expert opinions, as well as bottom-up market sizing based on macroeconomic indicators and consumption data
- Validation based on third-party studies

**Sources:** Statista Technology Market Outlook 2022
Mobile Data as an example of the bottom-up approach

Market methodology: market sizing (3/4)

Source and Benchmark

Benchmark through third-party studies, analyst expertise, industry research

National statistics, third-party studies, industry research

Example U.S.: Federal Communications Commission, AT&T, Verizon, T-Mobile, Comcast, Charter

Source collection

Telecommunication regulatory authorities, telecommunication providers, industry associations, third-party sources

Infrastructural indicators

Driver compilation
GDP, population, number of mobile broadband connections, 4G and 5G coverage

Data processing/validation

Regression analysis + benchmarking

Sources: Statista Technology Market Outlook 2022
We estimate the potential of smaller economies with the help of macroeconomic and infrastructural drivers

Market methodology: market sizing (4/4)

Driver-based transfer of market data to smaller economies with lack of available data

The market data for smaller economies is generated using algorithmic models to compensate for the lack of available data. To evaluate the potential of smaller countries and territories, we use the performance ratios of larger economies 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 or territory's key market indicators as drivers.

Over 100 driver data sets for 152 countries and territories have been collected from a variety of sources, including the International Monetary Fund (IMF), the International Telecommunication Union (ITU), the World Bank, and many others. The data sets either include a forecast from the source or are forecast by Statista using trend analyses and prediction techniques based on historical data from 2000 onwards. 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.

Market sizing exemplified by the Hungarian Laptop market in 2021

Step 1: Choose reference country/territory

- Poland (reference country)
- Hungary

Step 2: Compare key market indicators

<table>
<thead>
<tr>
<th>Key Market Indicator</th>
<th>Poland</th>
<th>Hungary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>37.8m</td>
<td>9.7m</td>
</tr>
<tr>
<td>Consumer spending per capita</td>
<td>US$9,115</td>
<td>US$8,741</td>
</tr>
<tr>
<td>Gross domestic product</td>
<td>US$642,121m</td>
<td>US$176,543m</td>
</tr>
<tr>
<td>Mobile broadband subscriptions</td>
<td>45.4m</td>
<td>7.4m</td>
</tr>
<tr>
<td>ICT Development Index</td>
<td>6.89</td>
<td>6.93</td>
</tr>
</tbody>
</table>

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

Result:

- Laptop market revenue
  - Poland (benchmark): US$1,233m
  - Hungary (KPI estimated): US$239m

Notes:
(1) Simplified illustration
(2) Several countries/territories are used to get the final results
(3) Further key market indicators were used in the final algorithm

Sources: Statista Technology Market Outlook 2022
Forecasts
To create forecasts for up to five years, we combine economic developments and trend scouting with statistical and mathematical forecasting techniques. Every market is modeled differently as it is tailored to the respective industry, which also affects the forecasting method for each market.

In the Technology Market Outlook, we use three different forecasting techniques: the S-curve function, exponential trend smoothing, and seasonal forecast algorithms.

Certain technology products and services, such as the cloud, are not adopted by all economies and individuals at the same time, but rather in a time sequence. The market maturity can be evaluated using the Bass diffusion model, which describes how new products penetrate the market. Countries and territories can be classified into different clusters based on the time it takes to adopt a new product. This, in turn, depends on a country's macroeconomic factors, its technologization, culture, and attitudes. This lifecycle of technology penetration can be represented as a graph:

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 the most suitable curve for the market. The S-curve represents a special case of the logistic function and is well-suited to make forecasts regarding electronic and digital hardware devices due to the non-linear growth of technology adoption. For markets with a projected steady growth, such as Devices and IT Services, we use exponential trend smoothing to illustrate the continuous development of the market. Additionally, parameters are adjusted individually depending on the market-country / market-territory combination.

Moreover, in certain industries, replacement cycles or seasonal effects occur frequently and are taken into consideration in our forecasts. Where applicable, we use seasonal forecast algorithms to outline this kind of market behavior. Once the status quo has been established, we assess the recent market growth and the macroeconomic environment of the country or territory in question and its region. We then move on to trend scouting and make sure to review business-critical developments in the industries that provide a basis for the future growth of the markets. The result is an algorithm-backed forecast that is based on relevant market drivers and macroeconomic indicators. To validate our data, we collaborate with other Statista teams, use third-party forecasts as well as regional comparisons, and analyze development cycles in different markets.
Parametric forecasts: the S-curve function

Forecasting (2/4)

Parameters that determine the projected market development

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

- **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

Notes:
(1) Depending on the market for which the forecast is made, a market maturity metric might be user penetration, revenue, saturation, etc.

