Digital Market Outlook

Methodology & Overview

Hamburg, December 2015

Contents

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Digital Market Outlook features

Our approach

Statista's **Digital Market Outlook** offers **forecasts**, detailed **market insights** and **key performance indicators** for the most important areas of the „Digital Economy" including various **digital goods and services**. The data are the result of a **driver-based market model**, which makes it possible to represent Statista's extensive data pool of market- and region-specific trends and developments. The model is based on **historic data points**, **current survey results** and a **detailed analysis of key drivers** from digital markets such as technical infrastructure, macroeconomic development and consumer preferences.

What we offer

The Digital Market Outlook is the synthesis of data-focused market- and trend-monitoring as well as a deep, experienced-based market understanding from our specialized team of analysts. We offer:

✓ **Comprehensive Approach** - Broad coverage of all established and emerging digital markets, as well as wide geographic coverage across 50 countries

✓ **Detailed Insights** - Combination of **financial operating figures** (Revenue) and **user-based figures** (Count of users, User penetration, Average Revenue per User (ARPU)) for **2014 to 2020**.

✓ **User-friendly** – Intuitive and easy to use Web tool with numerous filter possibilities, clear graphics and data export options (PNG, XLS)

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Our aim: Comprehensive database from a single source
Your One-Stop-Shop for market analyses on digital industries

Applications:

> Market analysis & Market Potential estimates

> Strategy and Innovation Planning

> International Benchmarks

> Trend analysis

> Risk estimates

> Target group analysis

> Business Cases

> Location analysis & Expansion planning

Key figures from the Digital Market Outlook:

All data in a 5-year overview up to 2020

Revenue	Count of users
Revenue per User (ARPU)	User Penetration
Relevant market indicators	Demographic split by age, gender & income

✓ **understandable**

✓ **versatile**

✓ **comparable**

Direct data export and further processing tailored for different requirements

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Broad thematic coverage
Current market overview– additional markets planned for 2016

Digital Media
available

Digital Video
Digital Music
Digital Games
ePublishing

Digital Advertising
available

Banner Advertising
Video Advertising
Search Advertising
Social Media Advertising
Classifieds

eCommerce
available

Clothes & Shoes
Consumer Electronics & Physical Media
Food & Cosmetics & Pharmaceuticals
Furniture & Home Appliances
Special Interest

Smart Home
available

Home Automation
Security
Smart Entertainment Systems
Ambient & Assisted Living
Energy Management

