DIGITAL ECONOMY COMPASS 2020

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The digital economy held its breath, then it started to adapt to COVID-19

The digital economy held its breath in 2020. When COVID-19 hit the markets, it took everyone a while to understand what the new reality would be like. Stock markets plummeted, investments were pulled, unemployment rose, and forecasts became pessimistic.

Then, the digital economy started to adapt, as it is its very nature. Business models changed, digital approaches proved to be more robust than anticipated, and technological solutions were used to overcome COVID-19 challenges in almost all industries.

In this context, we decided to publish the fourth edition of the Digital Economy Compass as late as possible to cover as much of this exciting evolution as we could.

Accordingly, the Digital Economy Compass 2020 first sheds light on the key challenges COVID-19 posed to the global economy in **Chapter 1 – Digital COVID-19**. We then embark on understanding the changes in consumer behavior the pandemic forced on everyone in **Chapter 2 – Digital Human**. The changes to the technologies enabling the digital economy are shown in **Chapter 3 – Digital Technology**. All this leads up to the core of the Digital Economy Compass 2020, **Chapter 4 – Digital Markets**, featuring the most exciting digital markets and their current and future development as we see it.

In **Chapter 1 – Digital COVID-19**, we show the global COVID-19 impact in terms of stock prices, unemployment, gross domestic product, and recovery forecasts. We then dive more deeply into the COVID-19 impact on selected digital markets in terms of anticipated pre- vs. post-COVID-19 growth and take a closer look at their winners, losers, and transformers. At the end of the chapter, we peek into how the digital economy contributes to the global battle against COVID-19.

Chapter 2 – Digital Human focuses on understanding the changes in consumer behavior, particularly in terms of media consumption and gaming. Similarly, we show changed working behavior, namely remote working, and explore how it came to be, its potential for the long term, and its impact on the economy.

We dive deeply into the technologies enabling the digital economy in **Chapter 3 – Digital Technology**. We focus on ecosystem overviews, market sizes, and growth, as well as key players. The technologies considered range from cybersecurity to 5G to blockchain.

In **Chapter 4 – Digital Markets**, we inspect the most relevant digital markets and illustrate their size, growth, key players, and relevant consumer behavior. Unlike previous Digital Economy Compass publications, we included not only our Digital Market Outlook markets, but also digital markets from our Advertising & Media, Mobility, Technology, and Consumer Market Outlooks, creating an extensive overview.

For all these insights, we have compiled both external data as well as a vast body of our own, proprietary data. Our own research and market analyses are accessible outside the Digital Economy Compass in even greater depth and bundled into a targeted product family. The Statista Market Outlooks provide 700,000+ data stats on 2,200+ markets, 700+ reports, and cover 150+ countries. The Statista Global Consumer Survey contains data from 700,000+ surveys, covering 55+ countries and 50+ industries as well as 6,500+ brands. The eCommerceDB.com collects revenue data and 40+ KPIs of 20,000+ online stores in 50+ countries and generates 270+ reports. The Statista CompanyDB provides data for 1.7 million companies clustered into 80+ industries and condensed into 1,000+ reports depicting 28+ different KPIs.

All of our products and in-depth insights can be found at statista.com.

For the Digital Economy Compass 2020, we are proud to have compiled more than 250 slides with the most insightful and exciting data. We hope you find them to be both informative and enjoyable.

Dr. Friedrich Schwandt (CEO)

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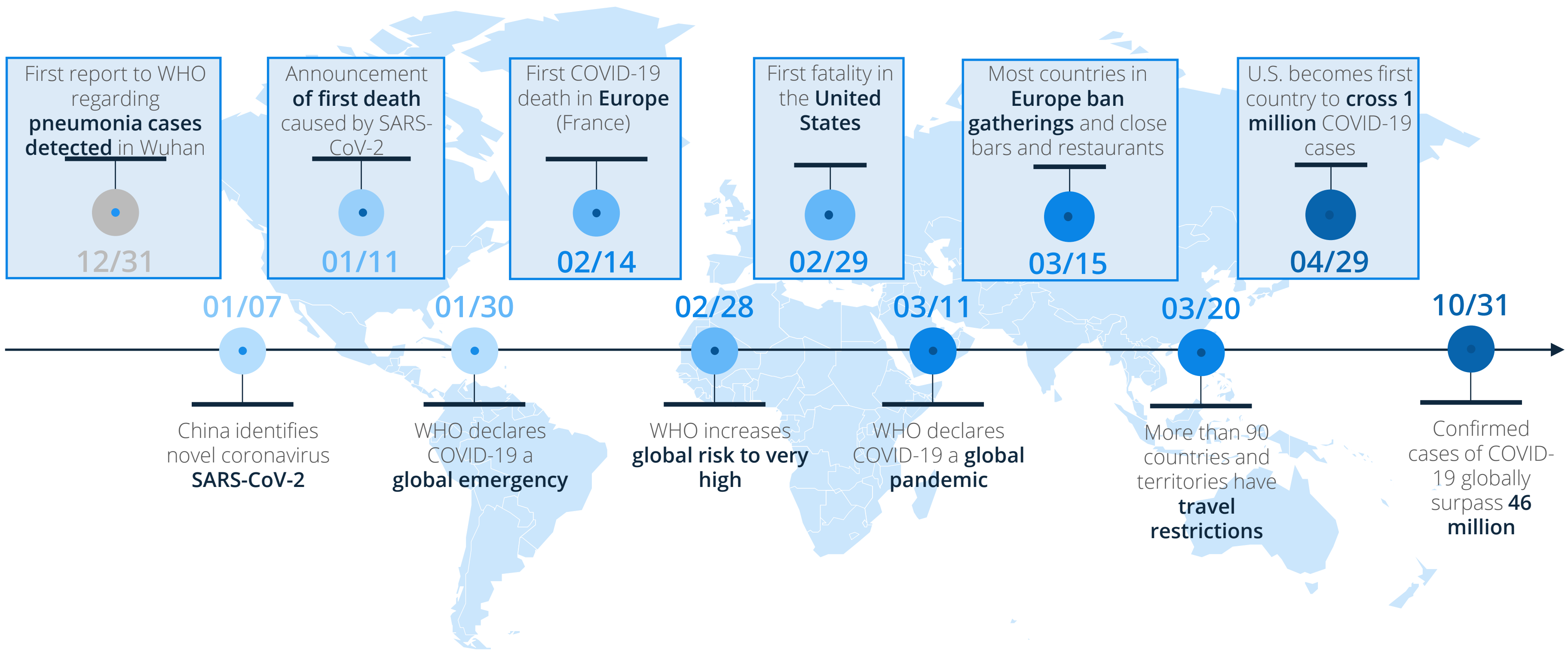
IMPACT ON GLOBAL ECONOMY

In under three months, a local infection became a pandemic affecting 210 countries and territories

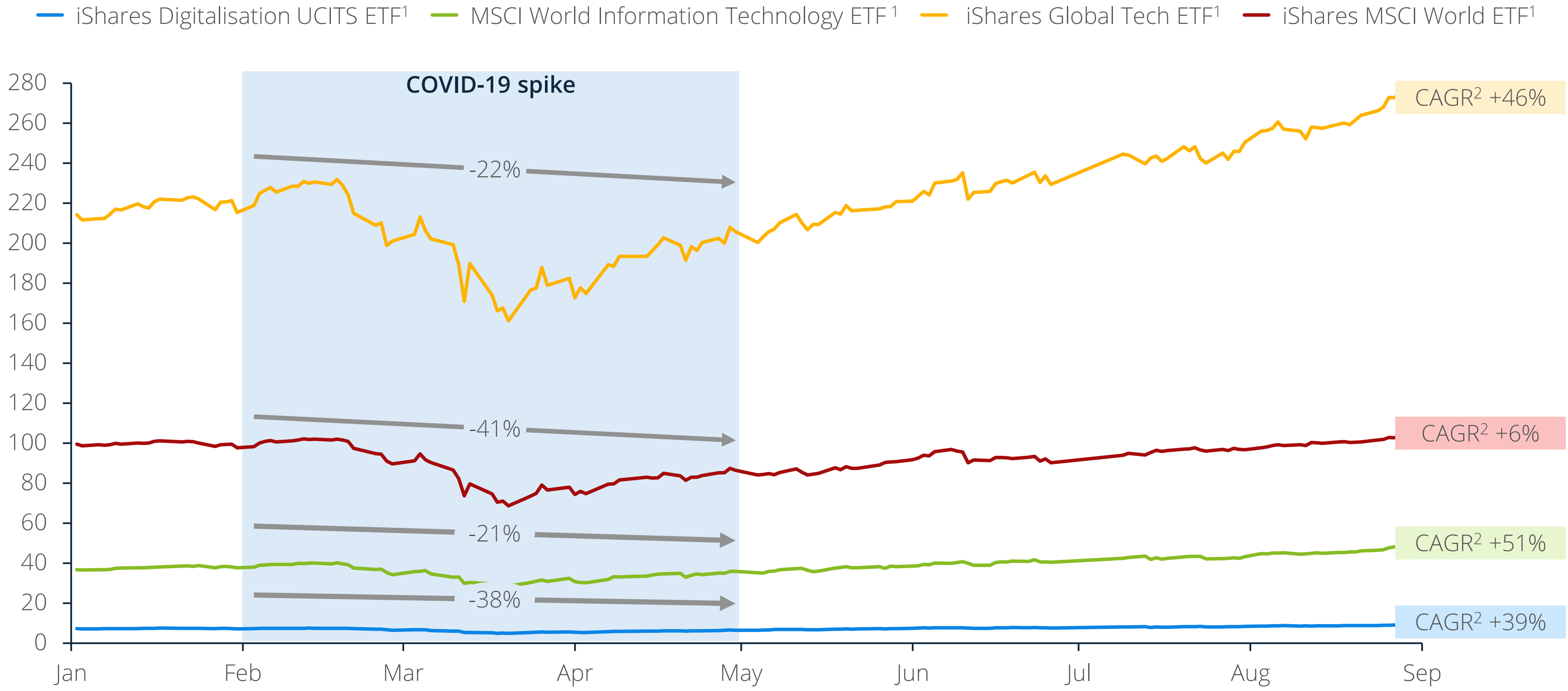
Global COVID-19 pandemic and timeline 2019/2020



Sources: Al Jazeera, BBC, CNN, Johns Hopkins CSSE, The Guardian, The New York Times, NBC news, Worldometers, WHO

The share prices plummeted in Q1 '20 but started a quick recovery, improving overall by Sep '20

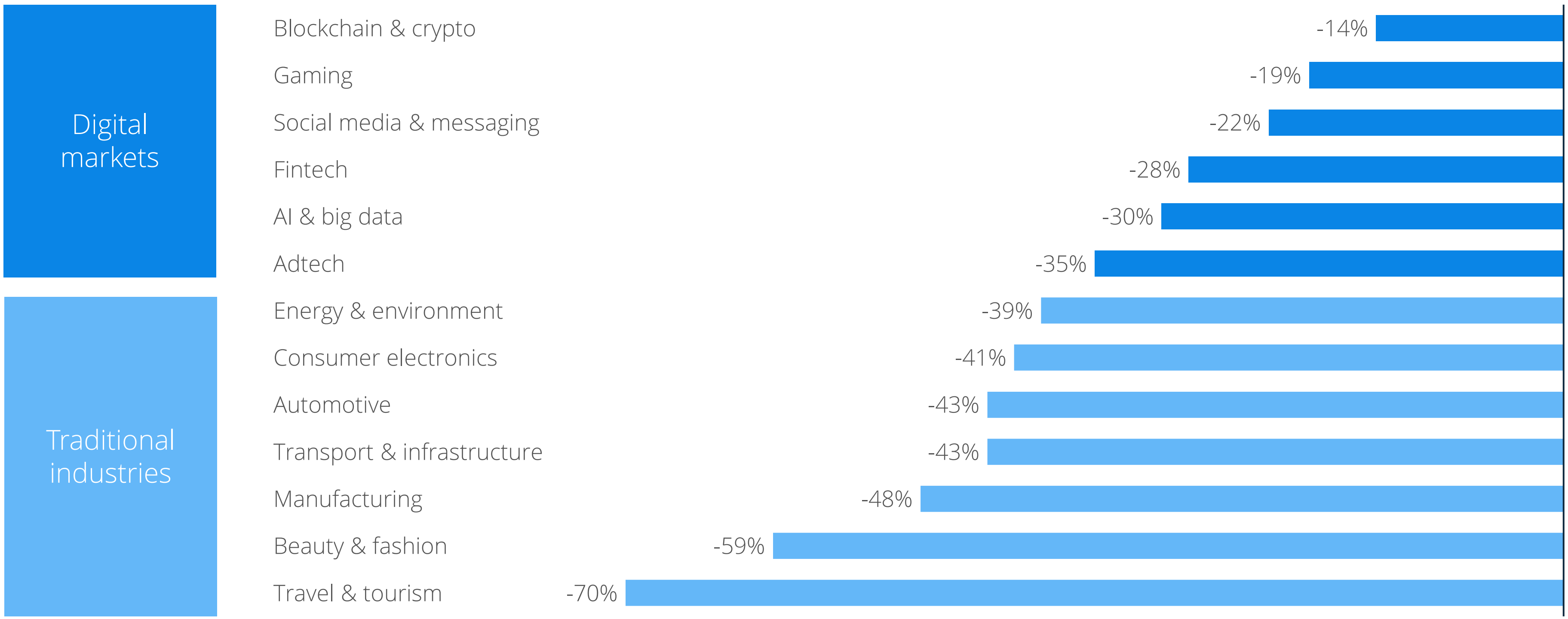
Changes in key digital and technology stock indices in US$



1: An exchange-traded fund is a type of investment fund that is listed and traded on stock exchanges
2: CAGR Jan '20-Sep '20: Compound Annual Growth Rate/average growth rate per year
Sources: Yahoo Finance

In general, start-ups in digital markets performed better than those in traditional industries

