

DIGITAL & TRENDS

AR & VR – Market Data Analysis & Forecast



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CHAPTER 1

Market Outlook

The U.S. is the largest AR & VR market globally in 2022

Overview: summary and key takeaways

Summary

Augmented reality and virtual reality have gained a great deal of attention in recent years. Big tech companies have entered the market and consolidated their market position by acquiring several companies operating in the augmented and virtual reality industry. With constantly improving technology and an increasing number of 5G internet connections, the market is set to witness strong growth in the future.. Comparing the three major AR & VR markets – the U.S., China, and Europe – the U.S. is the biggest market in 2022 and will still be by 2027. In the U.S. market, revenues of US\$7.57 billion are generated in 2022. The market is expected to almost double in revenues reaching US\$14.94 billion by 2027. The second biggest AR & VR market is China with a market volume of US\$5.25 billion in 2022. Growth rates of xxx annually will lead to revenues of US\$11.03 billion in 2027. The market in Europe is worth US\$6.46 billion in 2022 and AR Software being the biggest segment. Revenues are expected to grow at a CAGR⁽¹⁾ of xxx by 2027, resulting in revenues of US\$13.96 billion. Overall, the AR Hardware segment is growing the strongest, since the market recently emerged and new technological improvements will fuel growth.

AR Software

- Largest AR & VR segment in 2022, with revenues of US\$11.17 billion worldwide

VR Hardware

- Second largest AR & VR segment in 2022, with revenues of US\$7.62 billion worldwide, growing at 40% in 2022

AR Advertising

- The segment has revenues of \$3.48 billion in 2022

VR Software

- The segment shows strong growth with a CAGR of 32.4%

AR Hardware

- The segment exhibits strong growth starting in 2020 and will reach a global volume of \$9.1 billion by 2027

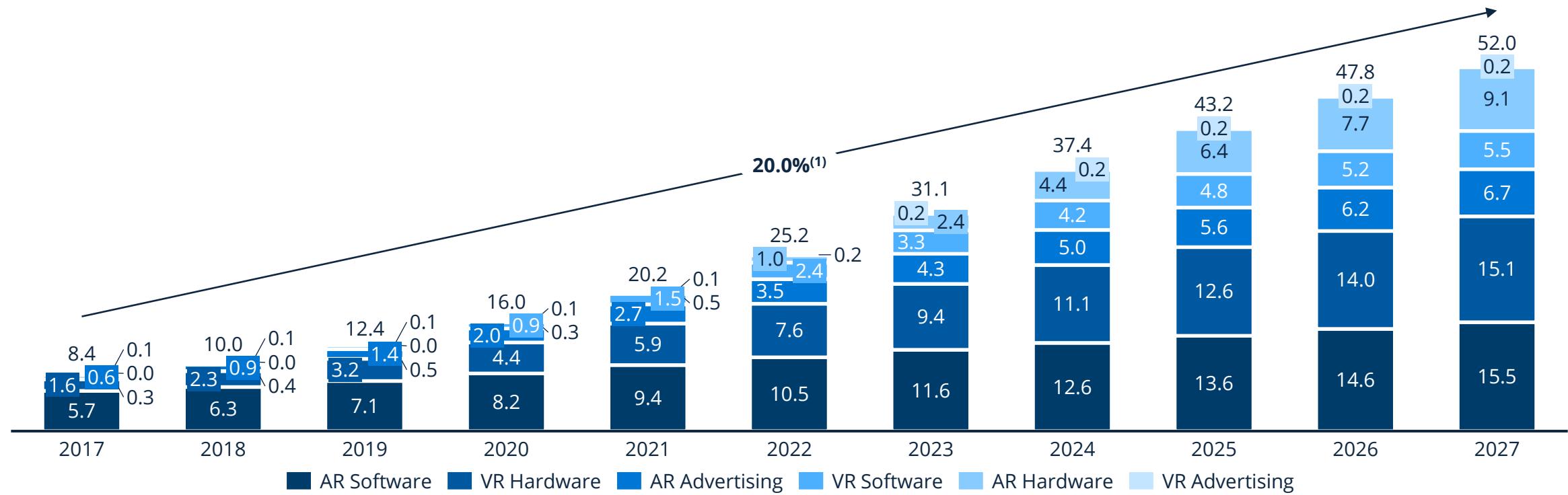
VR Advertising

- Is the smallest segment with only \$150 million in revenue in 2022

The global AR & VR revenue is expected to grow at a CAGR⁽¹⁾ of 20.0% to US\$52.0 billion by 2027

Market size: revenues (1/2)

Global revenue forecast in billion US\$



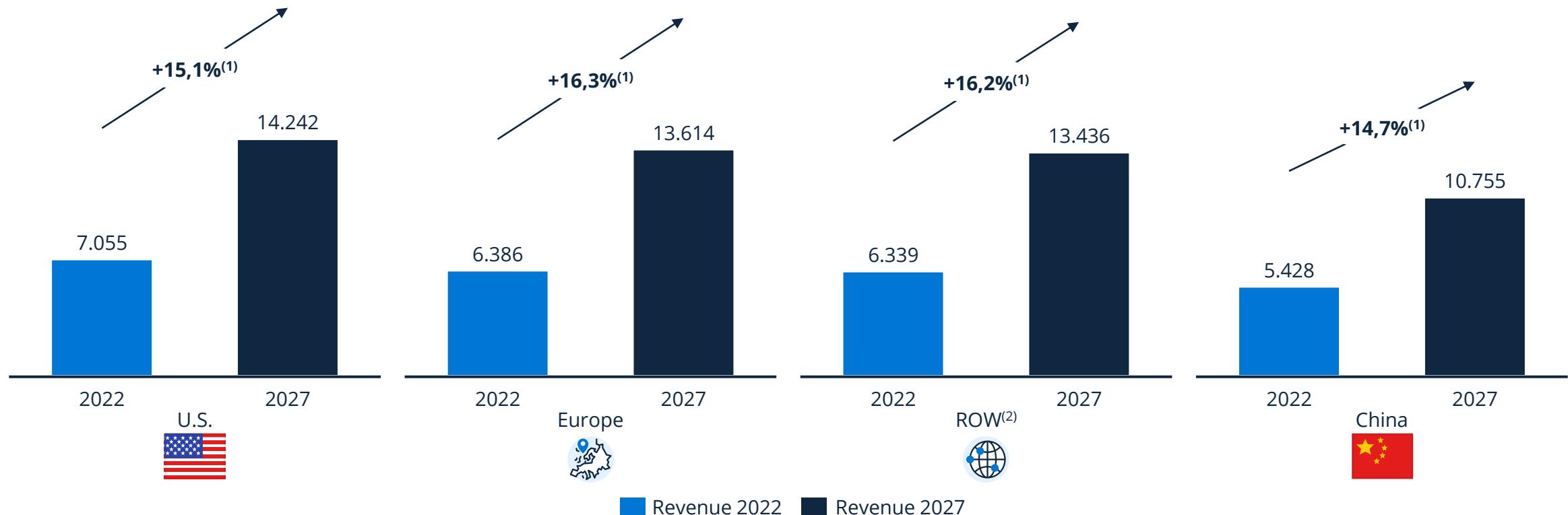
5 | Notes: (1) CAGR: Compound Annual Growth Rate / average growth rate per year

Sources: Statista Advertising & Media Outlook 2022

Europe shows the biggest growth in AR & VR with a CAGR⁽¹⁾ of 16.3%

Market size: revenues (2/2)

Total revenue forecast in billion US\$



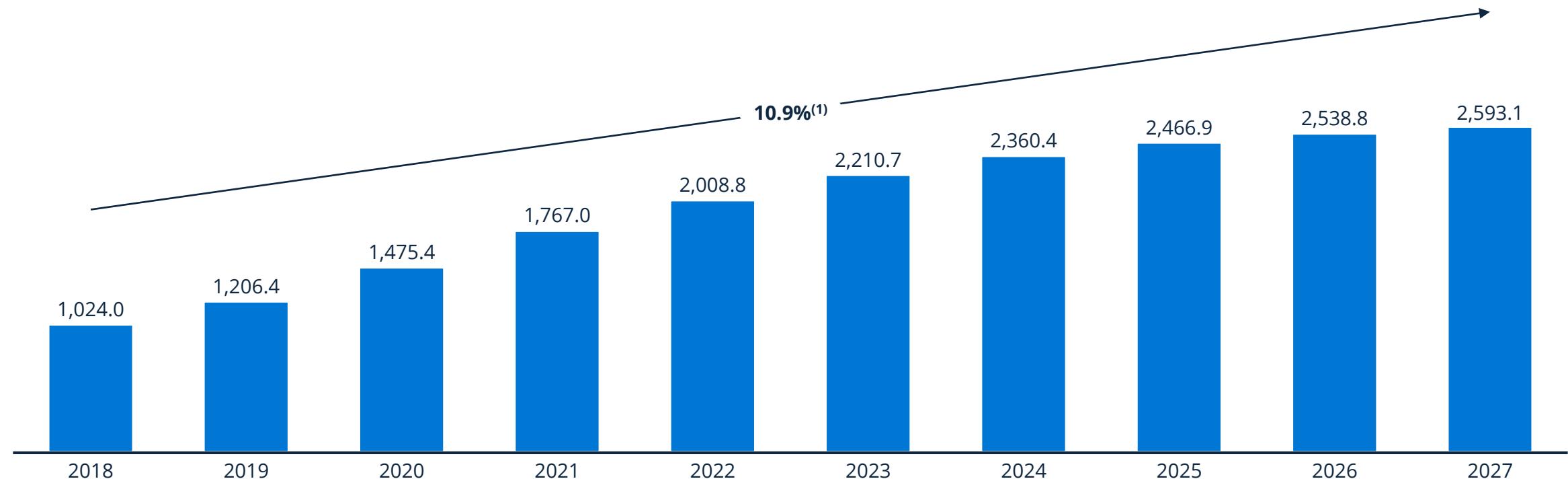
6 | Notes: (1) CAGR: Compound Annual Growth Rate / average growth rate per year (2) ROW : Rest of the World

Sources: [Statista Advertising & Media Outlook](#) 2022

The global AR & VR user number is expected to grow at a CAGR⁽¹⁾ 10.9% to 2.593 billion in 2027

Market size: users (1/2)

Global user forecast in million



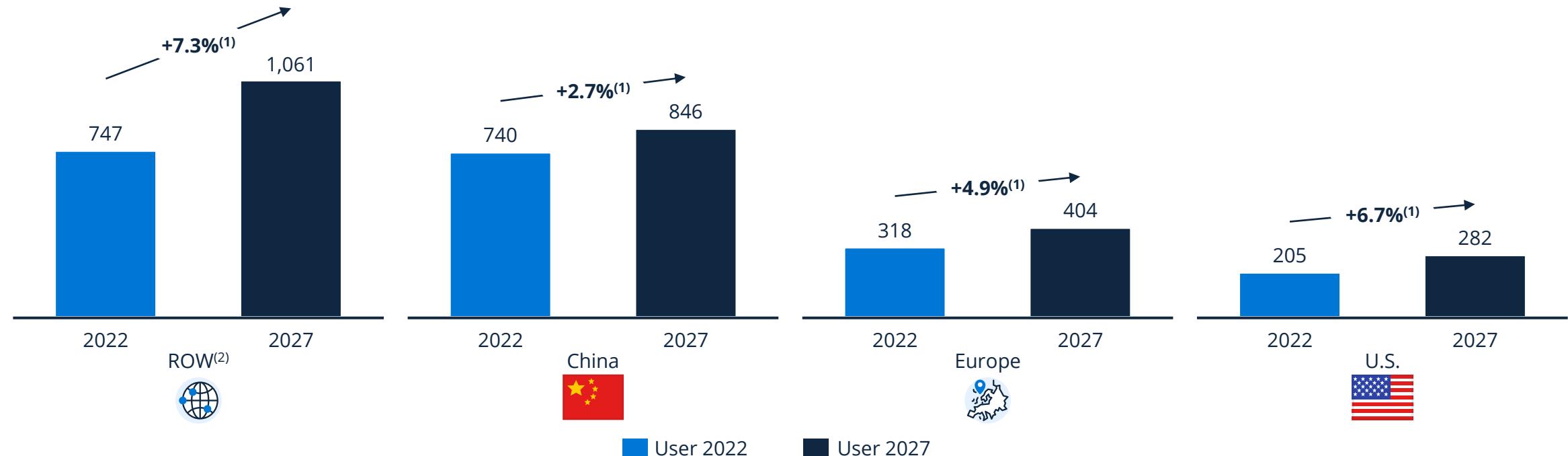
7 | Notes: (1) CAGR: Compound Annual Growth Rate / average growth rate per year

Sources: [Statista Advertising & Media Outlook](#) 2022

The U.S. shows the biggest growth in AR & VR users with a CAGR⁽¹⁾ of 6.7%

Market size: users (2/2)

Total user forecast in million



8 | Notes: (1) CAGR: Compound Annual Growth Rate / average growth rate per year (2) ROW : Rest of the World

Sources: [Statista Advertising & Media Outlook](#) 2022

Augmented Reality headsets will contribute a big share to market growth

Trend analysis (1/2)



Augmented Reality headsets for more in depth experience

The Augmented Reality headsets are the latest trend within the AR & VR market. Virtual Reality headsets emerged some time ago and boosted the gaming and video experience of customers. Given that, Augmented Reality was always prevalent in different occurrences but recently dragged a lot of attention with new technology coming up. Microsoft released their AR glasses in 2016 and being the market leader so far. However, Apple is expected to join the market in 2024. This will not only shift competition upwards, but also supply and demand will increase and in total we will see a shift in the market revenue. Unfortunately, there are not much news on the features of the new Apple glasses, but it has been confirmed to be an addon to iPhones. It is expected to have a calculation power similar to MacBooks, which will enhance consumers' experience to a new level. While only having around 3.6 million user worldwide, the number is expecting to increase to over 106 million in 2027, making it the fastest growing segment within the AR & VR market.

Metaverse will be one of the most relevant topics with technology improvements further enhance possibilities

Trend analysis (2/2)



Metaverse

Especially with the rebranding of Facebook's "Meta", the topic gained huge attention. Its goal is to establish a connection between the digital and physical world in order to enhance consumer's experience. Augmented and Virtual Reality is making that possible by displaying various objects within our physical surroundings or by letting us dive into a completely new world using auditory and visual headsets. The technology allows consumers to create their own avatars, which can be used to experience multiple real-life activities, such as shopping in a mall, playing games with other avatars, interact and many more. Only Meta has invested \$10 bn. so far in new Virtual Reality technology and plans to further invest into Augmented Reality technology as well.



eCommerce

With the outbreak of the covid-19 pandemic, a lot of new innovations emerged in the market to extent the online shopping experience of consumers. Augmented Reality was a vital step, since it allows consumers to have virtual try-ons, leaving them with instant feedback and no further arrival time of ordered goods. This concept is applicable for all fashion, or even jewelry and make up companies. Smart mirrors will help enhancing the in-store experience and making the consumers feel like they are actually having a shopping experience. For instance, Dior partnered with Snapchat in 2020 to create innovative try-on solutions. Moreover, online stores like Ikea or Wayfair offer different solutions to choose furniture and directly putting them into physical surroundings using smartphone cameras.

Several key market indicators are responsible for a growing digital infrastructure

Key market indicators: digital infrastructure overview



Internet Users

64.1% of global population using the internet on a monthly basis. Increasing internet penetration builds the base for using digital media.



Connection Speed

23.57 Mbits/s is the global average internet connection speed. As connection speeds improves, services such as high-quality videos and 3D simulation become available.



Broadband Subscriptions

90.9 mobile subscriptions per 100 Capita was the global number for broadband subscriptions, which is a crucial indicator to establish digital services.



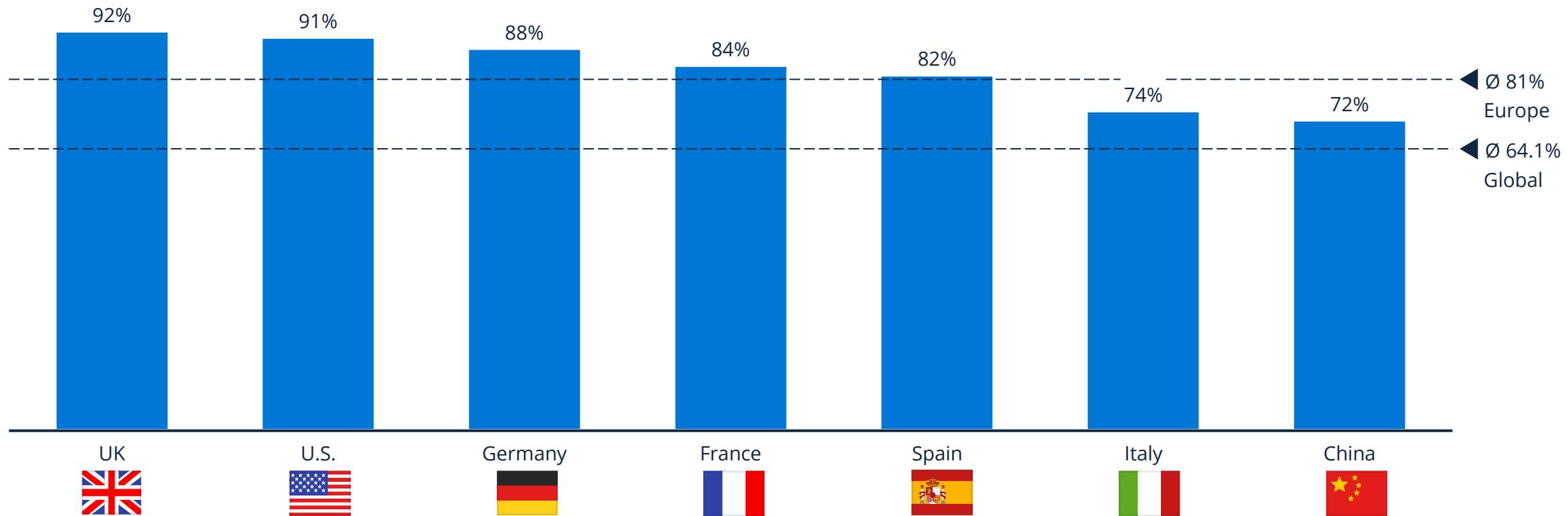
Smartphone Penetration

63.6% of global population use smartphone on a monthly basis.

Internet penetration is especially high in some European countries and the U.S., but China is behind

Key market indicators: internet penetration

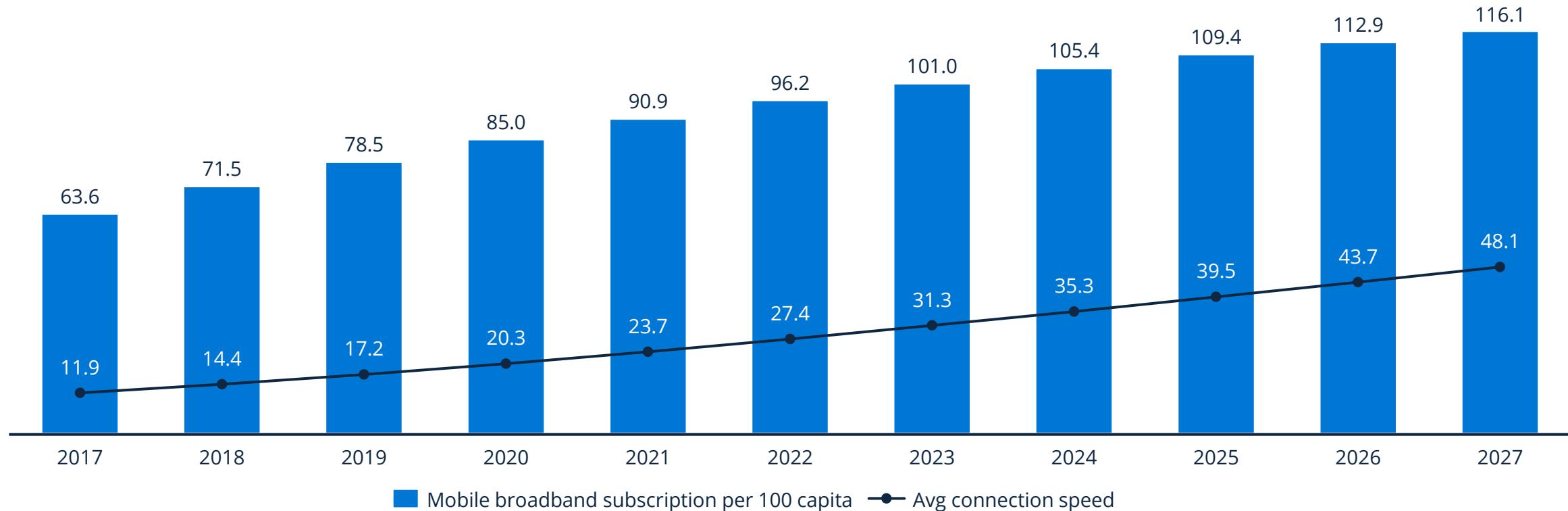
Internet penetration in 2021



From a global perspective, broadband subscriptions and connection speed are continuously increasing

Key market indicators: mobile broadband subscriptions and average connection speed

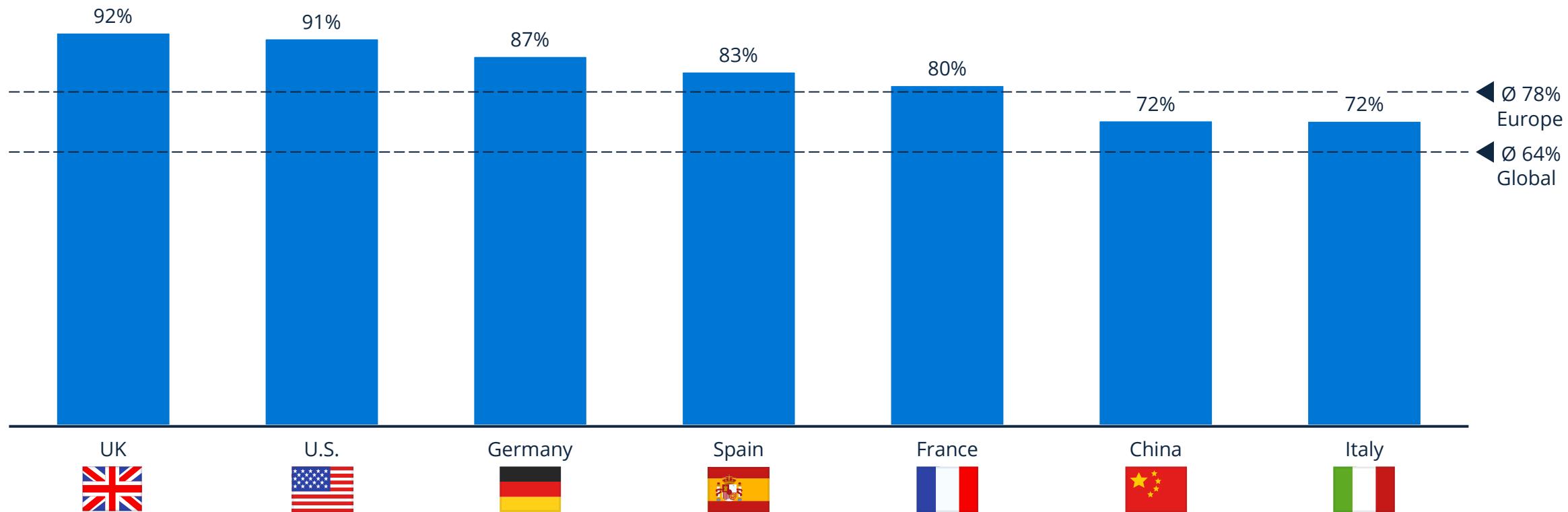
Global mobile broadband subscriptions and average connection speed



Over 70% of the Chinese population own a smartphone

Key market indicators: smartphone penetration

Smartphone penetration in 2021



Consumer behavior and socioeconomic indicators play an important role for the digital media market

Key market indicators: socioeconomic and consumer electronics overview



Population

Number of individuals (all ages) is **7,542 million**. The number of individuals living in a country is a key indicator for the market size.



Consumer Spending

Average consumer spending per capita of private households was **US\$ 6,753**. Knowing the expenditure per capita gives necessary insights into price developments and the average willingness to pay.



Demographics

Share of **older people** in the population increases, as well as a change within the share of male and female towards more females in the population.



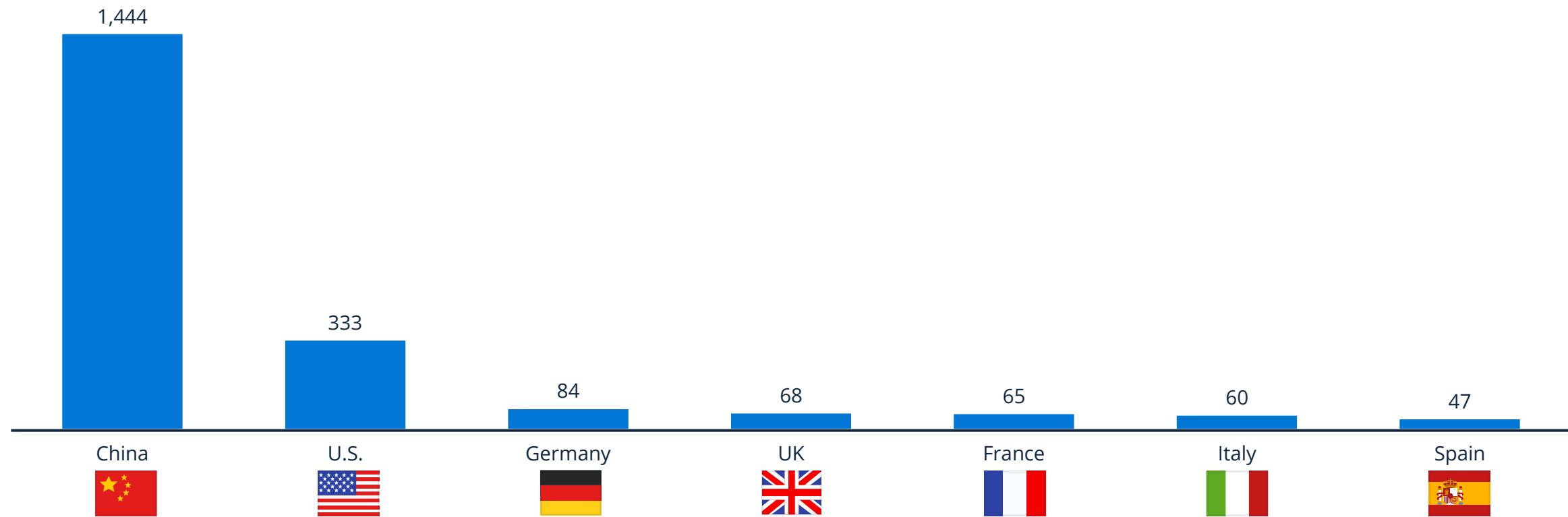
Urban Population

56.9% of population living in urban areas. The gradual shift of the population from rural to urban areas is a constant phenomenon. The most urbanized regions generally have a high demand for Digital Media.