FinTech
available

Digital Payment
Business Finance
Consumer Finance

eServices
available

Travel Booking
Mobility Tickets & Services
Event Tickets

eHealth
available

Fitness
Diabetes
Hypertension
Heart Diseases

Connected Car
available
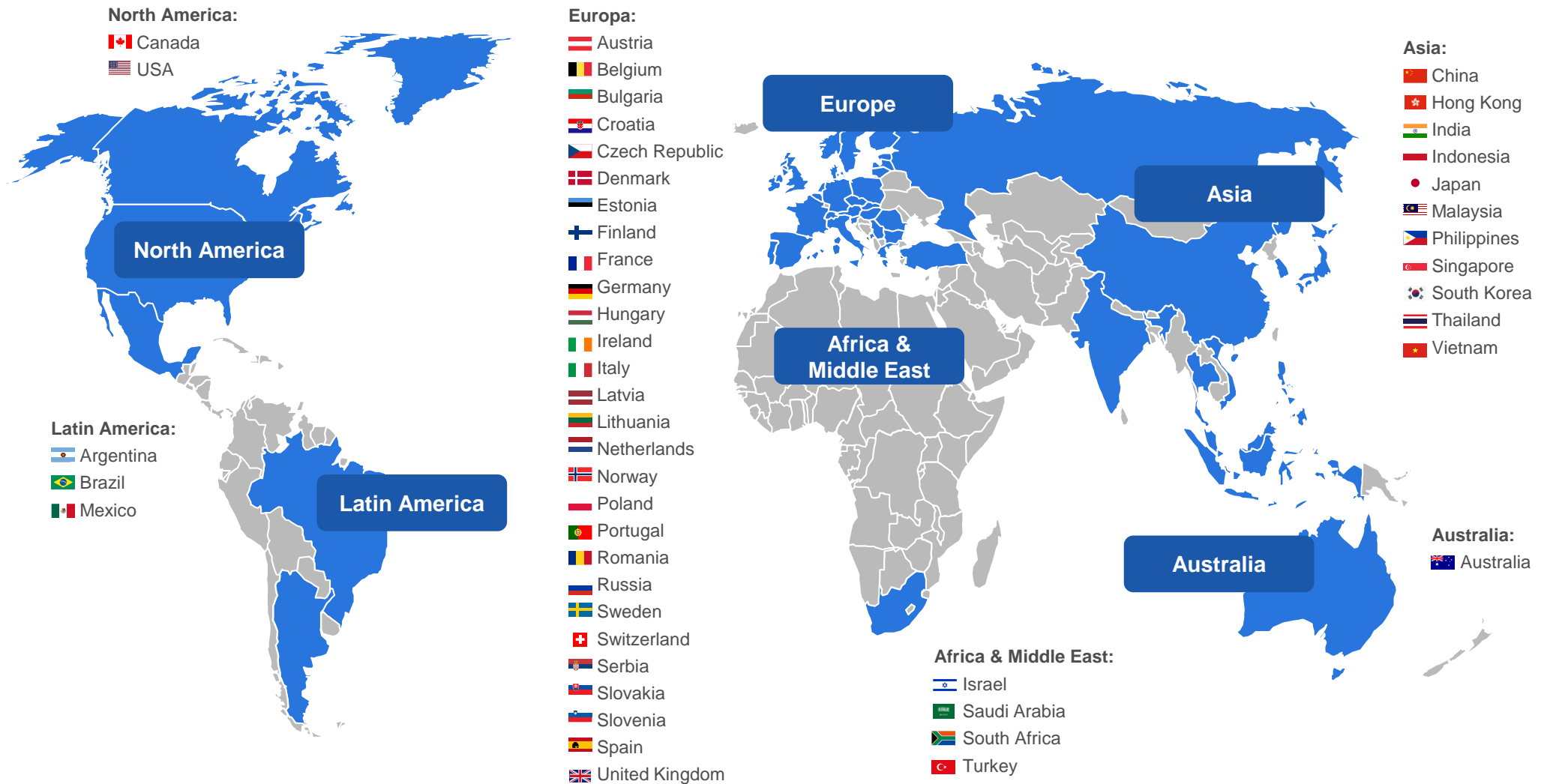
In-Car Content & Consumer Services
Safety & Driving Assistance
Navigation
Diagnostics & Maintenance
Connectivity

Statista's Digital Market Outlook is **currently** available in **beta version.**
Additional markets and an even higher level of detail, as well as regular updates to the existing markets, are planned.

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Broad geographic coverage
50 markets worldwide

North America:
- Canada
- USA

Latin America:
- Argentina
- Brazil
- Mexico

Europa:
- Austria
- Belgium
- Bulgaria
- Croatia
- Czech Republic
- Denmark
- Estonia
- Finland
- France
- Germany
- Hungary
- Ireland
- Italy
- Latvia
- Lithuania
- Netherlands
- Norway
- Poland
- Portugal
- Romania
- Russia
- Sweden
- Switzerland
- Serbia
- Slovakia
- Slovenia
- Spain
- United Kingdom

Asia:
- China
- Hong Kong
- India
- Indonesia
- Japan
- Malaysia
- Philippines
- Singapore
- South Korea
- Thailand
- Vietnam