Global changes in start-up revenue between Dec ‘19 and Jun ‘20



Sources: Startup Genome, Crunchbase

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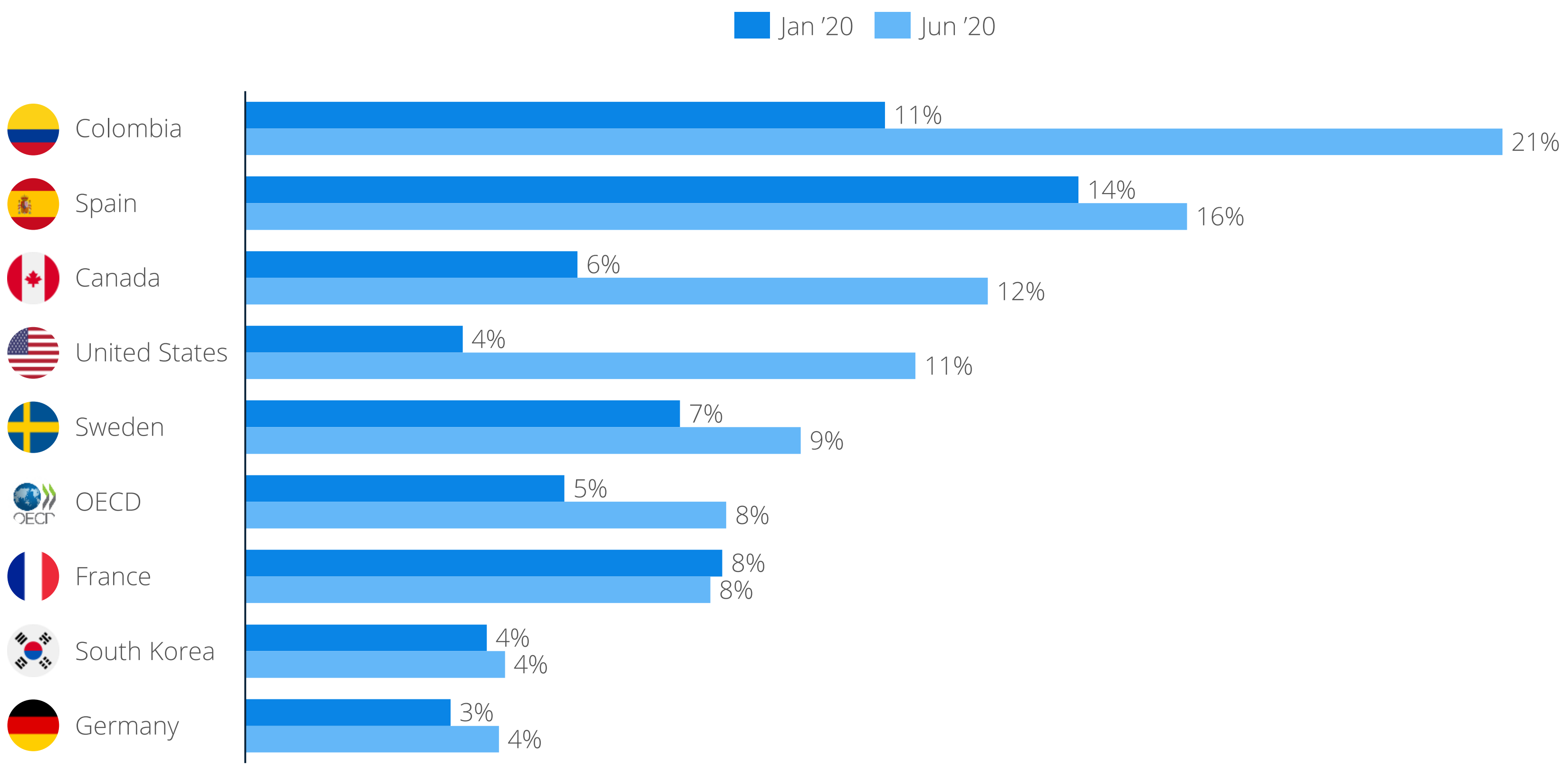
Layoffs took place globally, with Colombia, Spain, Canada, and the U.S. Hit hardest

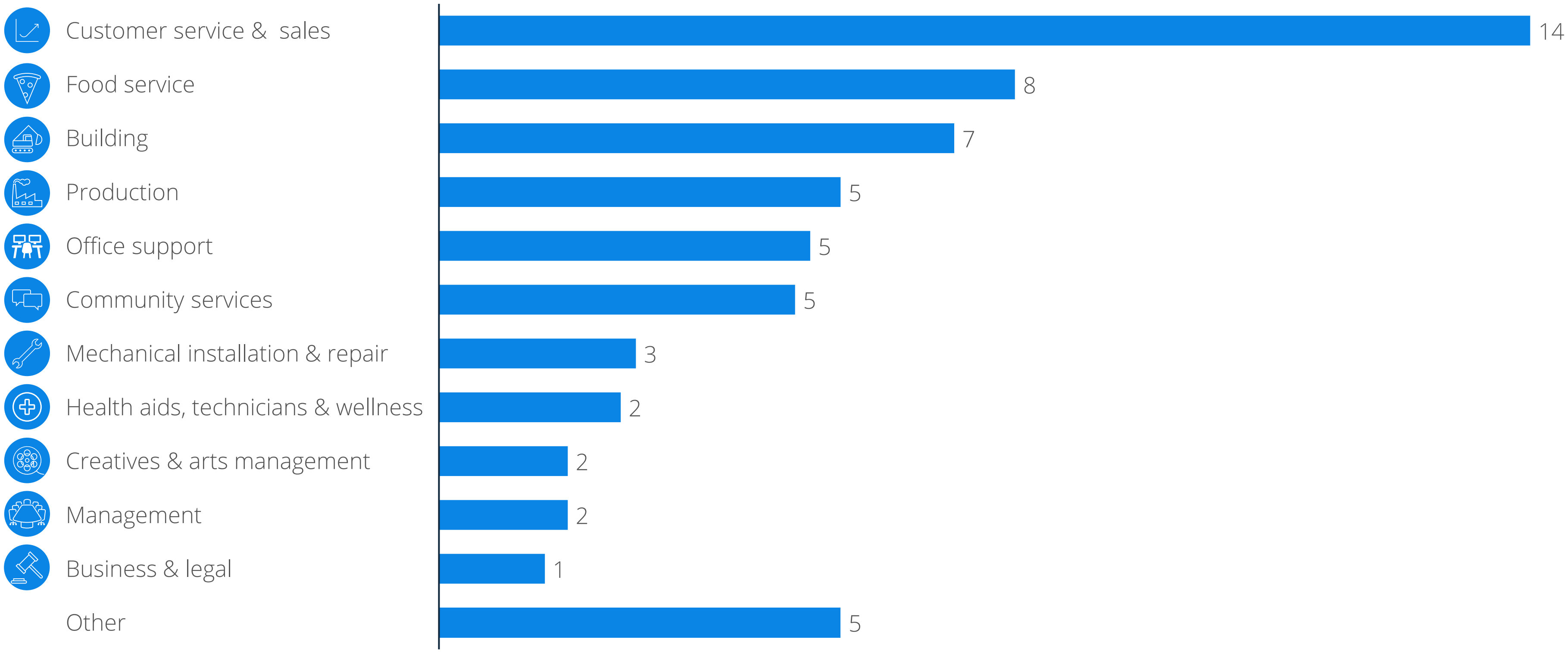
Labor force unemployment rates and changes in selected OECD countries



Sources: OECD, as of July 2020

In Europe, unemployment due to COVID-19 was highest in customer service & sales and food service

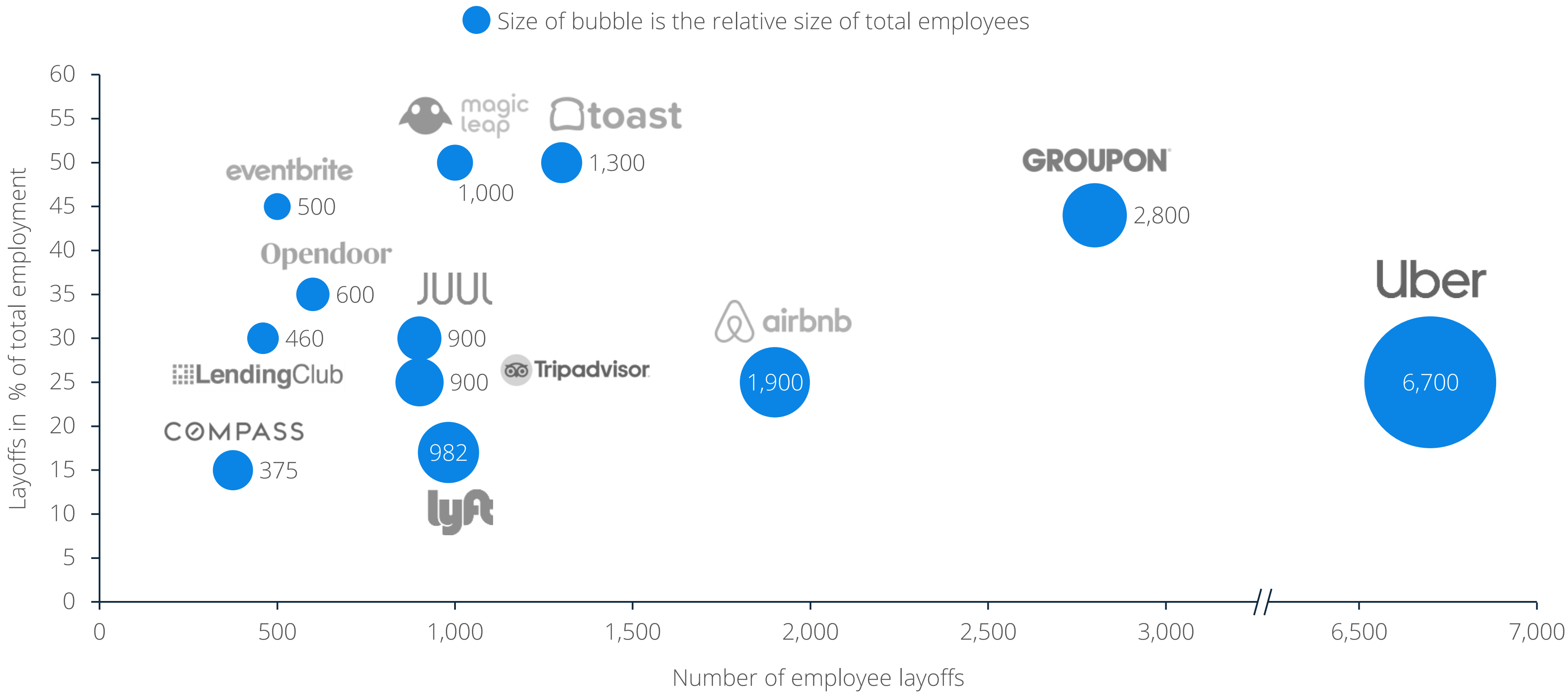
Unemployment in Europe in million in Apr' 20



Sources: McKinsey

COVID-19 triggered mass-layoffs across U.S. start-ups, with Uber and Groupon as prominent examples

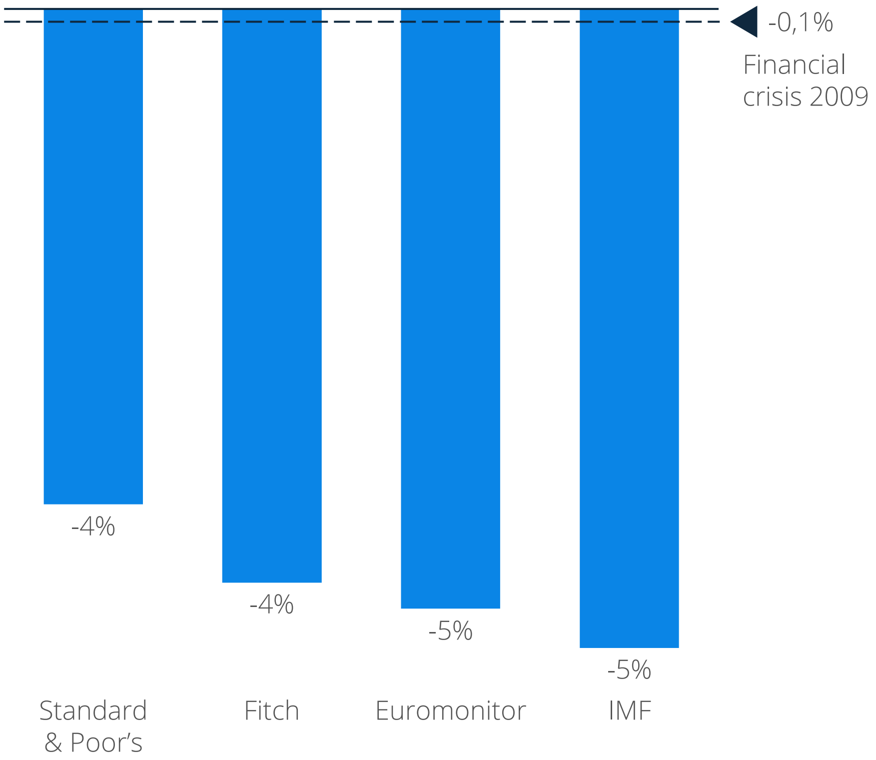
Employee layoffs of selected start-ups between Mar '20 and May '20



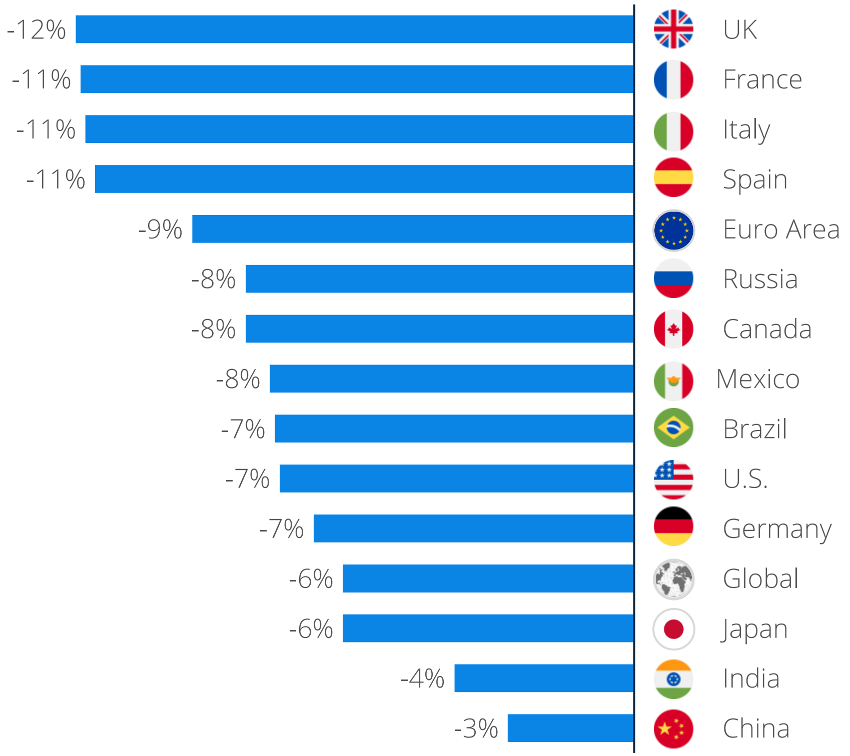
Note: Layoffs from March 11 to May 26, 2020
Sources: Visualcapitalist, Bloomberg, Reuters, Techcrunch

Global institutions expect a recession in 2020 that is more severe than the financial crisis of 2009

Global real GDP forecast for 2020[1]



Country specific real GDP forecast for 2020[2]