China has by far the largest population, accounting for more than 19% of the total population

Key market indicators: population (1/2)

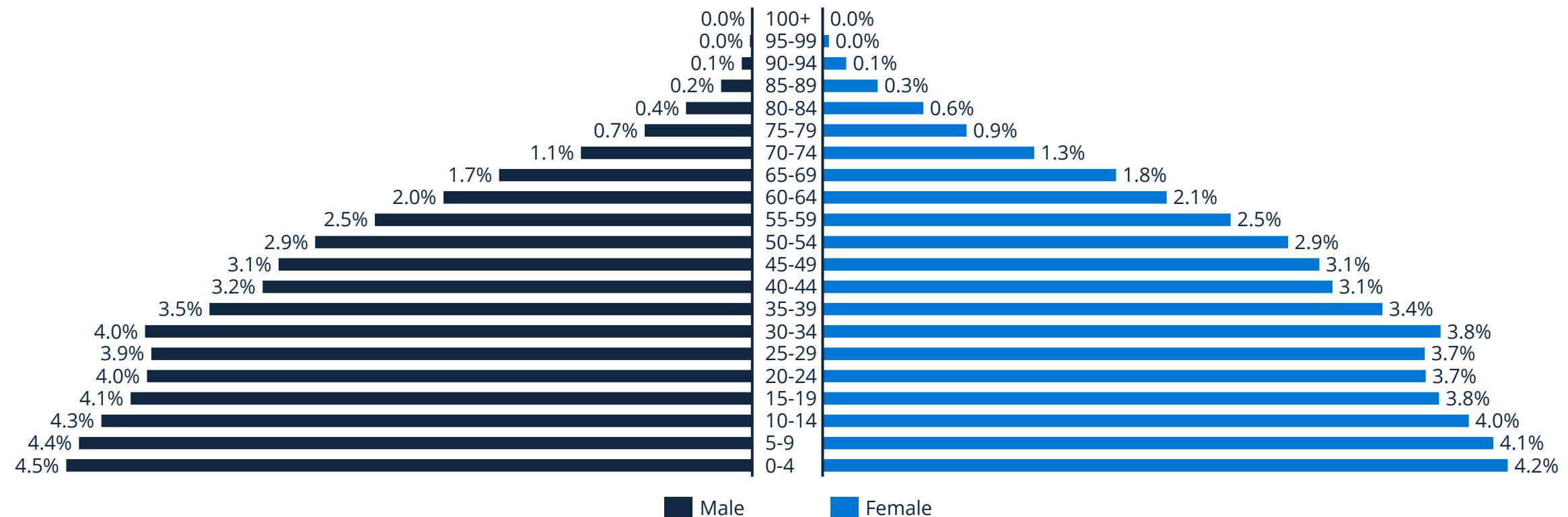
Population in million in 2021



Although more boys than girls are born, the sex-ratio changes over time since women live longer

Key market indicators: population (2/2)

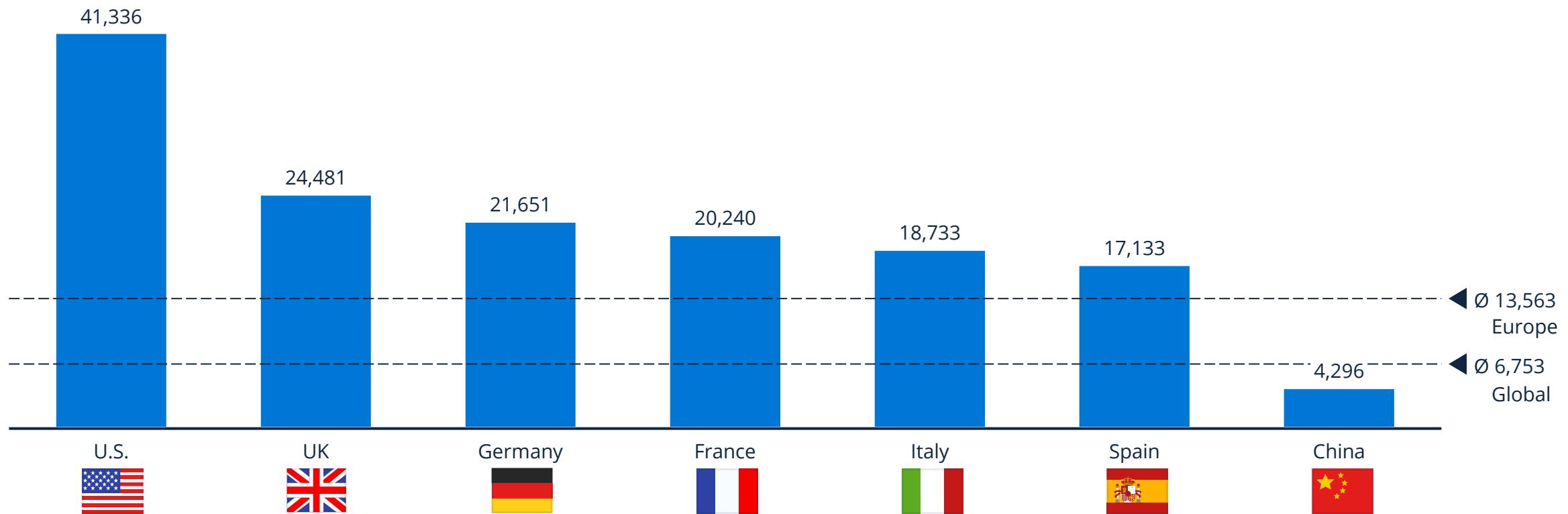
Share of age groups by gender of the total population in 2021



Per-head consumption expenditure in the U.S. is about 10 times higher than in China

Key market indicators: consumer spending

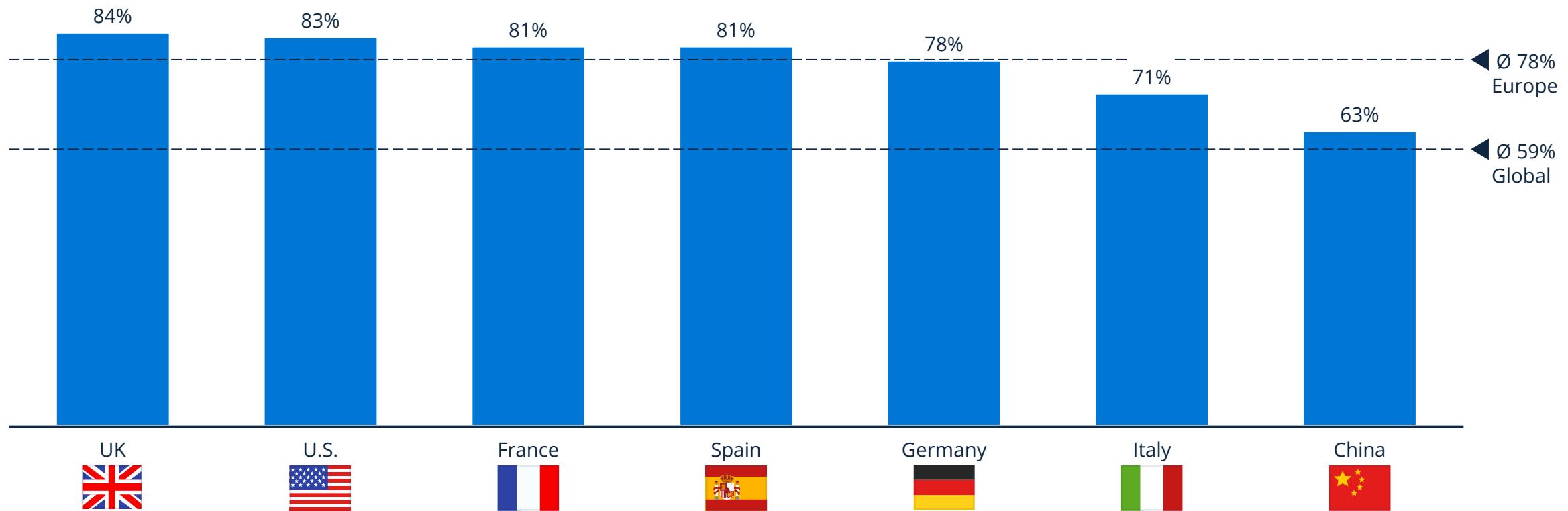
Consumer spending per capita in US\$ in 2021



78% of the European and 59% of the global population are living in urban areas

Key market indicators: urban population

Urban population share in 2021



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CHAPTER 2

Segments

SEGMENTS

AR Software

Market size

User numbers

Average revenue per user

Penetration rate



AR Software will further increase its presence throughout industries

Overview: assumptions and trends

Assumptions

In our forecast, we assume a strong market growth for AR Software, primarily in the very recent years. Whereas we assume that eCommerce will be the strongest growing segment, with double digit growth up to 2027.

Augmented reality is constantly improving in its technologies and areas of usage. While a couple of years ago the technology was only on the verge of evolving, it is now settled within the market, especially with the recent Metaverse developments taking place. It supports the consumer's experience and enables new possibilities of engaging with our surroundings. Snapchat laid a huge foundation by introducing different filter possibilities, such that consumers were able to change their visual appearance.

Different technologies within the world of social media, gaming or shopping will drag more people to the use of certain apps, since it is more convenient in some cases, and it lifts the experience.

Trends

Augmented Reality in form of social media apps was one of the first experience consumers made with that technology. With the rise of Snapchat, Instagram and now TikTok, the market is immense and has by far the largest audience, since social media apps are spread throughout the entire society. Constant improvements of new filters, experiences and interaction will promise steady growth in the future.

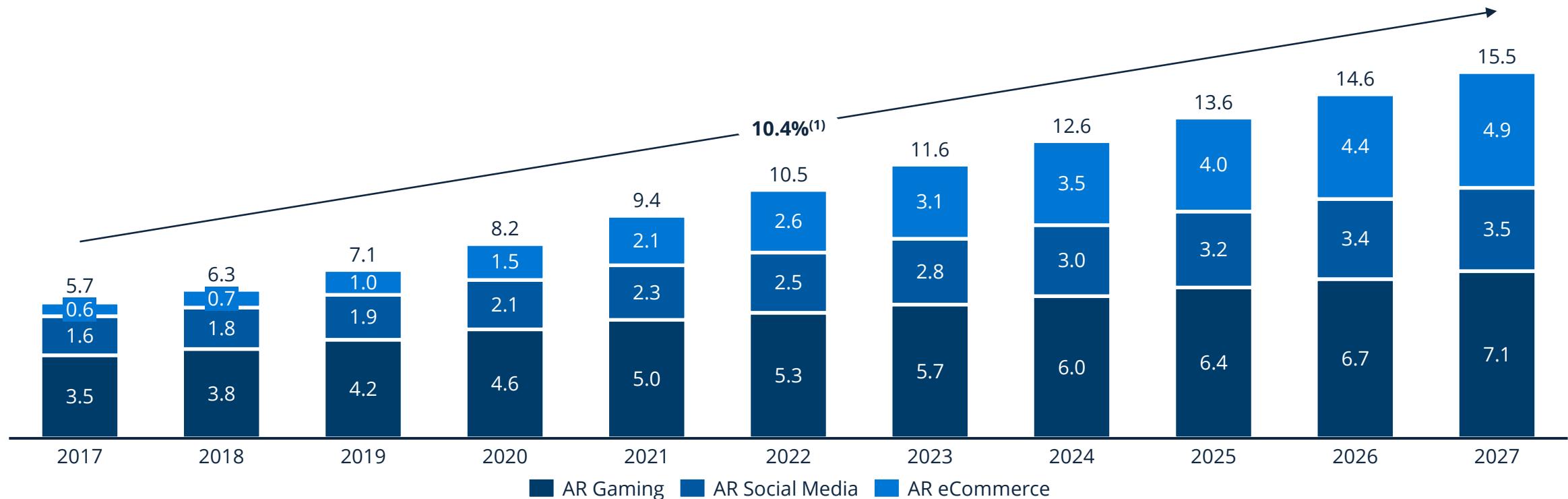
Pokémon Go was an important stepstone for the emergence of Augmented Reality in mobile gaming. It connected the virtual game experience with the real world. From that point onwards, many game developing companies got their feet into the business, such that more and more AR games will arise. One prominent company is Niantic, which are also the developers of Pokémon Go.

Another promising use of AR Software will be eCommerce. Taking slow steps in the beginning, AR technologies will be profound within the eCommerce experience, as more and more apps include the possibility to enhance online shopping. Apps like Ikea or Wayfair are in the market for quite some time now, however large fashion or cosmetic companies are entering the market as well, for instance Sephora or Adidas.

The global AR Software revenue is expected to grow at a CAGR⁽¹⁾ of 10.4% to US\$15.5 billion by 2027

Market size: revenues

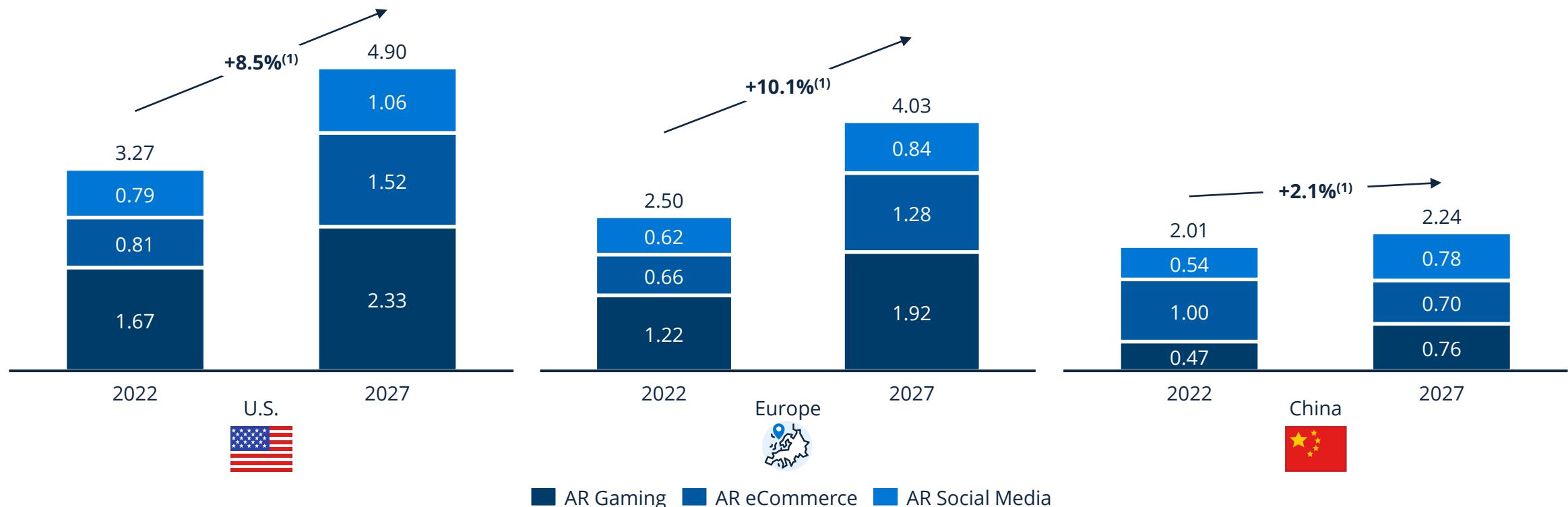
Global revenue forecast in billion US\$



Europe shows the biggest growth in AR Software with a CAGR⁽¹⁾ of 10.1%

Market size: regional comparison (1/2)

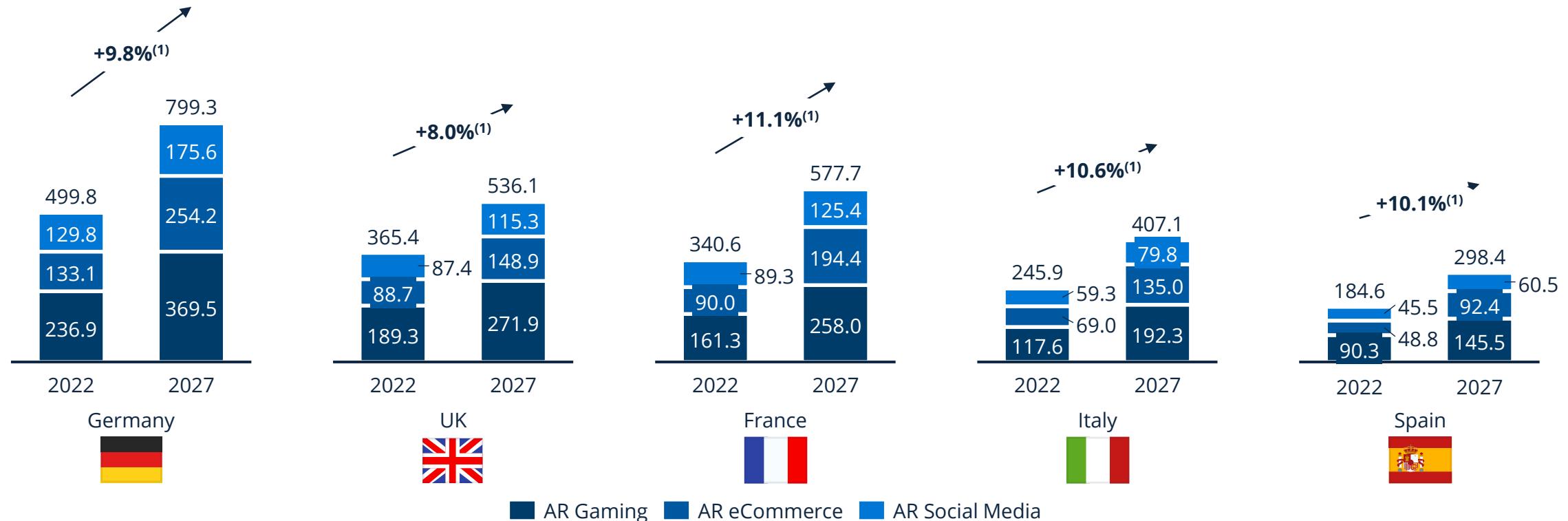
Revenue forecast in billion US\$



With revenues of US\$799.3 million, Germany will be the biggest market in 2027

Market size: regional comparison (2/2)

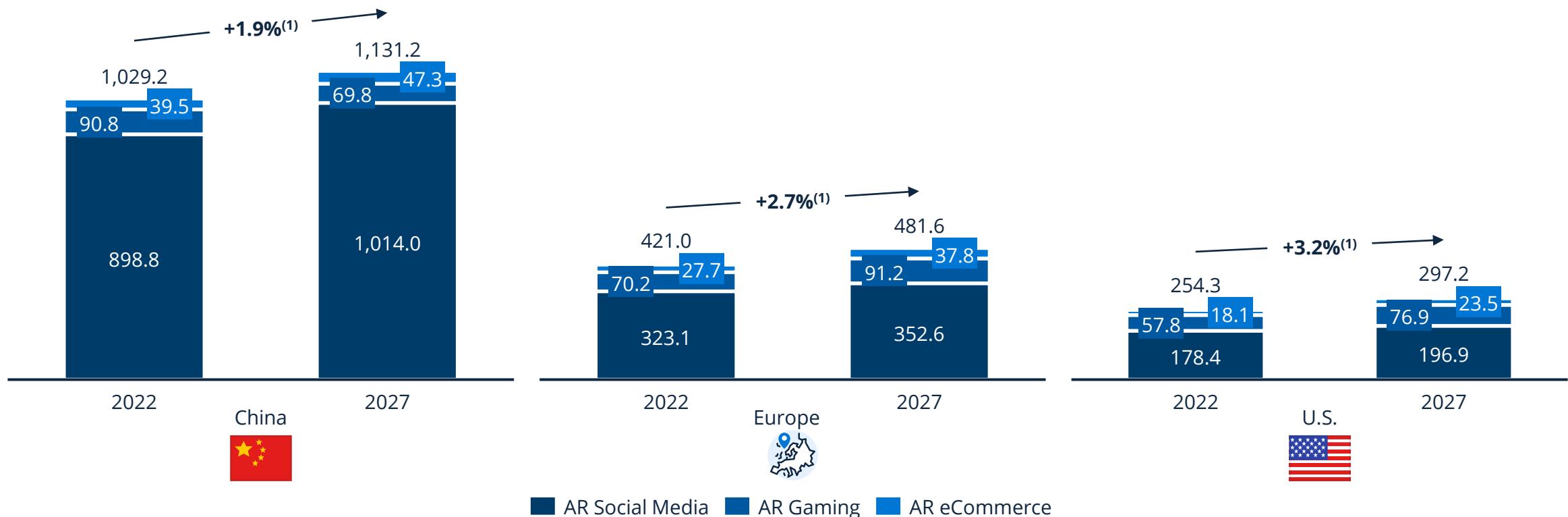
Revenue forecast in million US\$



By 2027, most AR Software users will still live in China

User numbers: regional comparison (1/2)

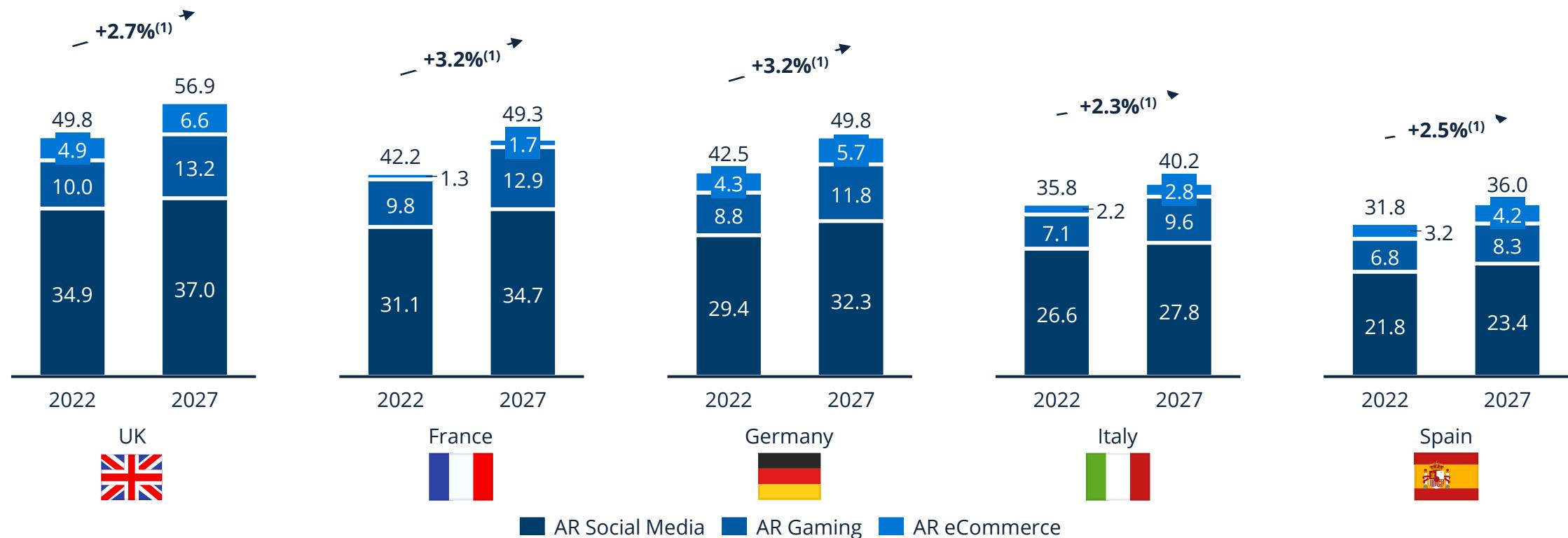
Number of users forecast in millions



The UK shows the strongest demand for AR Software in 2027

User numbers: regional comparison (2/2)

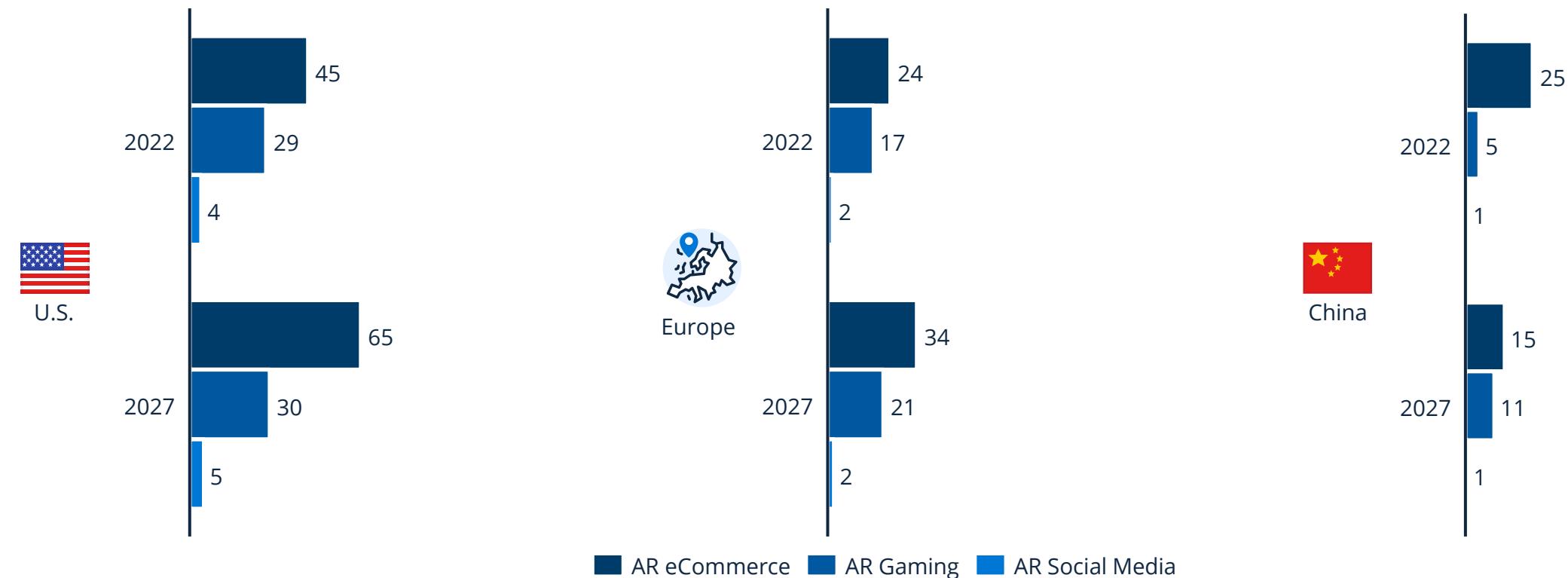
Number of users forecast in millions



Out of the three major regions, users in the U.S. spend the most on AR Software

Average revenue per user: regional comparison (1/2)

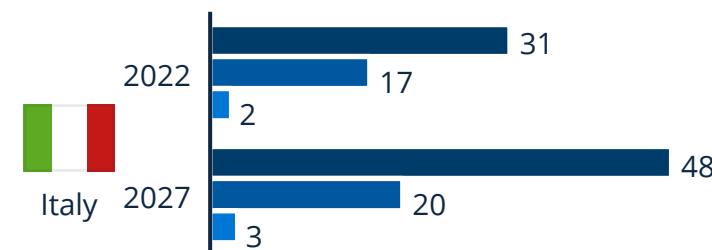
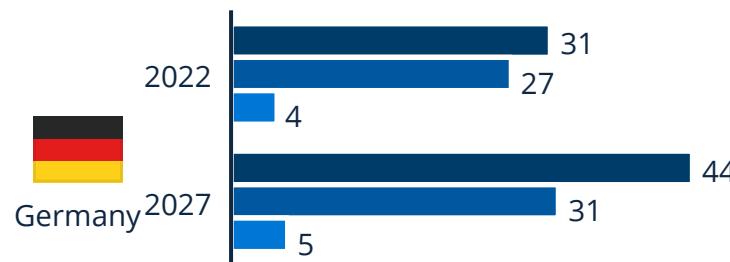
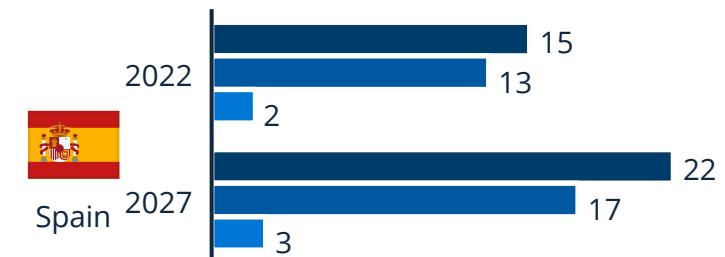
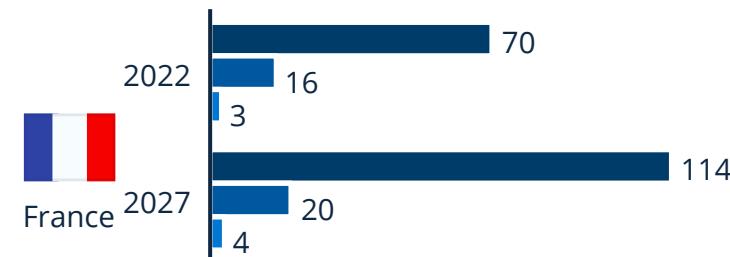
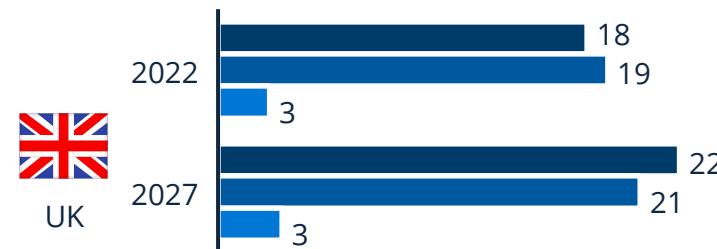
Average revenue per user forecast in US\$



AR Software average revenue per user is the highest in France

Average revenue per user: regional comparison (2/2)