Australia:
- Australia

Africa & Middle East:
- Israel
- Saudi Arabia
- South Africa
- Turkey

North America

Latin America

Europe

Asia
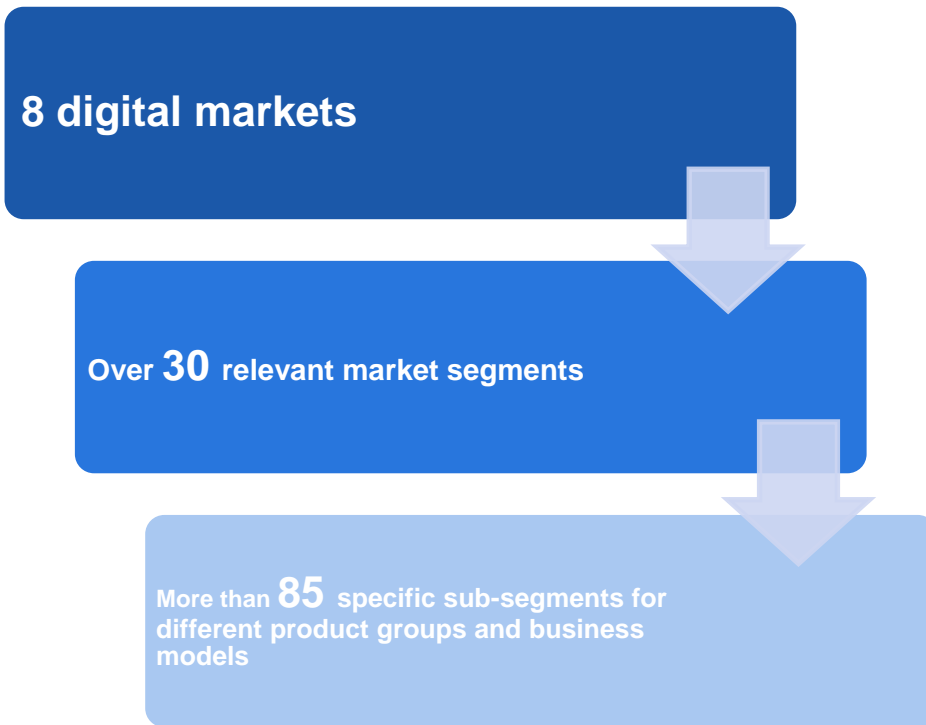
Africa & Middle East

Australia

Country specific data for 50 markets ~ 90% of the worldwide economic power ~ 78% of the total Internet population

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Detailed Insights: Key market figures at three aggregation levels
Main markets → Market segments→ Sub-segments

8 digital markets

Over 30 relevant market segments

More than **85** specific sub-segments for different product groups and business models

> **By the end of 2015** - **Coverage** of **8 digital markets** from **Statista's Digital Market Outlook**

> The markets are divided into **32 relevant market segments**

> At the **highest level of detail**, the individual **product groups** and **business models** are broken down further into **over 85 sub-segments**

> All market levels can be analyzed individually

> The data range is comparable across all countries

Total market figures for over 125 digital markets

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Detailed Insights: Comprehensive and diverse data
Overview of all markets, market segments and sub-segments

Digital Media

Digital Video	TVoD
	SVoD
	EST
Digital Music	Music Downloads
	Music Streaming
Digital Games	Download Full-version
	Mobile Games
	Online-/Browsergames
ePublishing	eBooks
	eMagazines
	ePaper

Digital Advertising

Banner Advertising	Desktop
	Mobile
Video Advertising	Desktop
	Mobile
Search Advertising	Desktop
	Mobile
Social Media Advertising	Desktop
	Mobile
Classifieds	Desktop
	Mobile

eCommerce

Clothes & Shoes	Clothes/Accessories
	Shoes/Leather Goods
Consumer Electronics & Physical Media	Consumer Electronics
	Physical Media
Food, Cosmetics & Pharmaceuticals	Food/Beverages
	Personal Care/Cosmetics
Furniture & Home Appliances	Furniture/Homeware
	Home Appliances
Special Interest	Toys/Baby
	Sport/Outdoor/Garden
	Hobby/Luxury

Smart Home

Home Automation	Hardware
	Services
Security	Hardware
	Services
Smart Entertainment	Hardware
	Services
Ambient & Assisted Living	Hardware
	Services
Energy Management	Hardware
	Services

FinTech

Digital Payment	B2C Commerce
	Mobile Wallet
	P2P Money Transfers
Business Finance	Business Lending
	Crowdfunding
	Invoice Factoring
Consumer Finance	Automated Investment
	Consumer Lending

eServices

Travel Booking	Package Holiday
	Hotels
	Vacation Rentals
Mobility Tickets & Services	Flights
	Car Rental
	Trains & Busses
Event Tickets	Sport Events
	Music Events/Concerts
	Cinema Tickets

eHealth

Fitness	Apps
	Smart Wearables
Diabetes	Apps
	Smart Devices
	Telemonitoring Service
Hypertension	Apps
	Smart Devices
	Telemonitoring Service
Heart Diseases	Apps
	Smart Devices
	Telemonitoring Service

Connected Car

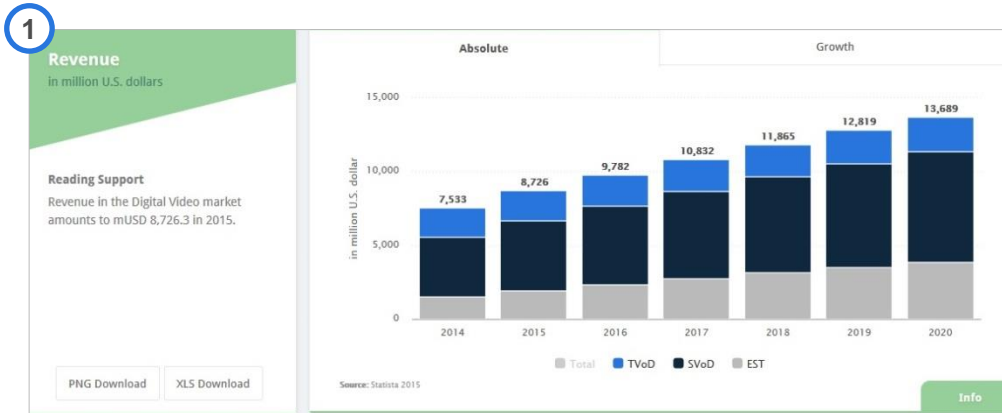| In-Car Content & Services | Infotainment |
	Productivity Services
Safety & Driving Assistance	Safety
	Driving Assistance
Mobility Management	Real-time Navigation
	Location-based Advertising
	Payment
Diagnostics & Maintenance	Predictive Maintenance
	Pay-how-you-drive
	Remote Update Service
Connectivity	Hardware
	Services