1: S&P (July 2020), Euromonitor (average of high and low estimate, June 29, 2020), IMF (June 2020), Fitch (September 7, 2020)
2: Projections by OECD, assumption for "Single-hit scenario": refers to a scenario where a second wave of infection does not occur before the end of 2020, as of June 2020
Sources: S&P, Euromonitor, Oxford Economics, IMF, Flitch, OECD

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After a sharp decline, economic development may ensue according to one of the V-U-L scenarios

Factors affecting scenarios of economic recoveries

- Duration/type of restrictions
- Government aid programs
- Consumer behavior
- Timing of medication/ vaccine
- Unemployment rates
- Impact on consumer budgets

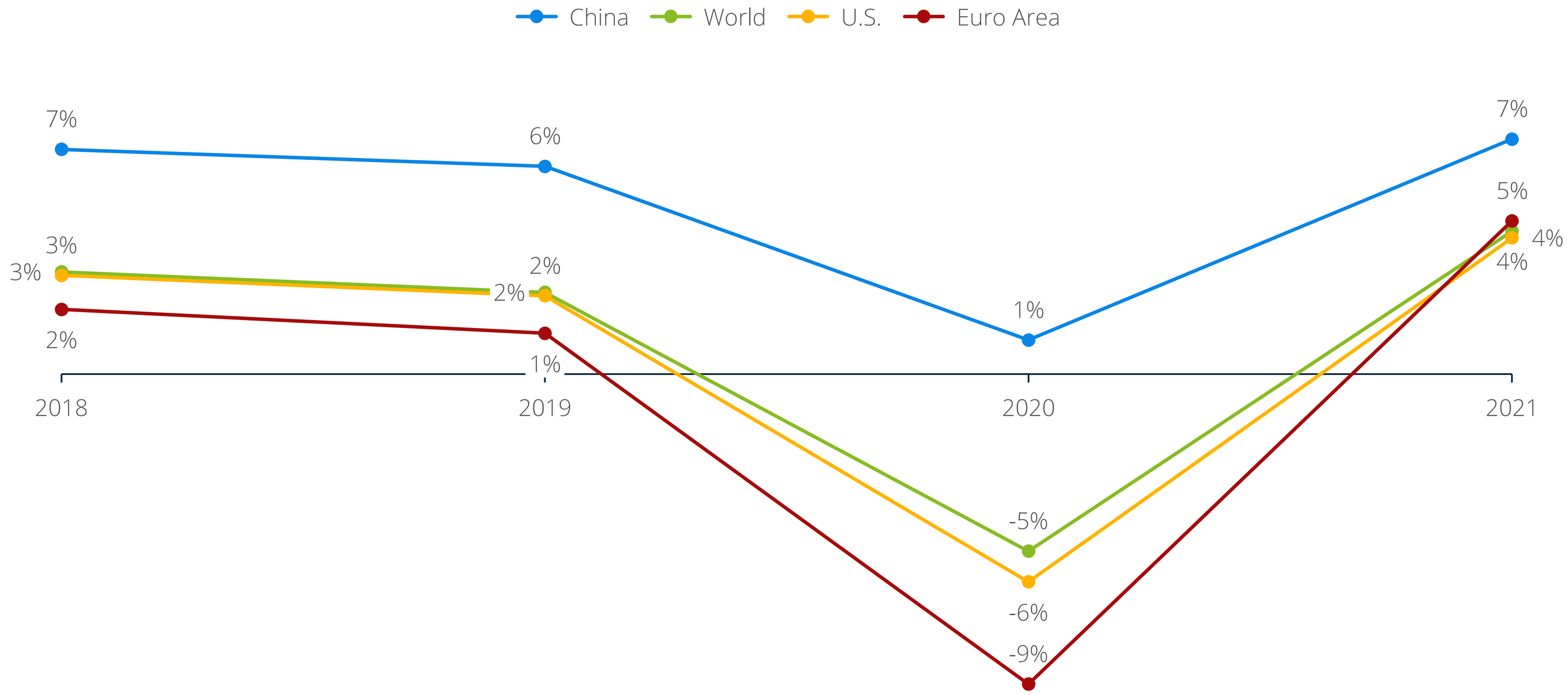
Economic recovery scenarios

V	U	L
Fast recovery	Strong recovery after longer recession ("bathtub")	Extended, severe recession

Sources: Statista

A V-shaped recovery of world economies is expected to be the likely scenario across the globe

Real GDP forecast for selected economies



Sources: World Bank, as of June 2020

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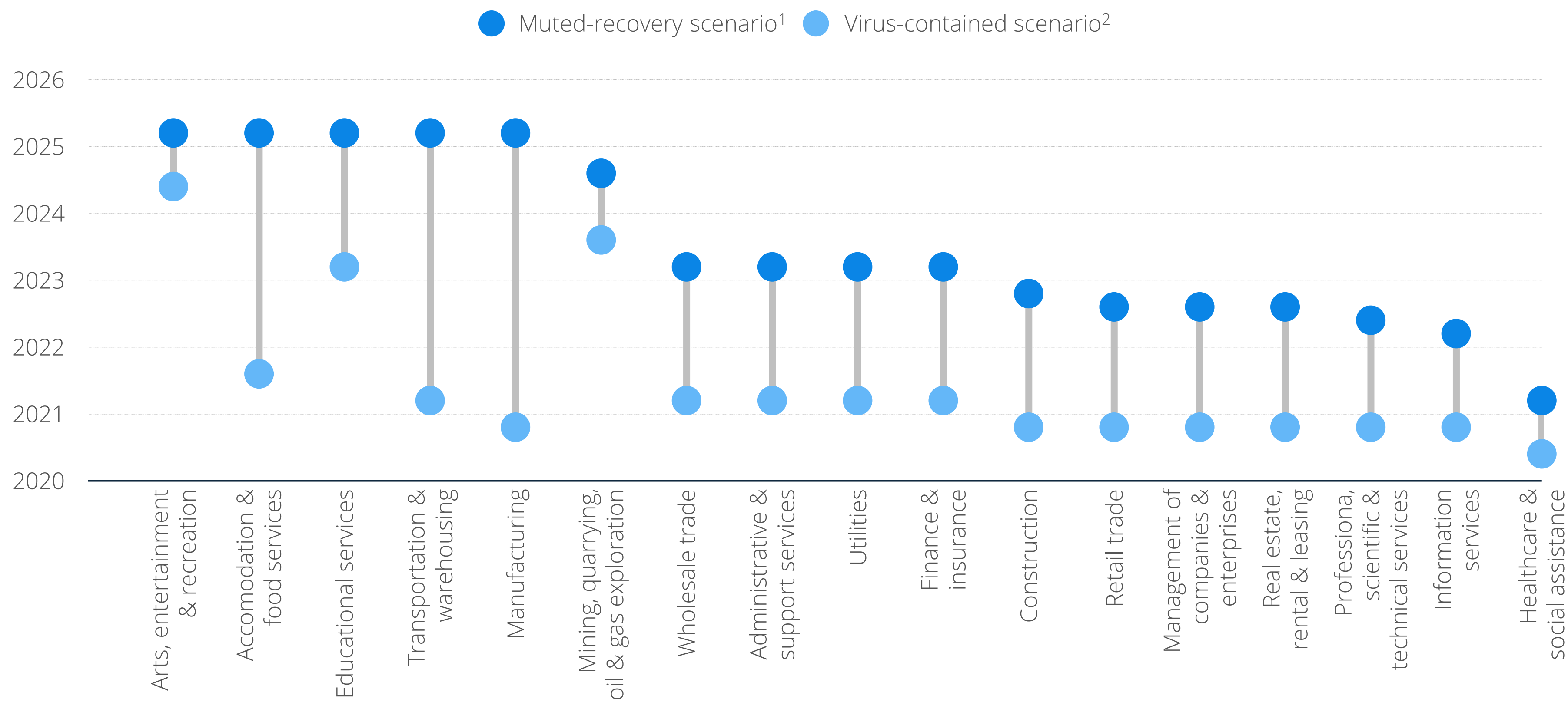
For some industries, recovery to pre-COVID-19 GDP levels could take up to five years

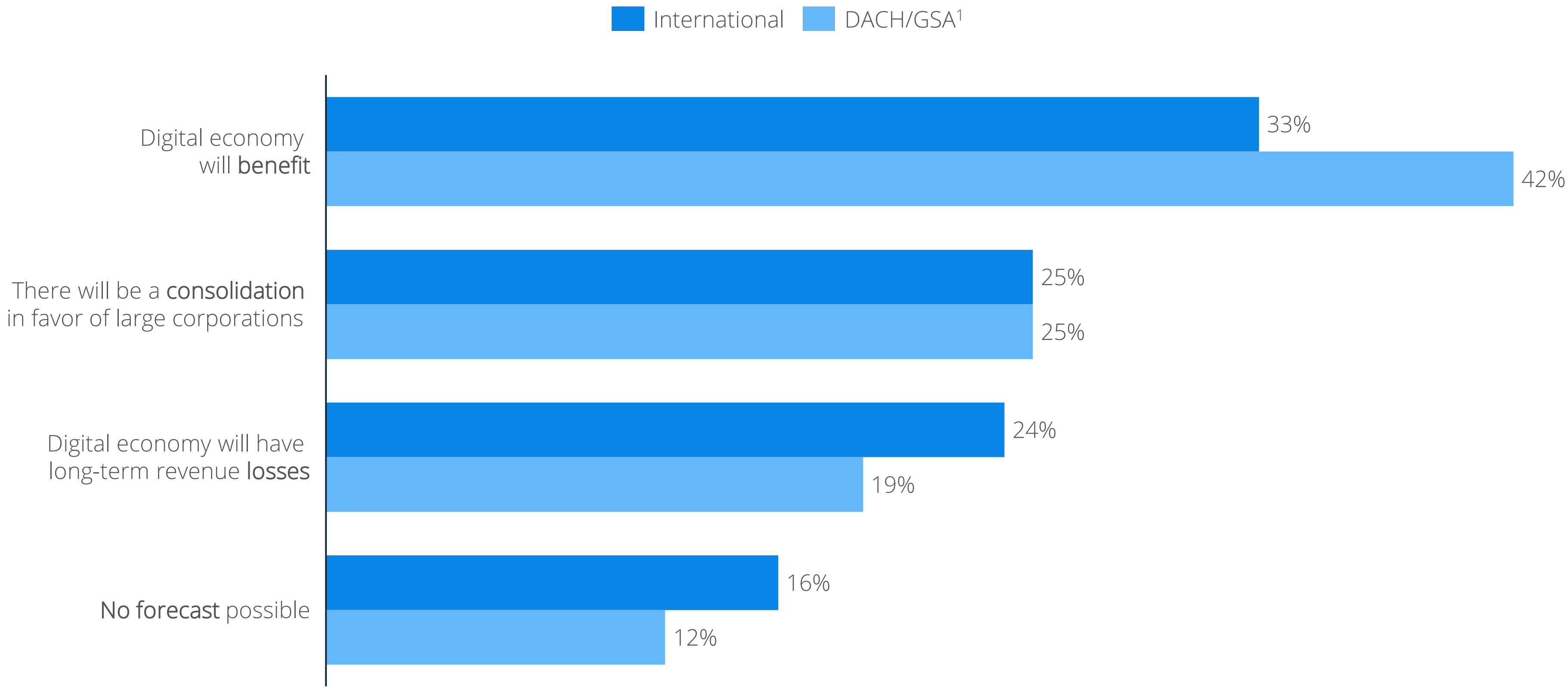
Expected year of recovery for selected industries



1: Muted-recovery scenario: If the public health response, including social distancing and lockdown measures, is initially successful but fails to prevent a resurgence in the virus
2: Virus-contained scenario: The virus is successfully contained and there is a strong rebound of the global economy
Sources: Oxford Economics, McKinsey, as of June 2020

In the digital economy, experts expect both risk and opportunity for the future

Agreements by digital decision makers about selected economic scenarios caused by COVID-19



1: DACH=Deutschland, Österreich, Schweiz, GSA=Germany, Austria, Switzerland
Note: DACH (n=527), International (n=305) digital decision-makers
Sources: DEMEXO, as of April 2020

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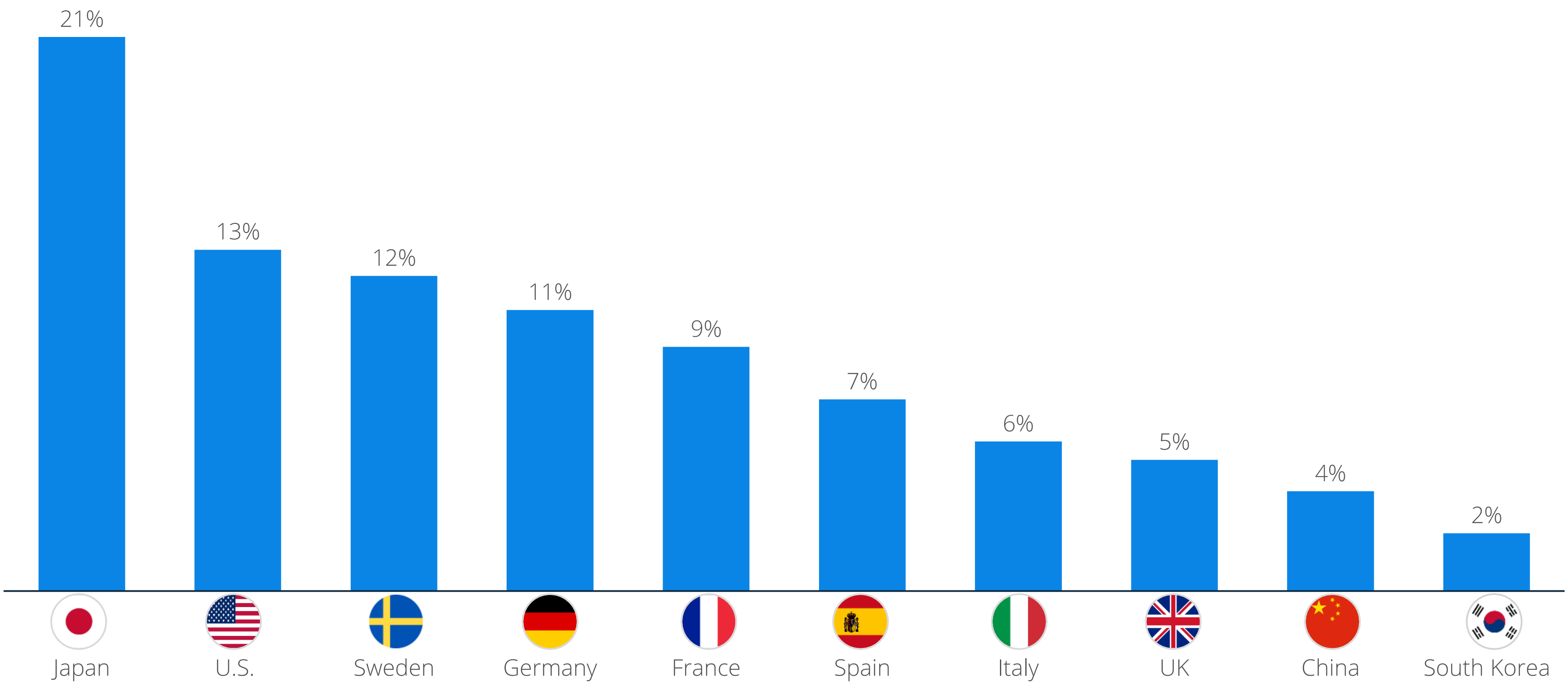
Positive economic development is supported by a vast array of stimulus packages issued in many countries