Average revenue per user forecast in US\$



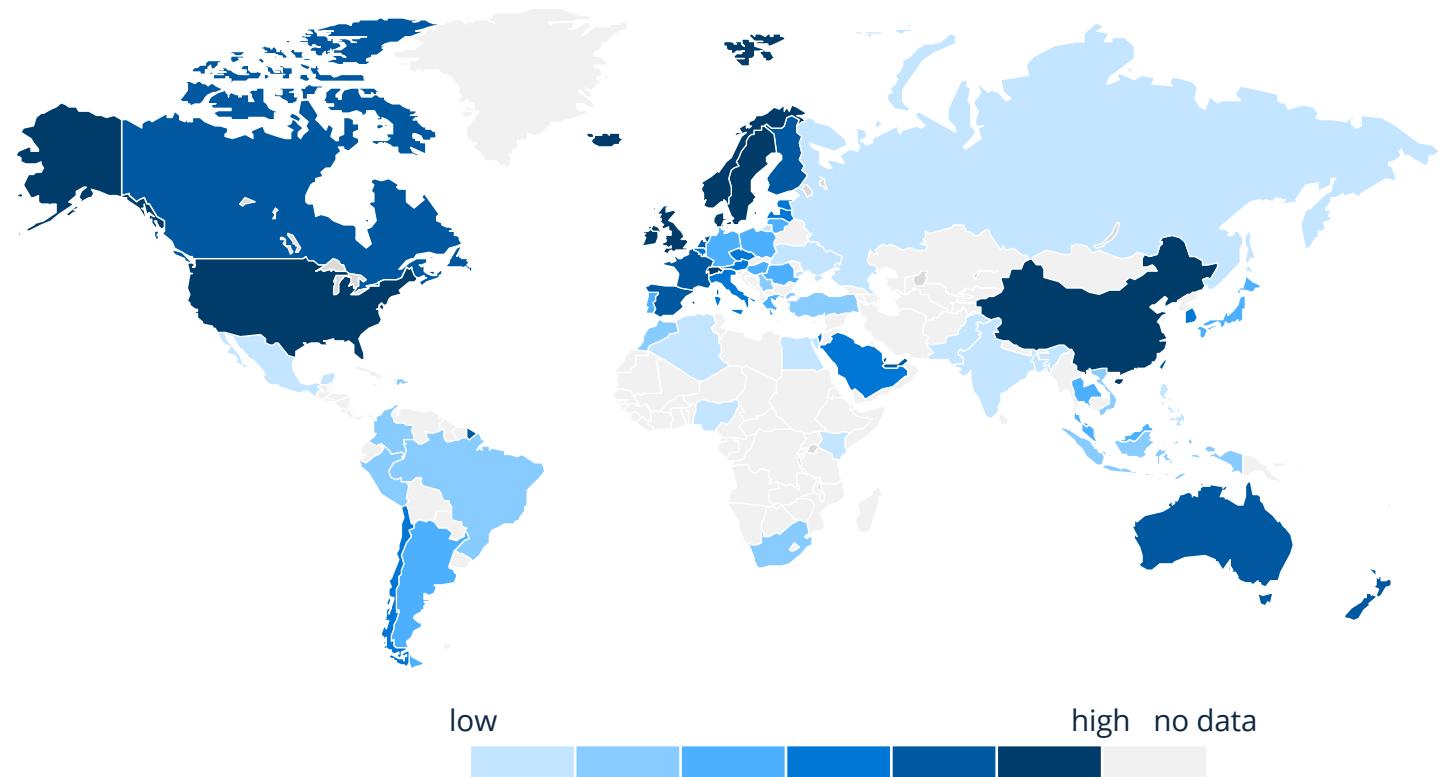
■ AR eCommerce ■ AR Gaming ■ AR Social Media

Penetration rate for AR Software is especially high in Norway but also in Sweden

Penetration rate: worldwide comparison

AR Software penetration rate per country in 2022

1.	Norway	0.57
2.	Sweden	0.56
3.	United States	0.53
4.	Denmark	0.53
5.	Iceland	0.52



SEGMENTS

AR Hardware

Market size

User numbers

Average revenue per user

Penetration rate



Metaverse is driving the demand for AR hardware in the upcoming years

Overview: assumptions and trends

Assumptions

In our forecast, we assume a market that is still in its early stages, especially the market before 2022. Consumers first need to get familiar with these new concepts and experiences, that it will need some adjustment time.

Given that, we assume the market to increase tremendously in the upcoming years, especially due to the market entrance of Apple. The market will follow strong double-digit growth as products will be cheaper throughout the years and more accessible for consumers. Given all the current developments of the Metaverse, AR hardware will be a crucial factor in combining these concepts with our real-world perception.

Constant competitiveness between the big players, such as Meta, Google, Microsoft and soon Apple are keen for this steady growth. The idea is to not only offer exclusive, high-tech products, but rather try to offer something that can be used from all consumers, that are interested in living these experiences.

Trends

One key focus that is currently ongoing in the development and emergence of AR hardware, is the establishment for high resolution displays. Glasses need to have displays that can combine the physical and virtual extent, that it is almost indistinguishable for consumers.

In order to improve content for consumers, eye tracking and hand tracking is constantly boosting in development, to better locate content consumers are looking at. This will increase the connection between the consumers and what is perceived by individuals.

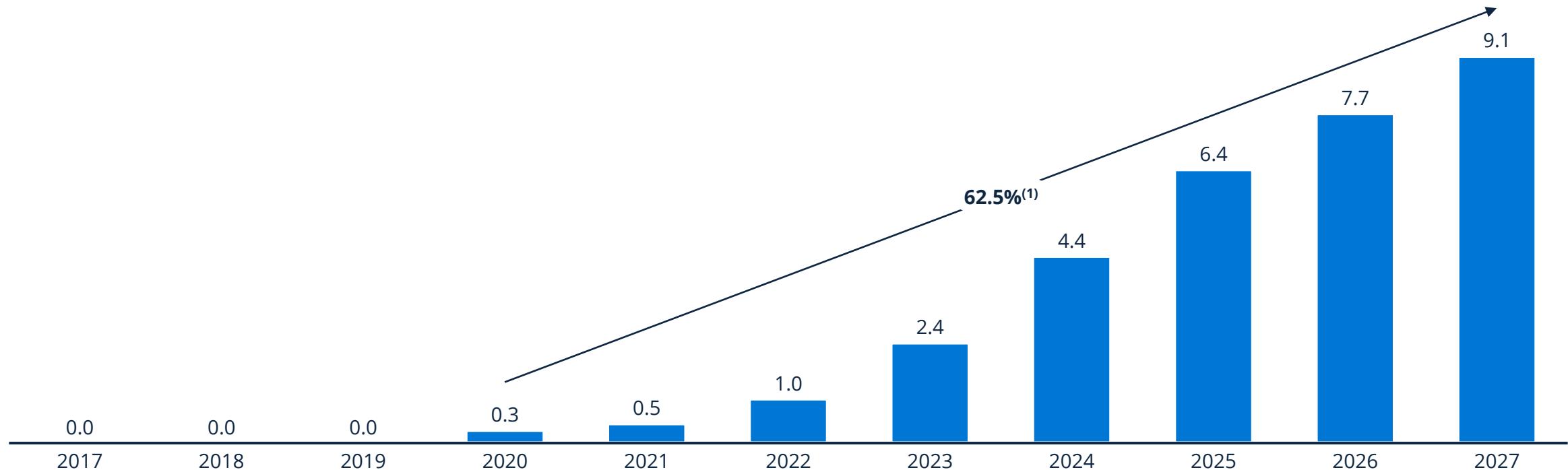
But not only the visual components will be improved, but also the audio experience. That will help consumers to feel more connected to their environment and can help to add additional dimensions to consumers' experience.

All of these trends come together, in order to shift one big topic in global presence and make it as accessible as it can get. With an idea of the Metaverse, developers are trying to merge virtual and real worlds.

The global AR Hardware revenue is expected to grow at a CAGR⁽¹⁾ of 62.5% to US\$9.1 billion by 2027

Market size: revenues

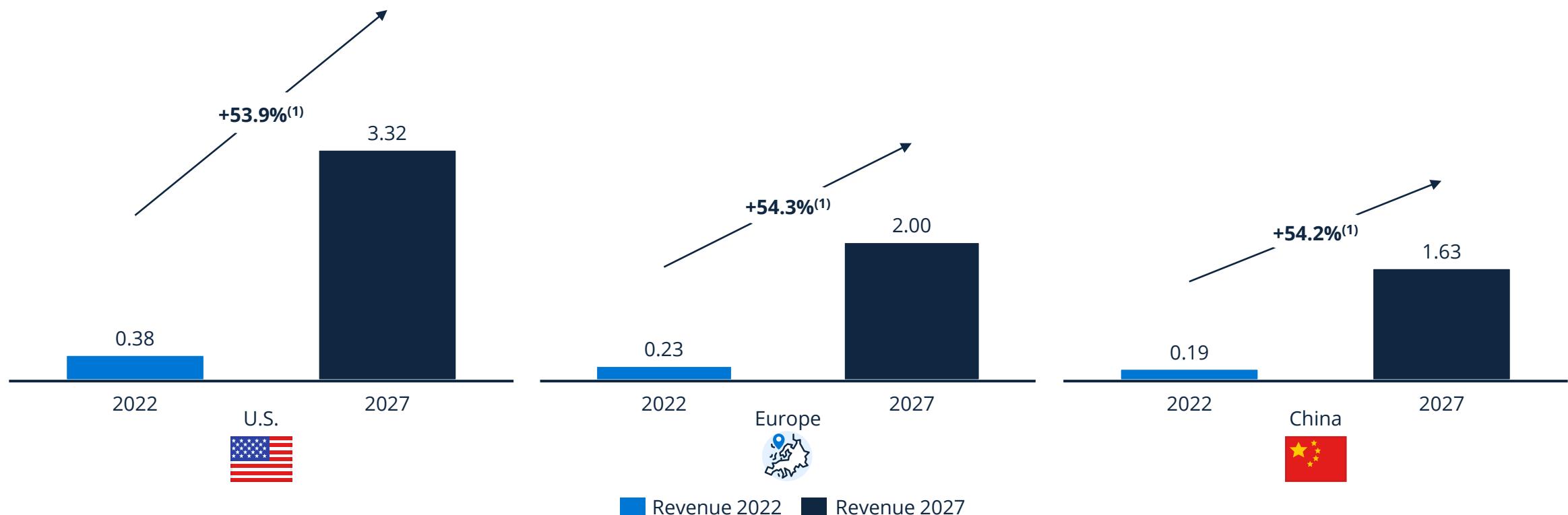
Global revenue forecast in billion US\$



Europe shows the biggest growth in AR Hardware with a CAGR⁽¹⁾ of 53.9%

Market size: regional comparison (1/2)

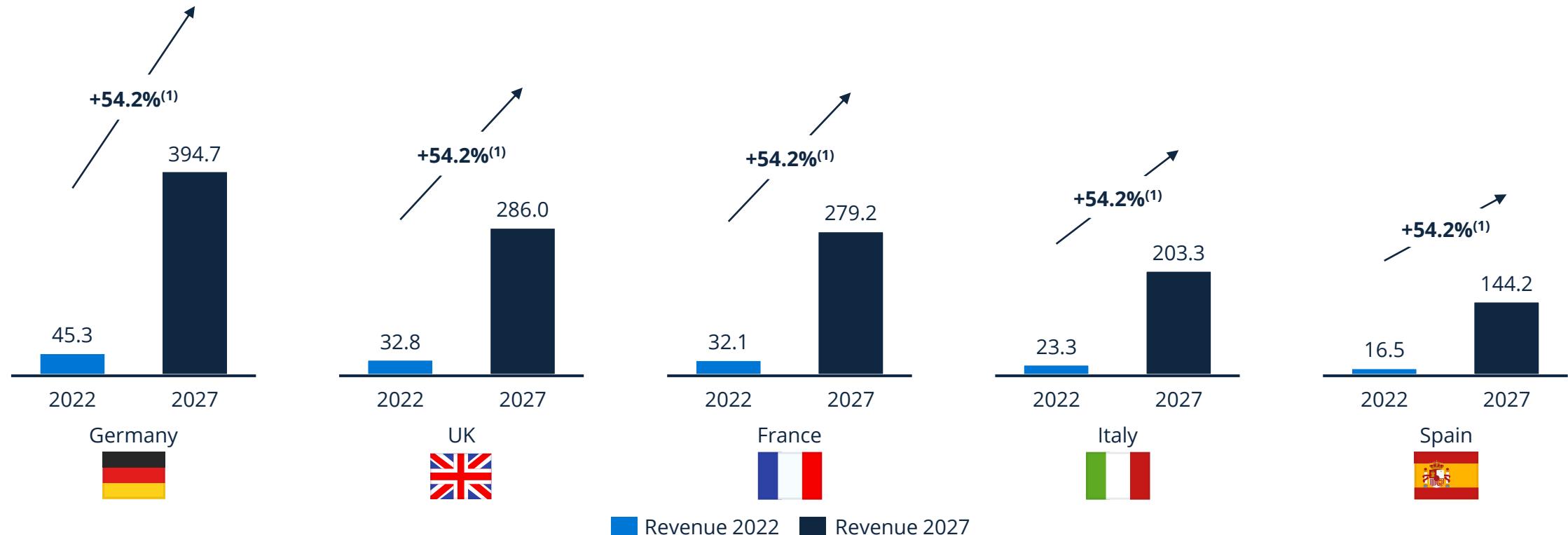
Revenue forecast in billion US\$



With revenues of US\$45.3 million, Germany is the biggest market in 2022

Market size: regional comparison (2/2)

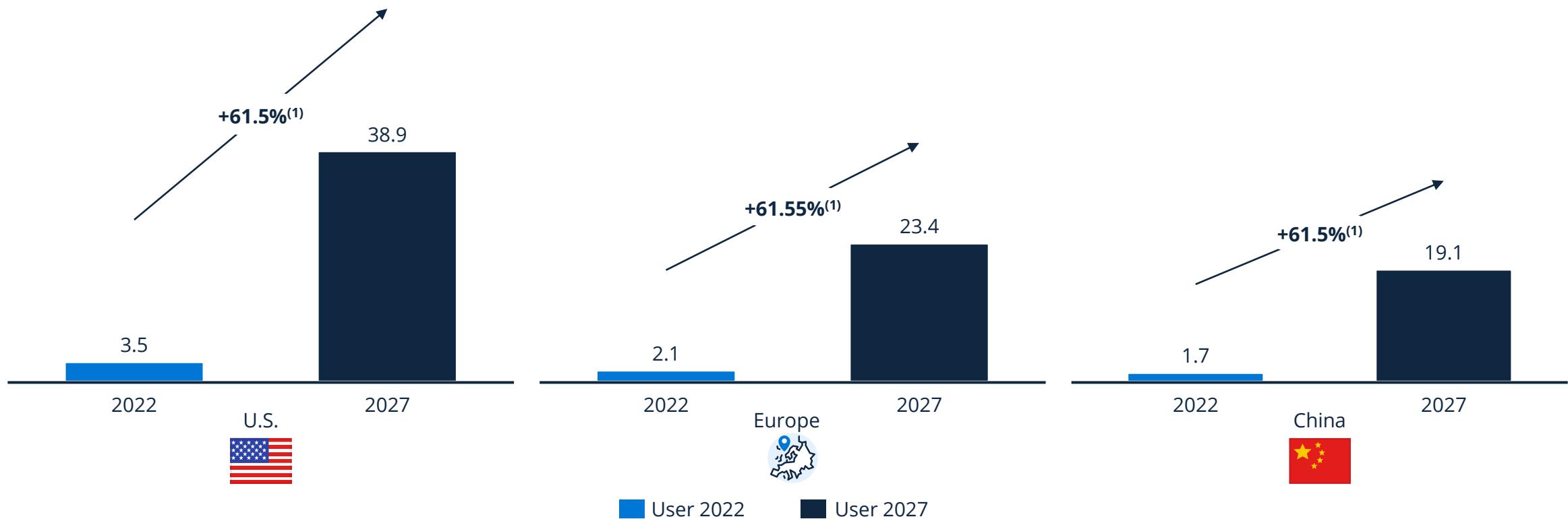
Revenue forecast in million US\$



By 2027, most AR Hardware users will still live in the U.S.

User numbers: regional comparison (1/2)

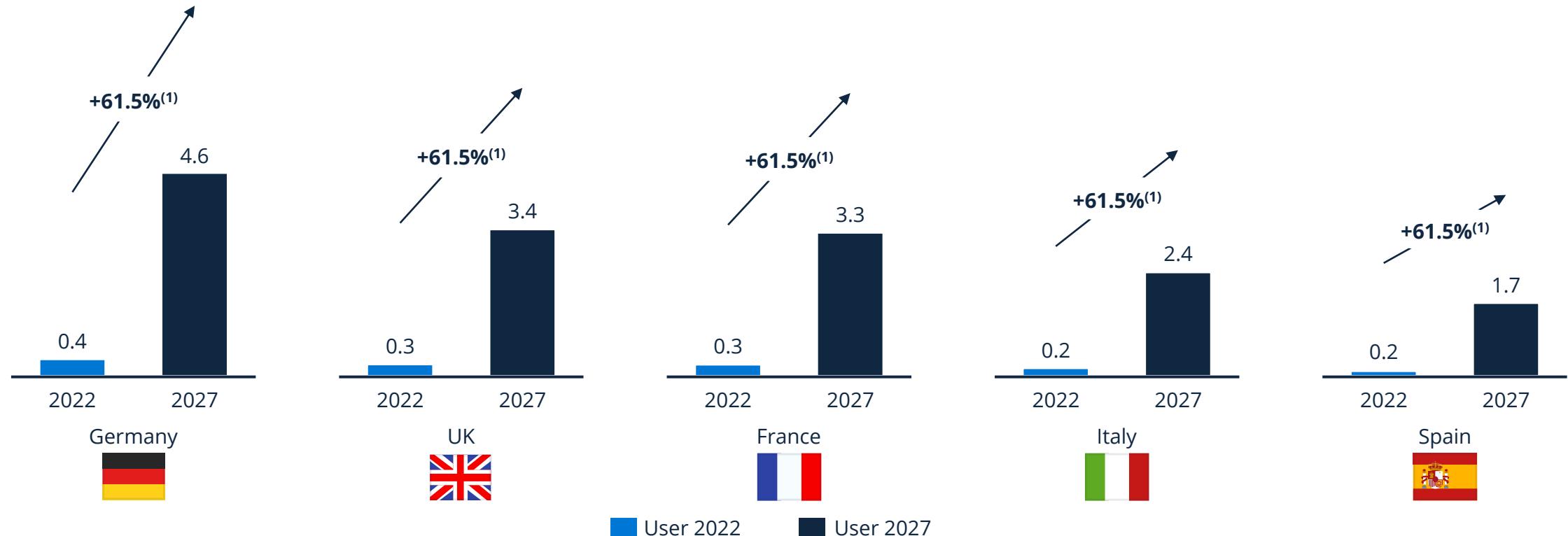
Number of users forecast in millions



Germany shows the strongest demand for AR Hardware in 2027

User numbers: regional comparison (2/2)

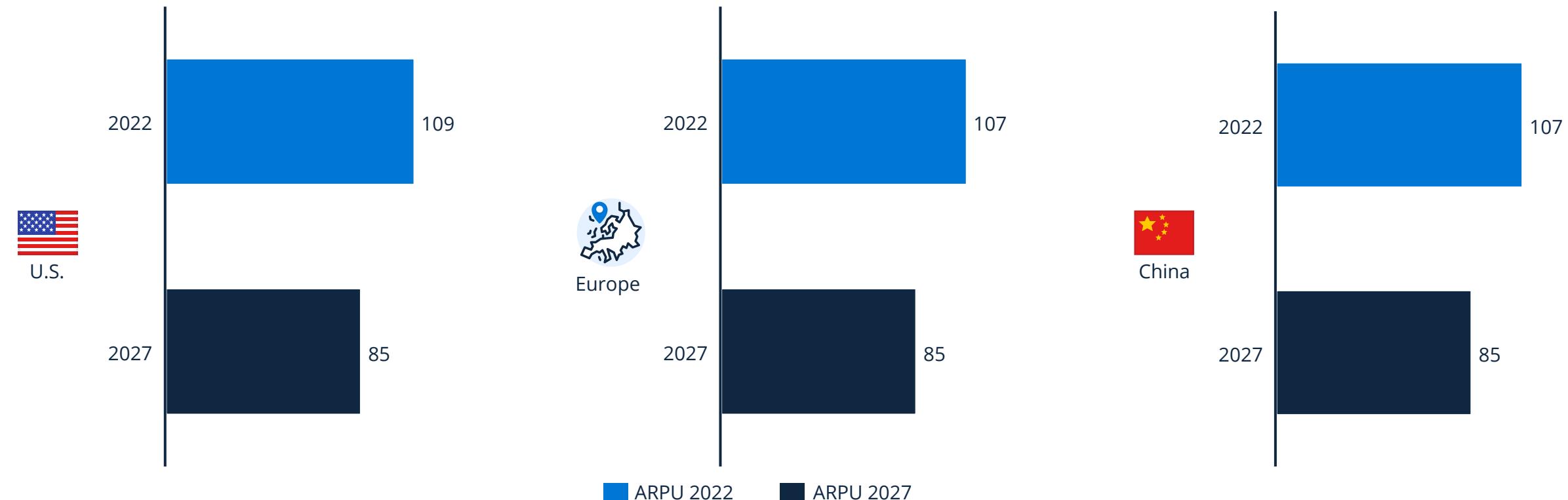
Number of users forecast in millions



Out of the three major regions, users in the U.S. spend the most on AR Hardware

Average revenue per user: regional comparison (1/2)

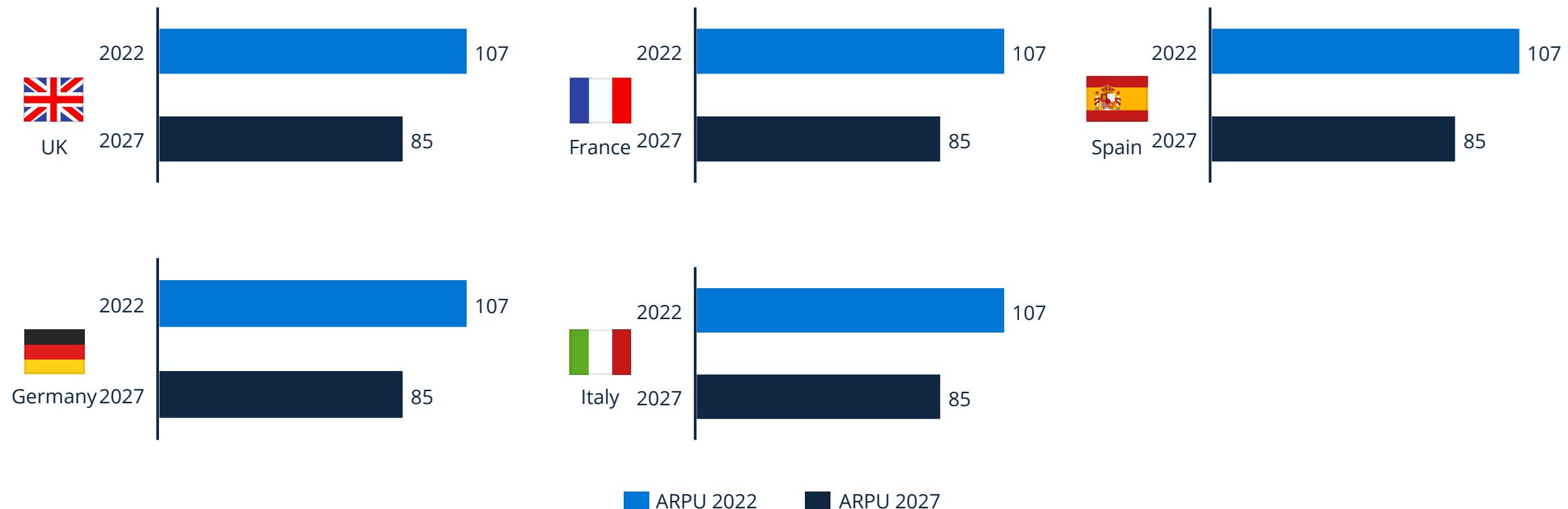
Average revenue per user forecast in US\$



AR Hardware average revenue per user is homogenous across European countries

Average revenue per user: regional comparison (2/2)

Average revenue per user forecast in US\$

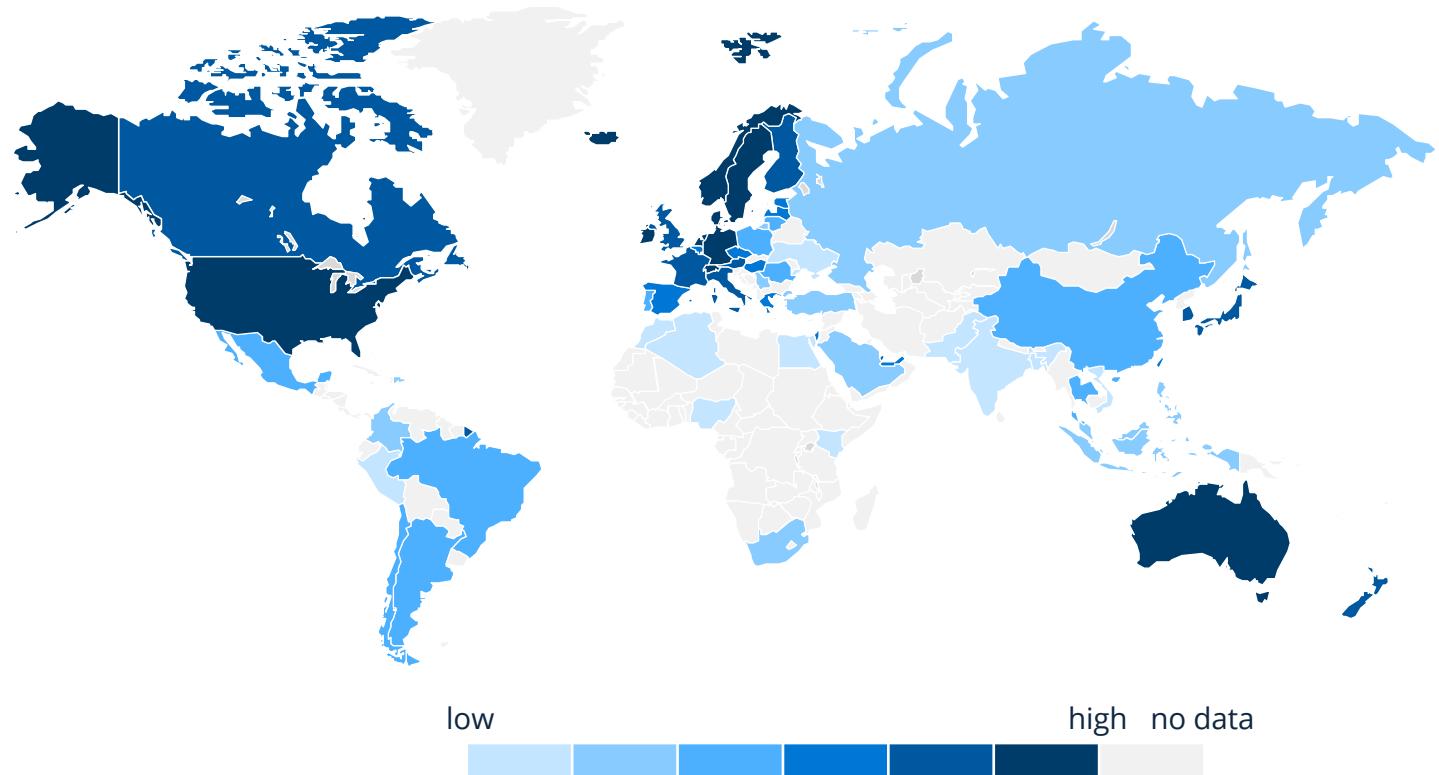


Penetration rate for AR Hardware is especially high in Australia but also in Iceland