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# Detailed Insights: Consistent data on four core dimensions
Revenue & user structure in the consumer-oriented digital markets

In addition to revenue forecasts for 50 countries worldwide, Statista offers additional insights into customer development and structure down to the demographic composition of digital consumer markets. In the **consumer-oriented markets** all market forecasts provide a 5-year overview over the following four dimensions:

1 Revenue 2 Average Revenue per User (ARPU)   3 Count of users   4 User Penetration

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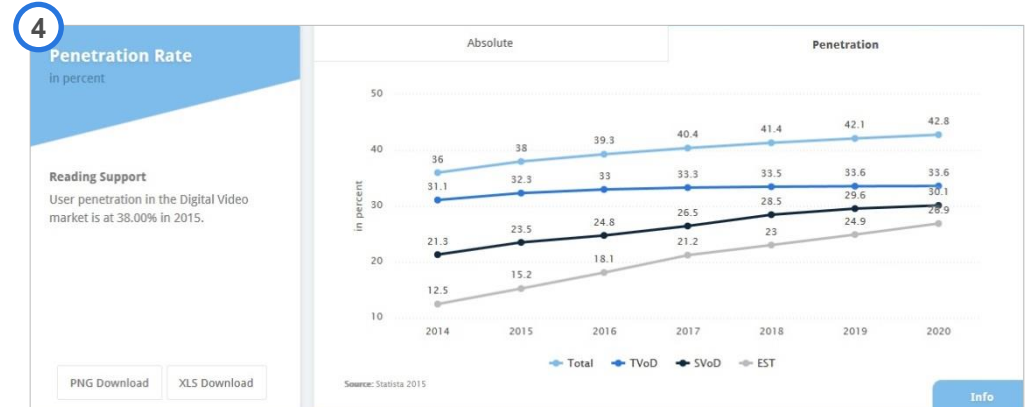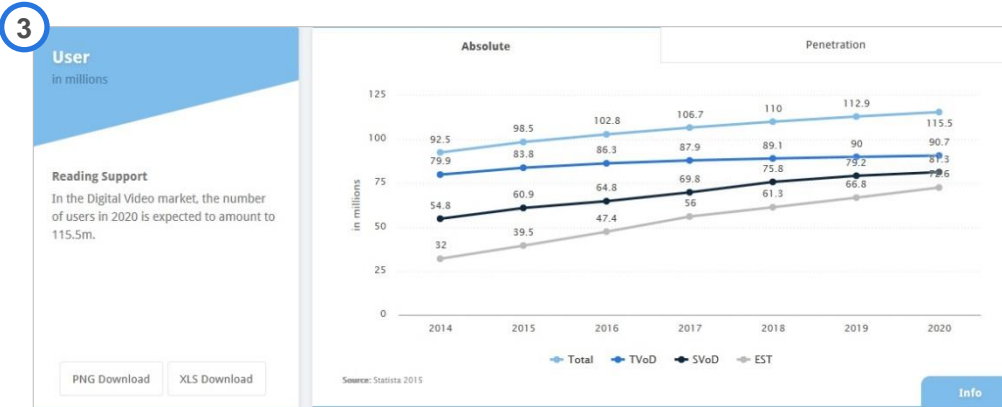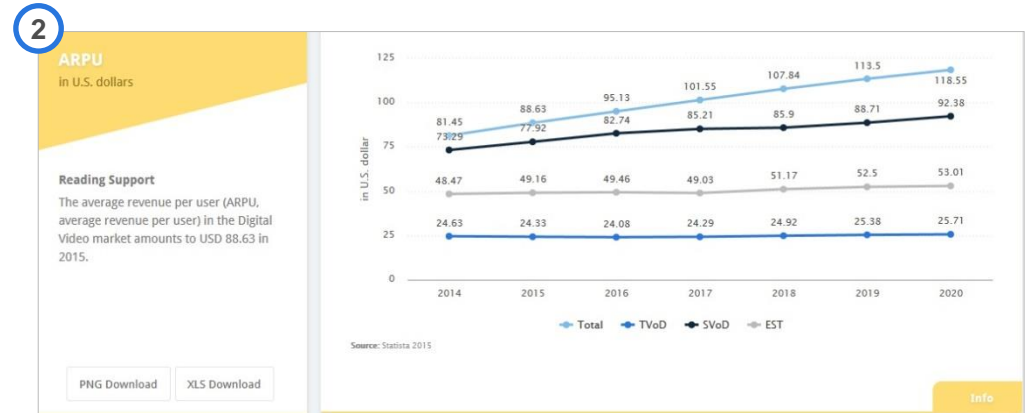
Detailed Insights: Demographic Split
User groups split by age, gender and income