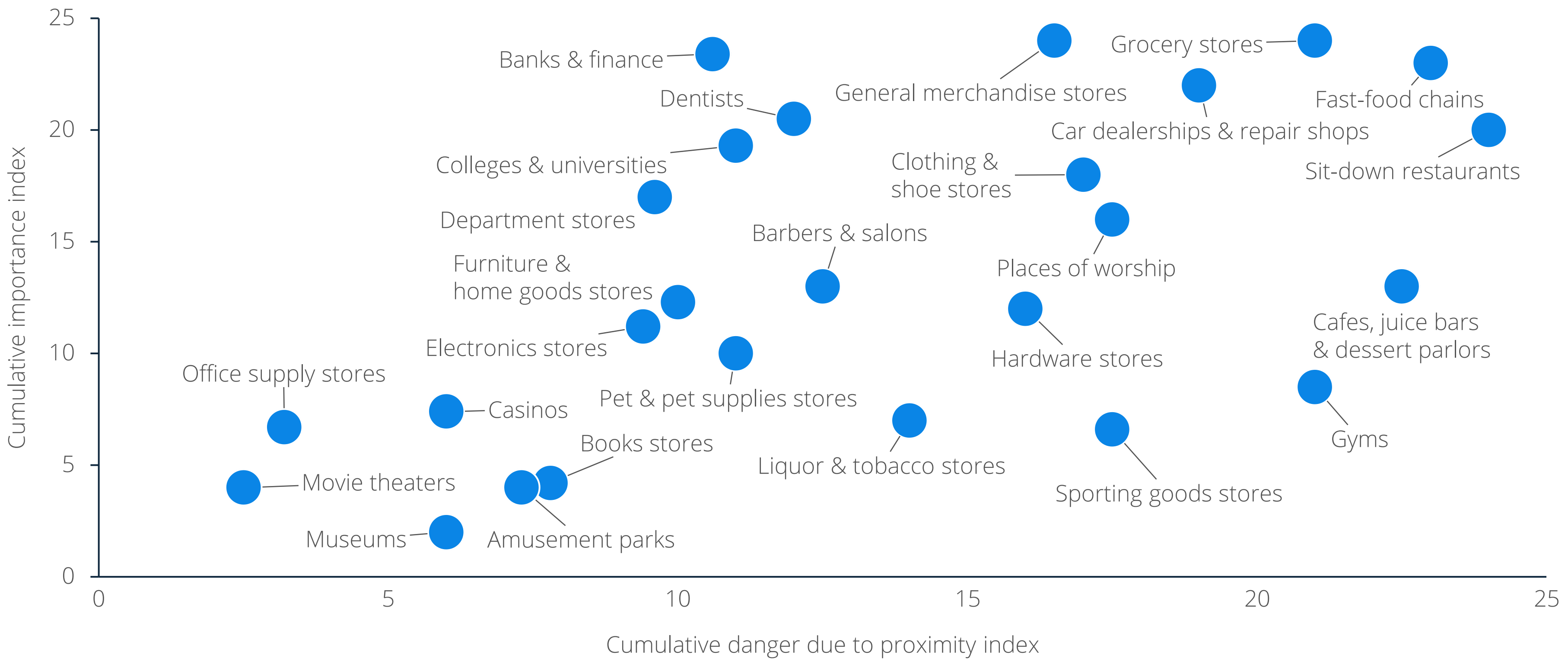
Financial COVID-19 response as share of GDP as of May '20



Sources: Ceyhun Elgin, Lecturer and Director of the Master's Program in Economics at Colombia University, U.S., as of May 10, 2020

Some industries started re-opening earlier due to their importance vs. proximity danger trade-off

Industry specific re-opening indication based on importance vs. proximity danger index

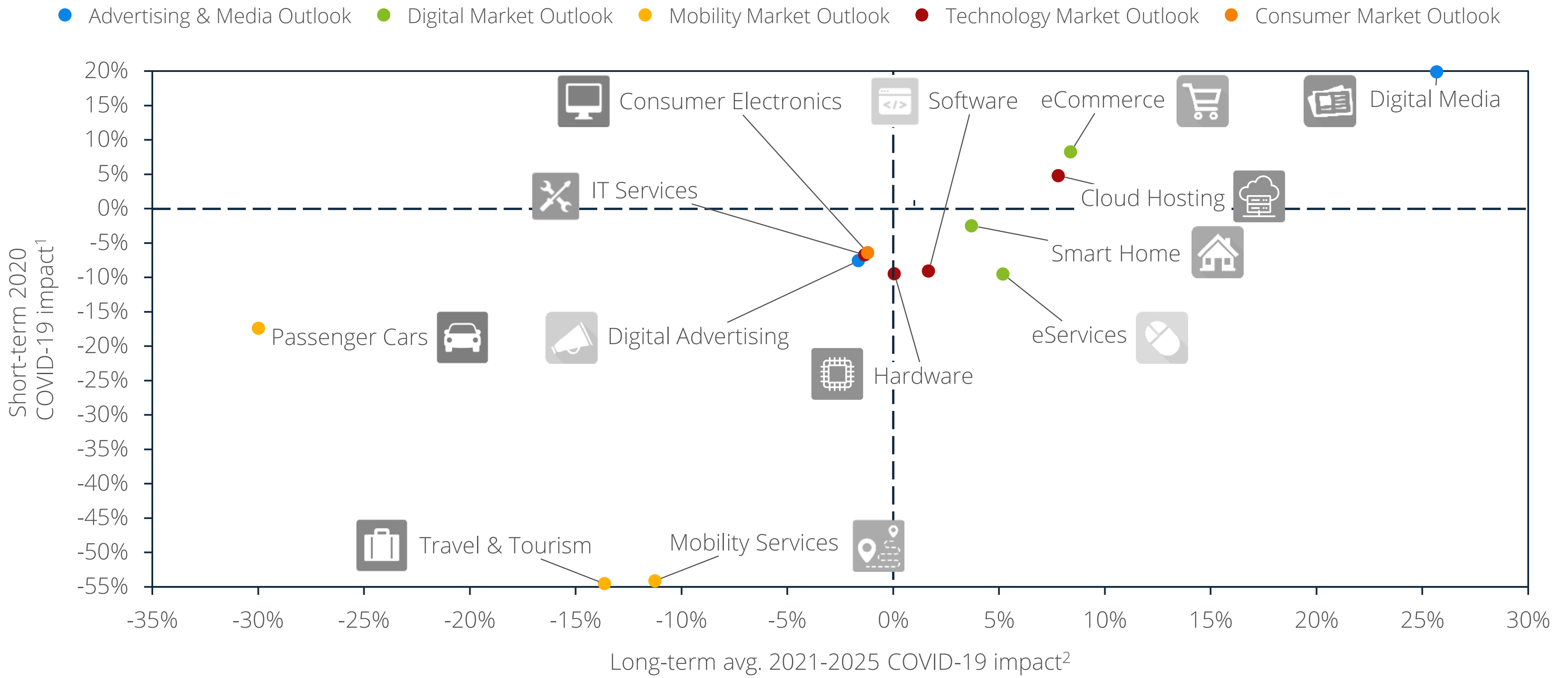


Note: The cumulative risk of a location was determined by factors such as the number of total visits (with an emphasis on older visitors), distance traveled to the location, and the density of attendance. The result is a ranking of locations by danger based on proximity and by economic importance. High importance locations, such as banks, grocery stores, and dentists, were identified as an index of consumer welfare, employment, payroll, and spending. Re-opening of industries are often aligned with their respective importance vs. proximity danger position.
Sources: medium.com, as of May 2020

IMPACT ON DIGITAL ECONOMY

Statista markets show COVID-19 specific impact: Less mobility & travel opportunities and more media usage

Short- and long-term COVID-19 impact on selected Statista markets



1: Statista modeled COVID-19 impact 2020 on markets pre-COVID-19 (as of Q4/Q1 2019/2020) vs. post-COVID-19 (as of October 2020)
2: Statista modeled COVID-19 average impact 2021-2025 on markets pre-COVID-19 (as of Q4/Q1 2020) vs. post-COVID-19 (as of October 2020)
Sources: Statista Market Outlooks

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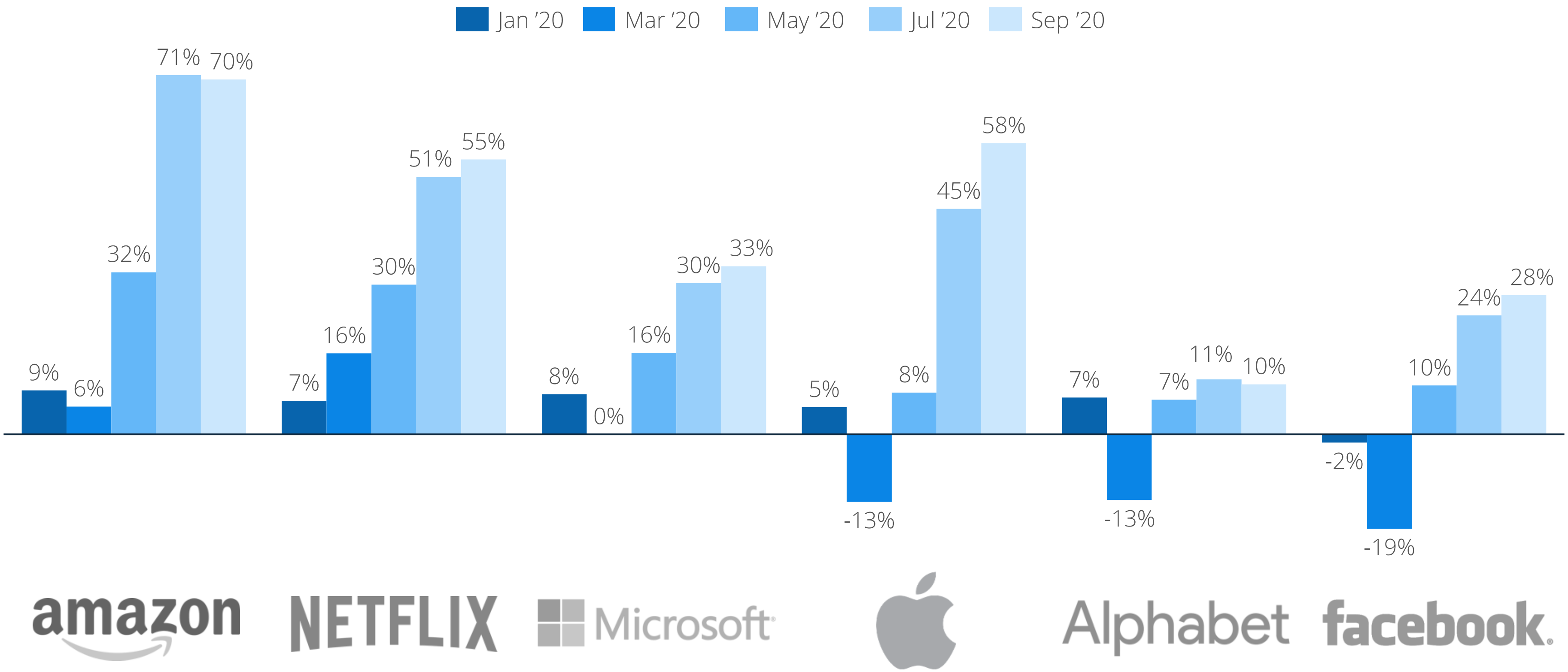
Key players in digital markets prospered during the crisis and demonstrated a positive share performance

Stock performance of leading global digital companies during COVID-19 as compared to December 31, 2019



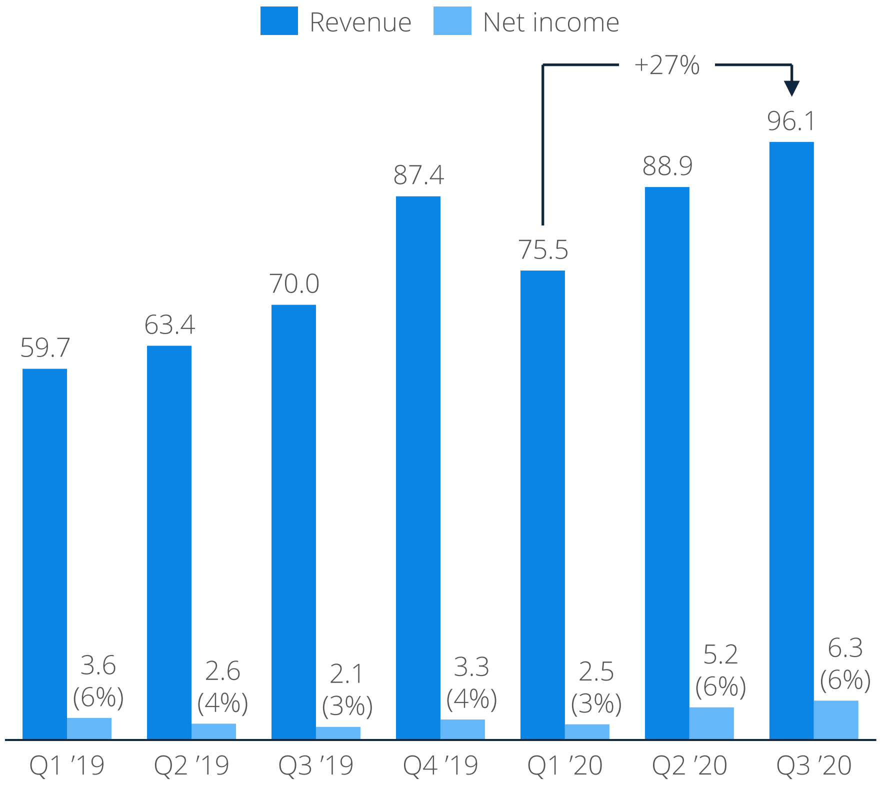
Note: as of September 30, 2020
Sources: Forbes, Yahoo Finance