Sources:
Statista Technology Market Outlook 2022
Forecasting (3/4)

Parametric forecasts: 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

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

Sources: Statista Technology Market Outlook 2022
Where applicable, we use seasonal forecast algorithms

Forecasting (4/4)

Sources: Statista Technology Market Outlook 2022
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.

Sources: Statista Technology Market Outlook 2022
Current exchange rates enable a more realistic assessment of actual market potential and dynamics

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.
The Russia-Ukraine war is expected to cause severe pressure on both supply chains and consumer budgets, and effects are likely to last long-term.

Summary

Situational assessment

• We assume that the conflict will be limited to Ukrainian territory without spilling over into neighboring countries.
• For the unfolding situation, we consider three different scenarios, from bad to worst, to include various factors that may impact the economy. The scenarios are mostly based on assumptions on how long the fighting will last. The “bad” scenario is our default assumption.

Expected immediate impact

• The war will have long-term, severe consequences for both Russia and Ukraine. There is also a high probability of a recession in Europe, and global growth could decrease by 1 to 2 percentage points as compared to prewar forecasts.
• Although Russia and Ukraine make up only around 2% of global trade, they are key suppliers of some mineral and agricultural commodities, so the war will trigger additional supply chain pressures.
• Energy-intensive industries as well as industries reliant on affected commodities are most exposed to the crisis.
• Consumers will see their budgets squeezed by higher food and fuel prices, which will crowd out other spending. Discretionary consumer goods spending will be most affected.

Possible long-term consequences

• Due to disrupted crop cycles and increased risk perception, a COVID-like V-shape recovery of food supply is not in the cards, and there is likely to be long-term scarring.
• Russia’s economic isolation is likely to outlast the conflict, at least partially, thus sapping economic growth.
• Globally, preexisting deglobalization pressures will likely be exacerbated, with countries seeking a higher degree of self-reliance and companies rebalancing supply chains.

Sources: Statista
We consider three basic scenarios for the unfolding situation, from “bad” to “worst,” with the “bad” scenario being our default assumption.

**Summary**

**Bad case: quick resolution of hostilities and limited Russian territorial gains**
- **Ukraine**
  - Loss of Donbas, Luhansk, and Crimean land corridor
  - Civilian infrastructure will remain mostly intact
  - Up to one crop cycle will be lost, or yields will be lower
- **Russia**
  - Most severe sanctions against Russia will be eased after a few months, “self-sanctions” will stay in place longer
- **World**
  - Crude oil price at US$100 per barrel
  - Food commodity prices 8% over baseline

**Worse case: uneasy truce between a truncated Ukraine and Russia**
- **Ukraine**
  - Partition of Ukraine (East and West)
  - Moderate damage to civilian infrastructure
  - One or two crop cycles will be lost, or yields will be lower
- **Russia**
  - Most severe sanctions against Russia will be eased after 1–2 years, “self-sanctions” will stay in place longer
- **World**
  - Crude oil price at US$122
  - Food commodity prices 15% over baseline

**Worst case: drawn-out conflict and sustained economic warfare between the West and Russia**
- **Ukraine**
  - Continued struggle for control over the entire territory
  - High damage to civilian infrastructure
  - Multiple crop cycles lost
- **Russia**
  - The sanctions imposed on Russia will stay in place for the foreseeable future
- **World**
  - Crude oil price at US$180
  - Food commodity prices 22% over baseline

Sources: Statista
Global growth is set to decelerate, while inflationary pressures will increase rather than decrease

Macroeconomic impact: dented growth

Global GDP projection revision by selected institutions in percentage points

- Conference Board: -0.4%
- The Economist: -0.5%
- NIESR: -0.5%
- Moody's Analytics: -0.6%
- IMF: -0.8%
- Fitch Ratings: -0.7%
- Oxford Economics: -1.0%
- UNCTAD: -1.0%
- Kiel Institute: -1.0%
- OECD: -1.1%