Penetration rate: worldwide comparison

AR Hardware penetration rate per country in 2022

1.	Australia	0.01
2.	Iceland	0.01
3.	United States	0.01
4.	Norway	0.01
5.	Sweden	0.01



SEGMENTS

AR Advertising

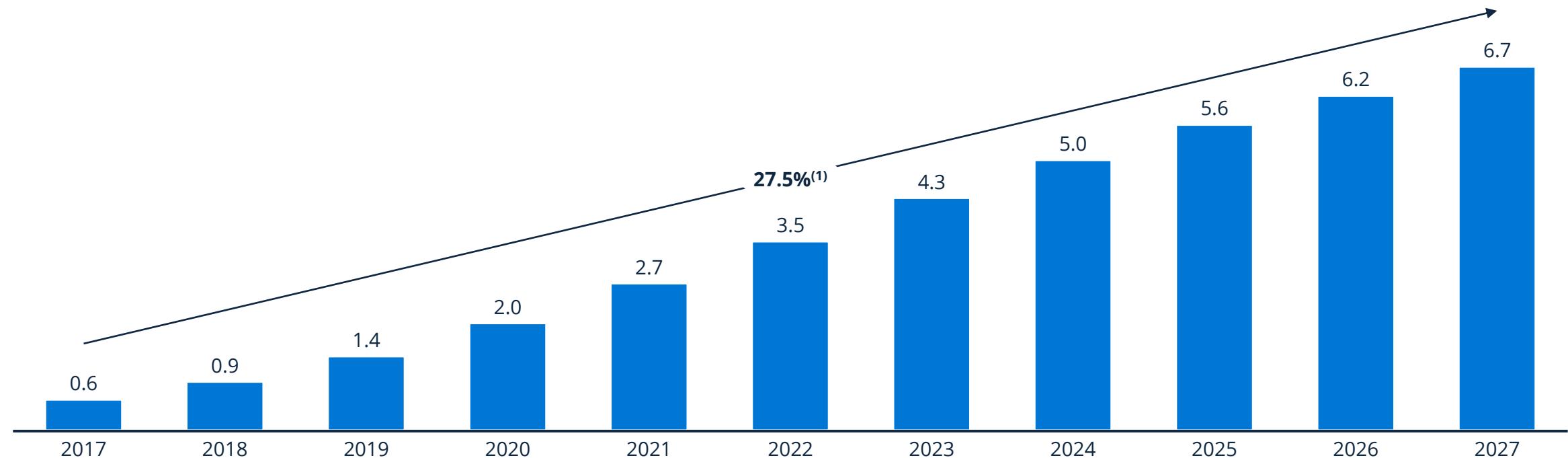
Market size



The global AR Advertising revenue is expected to grow at a CAGR⁽¹⁾ of 27.5% to US\$6.7 billion by 2027

Market size: revenues

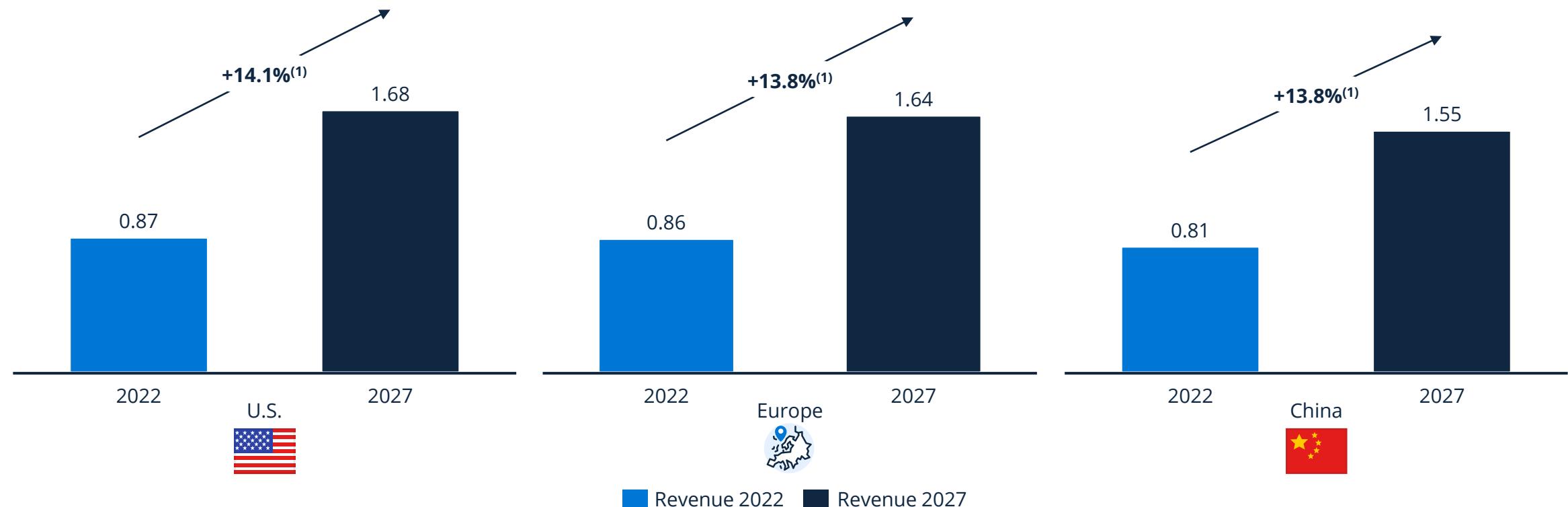
Global revenue forecast in billion US\$



The U.S. shows the biggest growth in AR Advertising with a CAGR⁽¹⁾ of 14.1%

Market size: regional comparison (1/2)

Revenue forecast in billion US\$



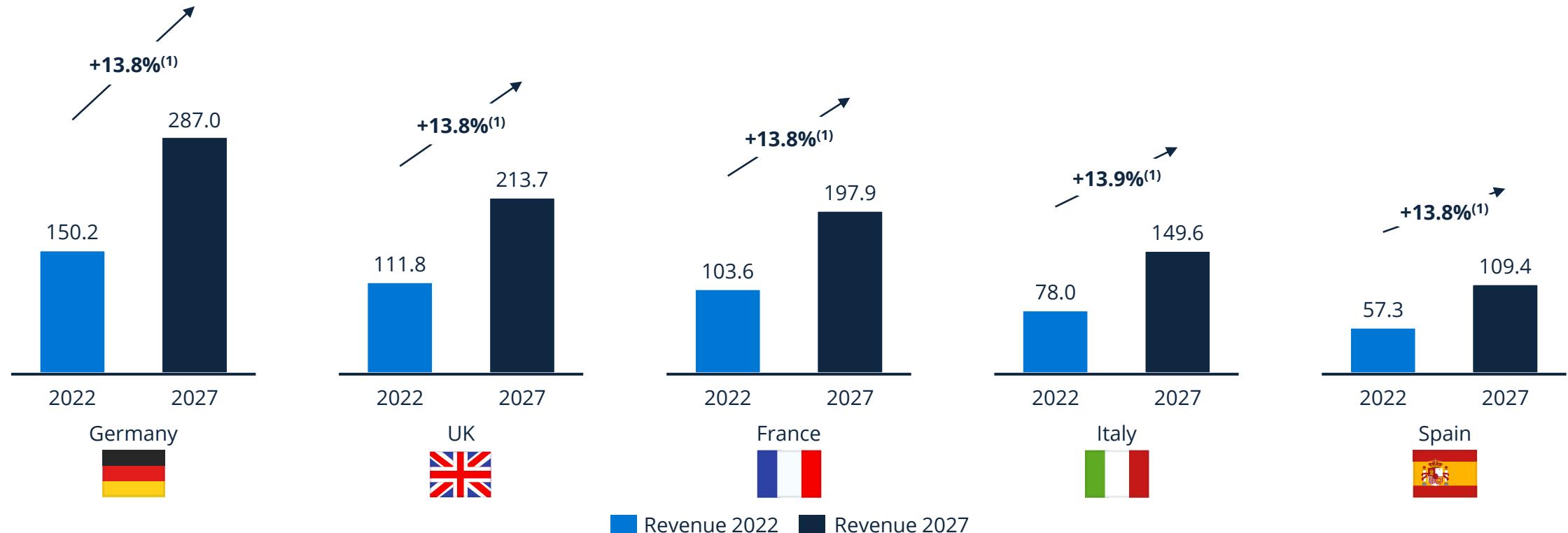
44 | Notes: (1) CAGR: Compound Annual Growth Rate / average growth rate per year

Sources: Statista Advertising & Media Outlook 2022

With revenues of US\$150.2 million, Germany is the biggest market in 2022

Market size: regional comparison (2/2)

Revenue forecast in million US\$



SEGMENTS

AR Company profiles



Google is one of the key players in the AR industry

Company profiles: Google



Google key facts

Revenue: **US\$256.74 billion (2021)**

Average uses of Google

Lens per month: **3 billion (2021)**

Play Store installs: **>1 billion (Oct. 2021).**

Google users: **4.3 billion (2022)**

Launched: **2017**

Headquarters: **Mountain View, U.S.**

Countries where Google owns more than 85% market share



Product: Google Lens, AR language translation glasses

Launched in 2017, Google Lens is an AI technology that can identify objects in front of the camera, translate text, shop for identification and search for similar items by using deep machine learning algorithms and a smartphone's camera. Nowadays the program also recognizes faces, buildings, and street signs, replacing normal web searching. In addition to the Lens technology, in 2022, at the end of their I/O presentation, Google announced a new project: AR glasses whose main purpose is displaying audible real-time language translations. Google's first attempt at AR technology, Google Glasses, has reportedly failed due to a few significant reasons, their design, data collection purposes, and price among them.

Google's digital strategy

Google Lens might become a significant change in the digital marketing industry, making it easier for brands to attract the right customers and for Google itself to capitalize on the data that the customers provide with their scanning history. By potentially merging Google Lens with Google Analytics, Google can sell data to businesses, brands, and advertisers. By using SEO, Google provides users with a tool that compares a scanned item with similar items available for sale, which is a highly beneficial targeted marketing technique.

Snapchat's developed AI lenses technology used for shopping, social interaction and more

Company profiles: Snapchat

Snap Inc.

Snapchat key facts

Revenue: **US\$4.1 billion (2021)**

CAGR⁽¹⁾: **63% (2020 to 2021)**

Number of lenses: **>1m (Q1 2021)**

Number of global users: **428.4m (2021)**

Founded: **2011**

Developer: **Snap Inc.**

Product: Snapchat Lenses

Snapchat is a multimedia instant messaging app developed by Snap Inc. The main feature of the app is its AR technology implemented in "lenses": virtual stickers and objects that can manipulate users' facial features, the environment, and surfaces around them. Snapchat also developed wearable AI glasses Spectacles, which allow users to bring Snapchat AR into the real world and gives them the opportunity to share the experience right from Spectacles to Snapchat itself by using its built-in "snap" function.

Countries with over 100 million Snapchat users



Snapchat's digital strategy

Outside of in-app advertising, Snapchat announced new partnership with Amazon, making it possible for the users to try on different models of eyewear, including Oakley, Costa Del Mar, Persol and Maui Jim. By now it is also possible to try on clothes, footwear, make-up and other beauty products by using the new feature called Dress Up. Snapchat also allows companies to market their product by creating individual Lenses related to it for users to play with. This way, around 99% of the revenue comes from in-app online advertising, where just around 1% comes from the sale of Snap Spectacles, the AI glasses.

Nintendo changed its strategy to become competitive in the Mobile Games market

Company profiles: Niantic



Niantic key facts

Revenue: **US\$1,043 million (2020)**

CAGR⁽¹⁾: **10.2% (2019 to 2020)**

Number of employees: **655 mio. (2020)**

Pokémon Go downloads: **596 mio. (2022)**

Founded: **2015**

Headquarters: **San Francisco, USA**

Availability of Nintendo eShop in 89 countries



Product: Nintendo eShop

In 2011, Nintendo launched its latest digital distribution service called Nintendo eShop. Initially only available on the Nintendo 3DS, the eShop can now be accessed on the Wii U as well as on the Switch, enabling users to download fee-based games, free demo versions, and apps like YouTube. Furthermore, the eShop features information on (upcoming) games and lets customers give feedback by rating specific titles. Recently, Nintendo announced that the eShop's Switch library now offers more than 1,000 games.

Nintendo's digital strategy

Nintendo's long-standing policy was not to release their own content on third party platforms but on only their proprietary console through their distribution service called Nintendo eShop. This policy did not allow them to participate in the huge and fast-growing field of Mobile Games. After net sales had decreased from 2015 to 2016 by almost 10%, Nintendo refrained from their platform-reliant approach and announced their first home-developed mobile game. This was the first step towards monetizing their huge intellectual property in the field of Mobile Games, be it as their own games or as franchises in cooperation with developers.

SEGMENTS

VR Software

Market size

User numbers

Average revenue per user

Penetration rate



VR gaming will be more prevalent within gaming in the next years

Overview: assumptions and trends

Assumptions

We assume a strong growth within the market, especially in the past year due to the covid-19 pandemic, digital consumption did go up, similar to video game and video consumption.

The VR gaming market is driven by a lot of new developments within the gaming industry, but also by constantly improving technology. New and better headsets will further increase the demand for VR, as consumers want to increase their gaming experience and try out something new. We expect strong double-digit growth in the next 2 years, already having witnessed strong years of growth.

However, VR video is a very niche segment and is not the main driver for the demand in VR and VR hardware. Even though it will still grow throughout the years, as more and more possibilities arise, the driving force of VR software will be the gaming segment.

Trends

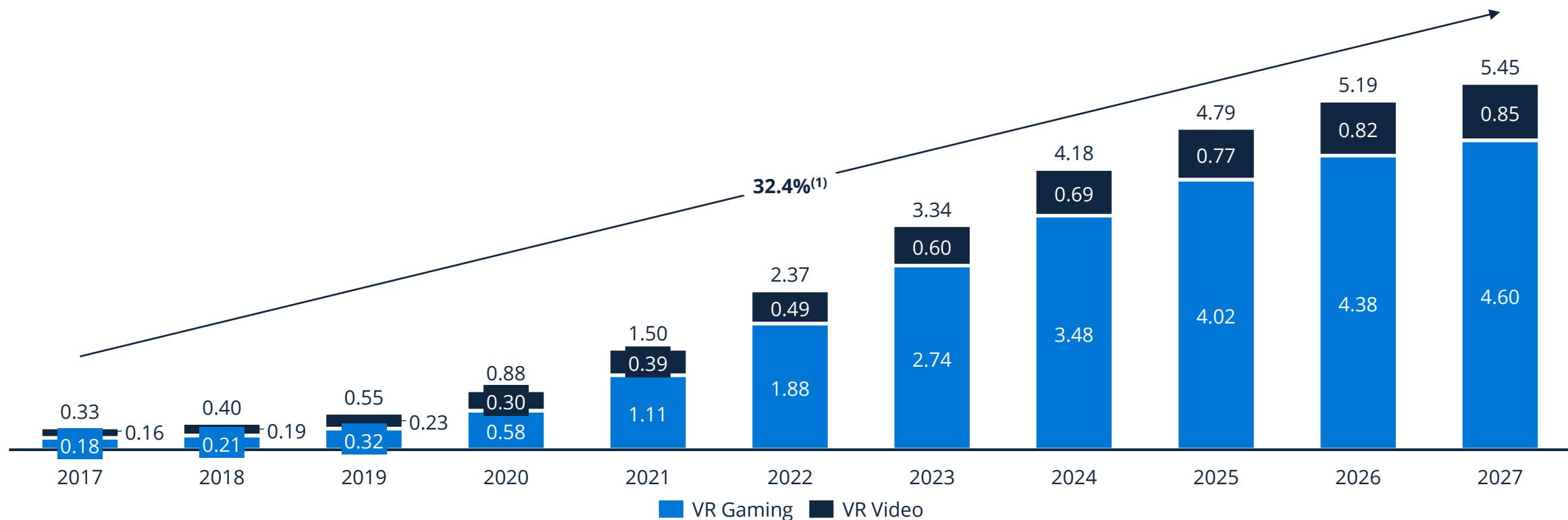
Better and cheaper hardware will boost the demand for VR software. New technologies will be added in the future, for consumers to have an even more realistic experience. Along goes the development of VR games, that is currently taking place. Many companies have entered the market and invested a vast amount of capital in the past years, to get a foot into this promising industry.

New software will guide the path to a Metaverse that aims to connect people from all over the globe. The development will further go down the road as time goes by and so does the demand for Virtual Reality. Companies like Meta are working with full force on producing concepts and creating virtual worlds full of gaming, shopping, video and all other kinds of social experiences, that are accessible through the internet.

The global VR Software revenue is expected to grow at a CAGR⁽¹⁾ of 32.4% to US\$5.5 billion by 2027

Market size: revenues

Global revenue forecast in billion US\$



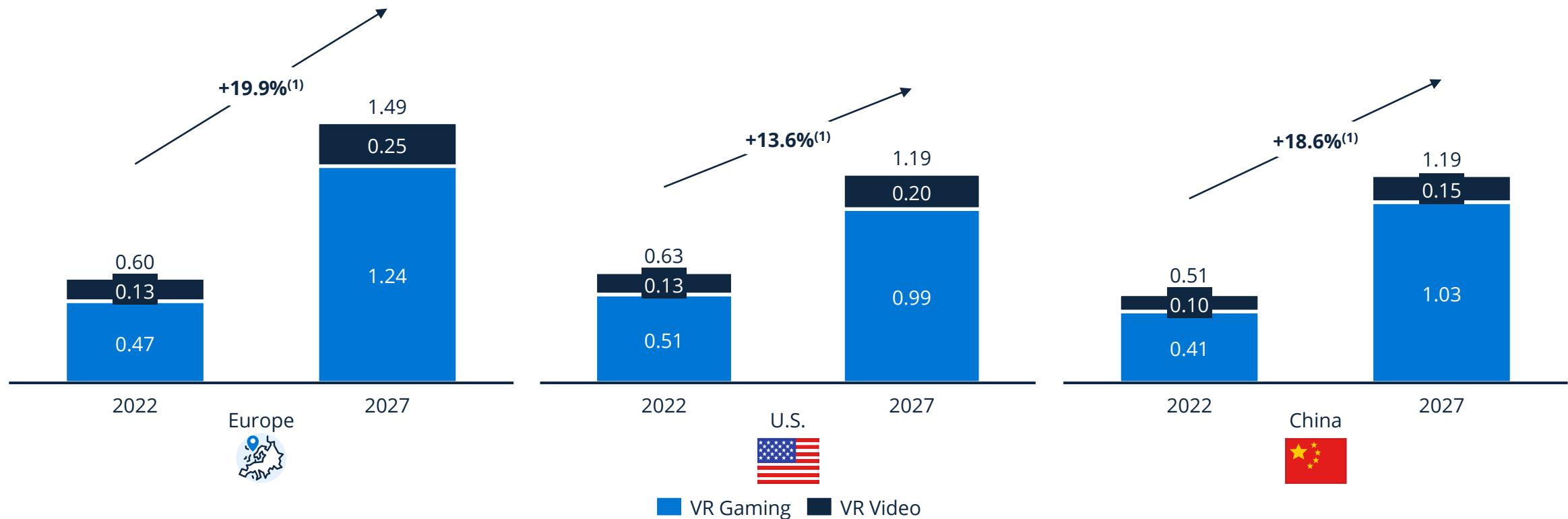
52 | Notes: (1) CAGR: Compound Annual Growth Rate / average growth rate per year

Sources: Statista Advertising & Media Outlook 2022

Europe shows the biggest growth in VR Software with a CAGR⁽¹⁾ of 19.9%

Market size: regional comparison (1/2)

Revenue forecast in billion US\$



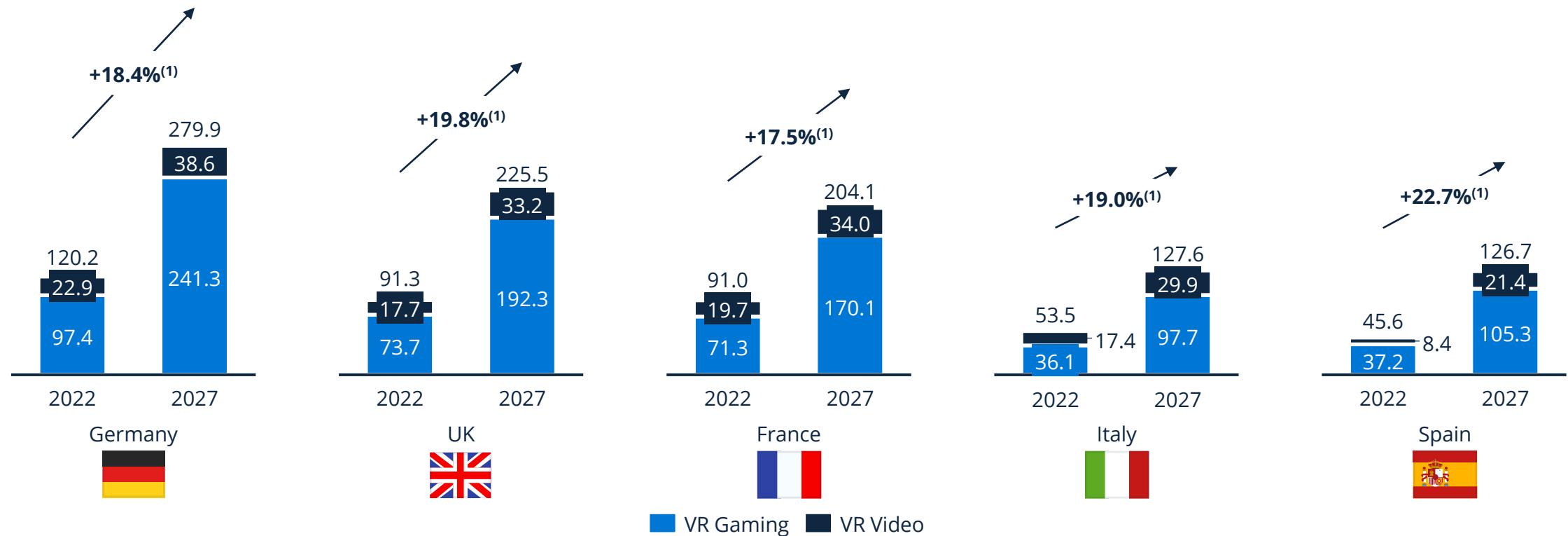
53 | Notes: (1) CAGR: Compound Annual Growth Rate / average growth rate per year

Sources: Statista Advertising & Media Outlook 2022

With revenues of US\$120.2 million, Germany is the biggest market in 2022

Market size: regional comparison (2/2)

Revenue forecast in million US\$



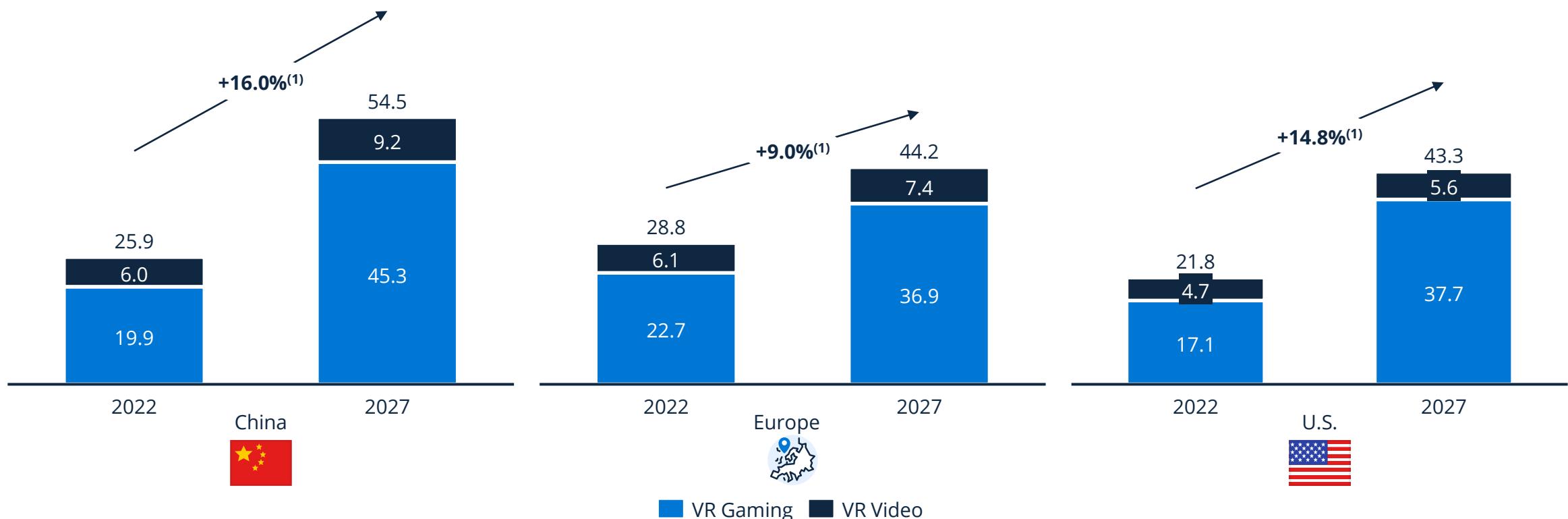
54 Notes: (1) CAGR: Compound Annual Growth Rate / average growth rate per year

Sources: Statista Advertising & Media Outlook 2022

By 2027, most VR Software users will live in China

User numbers: regional comparison (1/2)

Number of users forecast in millions



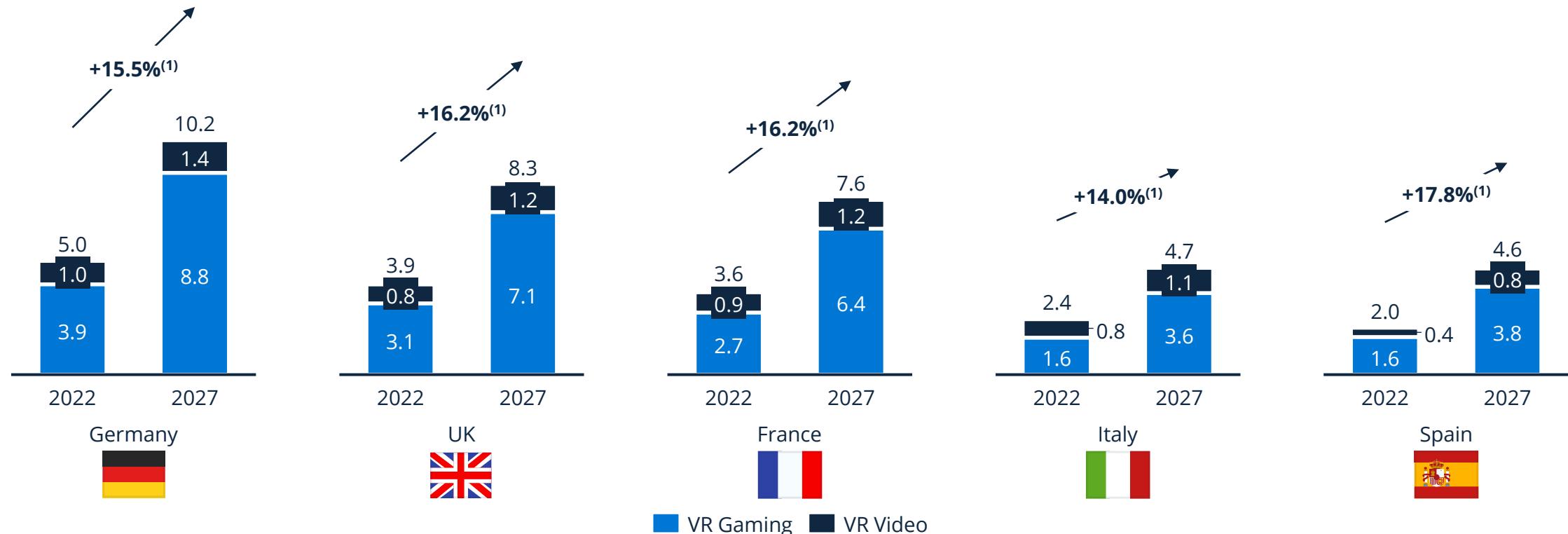
55 | Notes: (1) CAGR: Compound Annual Growth Rate / average growth rate per year

Sources: Statista Advertising & Media Outlook 2022

Germany shows the strongest demand for VR Software in 2027

User numbers: regional comparison (2/2)