Amazon stock price increased until the end of Q3 '20, with revenues concurrently growing by 27%

amazon

Amazon stock price in US$

Amazon revenue and net income in billion US$

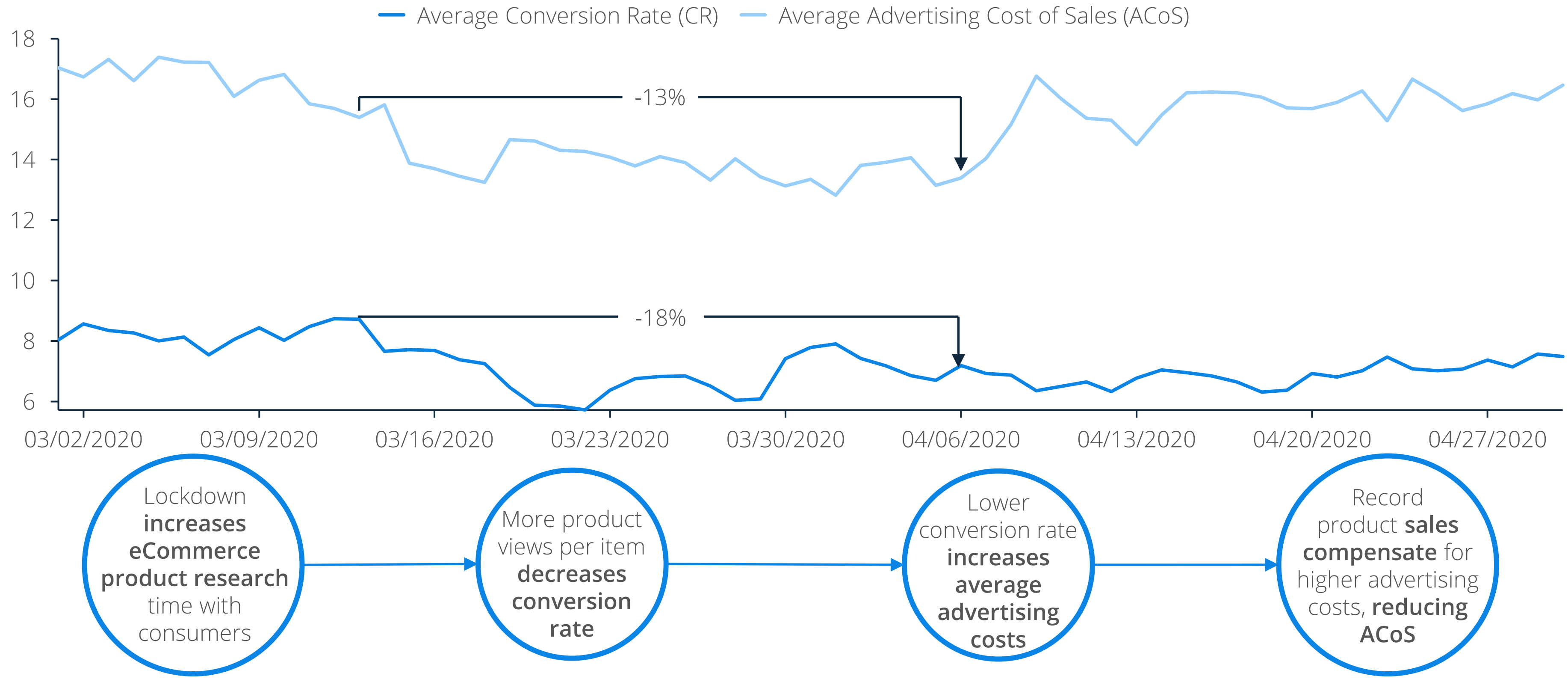


Note: January 1 to June 31, 2020 is considered H1 '20
Sources: Yahoo Finance, Statista Amazon Brand Report

During the lockdown conversion rates dropped but due to higher sales, ACoS[1] on Amazon also dropped

amazon

Average conversion rate (CR) and average advertising cost of sales (ACoS) in %



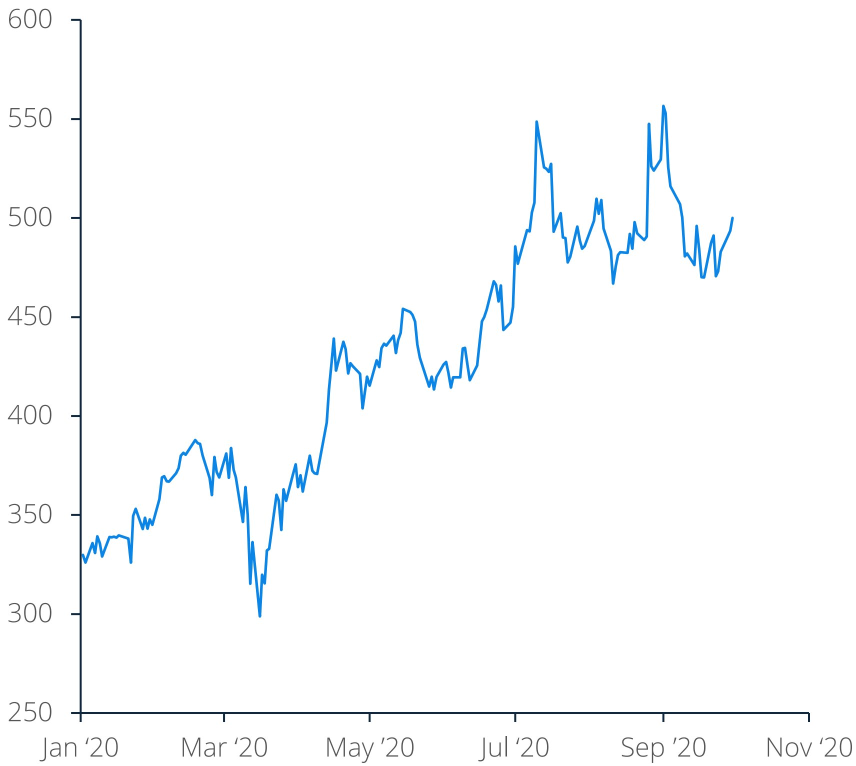
1: ACoS=Average Advertising Cost of Sales
Sources: app-Bidx-tool.com, Statista Amazon Brand Report

statista

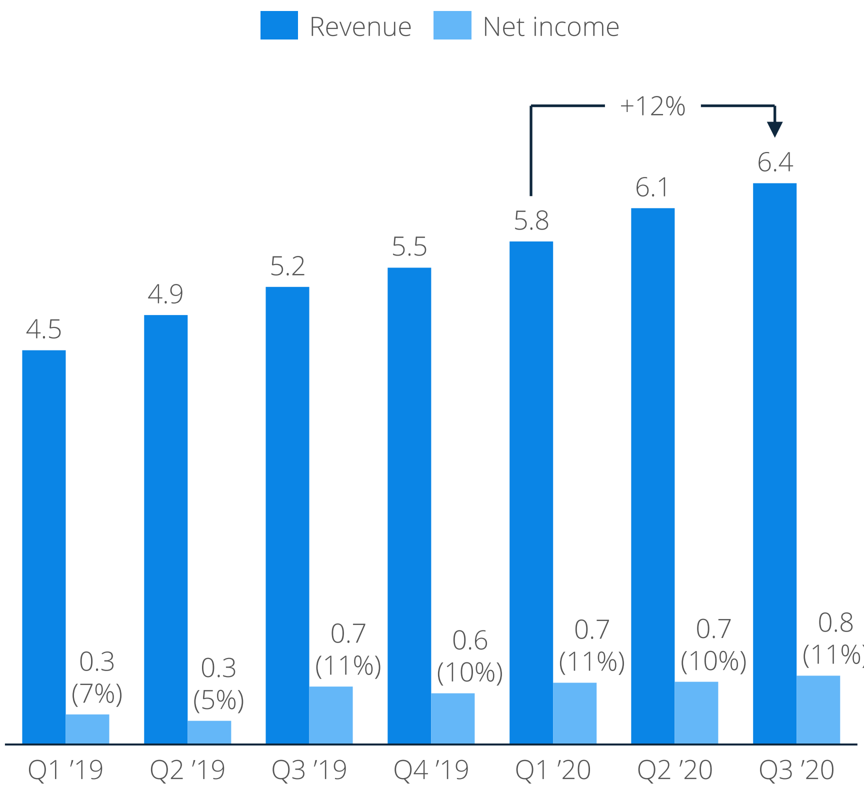
Netflix stock price increased until the end of Q3 '20, with revenues concurrently growing by 12%

NETFLIX

Netflix stock price in US$



Netflix revenue and net income in billion US$

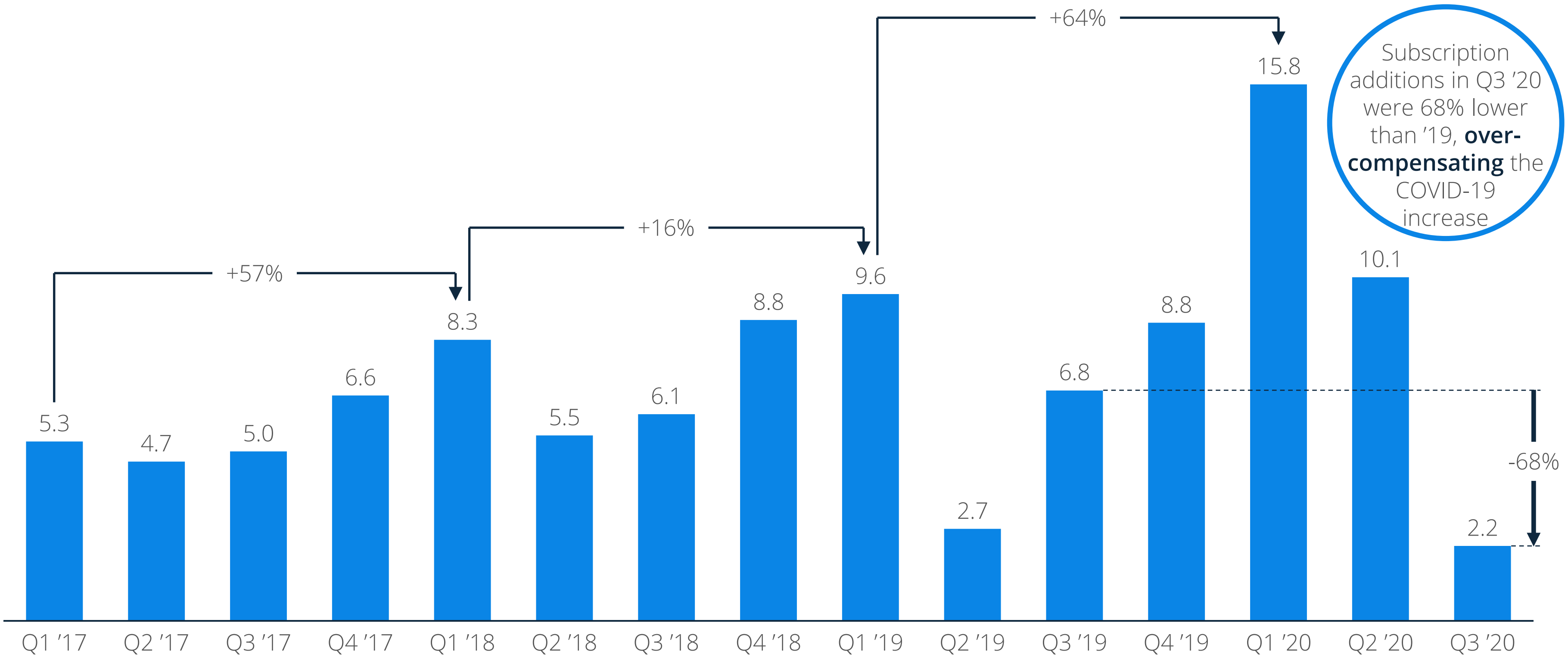


Note: January 1 to June 31, 2020 is considered H1 '20
Sources: Yahoo Finance, Netflix, Statista Netflix Brand Report

statista

Netflix unparalleled increase of ~16million users due to COVID-19 in Q1 ’20 was overcompensated in Q3 ‘20

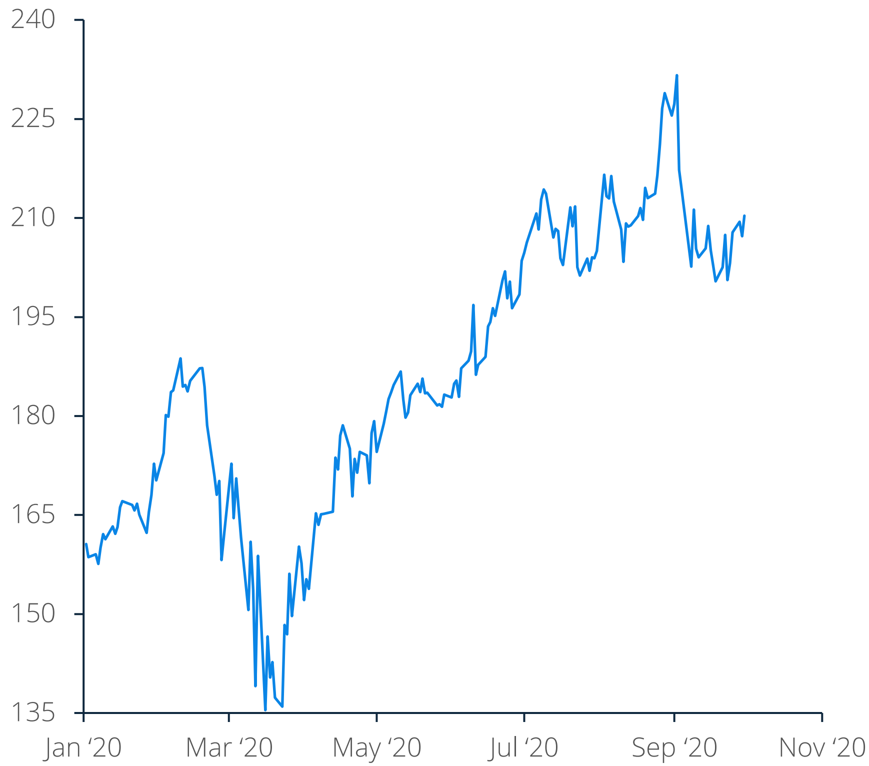
Global Netflix paid net subscriber additions in million