The Digital Market Outlook also offers deep insights into the composition of user groups for digital services and products. Based on **comprehensive research findings** and other structural indicators, Statista presents a **unparalleled level of detail into user structures and user development**.

✓ **Characterization of user groups**

✓ **Identification of potential target groups**

✓ **Observation of demographic trends**
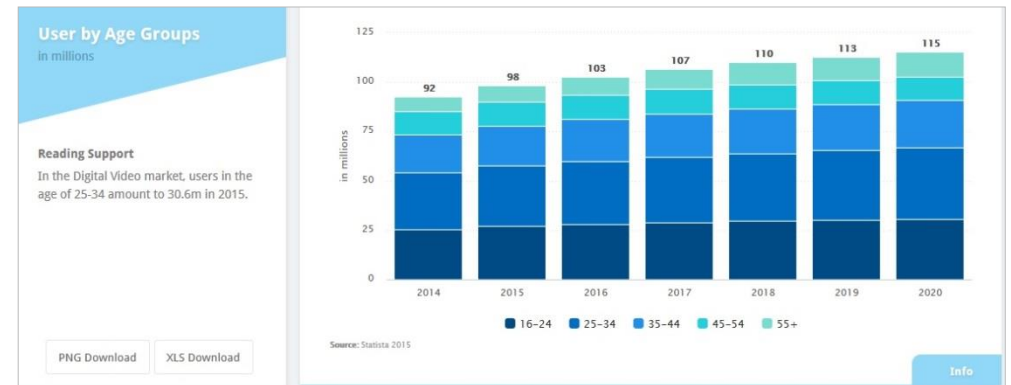
Detailed Insights: Detailed analysis of B2B-market revenue structures
Current revenue figures and market indicators as a time series

For the **Business-to-Business-oriented digital economy**, the Digital Market Outlook offers additional detailed analyses and evaluations regarding revenue and provides global comparisons on the extent and speed of the digitization process.

✓ **Revenue allocation for analysis of market structure**

✓ **International comparisons of key market figures**

✓ **Exportable market indicators as a time series**

Display Advertising Revenue by Industry
in percent in 2015

Reading Support

In the Digital Advertising market, [revenueindustry_currentlayer_yeartoday_indu of revenue is accounted for by the retail industry in 2015.

Source: Statista 2015

Key Market Indicators

The following Key Market Indicators give an overview of the digitization level and the demographic and economic development of the selected region on the basis of general KPIs. The calculation of Statista's Digital Market Outlook is based on a complex market-driver logic including over 400 region-specific data sets.

	2014	2015	2016	2017	2018	2019	2020	CAGR (2014-2020)
Population	319.0m	321.4m	324.3m	327.0m	329.5m	331.7m	333.8m	▲ +0.8%
Households	124.3m	125.4m	126.6m	127.8m	128.9m	130.1m	131.3m	▲ +0.9%
GDP / Capita	USD 54,678	USD 57,046	USD 59,503	USD 62,118	USD 64,749	USD 67,348	USD 67,348	▲ +3.5%
Internet Penetration	86.3%	88.5%	90.5%	92.2%	93.5%	94.3%	94.8%	▲ +1.6%
Smartphone Penetration	52.0%	55.5%	59.3%	63.3%	67.5%	72.1%	76.9%	▲ +6.7%

Source: Statista 2015

Global Comparison - Revenue
in million U.S. dollars in 2015

Reading Support

With a market volume of mUSD 8,726.3 in 2015, most revenue is generated in: [globalrevenue_currentlayer_yeartoday_maxc

Global revenue | Global penetration

Top Countries	
🇺🇸 United States	mUSD 8,726.3
🇬🇧 United Kingdom	mUSD 1,004.1
🇨🇳 China	mUSD 588.3
🇨🇦 Canada	mUSD 409.1
🇫🇷 France	mUSD 395.4