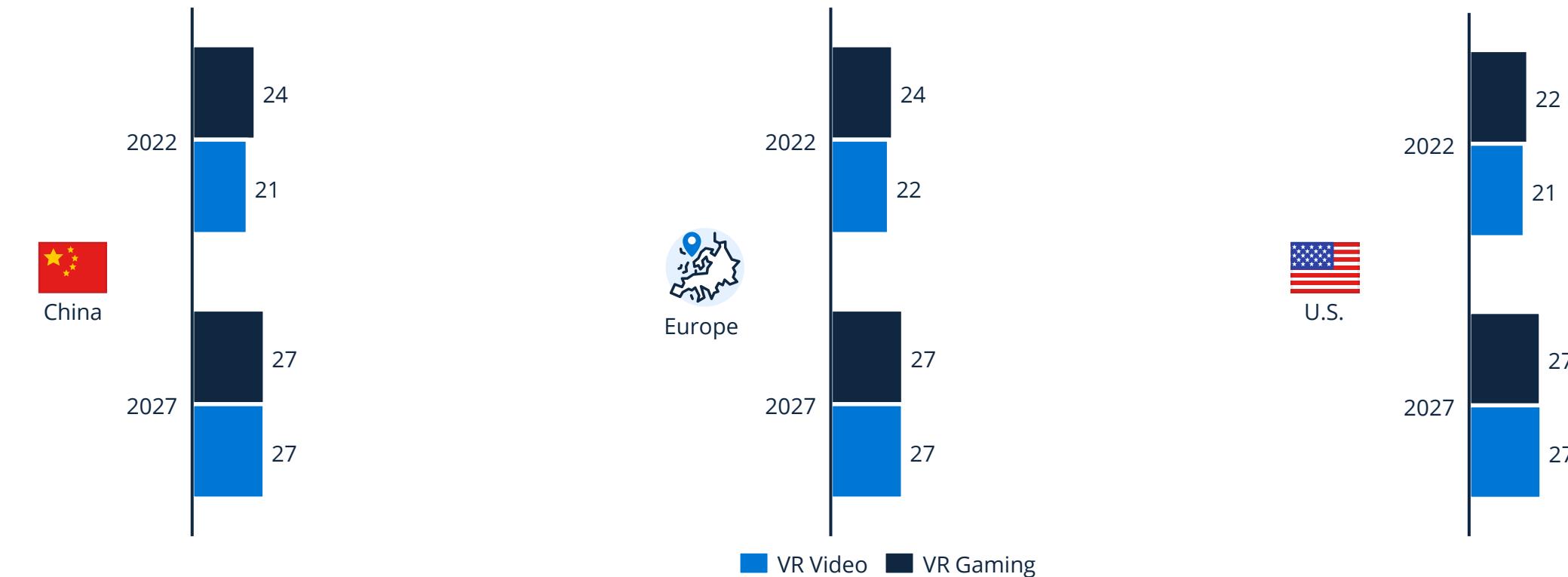
Number of users forecast in millions



Out of the three major regions, users in China spend the most on VR Software

Average revenue per user: regional comparison (1/2)

Average revenue per user forecast in US\$



%biggestsegment average revenue per user is the highest in %biggestcountry

Average revenue per user: regional comparison (2/2)

Average revenue per user forecast in US\$



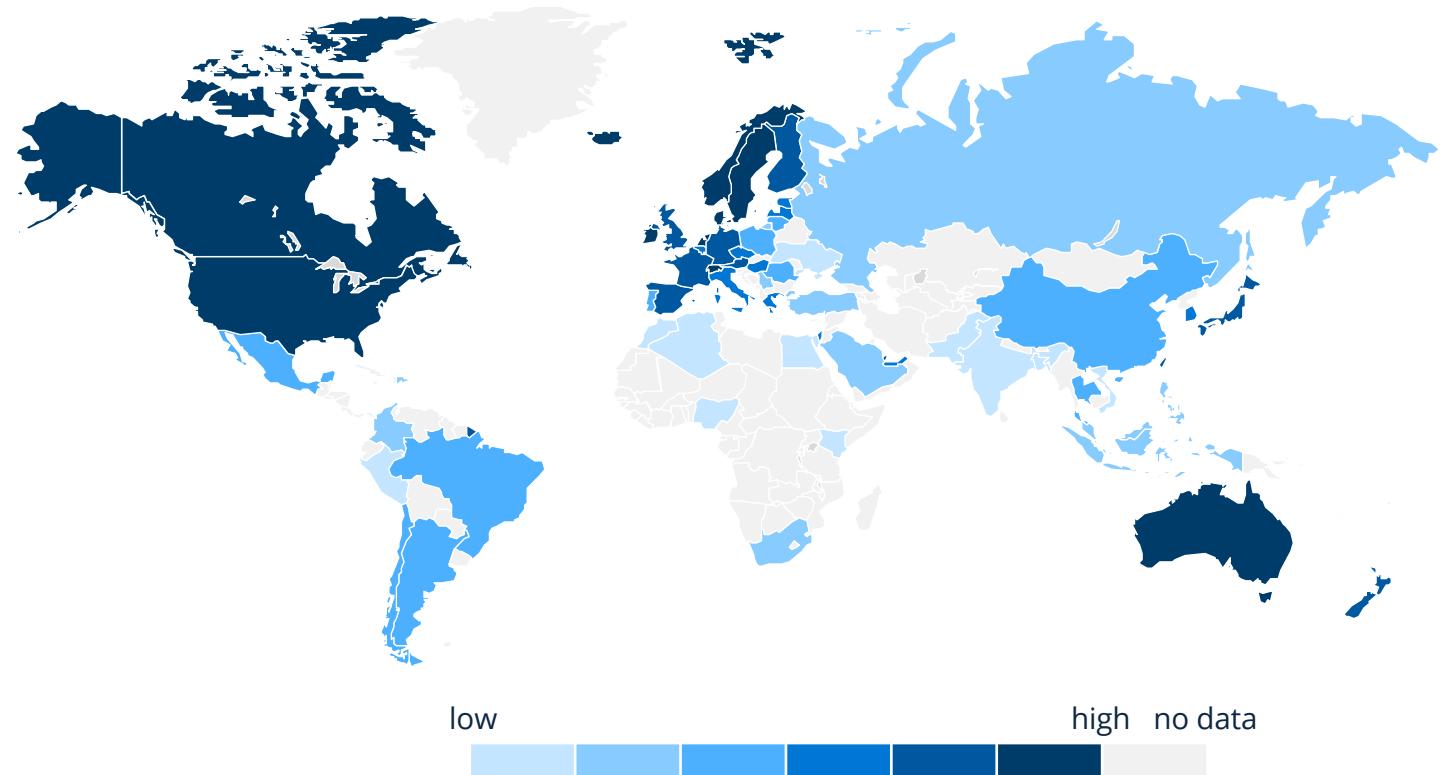
■ VR Video ■ VR Gaming

Penetration rate for VR Software is especially high in Norway but also in the United States

Penetration rate: worldwide comparison

VR Software penetration rate per country in 2022

1.	Norway	0.07
2.	United States	0.07
3.	Sweden	0.07
4.	Switzerland	0.07
5.	Australia	0.06



SEGMENTS

VR Hardware

Market size

User numbers

Average revenue per user

Penetration rate



Music Streaming services try to win over non-paying subscribers

Overview: assumptions and trends

Assumptions

In our forecast we expect strong growth throughout the years for VR hardware, especially for VR Standalone HMD (Head-mounted Displays) headsets, we have already seen strong growth in the past years, which will still be followed by double-digit growth up to 2026.

Given the rising demand of consumers to experience VR, the market is constantly growing. The competition within the market results in a large offer of products and affordable prices for VR headsets. Along with a growing gaming industry and new publishers developing more and more VR supported games. We assume a slower growth for VR Tethered HMD headsets, as they are more expensive and do need more capacity, which might hinge consumers to invest in such hardware and rather go with cheaper and easier to implement hardware.

Nevertheless, ongoing Metaverse developments are fundamental for further investments into VR hardware technology and further developments, that consumers have an even more realistic experience.

Trends

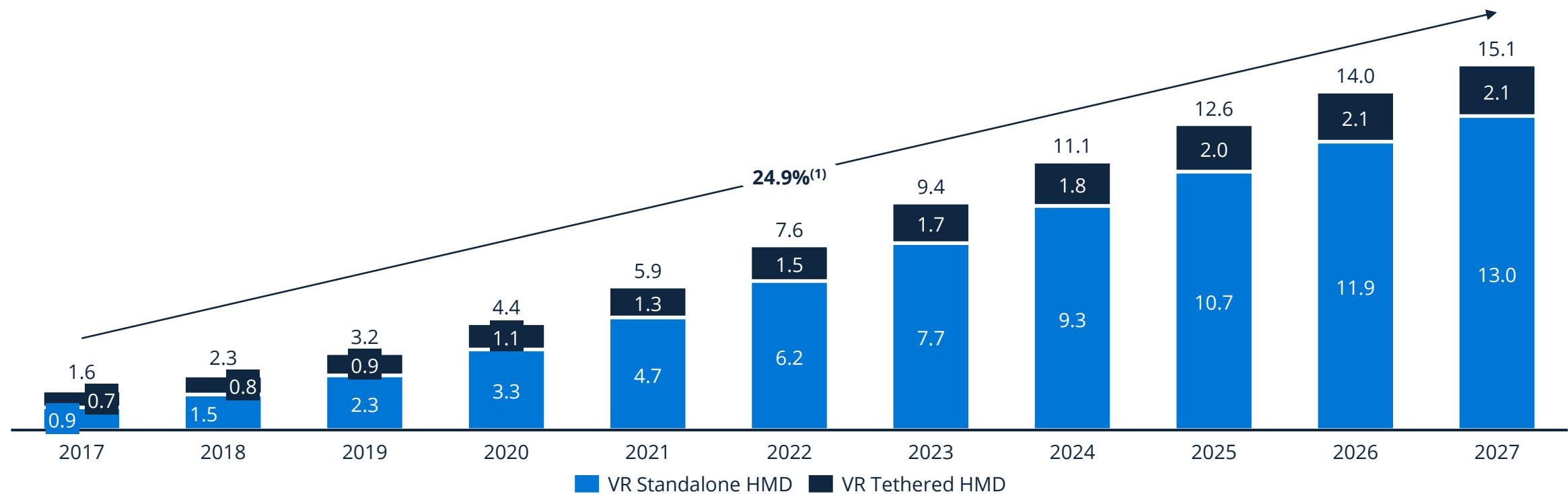
Better and cheaper hardware will boost the demand for VR software. New technologies will be added in the future, for consumers to have an even more realistic experience. Along goes the development of VR games, that is currently taking place. Many companies have entered the market and invested a vast amount of capital in the past years, to get a foot into this promising industry. Such as Meta, who are the market leader for VR headsets with their current model, the Oculus Quest 2, which is the most sold VR headset so far with over 15 million units since its launch in October 2020.

New software will guide the path to a Metaverse that aims to connect people from all over the globe. The development will further go down the road as time goes by and so does the demand for Virtual Reality. Companies like Meta are working with full force on producing concepts and creating virtual worlds full of gaming, shopping, video and all other kinds of social experiences, that are accessible through the internet.

The global VR Hardware revenue is expected to grow at a CAGR⁽¹⁾ of 24.9% to US\$15.1 billion by 2027

Market size: revenues

Global revenue forecast in billion US\$



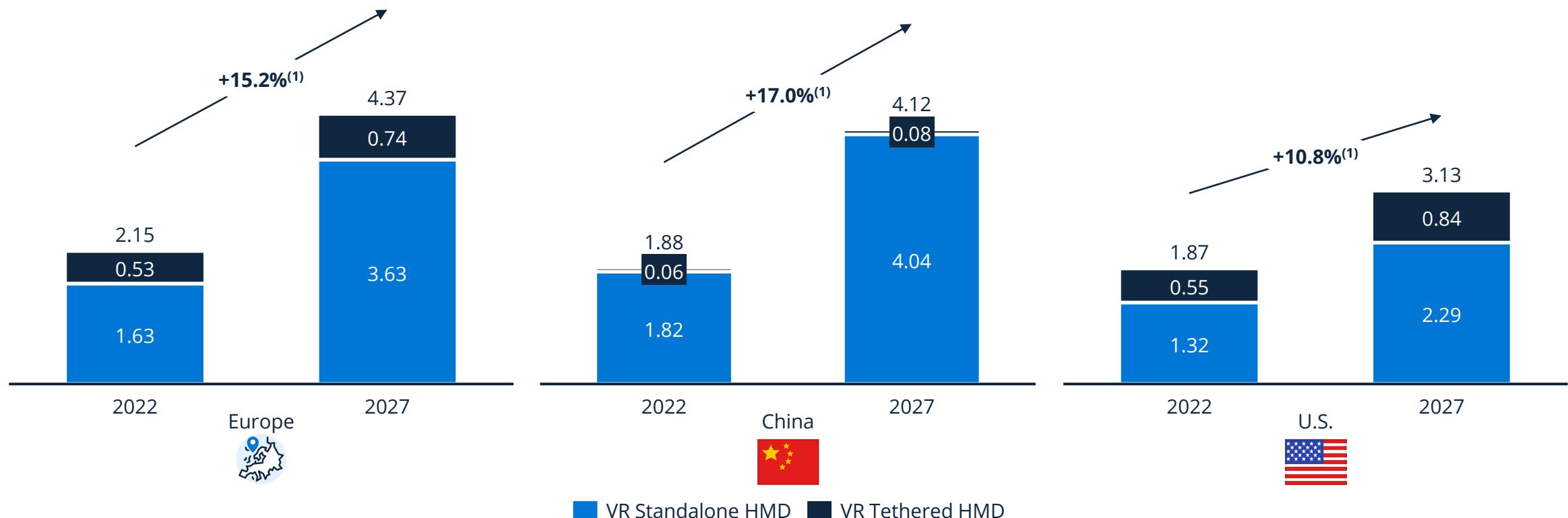
62 | Notes: (1) CAGR: Compound Annual Growth Rate / average growth rate per year

Sources: Statista Advertising & Media Outlook 2022

China shows the biggest growth in VR Hardware with a CAGR⁽¹⁾ of 17%

Market size: regional comparison (1/2)

Revenue forecast in billion US\$



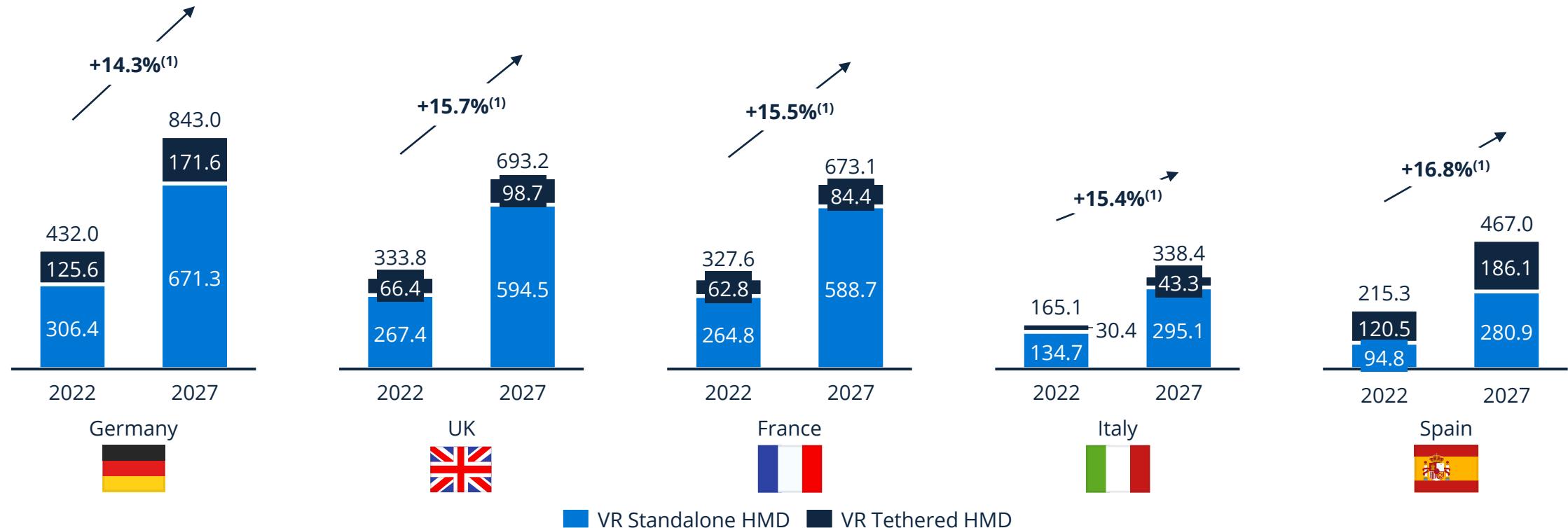
63 | Notes: (1) CAGR: Compound Annual Growth Rate / average growth rate per year

Sources: Statista Advertising & Media Outlook 2022

With revenues of US\$432 million, Germany is the biggest market in 2022

Market size: regional comparison (2/2)

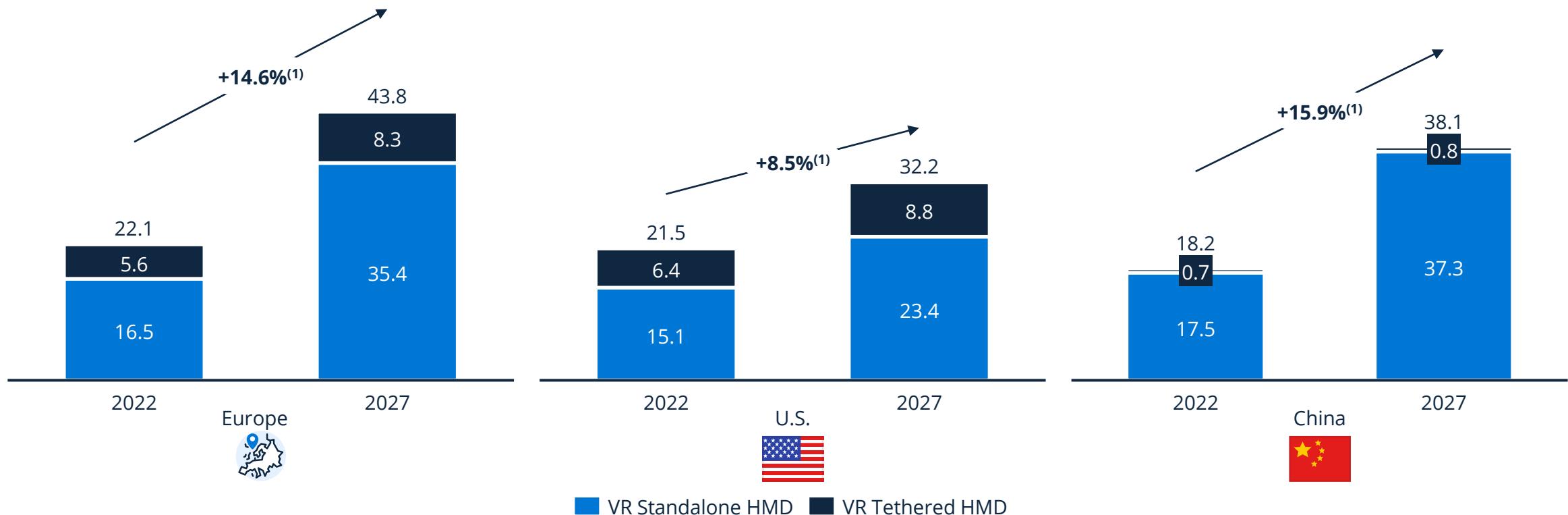
Revenue forecast in million US\$



By 2027, most VR Hardware users will still live in Europe

User numbers: regional comparison (1/2)

Number of users forecast in millions



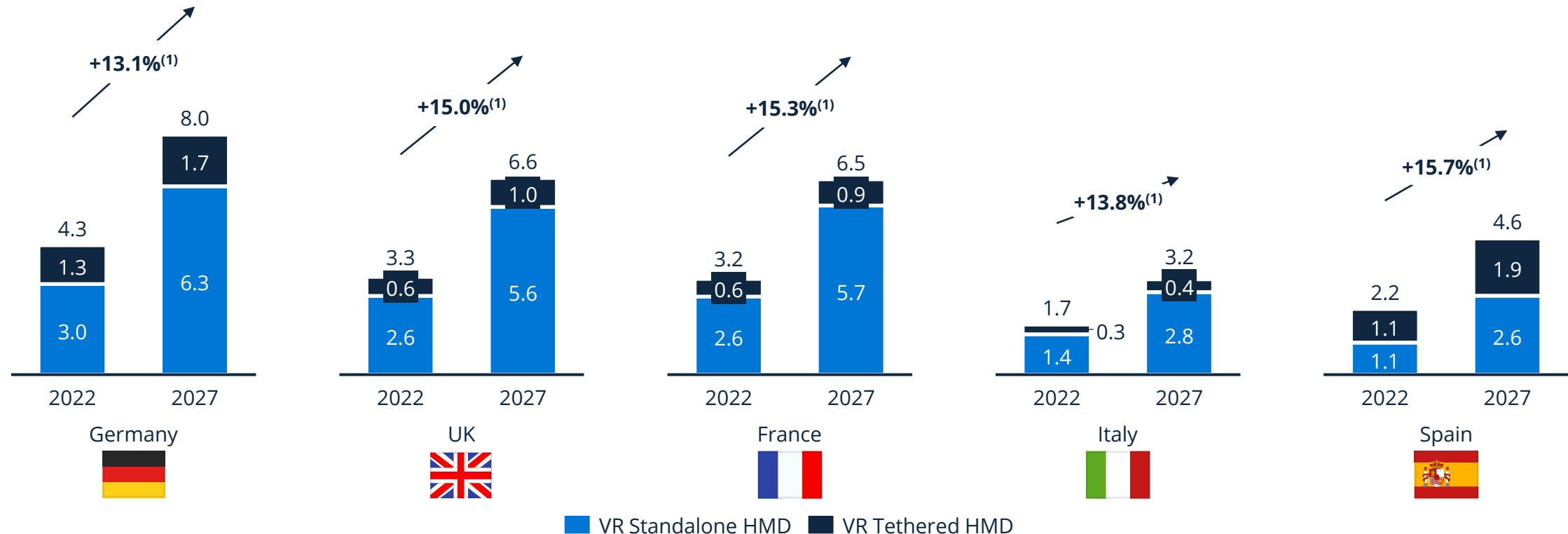
65 | Notes: (1) CAGR: Compound Annual Growth Rate / average growth rate per year

Sources: [Statista Advertising & Media Outlook](#) 2022

Germany shows the strongest demand for VR Hardware in 2027

User numbers: regional comparison (2/2)

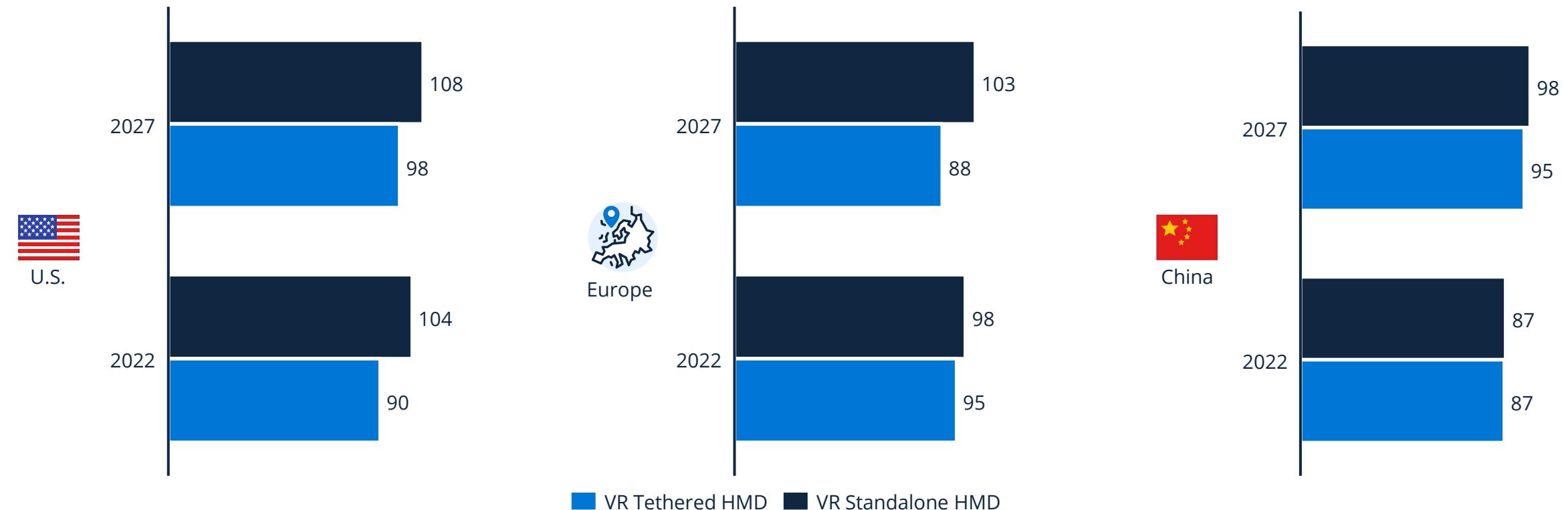
Number of users forecast in millions



Out of the three major regions, users in the U.S. spend the most on VR Hardware

Average revenue per user: regional comparison (1/2)

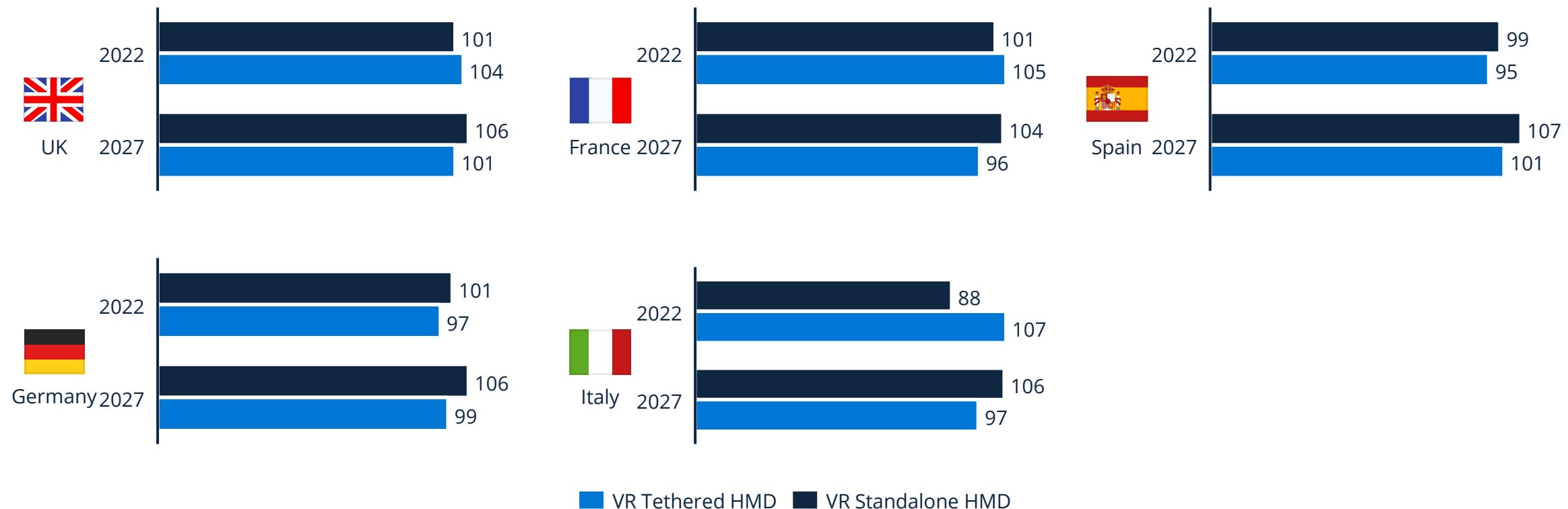
Average revenue per user forecast in US\$



VR Hardware average revenue per user is the highest in Italy

Average revenue per user: regional comparison (2/2)