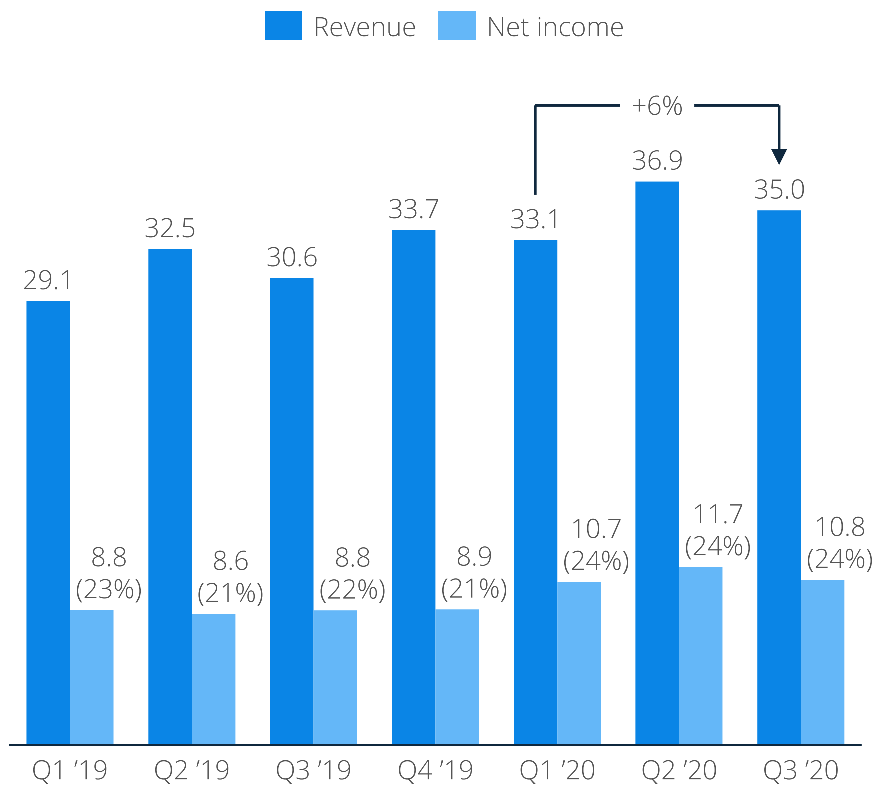
Sources: Netflix, Statista Netflix Brand Report

Microsoft stock price increased until the end of Q3 ‘20, with revenues concurrently growing by 6%

Microsoft stock price in US$



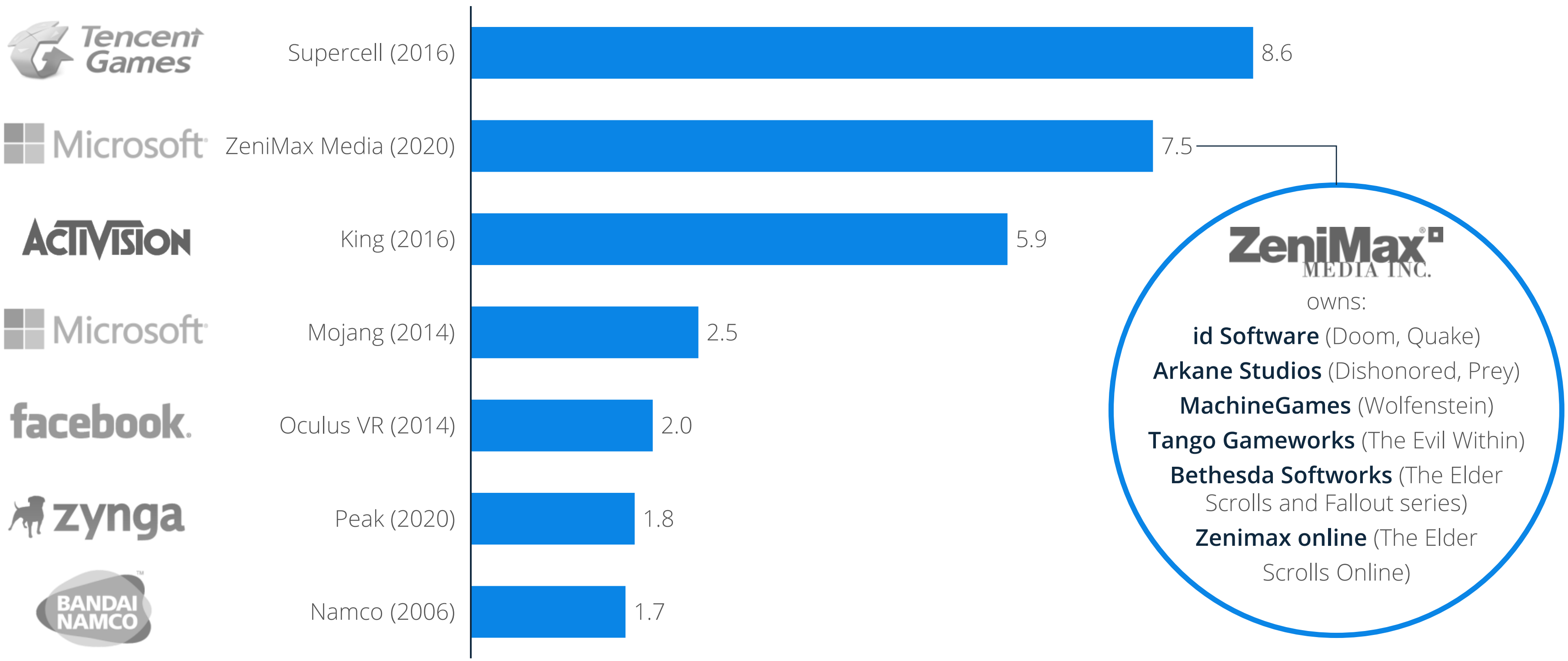
Microsoft revenue and net income in billion US$



Note: January 1 to June 31, 2020 is considered H1 ’20. Microsoft financial year ends on September 30
Sources: Yahoo Finance, Microsoft, Statista Microsoft Brand Report

Microsoft strengthened its COVID-19-resilient gaming business with an investment in ZeniMax Media

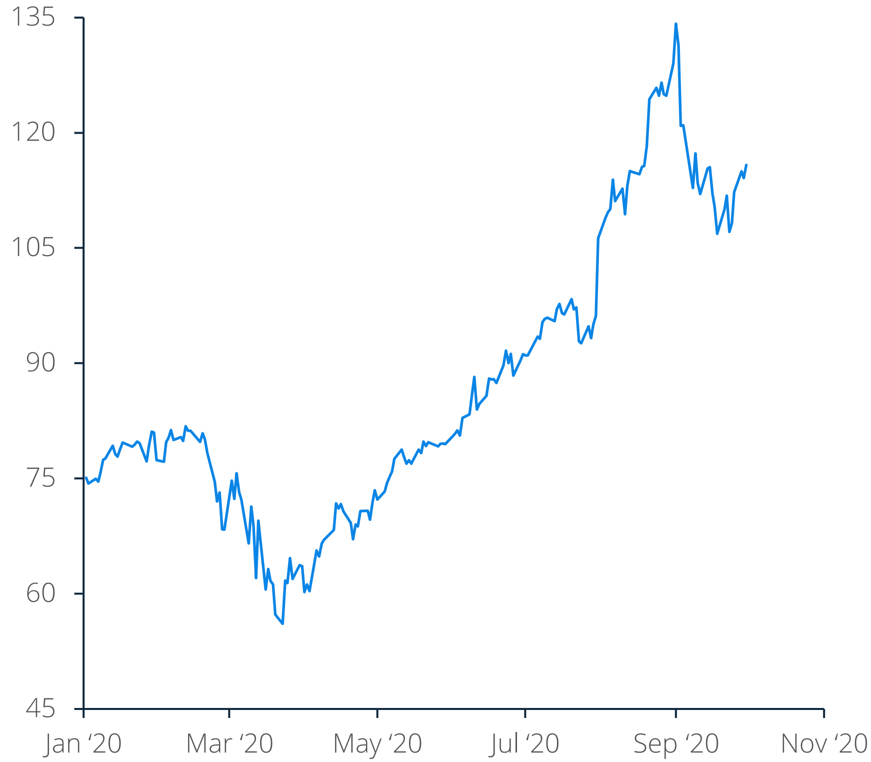
Largest video game company acquisitions in billion US$



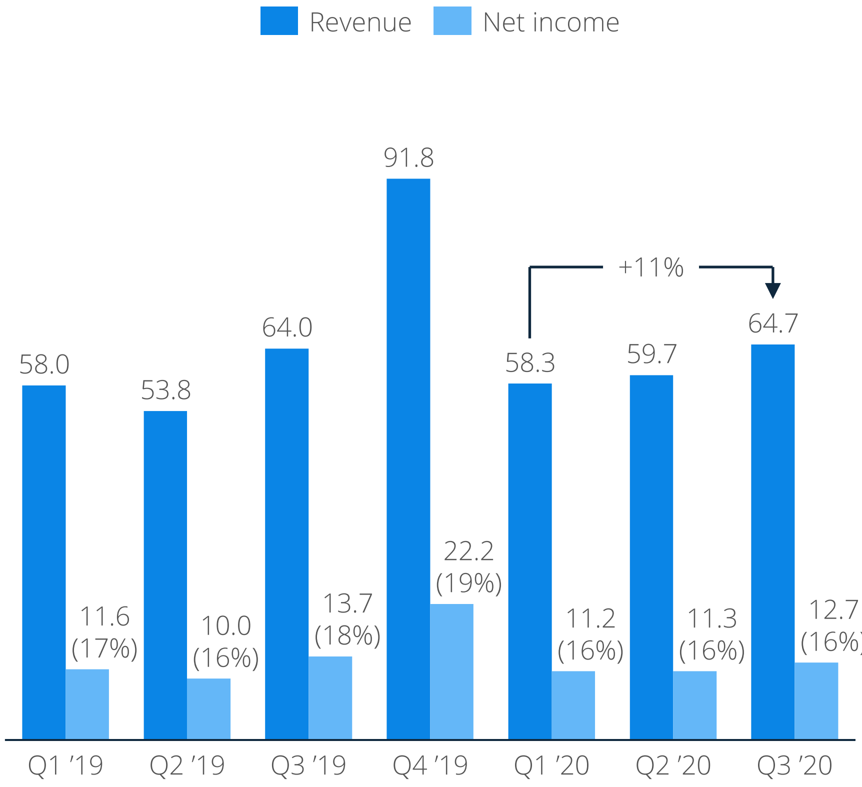
Sources: Bloomberg, New York Times, TechCrunch, Microsoft, Statista Microsoft Brand Report

Apple stock price increased until the end of Q3 '20, with revenues concurrently growing by 11%

Apple stock price in US$



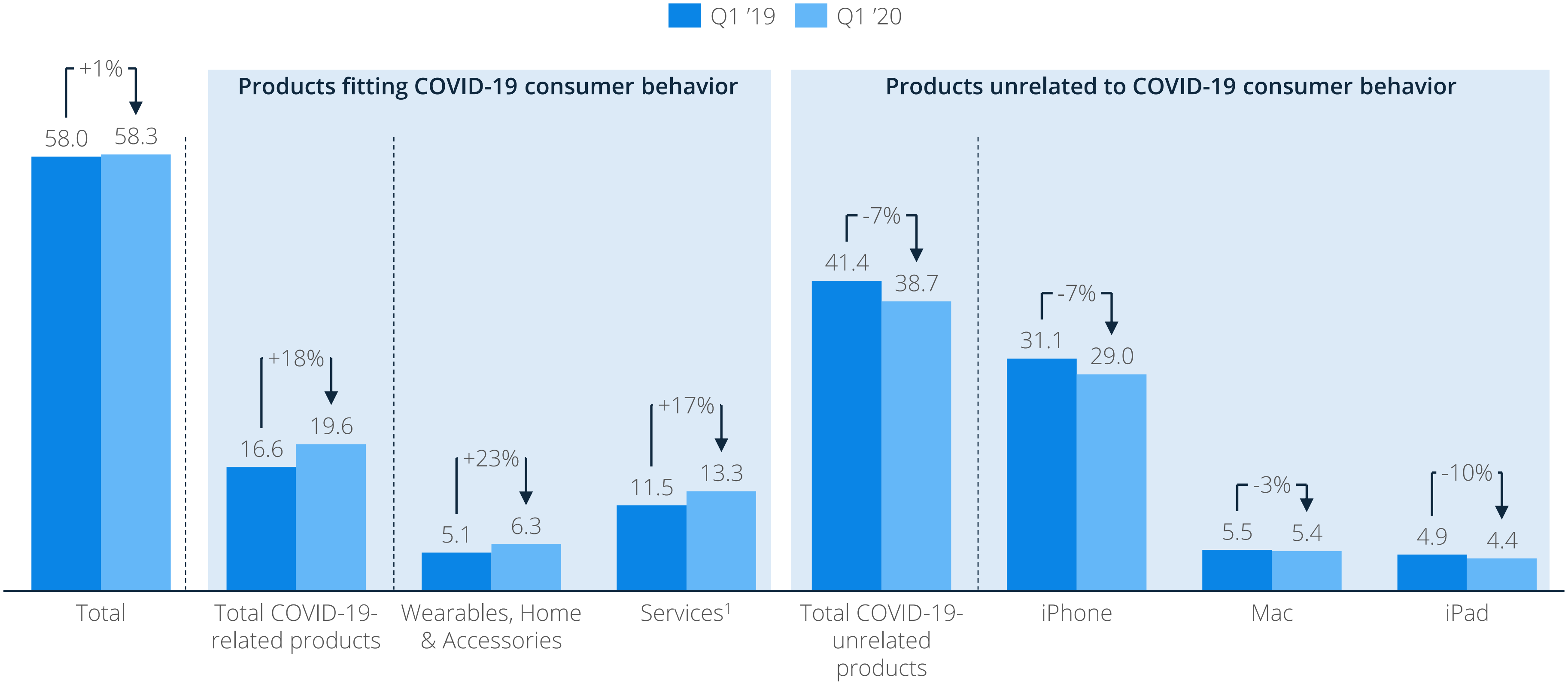
Apple revenue and net income in billion US$



Note: January 1 to June 31, 2020 is considered H1 '20. Financial year 2019: September 30, 2018 to September 28, 2019
Sources: Yahoo Finance, Apple, Statista Apple Brand Report