Source: Statista 2015

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User-friendly design
Data ranges illustrated graphically with detailed annotations

Individual market definition and key takeaways

Statista's Digital Market Outlook is accessed through an intuitive Web tool, with all contents prepared graphically. For each market you will find a **detailed presentation** of the most important market indicators, as well as **definitions** and **summarized key takeaways** about the individual markets.
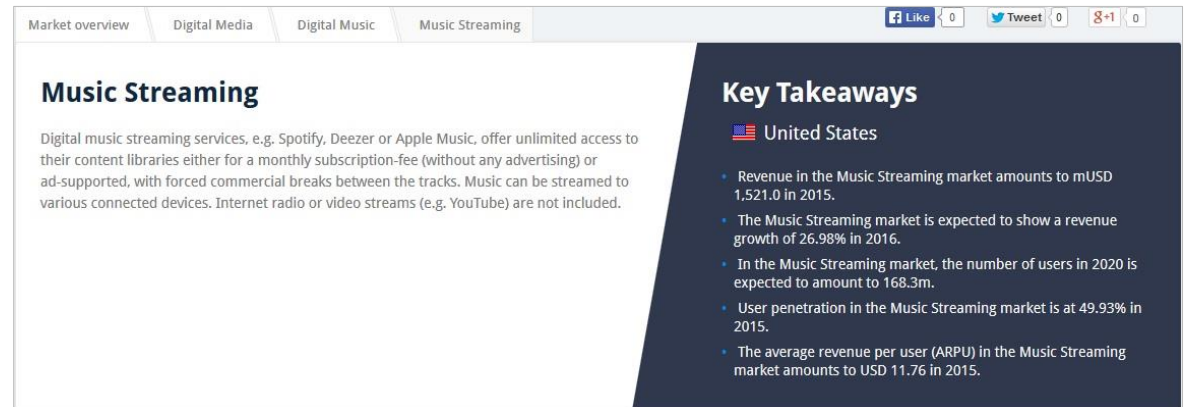
Understandable & interactive display

The tool offers different **interactive functions**, individual filters and a user-friendly layout in the usual, simple Statista-"Look and Feel" design. For example:

(1) Tooltips

(2) Expandable and collapsible chart elements

(3) Additional information and explanations

User-friendly design
Simple navigation, ease of comparability and download options

Clear and comparable

Simple and clear **navigation** through all **market levels** is guaranteed via different control elements. All data are **consistently displayed for all countries**, so that international comparisons are possible.
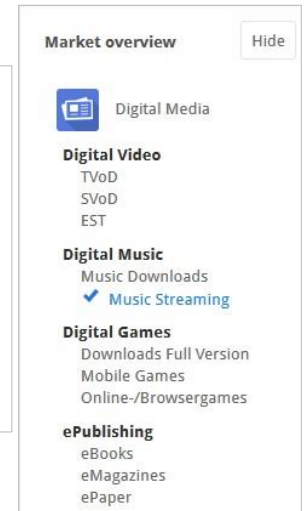
Directly export charts and Excel tables

An **XLS and PNG download** of all displayed graphics and tables makes further use of all data fast and simple.

Our database
All relevant market data in the digital economy

Latest primary research

international consumer survey in over 50 countries with more than 166,000 participants conducted by Statista and TNS Infratest in 2015

extended by in-depth market research in selected lead-markets

capturing the latest trends of the digital economy and demographic user-insights for each market

Comprehensive analysis of international databases

aggregation and refining of data sets from well-known national and international statistic-authoreties

deriving own forecasts based on historic time-series and recent trends

consideration of socio-demographic, infrastructural and economic indicators

user behaviour & insights

socio-economic trends

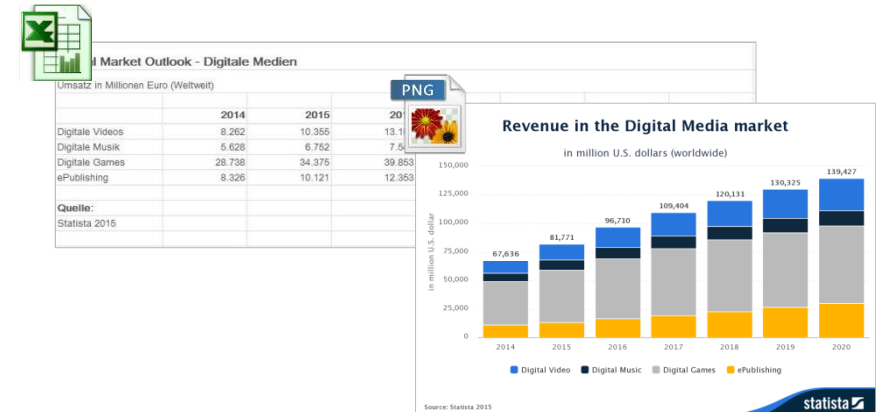**Market driver: Over 400 driver sets for each of the 50 countries covered**