Average revenue per user forecast in US\$

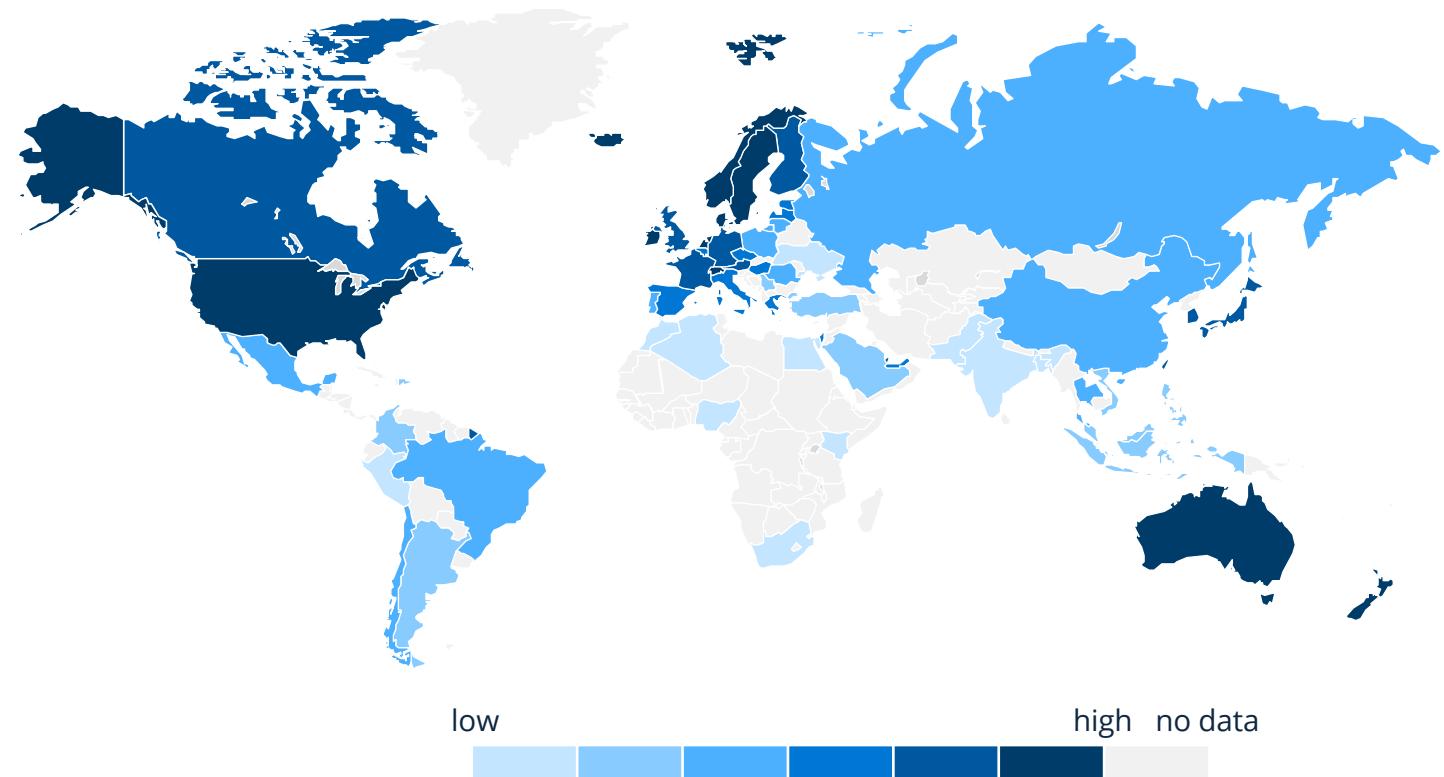


Penetration rate for VR Hardware is especially high in Sweden but also in Iceland

Penetration rate: worldwide comparison

VR Hardware penetration rate per country in 2022

1.	Sweden	0.07
2.	Iceland	0.07
3.	Australia	0.07
4.	Norway	0.06
5.	Switzerland	0.06



SEGMENTS

VR Advertising

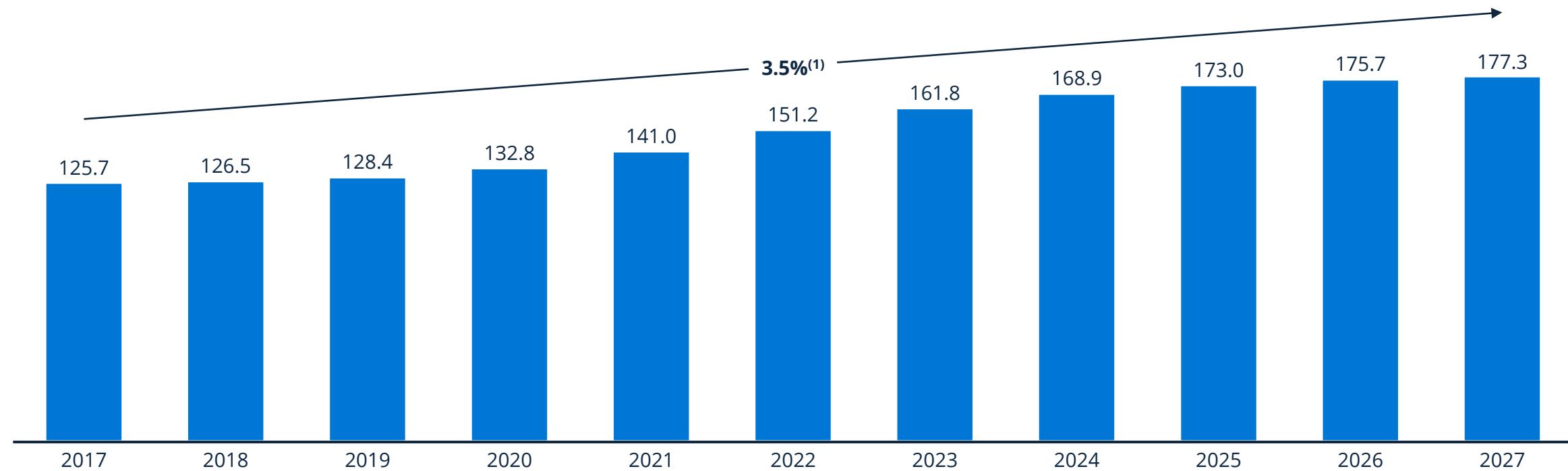
Market size



The global VR Advertising revenue is expected to grow at a CAGR⁽¹⁾ of 3.5% to US\$177.3 million by 2027

Market size: revenues

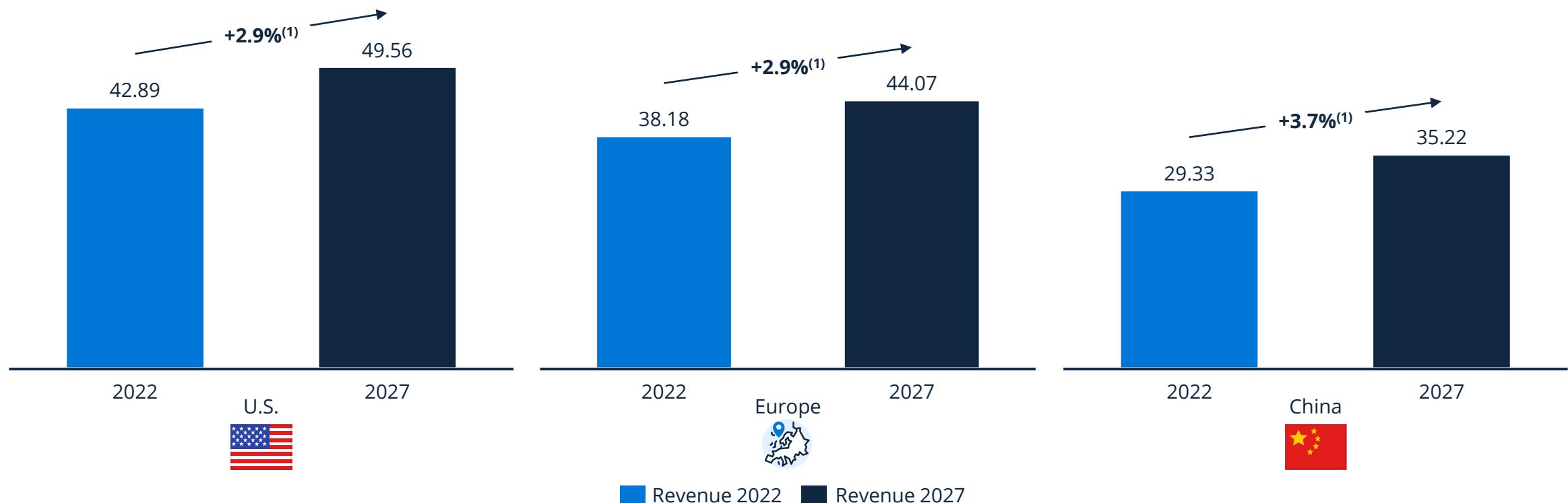
Global revenue forecast in million US\$



China shows the biggest growth in VR Advertising with a CAGR⁽¹⁾ of 3.7%

Market size: regional comparison (1/2)

Revenue forecast in million US\$



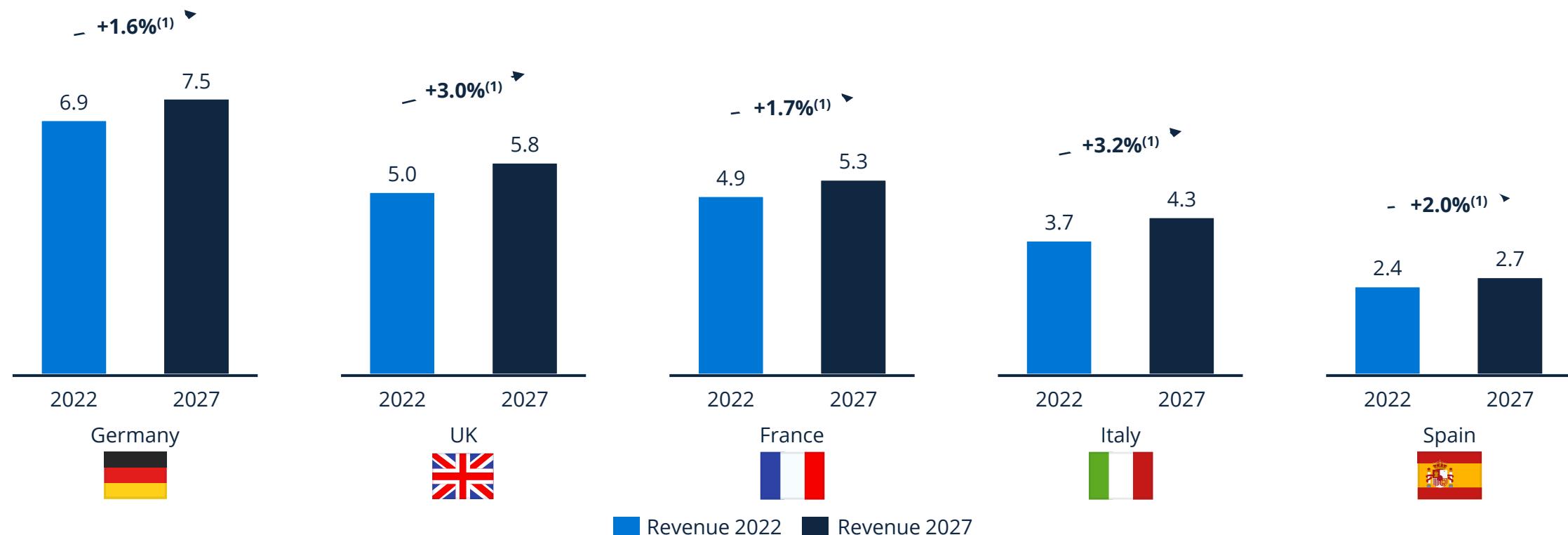
72 | Notes: (1) CAGR: Compound Annual Growth Rate / average growth rate per year

Sources: Statista Advertising & Media Outlook 2022

With revenues of US\$6.9 million, Germany is the biggest market in 2022

Market size: regional comparison (2/2)

Revenue forecast in million US\$



SEGMENTS

VR Company profiles



Meta takes new approach to VR, expanding its purpose

Company profiles: Meta



Meta key facts

Quest Store revenue: **US\$1.5 billion (Oct. 2021)**

VR sales growth: **97% (2020 to 2021)**

Meta revenue: **US\$117.9 billion (2021)** Quest 2 units sold: **>15 m (June 2022)**

Meta Quest 2 launch: **2020**

Developer: **Reality Labs**

Product: VR headset and accessories

Oculus VR company was founded in 2012 by Palmer Luckey, widely known for its first consumer VR headset Oculus Rift. In 2014, Meta acquired Oculus for US\$2 billion, making Oculus VR a part of Facebook Reality Labs in 2020. In 2022, after CTO Andrew Bosworth announced that Oculus will be phased out later this year, Meta renamed Oculus Store as Quest Store. As for the latest model, Quest 2, Meta refers to it as "Meta Quest 2", completely rebranding the original Oculus.

Meta Quest supported countries and regions



Meta's digital strategy

Initially used primary for gaming, after being acquired by Meta, Oculus is now going in the direction of All-in-One experience, aiming to turn it into a work and connectivity tool, also talking about its plans of making it possible to use it for streaming TV. For the latest model, Quest 2, a user needs a Facebook account, but the company is planning to make it possible to use it without one soon enough. Due to the good quality of display and fastest performance among its competitors, Meta Quest 2 got 77% of headset shipment share worldwide for 1Q of 2022.

Sony opens pre-order for their new VR set: PlayStation VR 2

Company profiles: Sony Interactive Entertainment



Sony key facts

PSVR revenue: **US\$2.3 billion (2020)**

CAGR⁽¹⁾: **-4.82% (2020 to 2021)**

Sony revenue: **US\$6 billion (2020)**

PSVR units sold: **5 million (2020)**

Founded: **1993**

Headquarters: **San Mateo, California**

PlayStation VR2



Product: VR headset and accessories

Sony Interactive Entertainment is a digital entertainment and videogame company, a subsidiary of conglomerate Sony. They are known for developing video game consoles, accessories, devices, publishing and developing of video games. Their most popular product are PlayStation gaming consoles and, as of late, their PlayStation VR headset released in 2016. In 2021 Sony revealed its new VR set PlayStation VR 2, made for the new generation console PS5, which is now available for pre-order and is set to be released in February of 2023. PSVR allows users to not only play VR and 2D games, but also supports video streaming services compatible with PSVR, such as YouTube and NextVR.

Sony's digital strategy

For now, the only available VR headset for PlayStation 4 and PlayStation 5 is PS VR. This is explained by PlayStation using the Orbits operating system and that its headset has two different heads, which prevents other VR consoles from working with the PlayStation consoles. This way, if users wish to play VR games on their PlayStation, they need a Sony headset. PS VR is also compatible with PlayStation 5, which is an option for VR players that are waiting for the new generation headset PSVR2 to arrive. PSVR allows users to not only play VR games but also simple 2D games and use video streaming services compatible with PSVR, such as YouTube and NextVR.

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CHAPTER 3

Appendix

GLOBAL CONSUMER SURVEY 2022

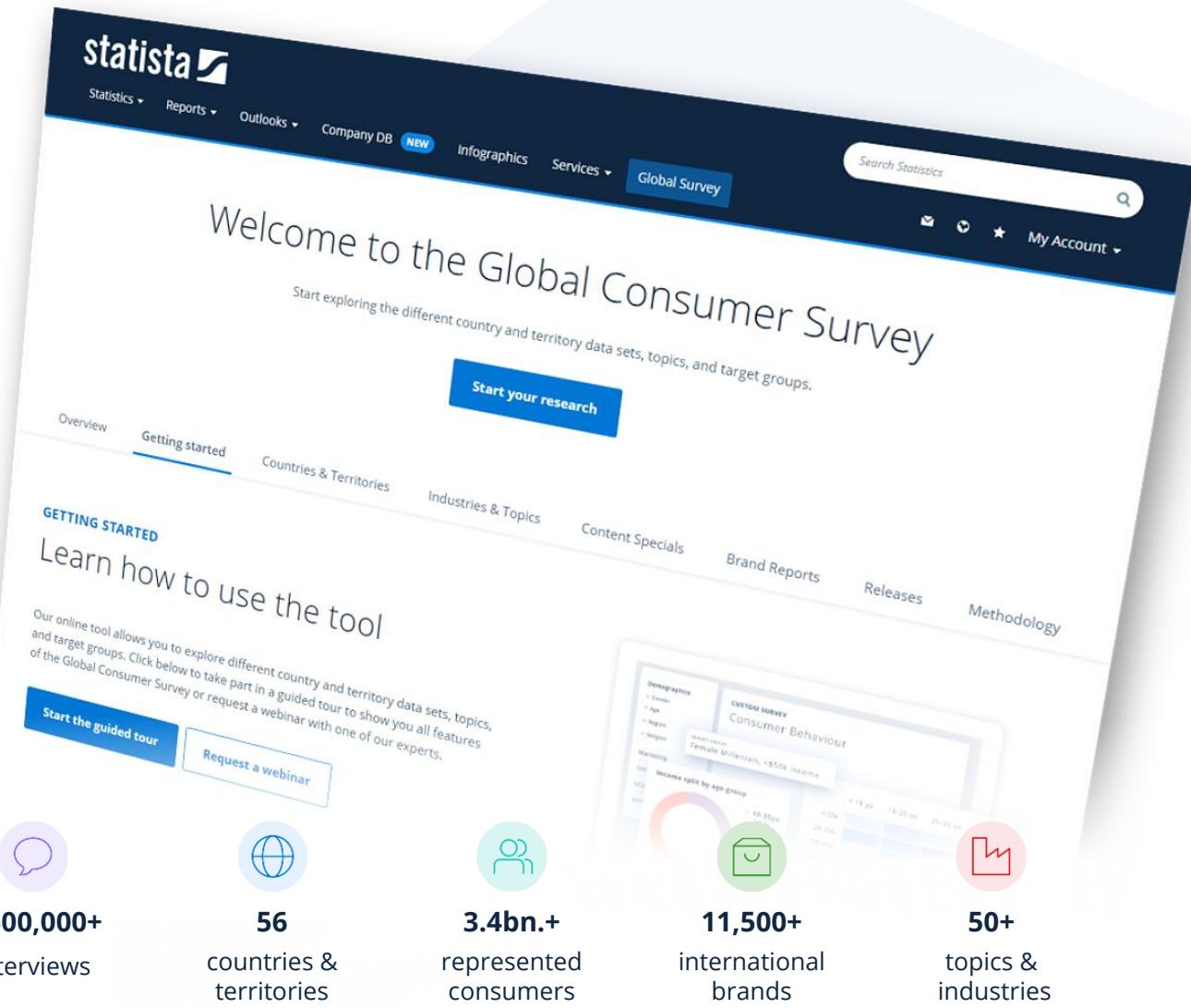
Understand what drives consumers

The Statista Global Consumer Survey offers a global perspective on consumption and media usage, covering the offline and online world of the consumer. Our survey is designed to help marketers, planners, and product managers understand consumer behavior and consumer interactions with brands.

- Cross-tabulation
- Customized target groups
- Trend and country comparisons
- Export in Excel (CSV) or PowerPoint format

Go to Global Survey

Find out more on:
[statista.com/global-consumer-survey](https://www.statista.com/global-consumer-survey)



The screenshot shows the Statista Global Consumer Survey homepage. At the top, there's a navigation bar with links for Statistics, Reports, Outlooks, Company DB (NEW), Infographics, Services, Global Survey, and a search bar labeled "Search Statistics". Below the navigation is a large banner with the text "Welcome to the Global Consumer Survey" and a subtext "Start exploring the different country and territory data sets, topics, and target groups." A blue button labeled "Start your research" is prominently displayed. The main content area features a section titled "GETTING STARTED" with the heading "Learn how to use the tool". It includes a descriptive paragraph about the survey's purpose, a "Start the guided tour" button, and a "Request a webinar" button. To the right, there are five circular icons with corresponding statistics: 1,500,000+ interviews (speech bubble icon), 56 countries & territories (globe icon), 3.4bn.+ represented consumers (person icon), 11,500+ international brands (shopping bag icon), and 50+ topics & industries (lightbulb icon). A small preview of a dashboard titled "CUSTOM SURVEY Consumer Behaviour" is also visible.

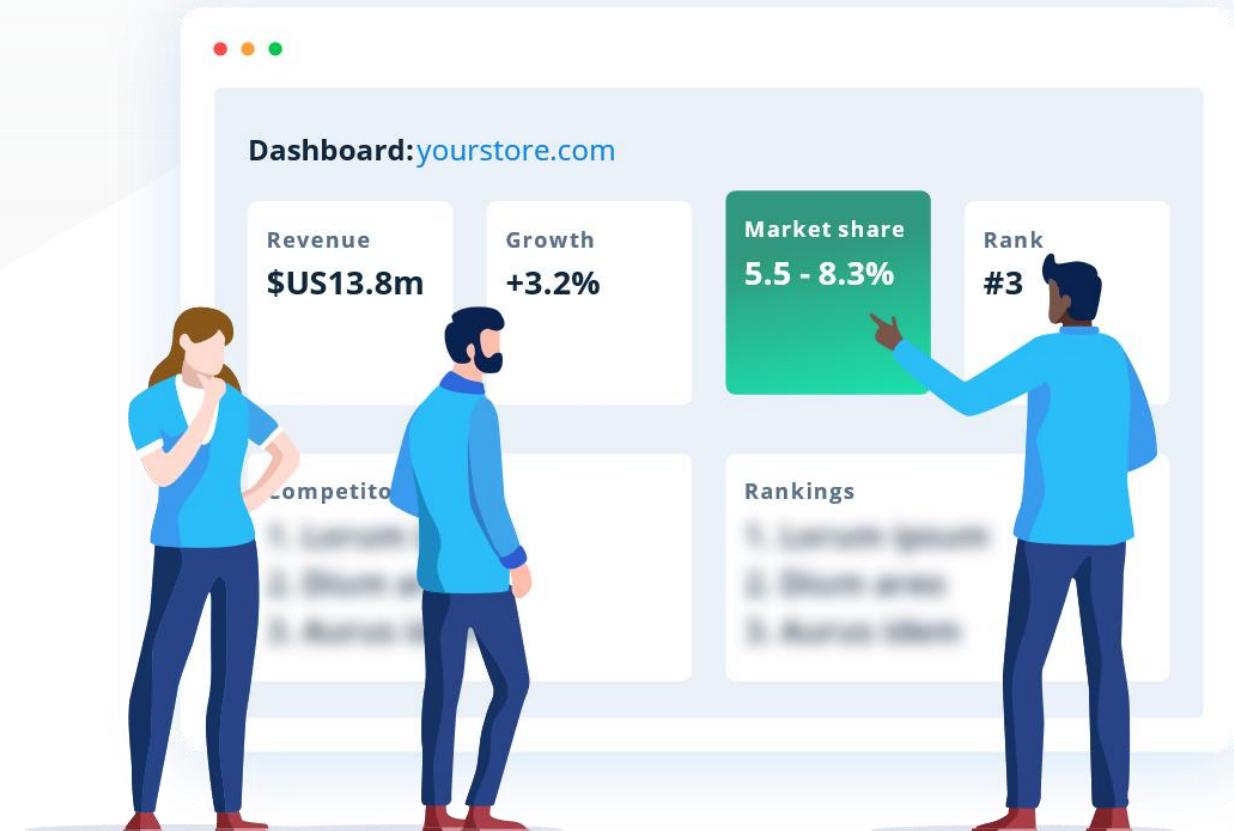
eCommerce insights for your needs

We cover 20,000 stores in 50 countries and territories and provide detailed information about revenue analytics, competitor analyses, market developments, marketing budgets, and useful KPI metrics, including traffic, shipping providers, payment options, social media activity, and more.

- In-depth analyses for 20,000+ online store URLs
- Adjustable top, category, country, and region rankings
- Smooth processing of downloadable shop profiles
- Direct contact to our eCommerce analysts

[Go to ecommerceDB](#)

Find out more on:
[ecommerceDB.com](#)



ADVERTISING & MEDIA OUTLOOK

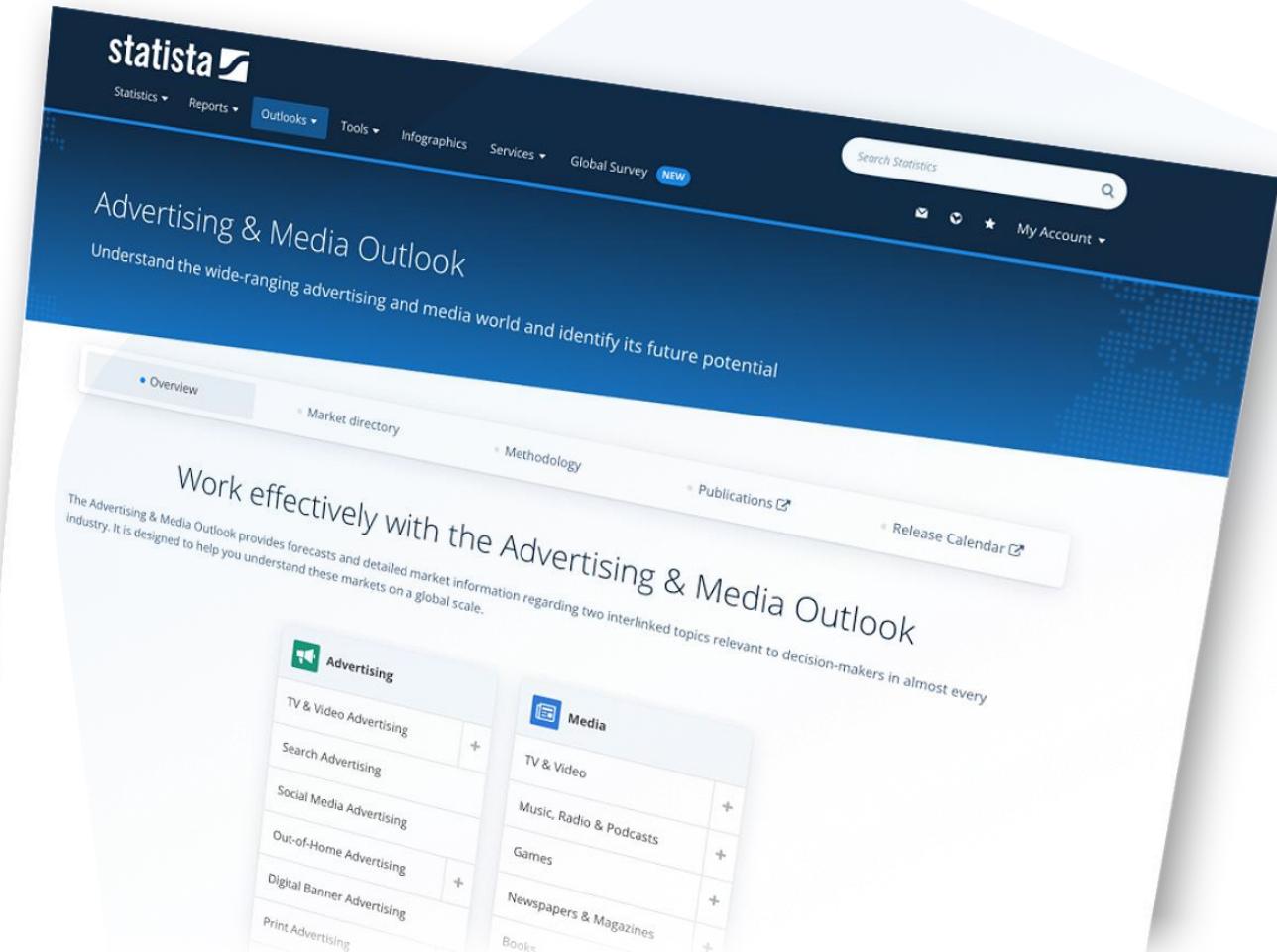
Figures and insights about the advertising and media world

The Advertising & Media Outlook provides forecasts and detailed market information regarding two interlinked topics relevant to decision-makers in almost every industry. It is designed to help you understand these markets on a global scale.