Apple revenues increased for products fitting the new COVID-19 consumer behavior

Apple global net sales by category in billion in Q1 ‘19 and Q1 ‘20

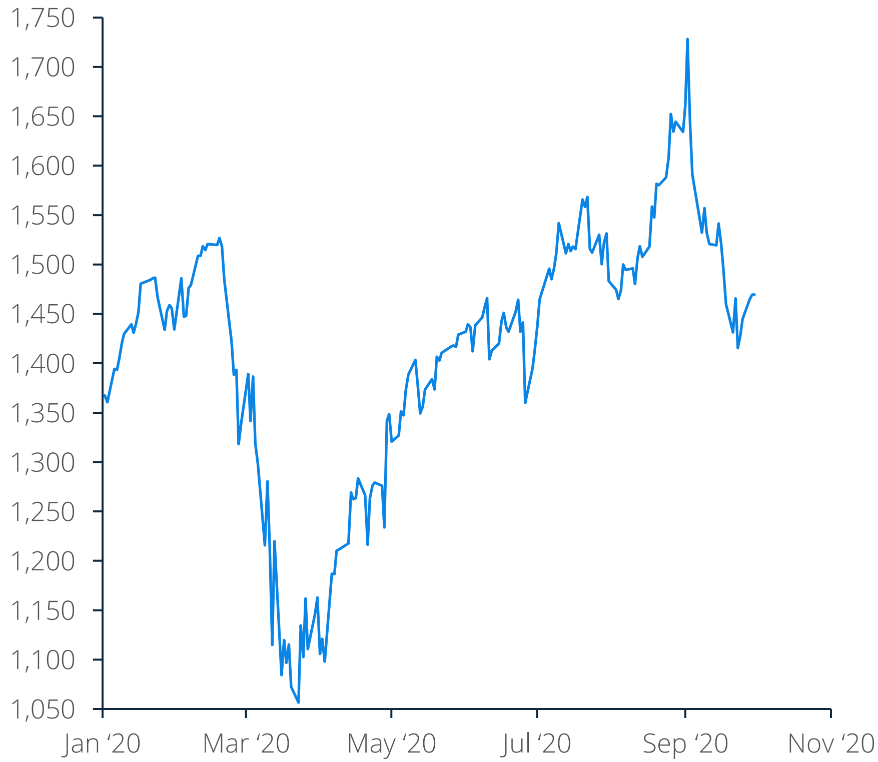


1: Services net sales include sales from the Company’s digital content stores and streaming services, AppleCare®, Advertising, and other services. Services net sales also include amortization of the deferred value of Maps, Siri, and free iCloud storage and Apple TV+ services, which are bundled in the sales price of certain products.
Sources: Apple, Statista Apple Brand Report

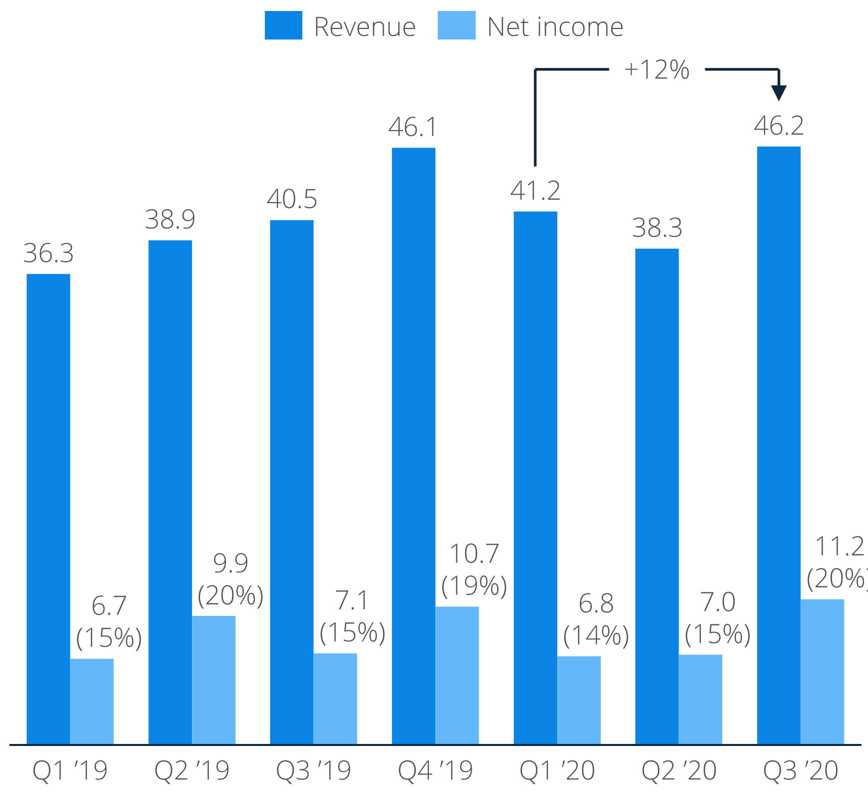
statista

Google stock price increased until the end of Q3 ‘20, with revenues concurrently growing by 12%

Google stock price in US$



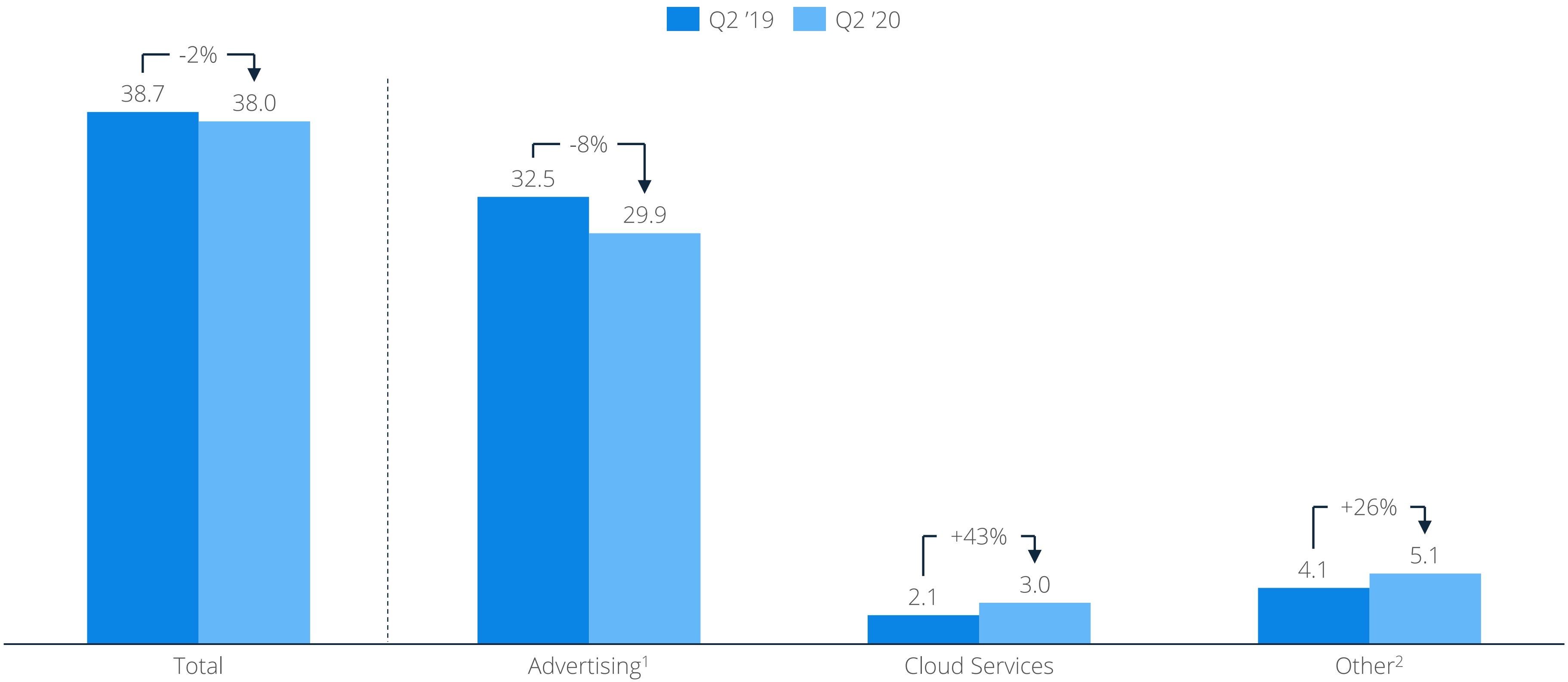
Google (Alphabet) revenue and net income in billion US$



Note: January 1 to June 31, 2020 is considered H1 ’20
Sources: Yahoo Finance, Alphabet, Statista Google Brand Report

Google's -8% advertising loss was not compensated by strong revenue growth in Cloud Services and Other

Google global revenues in selected fields affected by COVID-19 in million US$

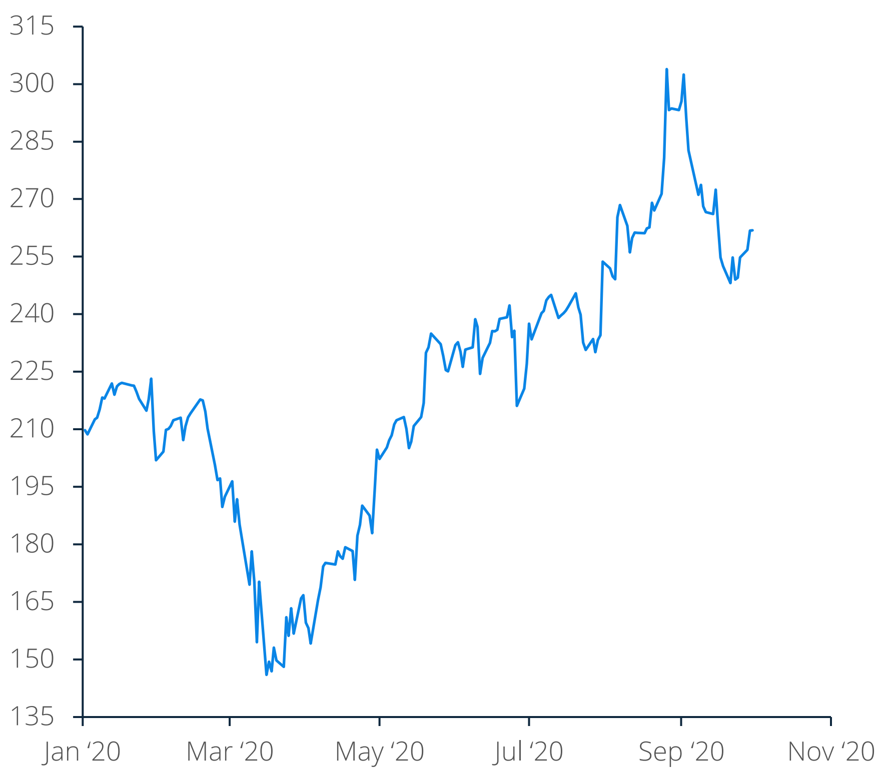


1: Includes Google Search & other as well as YouTube ads and Google properties and Network Member's properties revenues
2: Includes YouTube non-advertising revenues (including YouTube Premium and YouTube TV subscriptions and other services), Google Play revenues from sales of apps and in-app purchases and digital content sold in the Google Play store, hardware (including Google Nest home products, Pixelbooks, Pixel phones and other devices), and other products and services
Sources: Alphabet Financial Statements Q2 '20, Statista Google Brand Report

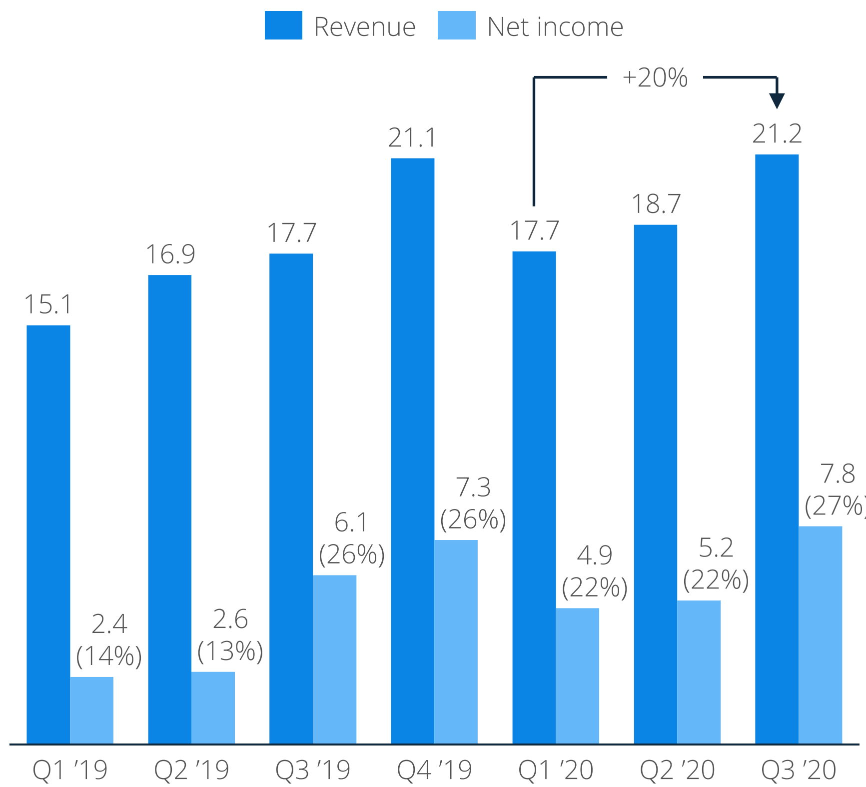
statista

Facebook stock price increased until the end of Q3 '20, with revenues concurrently growing by 20%

Facebook stock price in US$



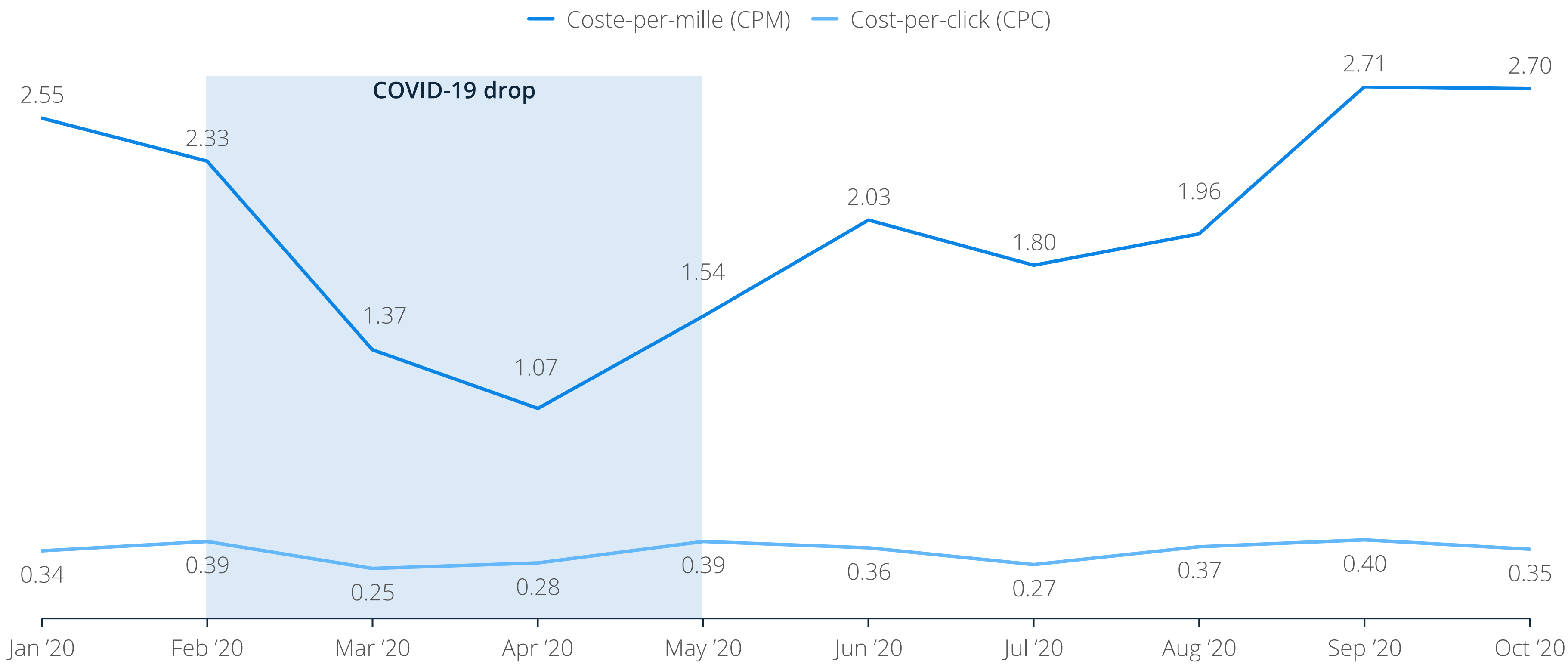
Facebook revenue and net income in billion US$