Digital Market Outlook

comparative market data

Benchmark studies

integration of all relevant statistics from the Statista database

comprehensive analysis of established and top-rated studies and analyst reports published by further market-specifc sources

validation of the resulting market data and forecasts

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Methodology
Overview of the analyses and modeling phases

Phase 1

In-depth analyses and market forecasts in selected reference countries

We identify suitable reference countries that feature high market maturity and / or a high degree of regional representativeness

In-depth market analyses and forecasts building on the latest trends, historic time-series data and on relevant context information

Thorough market estimates based on a profound market expertise and on a sound comprehension of external influencing factors

Phase 2

Driver-based market transfer and validation of results

We predict relevant market drivers in order to combine them in one overarching driver model

Selection of a suitable, country-specific and market-specific driver set following both substantive and mathematical considerations (Best Fit)

Implementation of the driver model for all core countries covered by the Digital Market Outlook

Cross-validation and logic validation of all markets and dimensions

Phase 3

Demographic segmentation in terms of age, gender and income

For all consumer markets: driver-based derivation of user structure from large, internationally established surveys

User segmentation along three demographic dimensions: (1) gender, (2) age and (3) income

In-depth insights and target group specific user base estimates for individual markets and / or products

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Methodological Approach
Phase 1: Detailed analysis & market forecasts in reference countries

The Digital Market Outlook is a complex market model which includes the following three phases:

1. **Detailed analysis & market forecasts in selected reference countries**

2. **Driver-based transfer of the market data & results validation**

3. **Demographic split by age, gender and income**

Output for all 50 countries of the Digital Market Outlook

Phase 1: Detailed analysis & market forecasts in selected references countries

In the first step, reference countries for the forecast model are identified for each market segment of the Digital Market Outlook; the countries are selected if they showed an above-average level of market maturity or are particularly representative for the development of a specific region, e.g. Germany, USA and others. These are then examined in detail in a specific market analysis process and forecasted to give a market-derived estimate for the time period under review.

The historical development of the market is included in the analysis; this is derived from official statistics, organization or industry information, public reports and annual reports from the segment-specific market leader. Data on current trends, user behavior, willingness to pay and hardware penetration are collected via market research in the reference countries and are integrated into the market forecasts. Furthermore, comparative data on the overall economic and demographic situation, the level of digitalization and technical structural indicators (e.g. device penetration, network infrastructure) are taken into account in the country analysis.

In addition, Statista evaluates numerous analyst reports and market studies in order to develop a deeper understanding of the market and validate its own market forecasts through different scenarios and methodological approaches.

From this broad spectrum of input data we derive validated forecasts of individual market segments for the reference countries.

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Methodological Approach
Phase 2: Driver-based transfer of the market data & results validation

Phase 2: Driver-based transfer of the market data & results validation

In the next step, relevant market drivers are identified, taking into account the results of individual reference country market modelling. A total of over 400 market drivers were compiled from numerous sources, categorized based on market segments and normalized for all countries. The market drivers are available for all of, or a large proportion of, the 50 countries in the Digital Market Outlook.

In a multifactorial analysis, the selected drivers are analyzed in relation to the previously modelled reference country data. Using a mathematical optimization function and subsequent logic checks, a weighted, country-specific ratio factor is calculated which allows for a driver-based transfer of market data to the remaining "Digital Economies".

For the reference countries, the optimal ratios of the available drivers to the results of the market modelling are calculated using the method of least squares, as follows:

$$\text{Error}(m, c) = \frac{1}{N} \sum_{n=1}^{N} (y_n - (mx_n + c))^2$$

N is the number of modeled years. The best fit occurs when the residuals between the market data ratios and driver ratios are as near to zero as possible, so that,

$$y = mx + c \text{ and } y - (mx + c) = 0.$$

The method of least squares is calculated on the pre-selected, logically fitting market drivers to provide a mathematically best fit approach for each market segment.

This procedure makes it possible to select the best driver sets for each market segment, from both a mathematical and logical point of view, which results in the highest explanatory power of the current market structure. Moreover, it reflects the relevant influence of the drivers on the future development of the markets.