- All relevant advertising and media topics
- Market insights, forecasts, and key performance indicators
- 150+ countries and territories as well as 37 regions

Go to Outlook

Find out more on:
[statista.com/outlook/advertising-media](https://www.statista.com/outlook/advertising-media)



CONSUMER MARKET OUTLOOK

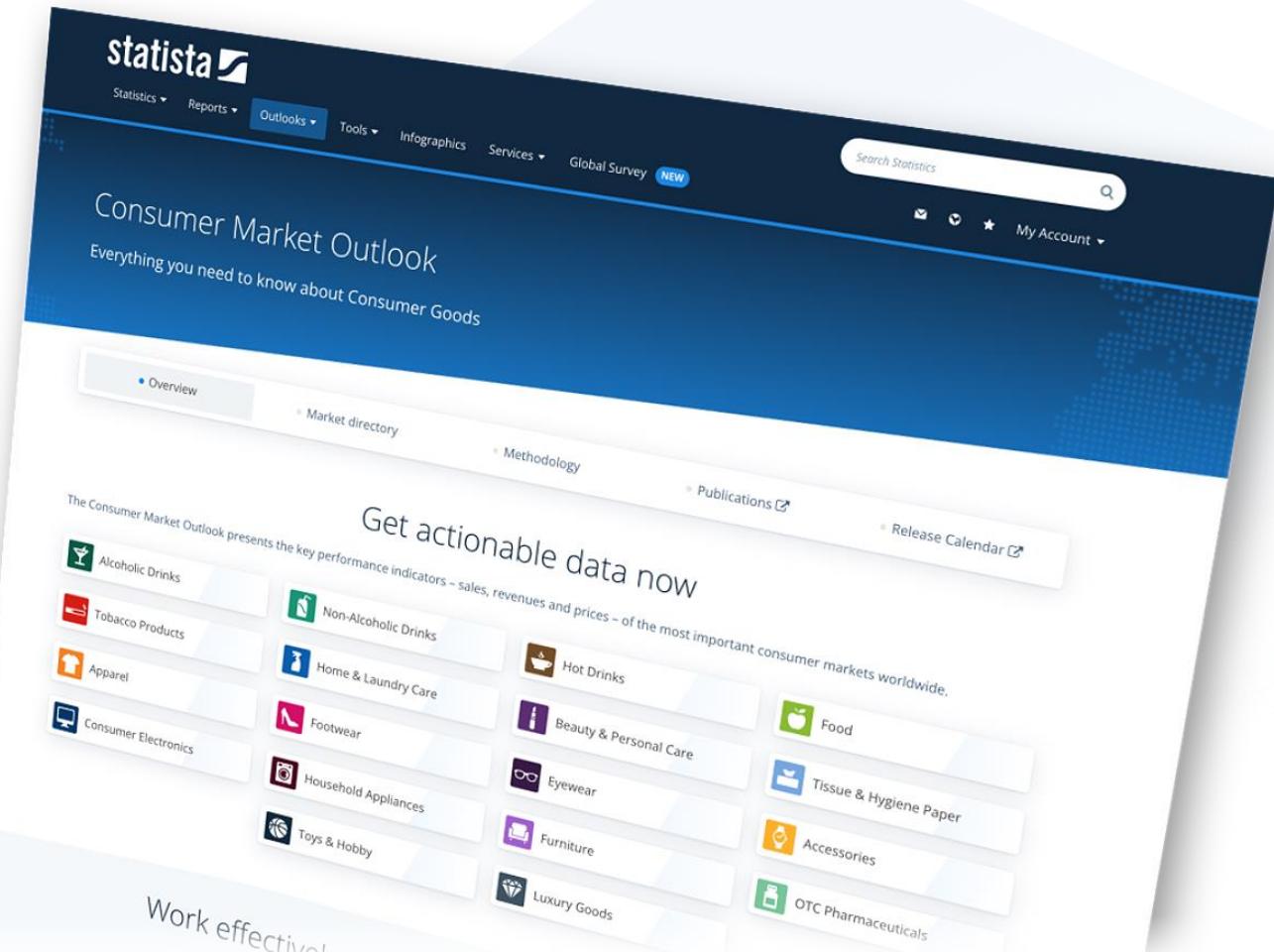
Everything you need to know about consumer goods

The Consumer Market Outlook presents the key performance indicators – sales, revenues, and prices – of the most important consumer markets worldwide. Our market calculations made by our in-house analysts are based on data from validated sources.

- Revenues, volumes, prices, COVID-19 impact, and forecasts
- More than 250 product categories in 150+ countries and territories as well as 37 regions
- Covering the period 2012 to 2026

[Go to Outlook](#)

Find out more on:
[statista.com/outlook/consumer-markets](https://www.statista.com/outlook/consumer-markets)



COUNTRY OUTLOOK

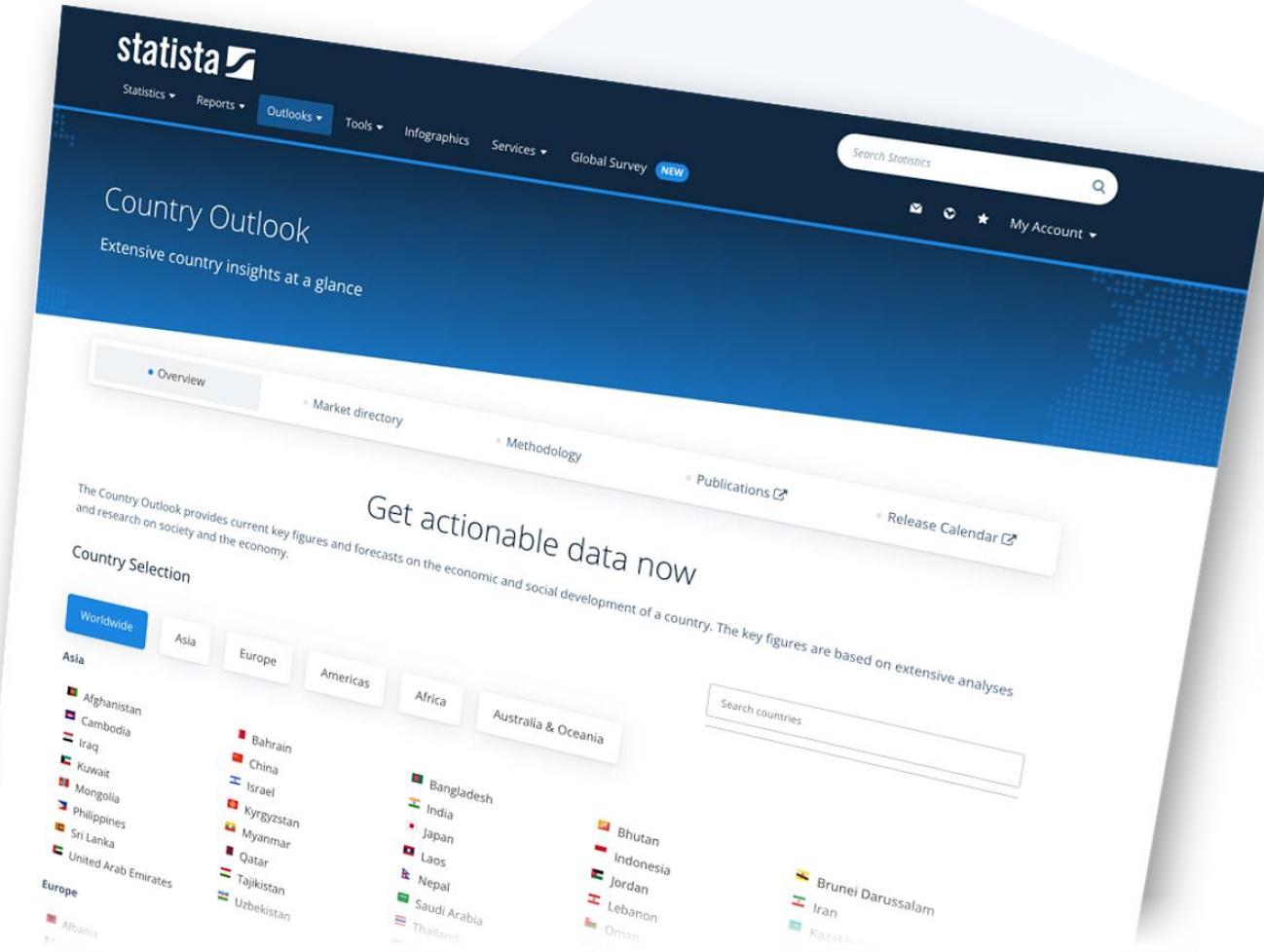
Extensive **country insights** at a glance

The Country Outlook provides current key figures and forecasts on the economic and social development of a country or territory. The key figures are based on extensive analyses and research on society and the economy.

- Market insights, forecasts, and key performance indicators
- 9 thematic areas with 75+ relevant KPIs
- 150+ countries and territories

Go to Outlook

Find out more on:
[statista.com/outlook/country-outlook](https://www.statista.com/outlook/country-outlook)



The screenshot shows the Statista Country Outlook page. At the top, there's a navigation bar with links for Statistics, Reports, Outlooks (which is the active tab), Tools, Infographics, Services, Global Survey (NEW), and a search bar labeled "Search Statistics". Below the navigation is a header with the text "Country Outlook" and "Extensive country insights at a glance". A main banner features the text "Get actionable data now" and "The Country Outlook provides current key figures and forecasts on the economic and social development of a country. The key figures are based on extensive analyses and research on society and the economy." There are tabs for Overview, Market directory, Methodology, Publications, and Release Calendar. A "Country Selection" section includes a "Worldwide" button and buttons for Asia, Europe, Americas, Africa, and Australia & Oceania. A "Search countries" input field is also present. A large grid of flags represents various countries across different continents.

DIGITAL MARKET OUTLOOK

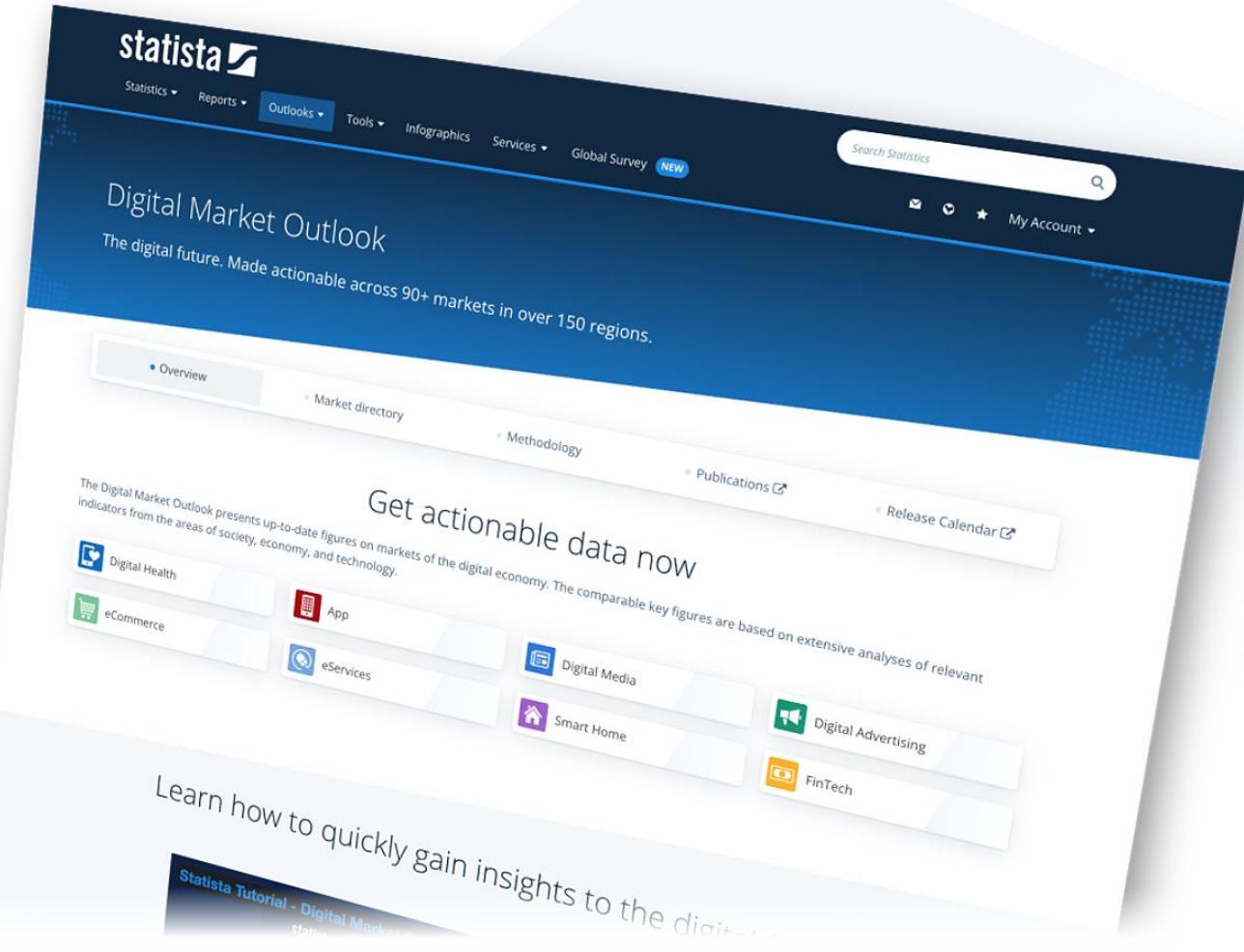
The digital future of 90+ markets in over 150 locations

The Digital Market Outlook presents up-to-date figures on markets of the digital economy. The comparable key figures are based on extensive analyses of relevant indicators from the areas of society, economy, and technology.

- Eight digital verticals: eCommerce, Smart Home, Digital Media, eServices, FinTech, Digital Advertising, Digital Health, and App
- Covering the period 2017 to 2026

Go to Outlook

Find out more on:
statista.com/outlook/digital-markets



HEALTH MARKET OUTLOOK

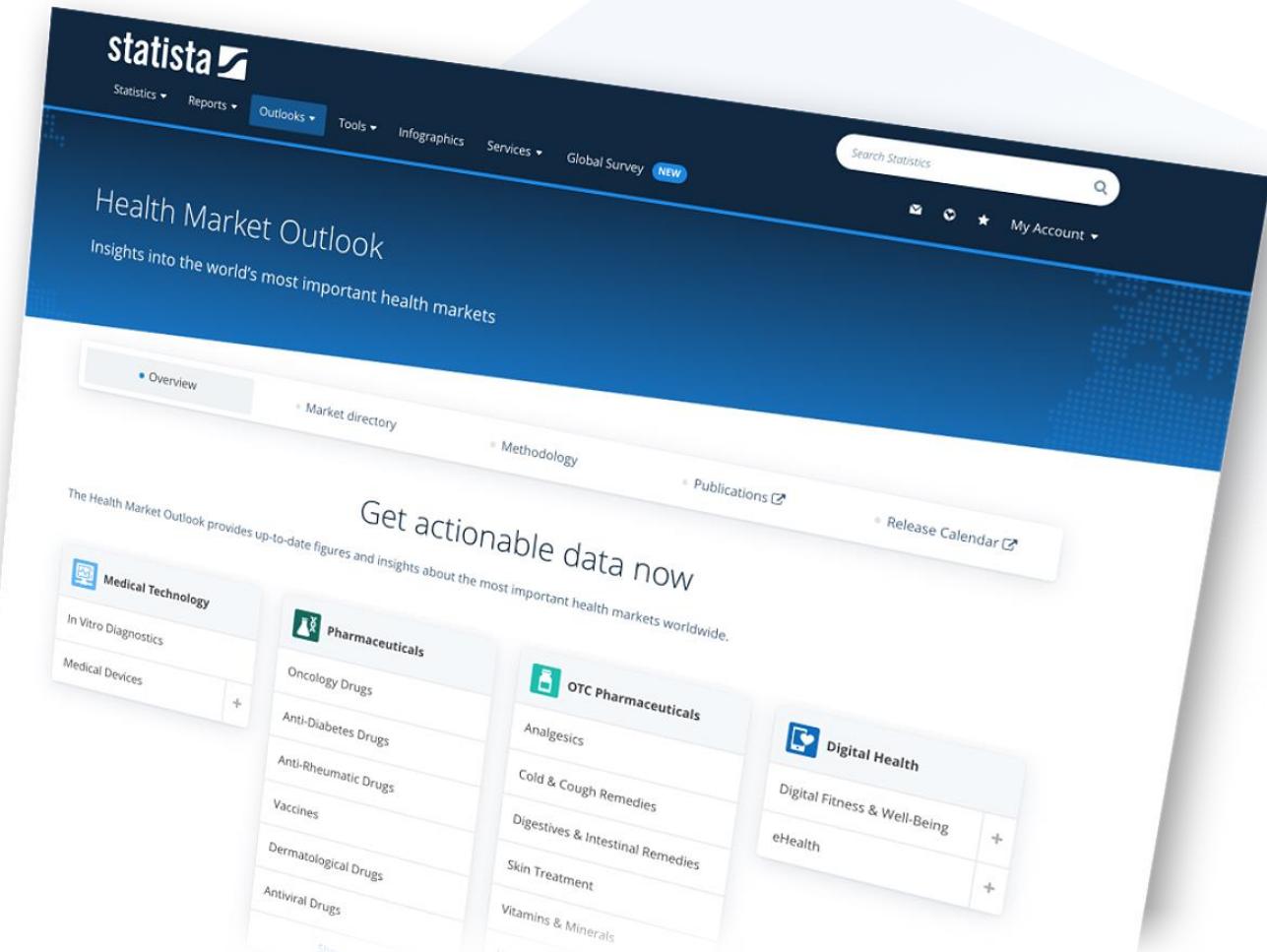
Insights into the world's most important **health markets**

The Health Market Outlook is an intuitive tool with up-to-date and comparable information that can be processed immediately about different markets of the life science and healthcare industry.

- Overview of the most relevant health markets
- Comparable market insights for 150+ countries and territories as well as 37 regions
- Market developments and revenue forecasts up to 2026

Go to Outlook

Find out more on:
[statista.com/outlook/health-markets](https://www.statista.com/outlook/health-markets)



The screenshot shows the Statista Health Market Outlook homepage. At the top, there is a navigation bar with links for Statistics, Reports, Outlooks (which is the active tab), Tools, Infographics, Services, Global Survey (NEW), and a search bar labeled "Search Statistics". On the right side of the header, there are icons for My Account and a user profile. Below the header, the main title "Health Market Outlook" is displayed, followed by the subtitle "Insights into the world's most important health markets". A sub-navigation menu includes "Overview", "Market directory", "Methodology", "Publications", and "Release Calendar". A large call-to-action button in the center says "Get actionable data now". To the left, there is a section titled "The Health Market Outlook provides up-to-date figures and insights about the most important health markets worldwide." Below this, there are four main categories: "Medical Technology" (with sub-sections for In Vitro Diagnostics and Medical Devices), "Pharmaceuticals" (with sub-sections for Oncology Drugs, Anti-Diabetes Drugs, Anti-Rheumatic Drugs, Vaccines, Dermatological Drugs, and Antiviral Drugs), "OTC Pharmaceuticals" (with sub-sections for Analgesics, Cold & Cough Remedies, Digestives & Intestinal Remedies, Skin Treatment, and Vitamins & Minerals), and "Digital Health" (with sub-sections for Digital Fitness & Well-Being and eHealth). Each category has a plus sign icon indicating more content.

INDUSTRY OUTLOOK

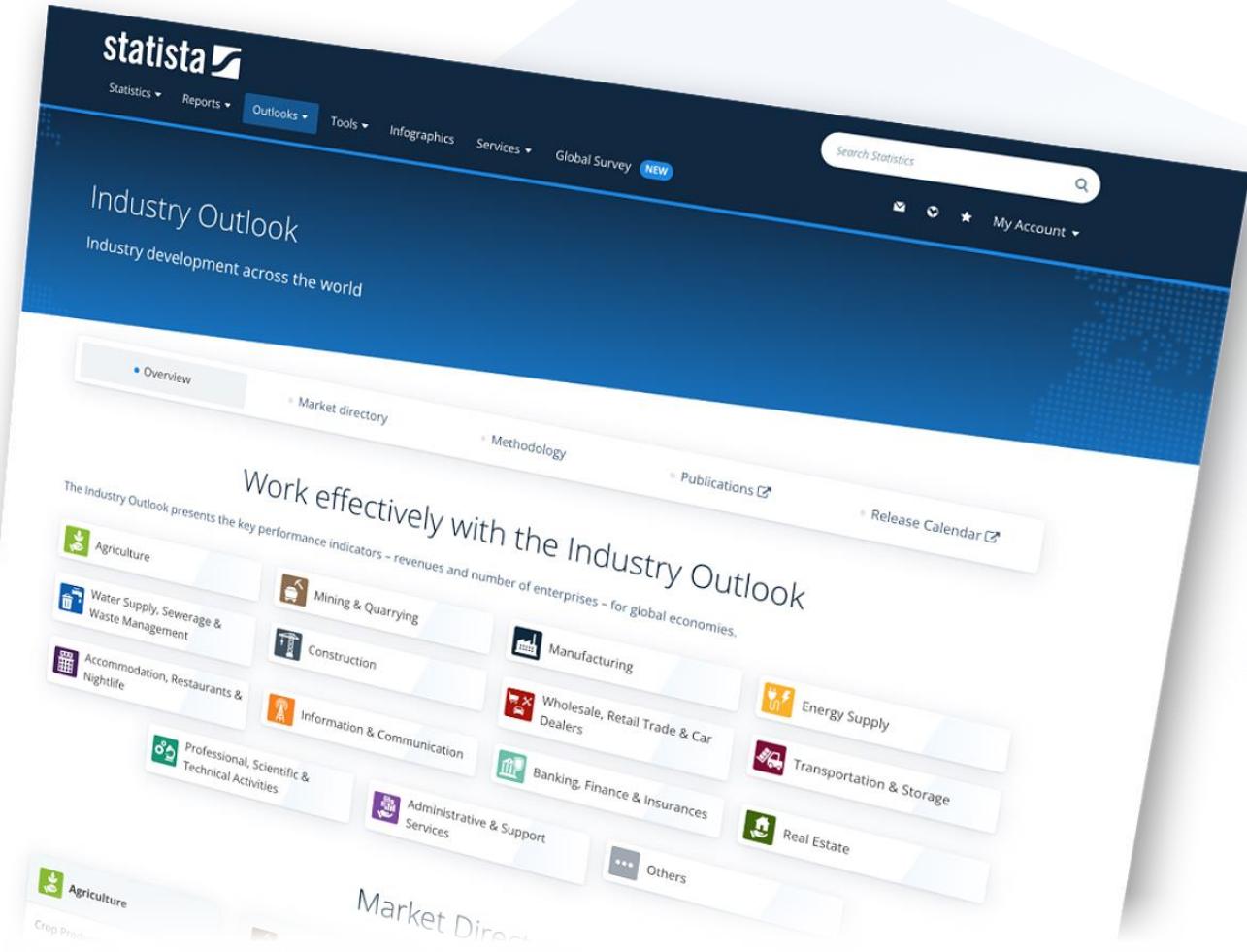
Industry development across the world

The Industry Outlook features industry forecasts and market information based on data from national statistical offices. With its time series analyses, the Industry Outlook provides a comprehensive and reliable basis for decision-making.

- Industry forecasts for your business case
- Adherence to International Standard Industrial Classification (ISIC)
- Up to 100 industries per country
- Data for 40+ countries and territories

Go to Outlook

Find out more on:
statista.com/outlook/industry-outlook



MOBILITY MARKET OUTLOOK

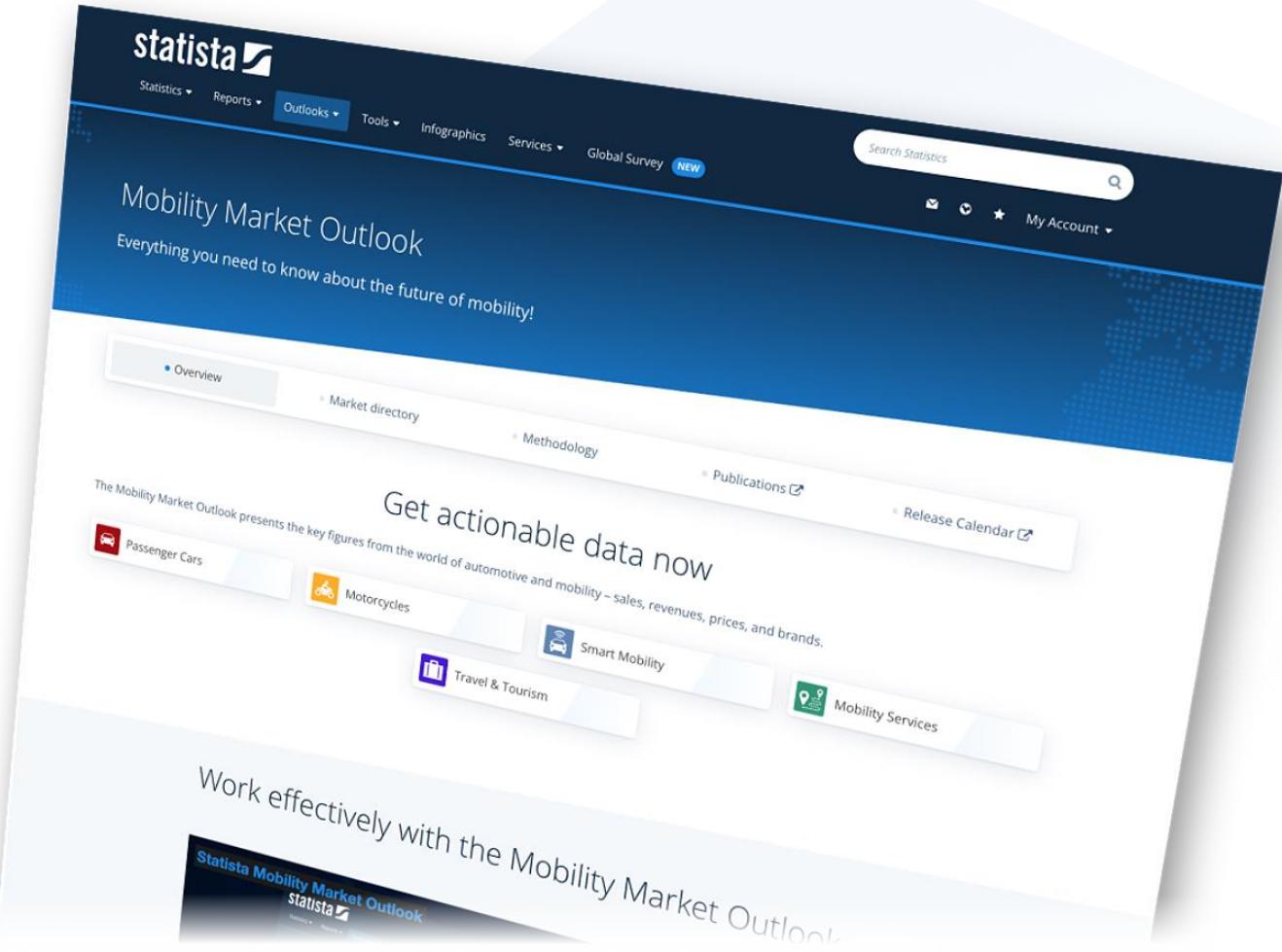
Everything you need to know about the **future of mobility**

The Mobility Market Outlook combines key mobility topics and provides relevant figures and forecasts about the automotive market and mobility services on a global scale. We analyze, measure, and predict market behavior and share the results with you.