Global inflation revision by selected institutions in percentage points

- IMF: 3.6%
- Kiel Institute: 3.3%
- NIESR: 2.9%
- OECD: 2.5%
- Oxford Economics: 2.3%

Projected real GDP growth rate in %

- 2021: 6.1%
- 2022: 4.9%
- 2023: 3.6%

Notes:
(1) "Baseline" reflects the IMF's World Economic Outlook, as of October 2021; baselines of respective forecasters differ
(2) IMF World Economic Outlook: April 2022

Sources:
- IMF
- Conference Board
- The Economist
- NIESR
- Moody's Analytics
- Fitch Ratings
- Oxford Economics
- UNCTAD
- Kiel Institute
- OECD
- Statista
Industries reliant on energy and other key commodities are most affected by the Russia-Ukraine war, with collateral damage to domestic consumption

B2B Market Outlook impact: rattled supply chains

**Expected impact by industry (ISIC\(^{(1)}\))**

<table>
<thead>
<tr>
<th>Agriculture(^{(2)})</th>
<th>Banking, Finance &amp; Insurance</th>
<th>Accommodation, Restaurants &amp; Nightlife</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mining &amp; Quarrying(^{(3)})</td>
<td>Manufacturing</td>
<td>Real Estate</td>
</tr>
<tr>
<td>Energy Supply</td>
<td>Transportation &amp; Storage</td>
<td>Professional, Scientific &amp; Technical Activities</td>
</tr>
<tr>
<td>Wholesale, Retail Trade &amp; Car Dealers</td>
<td>Construction</td>
<td>Administrative &amp; Support Services</td>
</tr>
<tr>
<td>Water Supply, Sewerage &amp; Waste Management</td>
<td>Information &amp; Communication</td>
<td>Other</td>
</tr>
</tbody>
</table>

Notes:
1. ISIC = International Standard Industrial Classification of All Economic Activities
2. Negative impact on supply from Ukraine and increased cost of fertilizers, feed, and fuel; crop producers outside the conflict zone might benefit from higher prices for their produce
3. Negative impact on companies operating in Russia or Ukraine; companies active in other regions might benefit from higher commodity prices

Sources: Statista
Durable consumer goods will likely take a blow because higher food and fuel bills need to be paid

B2C Market Outlook impact: higher food and fuel budgets

### Modeled impact on forecast by category (COICOP\(^{(1)}\))

<table>
<thead>
<tr>
<th>Food</th>
<th>Housing maintenance and repairs</th>
<th>Goods for routine household maintenance</th>
<th>Transportation services</th>
<th>Newspapers, books, and stationery</th>
<th>Social protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-alcoholic beverages</td>
<td>Water, garbage disposal, etc.</td>
<td>Services for routine household maintenance</td>
<td>Postal services</td>
<td>Package holidays</td>
<td>Insurance</td>
</tr>
<tr>
<td>Alcoholic beverages</td>
<td>Electricity, gas, etc.</td>
<td>Medical products</td>
<td>Telephone and telefax equipment</td>
<td>Education</td>
<td>Financial services n.e.c.(^{(2)})</td>
</tr>
<tr>
<td>Tobacco</td>
<td>Furniture</td>
<td>Medical services</td>
<td>Telephone and telefax services</td>
<td>Catering services</td>
<td>Other services n.e.c.(^{(2)})</td>
</tr>
<tr>
<td>Clothing</td>
<td>Household textiles</td>
<td>Purchase of vehicles</td>
<td>Audiovisual, photographic, and information-processing equipment</td>
<td>Accommodation services</td>
<td></td>
</tr>
<tr>
<td>Footwear</td>
<td>Household appliances</td>
<td>Vehicle fuel and oil</td>
<td>Major recreational durables</td>
<td>Personal care products</td>
<td></td>
</tr>
<tr>
<td>Actual rent</td>
<td>Glassware, tableware, etc.</td>
<td>Vehicle parts</td>
<td>Other recreational items</td>
<td>Personal care services</td>
<td></td>
</tr>
<tr>
<td>Imputed rent</td>
<td>Tools and equipment for house and garden</td>
<td>Vehicle services</td>
<td>Recreational and cultural services</td>
<td>Personal effects n.e.c.(^{(2)})</td>
<td></td>
</tr>
<tr>
<td>Strong negative impact (-5% or less)</td>
<td>Medium negative impact (-3% to -4%)</td>
<td>Slightly negative impact (-1% to -2%)</td>
<td>Positive impact (0% to 24%)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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Notes:

1. Based on the Classification of Individual Consumption by Purpose (COICOP)\(^{(2)}\)
2. n.e.c. = not elsewhere classified

Sources:

Statista, as of March 2022
Total consumer spending is holding up rather well, but significant amounts are being reallocated from discretionary items to food and fuel

**B2C Market Outlook impact: higher food and fuel budgets**

**Projected consumer spending worldwide in 2022, by impact scenario, in trillion US$**

<table>
<thead>
<tr>
<th></th>
<th>Original forecast</th>
<th>Bad</th>
<th>Worse</th>
<th>Worst</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Food &amp; fuel</strong></td>
<td>11.3</td>
<td>11.8</td>
<td>12.2</td>
<td>12.6</td>
</tr>
<tr>
<td>CG staples (non-food &amp; fuel)</td>
<td>3.7</td>
<td>3.7</td>
<td>3.6</td>
<td>3.5</td>
</tr>
<tr>
<td>CG discretionary</td>
<td>7.1</td>
<td>6.7</td>
<td>6.3</td>
<td>5.9</td>
</tr>
<tr>
<td>Vehicles</td>
<td>2.7</td>
<td>2.6</td>
<td>2.6</td>
<td>2.5</td>
</tr>
<tr>
<td><strong>Staple services</strong></td>
<td>22.0</td>
<td>21.7</td>
<td>21.4</td>
<td>21.2</td>
</tr>
<tr>
<td><strong>Discretionary services</strong></td>
<td>9.2</td>
<td>8.9</td>
<td>8.6</td>
<td>8.4</td>
</tr>
</tbody>
</table>

**Notes:**
Private households and NPISHs (= non-private institutions serving households); current US$; in comparison to our March model, mitigation effects across the supply chain were taken into account so that commodity prices do not drive inflation as severely as originally modelled.

**Sources:**
Statista, as of March 2022
COVID-19 Impact
We routinely monitor the economic situation as it unfolds and update our forecasts accordingly.

COVID-19 impact (1/2)

Market environment

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 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

Shock dissipation

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

Sources: Statista Technology Market Outlook 2022
Global(1) constant GDP(2) forecast in trillion US$

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)

Notes:
(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
Appendix

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

Frequently asked questions (1/2)

**How is the Technology Market defined?**
In general, all segments entail both B2B and B2C spend. Laptops, for instance, are bought by consumers and enterprises, while IT services are only used in business environments. Revenues are allocated based on where the end user resides and do not entail wholesale or retail markups.

**What kind of prices are shown?**
Revenue is allocated to the economy where the money is spent at manufacturer / service provider price levels, excluding VAT.

**Does the market data reflect the impact of COVID-19?**
The forecasts were updated due to the COVID-19 impact. If new information is coming to light, we will make ad-hoc changes to the affected markets.

**Does the Technology Market Outlook include market shares?**
Currently, we do not show market shares for all segments but plan to extend these continuously.

**How often do you update the information?**
We update data in our Market Outlooks 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 this data comparable from year to year?**
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, we adapt the whole market estimate and forecasts so that all revenue data corresponds again to the new definition and is comparable from year to year.

**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 the data from the Statista Global Consumer Survey, which can lead to a one-time significant change in data.
The data in the download files or in the report differs from the data shown in the tool. Which is correct?
The data in the tool is always updated first. In the reports and in full-page downloads, the new data might be available a little later due to limited IT capacity and time lags.

Can we download the information into Excel/PPT?
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.

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 the exact same markets and most sources differ in methodology. But we certainly compare our estimates with those from other companies, and, in some cases, trade associations, company reports, and press releases serve as a good indicator.

Can I get the raw data or the original file where you modeled the market?
We do not offer our working files for download.

Is the information on smaller economies without in-depth analysis less valuable than the information on economies with in-depth analysis?
To compensate for the lack of available data, we use the performance ratios of economies with a similar infrastructure and similar development conditions as benchmark values. Then we apply an algorithm-based calculation to create market estimations, using the economy's key market indicators as drivers.

When will you provide a more detailed analysis of certain categories?
Updates and planned releases can be found in the release calendar.

Sources: Statista Technology Market Outlook 2022
Get in touch with us – we are happy to help

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