The chosen drivers are weighted before they are incorporated into the model, to ensure the highest precision of the final result. To determine the ideal driver weighting, a mathematical Solver function is applied which minimizes the deviation between the sum of the driver-based model output and the reference countries model output.

On this basis, driver sets and weights are available for each market segment and serve as the input for forecasting revenue and user data for all 50 core countries in the Digital Market Outlook.

Finally, with the help of market sizing, e.g. Average Revenue per User (ARPU) or user penetration rates, the results are checked for plausibility and subjected to benchmarking using publications from other research organizations. Hereby, the Digital Market Outlook uses a distinct, comprehensive and consistent modelling logic which takes into account, and reflects, existing market analyses.

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Methodological Approach
Phase 3: Demographic Split

Phase 3:

Demographic Split by age, gender and income

The last phase incorporates the demographic split of users by age, gender and income. The aim of the demographic split is to provide deeper insights into the composition of the target audience for individual markets or products.

Since the observed demographic dimensions describe the private end user of a product, this analytical step only adds value in the consumer-oriented markets, e.g. for the users of Digital Media. In contrast, in business-to-business-oriented markets (e.g. Digital Advertising) the user-related analyses are substituted with standard market overview ratios.

The segmentation of users is analogous to the previous driver-based modelling method and can be derived from market-driven survey results as well as a weighted blend of different results. These drivers are based on questionnaire results from surveys carried out by Statista, from the Google Consumer Barometer as well as other internationally-oriented primary databases.

Additionally, the user structure outlook to 2020 considers general demographic trends that have been forecasted by other international organizations such as the World Bank.

The available demographic dimensions are formed using the following groups:

- Gender:
  - > male
  - > female

- Age:
  - > 16-24 years
  - > 25-34 years
  - > 35-44 years
  - > 45-54 years
  - > 55 years and above

- Income (country specific):
  - > lower third income
  - > middle third income
  - > upper third income

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Source overview
Media

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Source overview
Advertising & eCommerce

ADVERTISING

ECOMMERCE

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Source overview
Smart Home

statista

Source overview
FinTech

Source overview
Corporate Databases, Analyst Reports & Media Sources

Corporate databases:

BUREAU VAN DIJK | Creditreform | CrunchBase | dun&bradstreet | PrivCo | THOMSON REUTERS

Further readings:

ABIresearch | BERG INSIGHT | BI INTELLIGENCE | comScore | eMarketer | FORRESTER | FROST & SULLIVAN

Gartner | IDC Analyze the Future | IHS | JAVELIN | J.P.Morgan | juniper research | MARKETSANDMARKETS | OVUM | pwc

STRATEGY ANALYTICS | YouGov

Media monitoring (selection):

Bloomberg | BUSINESS INSIDER | FT FINANCIAL TIMES | Forbes | internet RETAILER portal to e-commerce intelligence | Mashable All That's New on the Web | TC | The Economist

theguardian | VB | THE WALL STREET JOURNAL.

Status: 09.11.2015, continuously updated and extended

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Statista Research & Analyse

> Leading online statistics portal

> Over 1,000,000 statistics on 80,000 topics from > 18,000 sources

> Industry reports, dossiers, studies database

> In-house forecasts for 500 industries in 50 countries

> Individual research and analysis service for businesses

> Emphasis on digital media, telecommunications, Internet and mobile

> Market analysis and market monitoring

> Professional market research

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Statista as your Partner
Statista Research & Analysis

You need, for example …

… market data and market potential estimates?

… on-going monitoring of market drivers/trends?

… representative information on markets?

… sound predictions and forecasts?

We offer …

Statista Database & Source Know-how

+

Research & Analysis Know-how

+

Professional Market Research

+

Market Modeling & Forecasts

+

Business Sense

+

Infographics

Statista Research & Analysis offers a customized, competent service
- Our team consists of more than 30 research experts, business analysts & former top-management consultants **-**

Statista's Digital Market Outlook
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Disclaimer:

This is a beta release. All data sets and functions of the Statista Digital Market Outlook are constantly updated and improved. The offering may change before its final release.

All forecast models take the development of historical values into account and are based on key market drivers and the forecasts of macroeconomic and demographic development. . Unpredictable events like financial crises, wars, embargoes or similar events, which can crucially influence the development of certain industries or even entire countries, are not considered. The user segmentation in consumer markets is based on representative, recent survey results and is updated for the forecast period. Global data and data sets for world regions are based on aggregated values of the covered countries within the Statista Digital Market Outlook without any claim to completeness. The models, originally created in 2015, are subject to a continuous improvement process.

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