- Mobility-related market insights, forecasts, and indicators
- Passenger cars in 12 car classes, 140+ makes, and 150+ countries and territories as well as 37 regions
- Insights into electric mobility and motorcycles
- 9 markets about mobility services and in-depth data on tourism

[Go to Outlook](#)

Find out more on:
statista.com/outlook/mobility-markets



TECHNOLOGY MARKET OUTLOOK

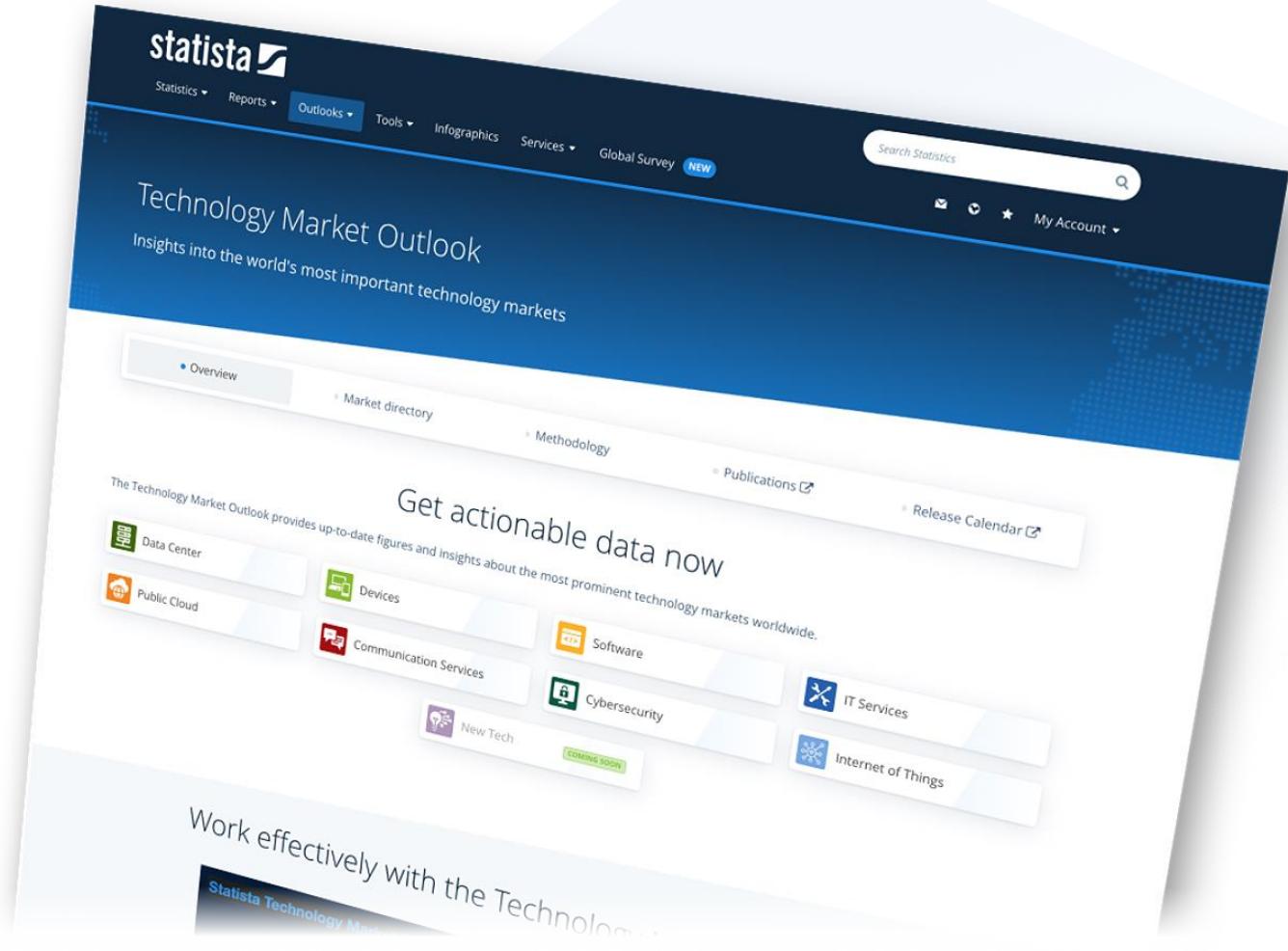
Insights into the world's most important **technology markets**

The Technology Market Outlook is an intuitive tool with valid and comparable information that can be processed immediately about different technology markets.

- 150+ countries and territories as well as 37 regions
- 55+ of the most relevant technology markets
- The most important KPIs
- Market developments and forecasts up to 2026

Go to Outlook

Find out more on:
[statista.com/outlook/technology-outlook](https://www.statista.com/outlook/technology-outlook)



COMPANY DB

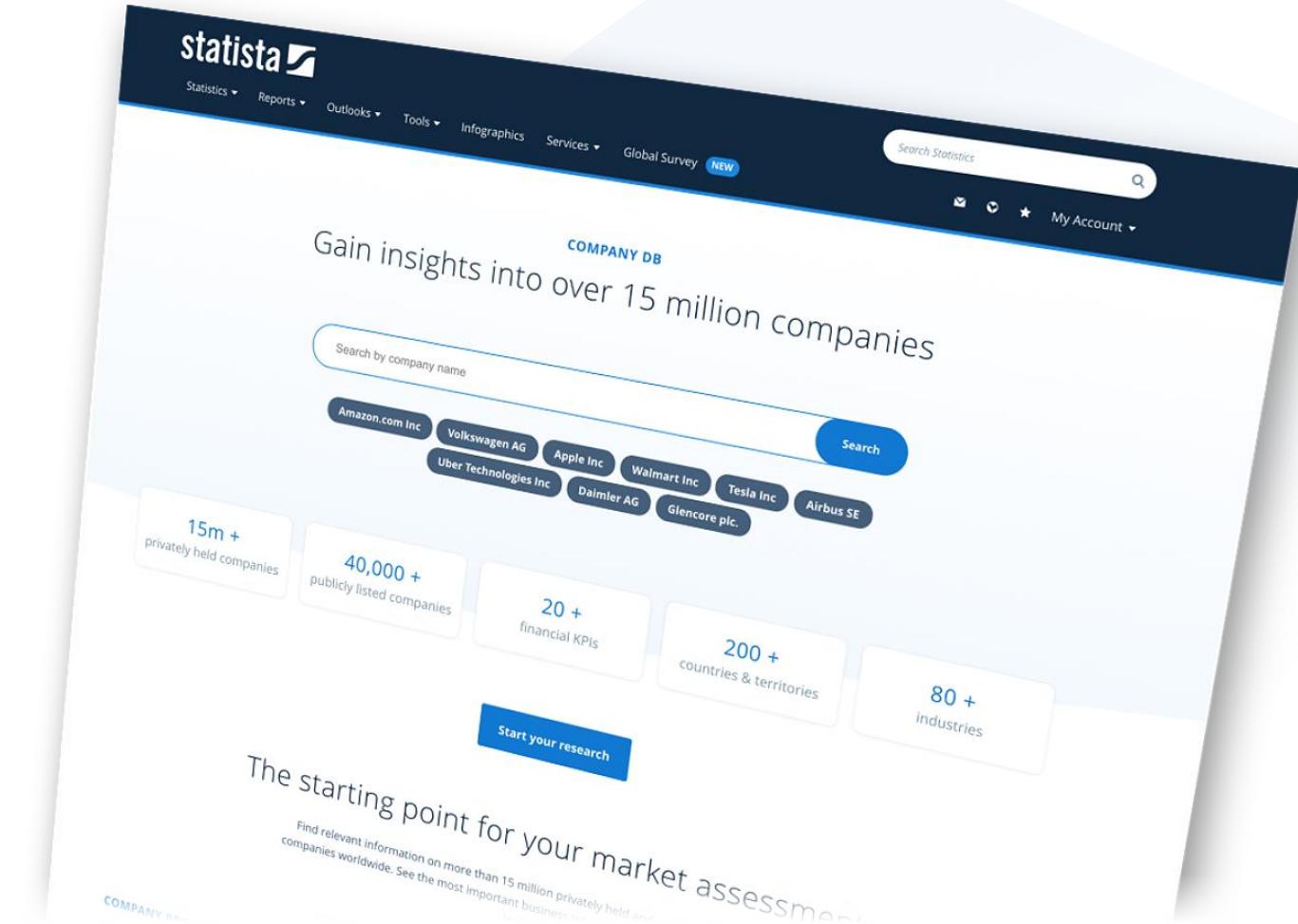
Gain insights into over 15 million companies

The Company Database provides information on more than 15 million listed and privately held companies and contains the most important company key figures as well as in-depth analyses. Additionally, we offer a wide range of extra KPIs for listed companies.

- Company information and key company metrics for 15+ million companies worldwide
- Tailored rankings in 200+ countries and territories as well as 80+ industries
- In-depth information for 40,000+ stock-listed companies

[Go to Company DB](#)

Find out more on:
statista.com/companydb/about



The screenshot shows the Statista Company DB homepage. At the top, there's a navigation bar with links for Statistics, Reports, Outlooks, Tools, Infographics, Services, and Global Survey (NEW). A search bar labeled "Search Statistics" is on the right, along with icons for My Account and a user profile. Below the navigation, a large banner reads "Gain insights into over 15 million companies". It features a search bar with placeholder text "Search by company name" and a "Search" button. Below the search bar is a row of company names: Amazon.com Inc., Volkswagen AG, Apple Inc., Walmart Inc., Uber Technologies Inc., Daimler AG, Tesla Inc., Glencore plc., and Airbus SE. To the left of the search bar, a box says "15m + privately held companies". To the right, boxes show "40,000 + publicly listed companies", "20 + financial KPIs", "200 + countries & territories", and "80 + industries". A blue button at the bottom right says "Start your research". A smaller text box at the bottom left says "The starting point for your market assessment".

TOPLISTS

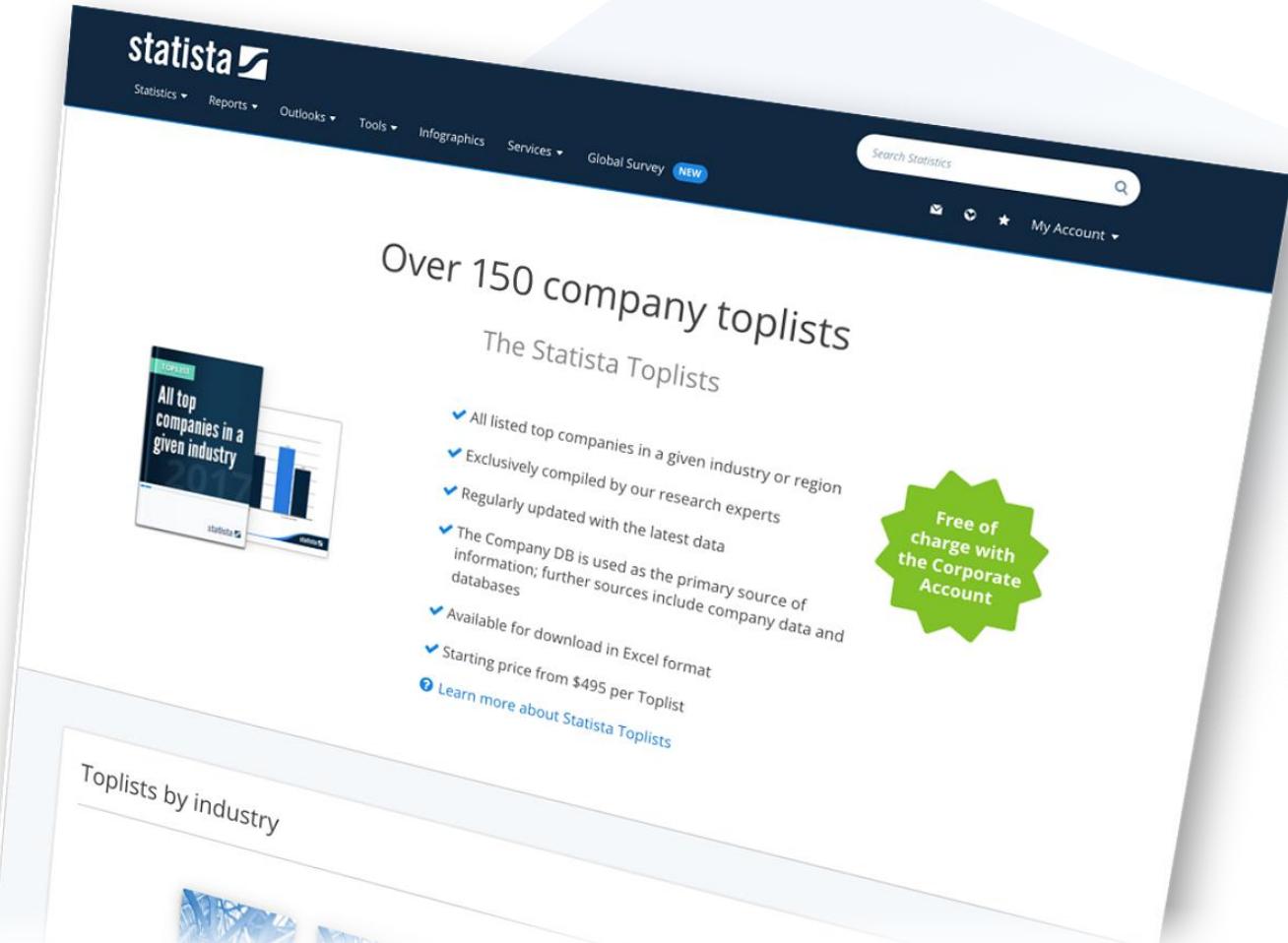
Insight into over 150 company rankings

With the Statista Toplists, you'll be able to gain insights into the biggest companies in a country, territory, or industry. The rankings are based on the companies' revenues. The Toplists offer an ideal springboard for researching leads in your sales department and gaining insights into new markets. They can serve as a starting point for further market assessments.

- The most important company figures and KPIs at one glance
- 60+ industries covered
- 50+ countries and territories covered
- 40+ trends covered

[Go to Toplists](#)

Find out more on:
statista.com/toplists



The screenshot shows the Statista website's homepage with a dark blue header. The header includes the Statista logo, a navigation bar with links like 'Statistics', 'Reports', 'Outlooks', 'Tools', 'Infographics', 'Services', and 'Global Survey (NEW)', and a search bar. Below the header, a large banner features the text 'Over 150 company toplists' and 'The Statista Toplists'. It includes a small image of a bar chart titled 'All top companies in a given industry 2017'. To the right of the banner is a green starburst badge with the text 'Free of charge with the Corporate Account'. Below the banner, there is a list of bullet points detailing the features of the Toplists, such as being listed in all industries, being compiled by experts, and being regularly updated. At the bottom of the banner, there is a link to 'Learn more about Statista Toplists'.

COUNTRY REPORTS

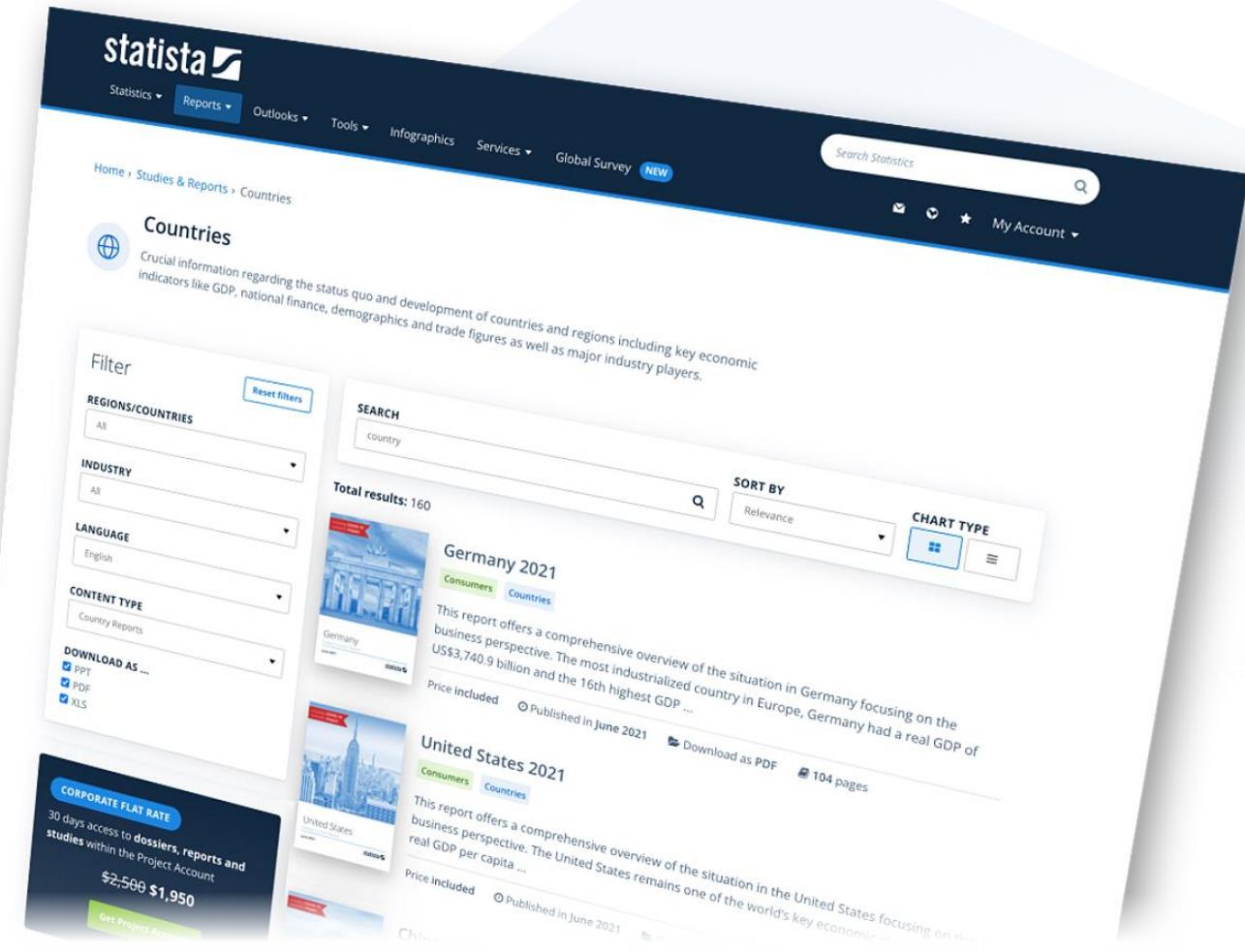
Gain country-specific insights for your future business decisions

The Country Reports provide in-depth information about the most relevant trends, opportunities, and risks concerning your international businesses and can help you to analyze them quickly and clearly. The Country Reports feature statistics, forecasts, survey results, and analyses regarding the respective country or territory.

- Up to 160 countries and territories
- 75+ of the most relevant KPIs
- Regional and global comparisons

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Crucial information regarding the status quo and development of countries and regions including key economic indicators like GDP, national finance, demographics and trade figures as well as major industry players.

Germany 2021

This report offers a comprehensive overview of the situation in Germany focusing on the business perspective. The most industrialized country in Europe, Germany had a real GDP of US\$3,740.9 billion and the 16th highest GDP ...

United States 2021

This report offers a comprehensive overview of the situation in the United States focusing on the business perspective. The United States remains one of the world's key economic ...

GLOBAL BUSINESS CITY REPORTS

Take an extraordinary trip to **Global Business Cities around the world**

Urbanization is a megatrend that is changing the economic landscape on a global scale. Cities are central market places and operational hubs. The Global Business Cities Reports rank 200 of the world's most important business cities based on their potential as a business hub for companies.

- Up to 200 cities worldwide in 70+ countries and territories
- Global rankings and regional comparisons
- Detailed city profiles

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The screenshot shows the Statista website's 'Countries' section. At the top, there's a navigation bar with links for Statistics, Reports (which is currently selected), Outlooks, Tools, Infographics, Services, and Global Survey (NEW). A search bar is located at the top right. Below the navigation, a sub-navigation bar shows 'Home', 'Studies & Reports', and 'Countries'. A sidebar on the left contains a 'Filter' section with dropdown menus for 'REGIONS/COUNTRIES' (set to 'All'), 'INDUSTRY' (set to 'All'), 'LANGUAGE' (set to 'All'), 'CONTENT TYPE' (set to 'City Reports'), and a 'DOWNLOAD AS...' button with checkboxes for PPT, PDF, and XLS. To the right, there's a 'SEARCH' bar with a placeholder 'Total results: 402'. Below the search bar, there are three main card-like results: 'New York 2021' (Consumers, Countries), 'Boston 2021' (Consumers, Countries), and 'Singapore' (Consumers, Countries). Each result includes a small thumbnail image, a title, a brief description, and download options.

INDUSTRY REPORTS

Gain valuable insights into your industry

Looking to discover new sectors for your business or in need of the most important key figures in your industry? The Industry Reports provide a comprehensive overview of the most important key figures of your industry with just a few clicks.

Find everything you need to know about the status quo, emerging trends, and the development of an industry – all in one report.

- Wide range of industries including the most important KPIs
- Market developments and forecasts up to 2025
- Global, regional and country coverage

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Find out more on:
[statista.com/studies-and-reports/industries](https://www.statista.com/studies-and-reports/industries)



The screenshot shows the Statista website's 'Industries' section. The top navigation bar includes links for Statistics, Reports (which is the active tab), Outlooks, Tools, Infographics, Services, and a Global Survey. A search bar and a 'My Account' link are also present. The main content area is titled 'Industries' and describes 'Comprehensive data on markets and industries, including market overviews, revenues, number of employees, as well as the latest information about the state of the industries, trends, and forecasts.' On the left, there are filters for 'REGIONS/COUNTRIES', 'INDUSTRY', 'LANGUAGE', 'CONTENT TYPE' (selected 'Industry Reports'), and a 'DOWNLOAD AS...' dropdown with options for PPT, PDF, and XLS. On the right, there is a 'SEARCH' bar, a 'TOTAL RESULTS: 429' counter, and a 'SORT BY' dropdown set to 'Relevance'. Below these are two report cards: 'Oil & Gas Extraction in Asia 2021' and 'Health Care in the UK 2020'. Each card includes a thumbnail, a title, a brief description, and download links. At the bottom, there are six circular icons representing 'Global', 'Europe', 'Asia', 'Germany', 'United States', and 'United Kingdom'.

CONTENT & INFORMATION DESIGN

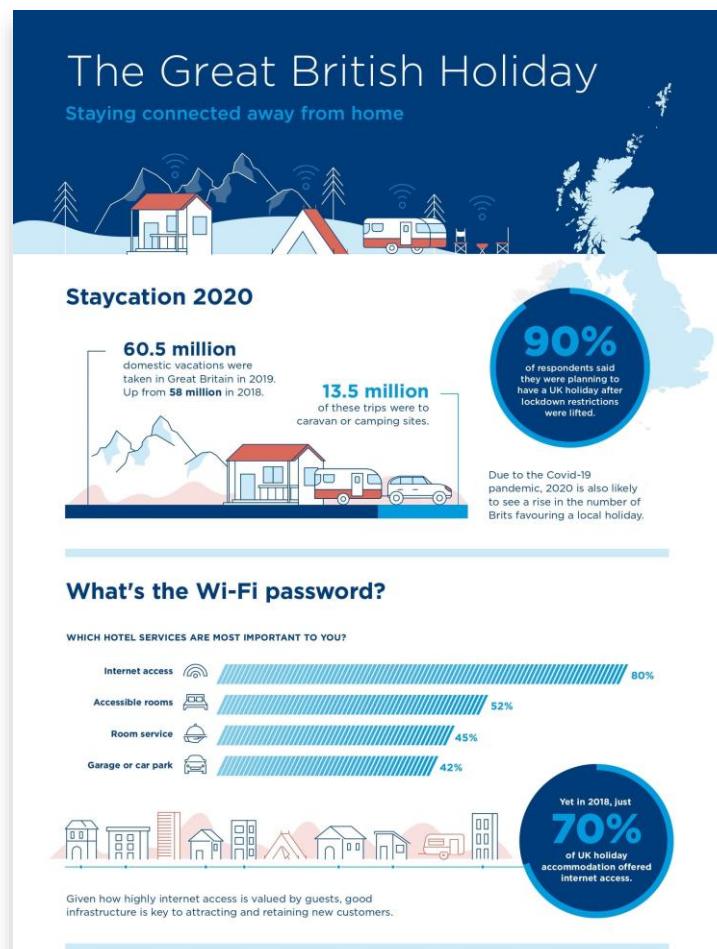
Experts for your project's success

We at Statista Content & Information Design have been working with data, facts, and analyses for years and for this reason especially understand how these can be visually processed in the best way possible. Our experienced team of consultants, editors, designers, and digital marketing experts conduct research, analyze, and filter data or process your content. From concept all the way to dissemination – we are your partners for content & information design.

We turn data into brand experiences – in an understandable and detailed manner. With our individual graphics, animated videos, presentations, as well as white papers and interactive microsites.

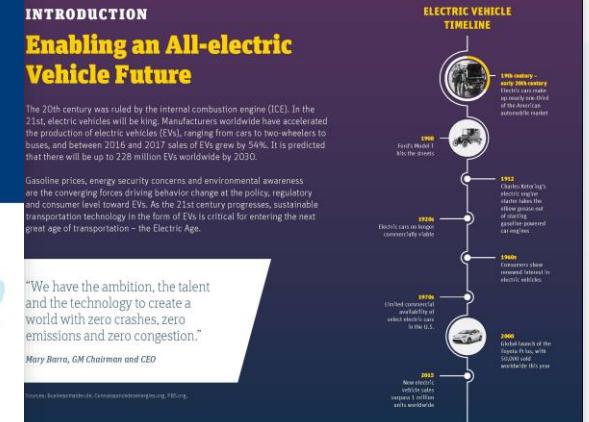
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Why it pays to connect your guests

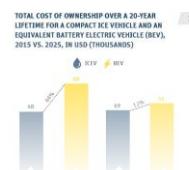
- Improved customer experience
- Increase in positive customer reviews.
- Longer customer visits and repeat purchases
- Potential of additional revenue
- Increased marketing opportunities using customer review media



CHANGE IS COMING: Meeting the Challenges to EV Adoption

Based on comparisons across the rapidly growing market, automotive industry companies across the supply chain must address three major challenges:

- Reducing the price and total cost of ownership of the vehicle



Your Partner for data related questions

Statista Q is a division of Statista and offers individual and data-based research and analysis services for companies. This includes quantitative and qualitative market research projects. Our Team now comprises over 100 analysts, market researchers, and industry experts, who try to answer your questions from the following six topics:



Market Research



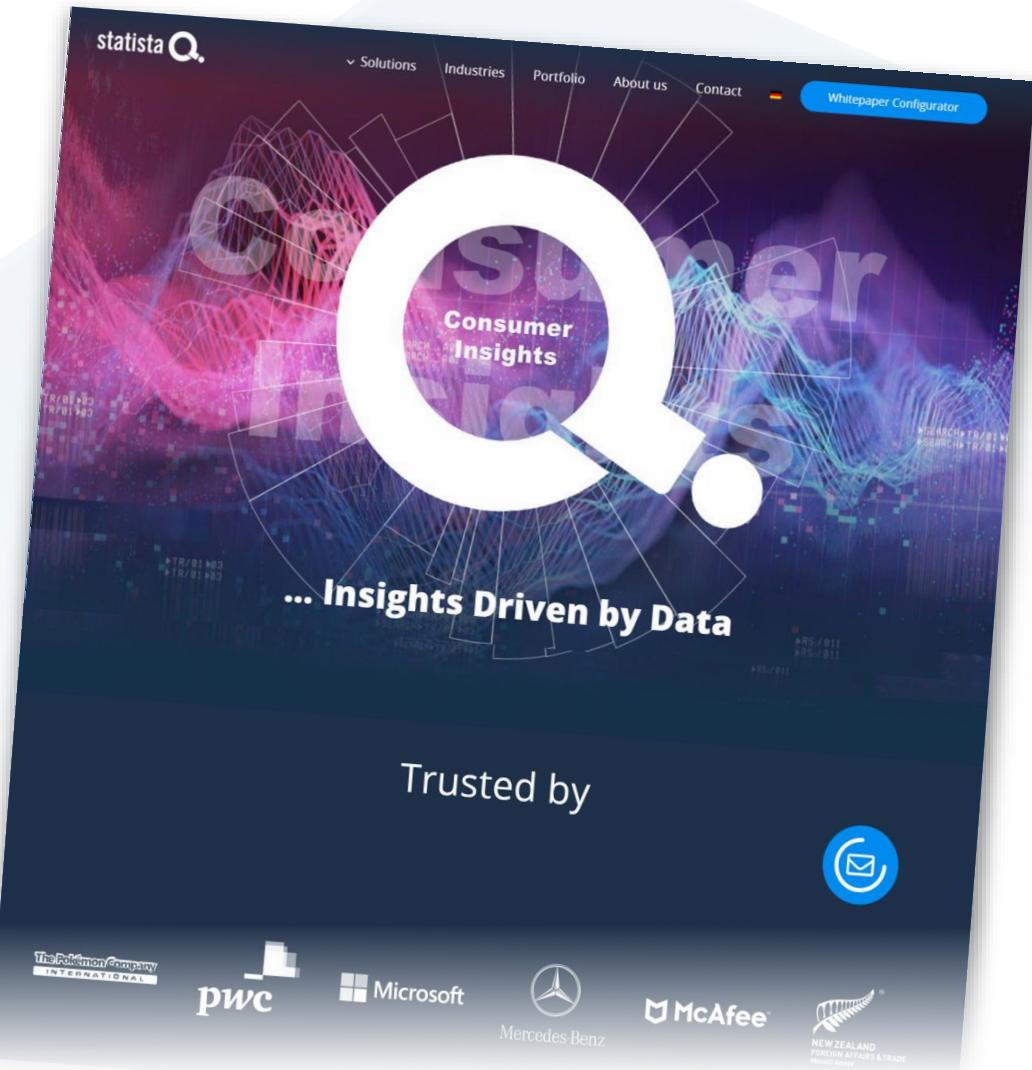
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Jonah Trenker graduated from Eberhard-Karls University Tübingen with a focus on economics and finance. He acquired deep knowledge of overall economic topics as well as market modeling and structure on an empirical level. At Statista he works on projects related to the digital economy.