Note: January 1 to June 31, 2020 is considered H1 '20
Sources: Yahoo Finance, Facebook, Statista Facebook Brand Report

Facebook ad prices showed significant COVID-19 impact but have recovered since May '20

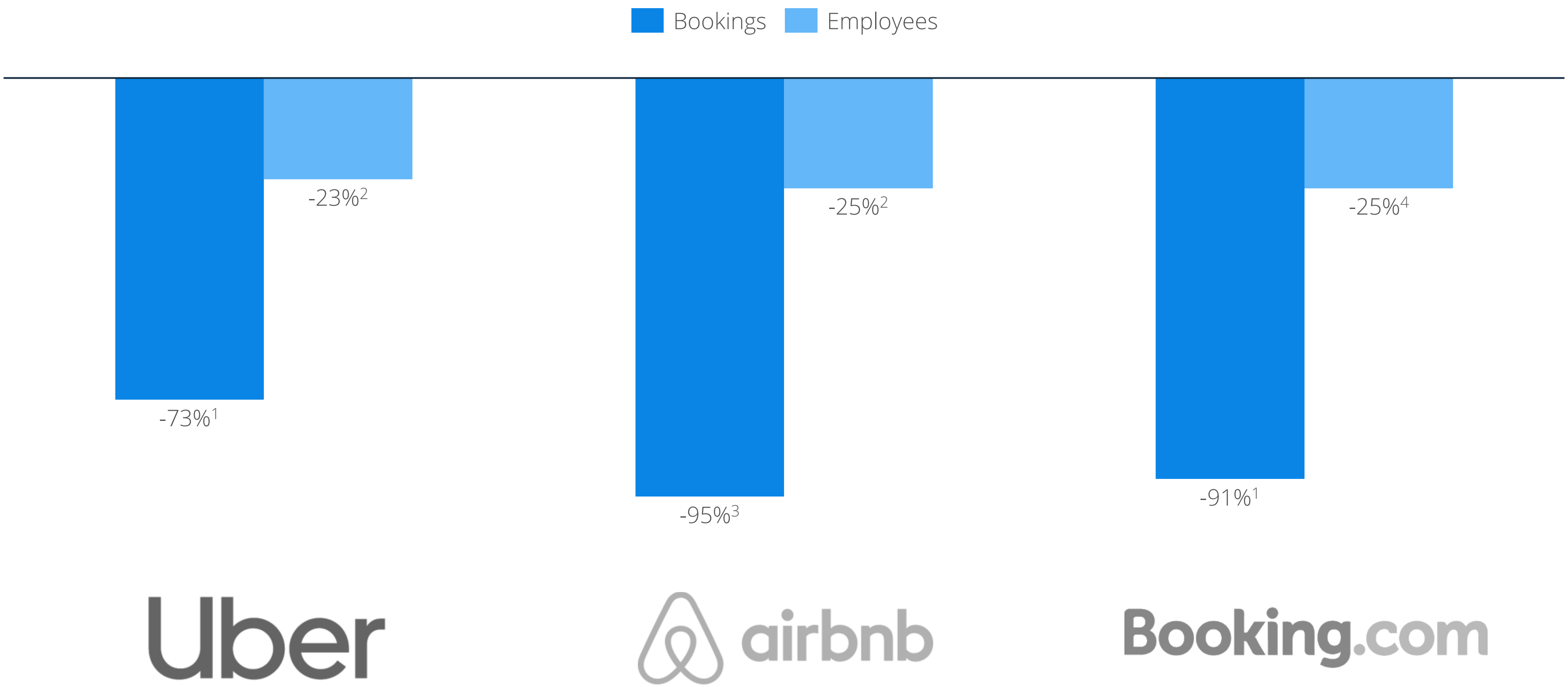
Facebook & Instagram monthly cost-per-mille (CPM) & cost-per-click (CPC) in US$



Sources: GuptaMedia, Zweidigital, Statista Facebook Brand Report

Other industries have experienced losses in the crisis, especially in mobility, accommodation, and travel

Key performance indicators of selected companies during COVID-19

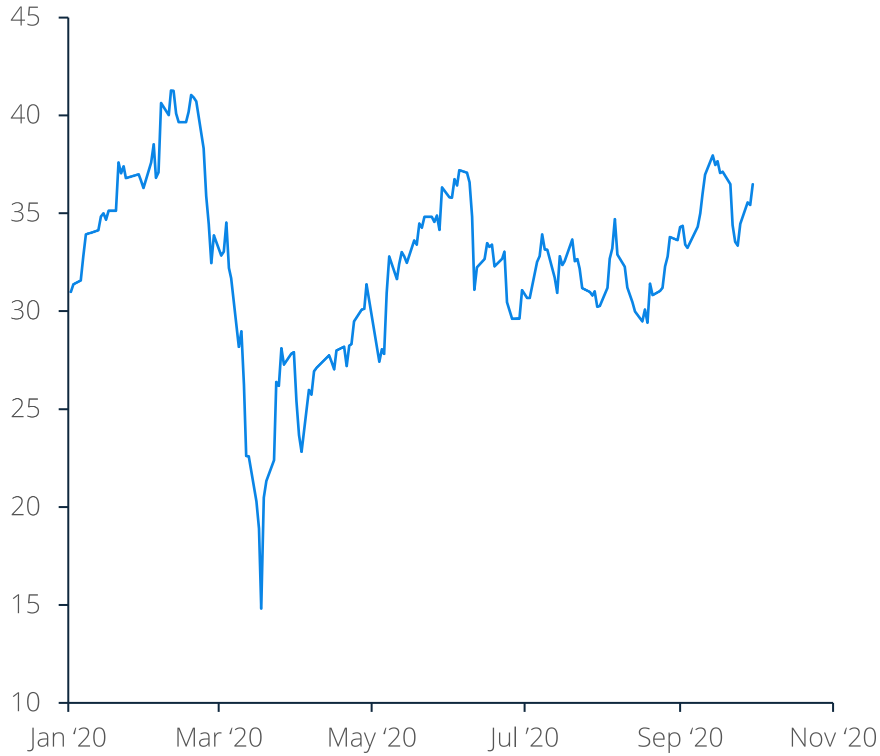


1: Q2 '20 y-o-y 2: as of May 2020 3: Q1 '20 y-o-y 4: Q2 '20 y-o-y
Sources: Forbes, Yahoo Finance, Uber, Airbnb, Booking.com

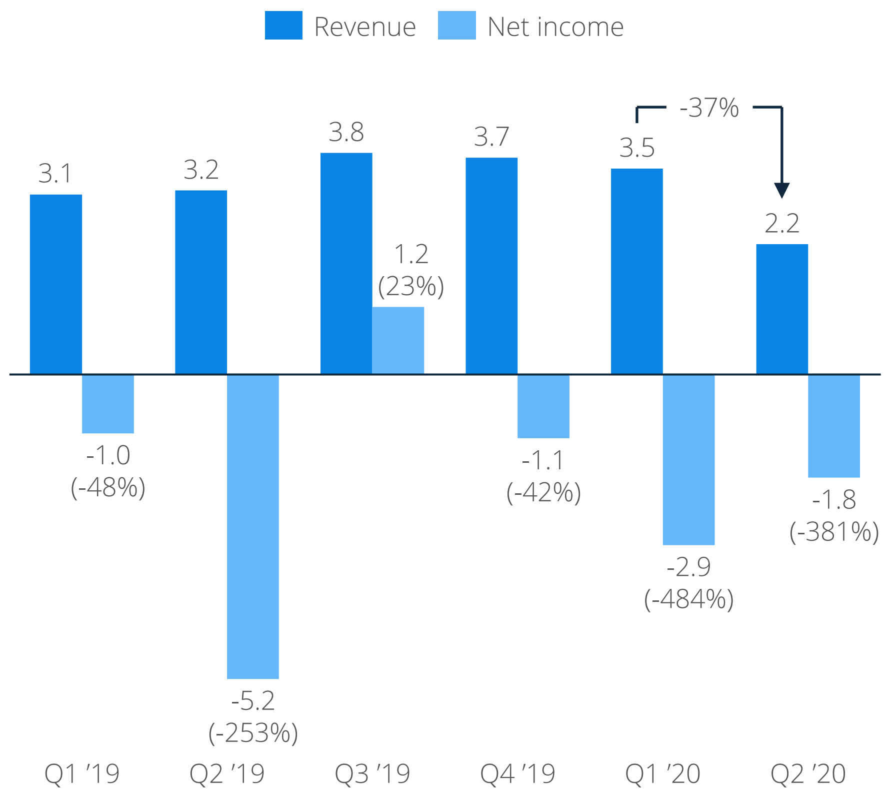
Uber stock price slightly decreased until end of Mar '20, with revenues concurrently declining by 37%

Uber

Uber stock price in US$



Uber revenue and net income in billion US$



Note: January 1 to June 31, 2020 is considered H1 '20
Sources: Yahoo Finance, Facebook

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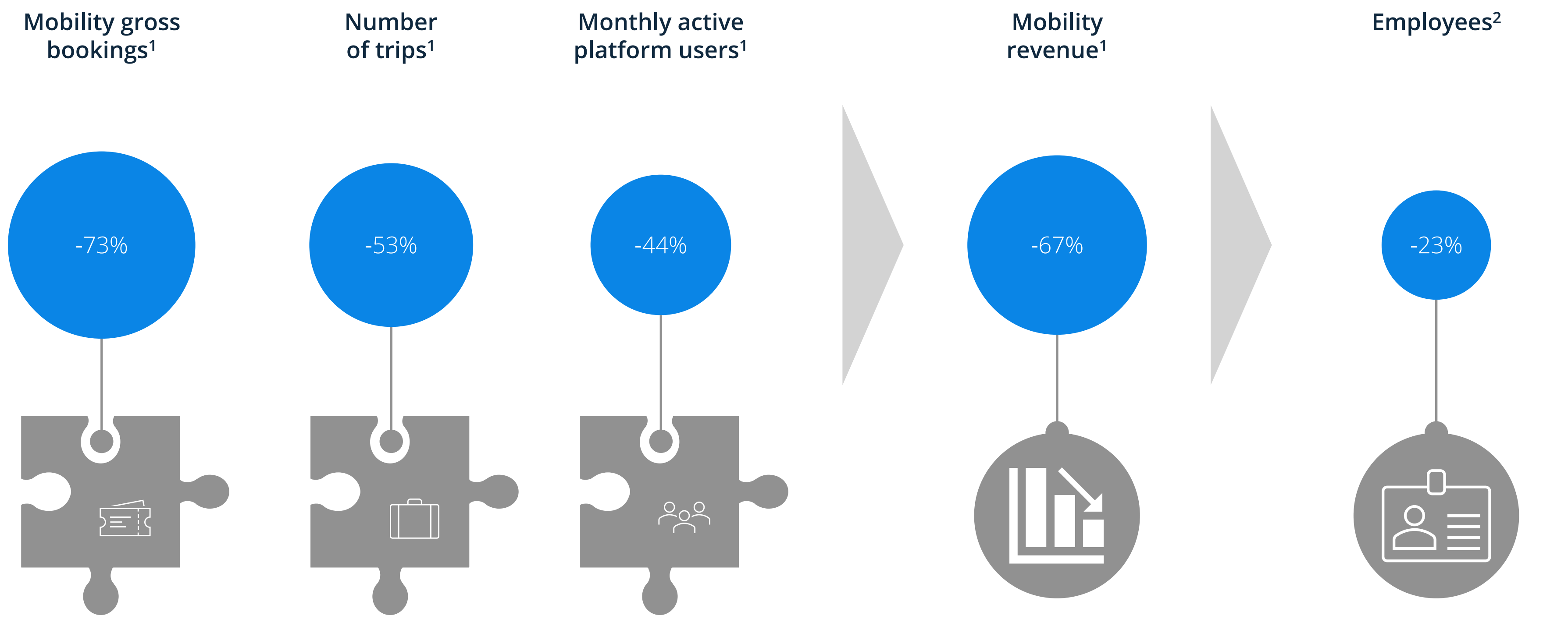
Uber experienced steep loss of bookings and app users, which quickly turned into revenue decline

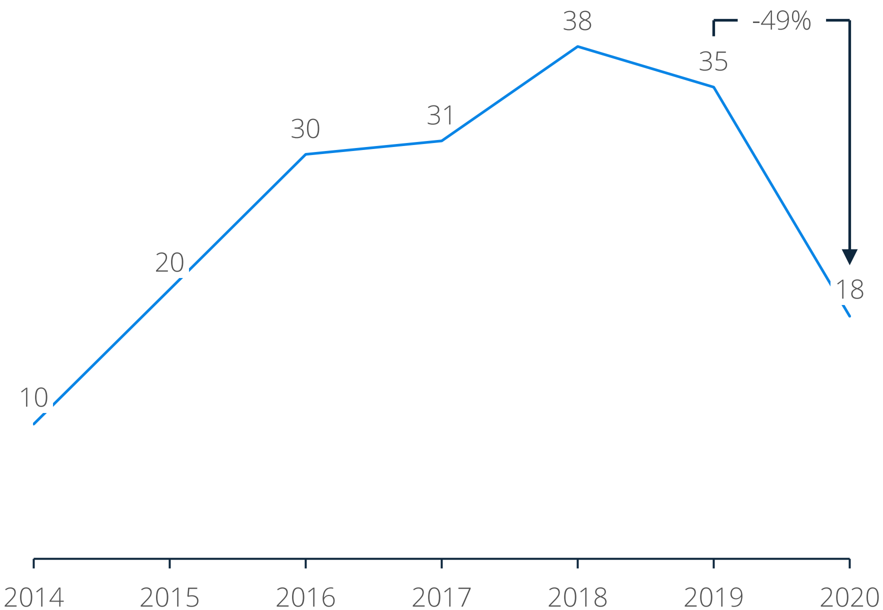
COVID-19 impact on selected Uber key performance indicators



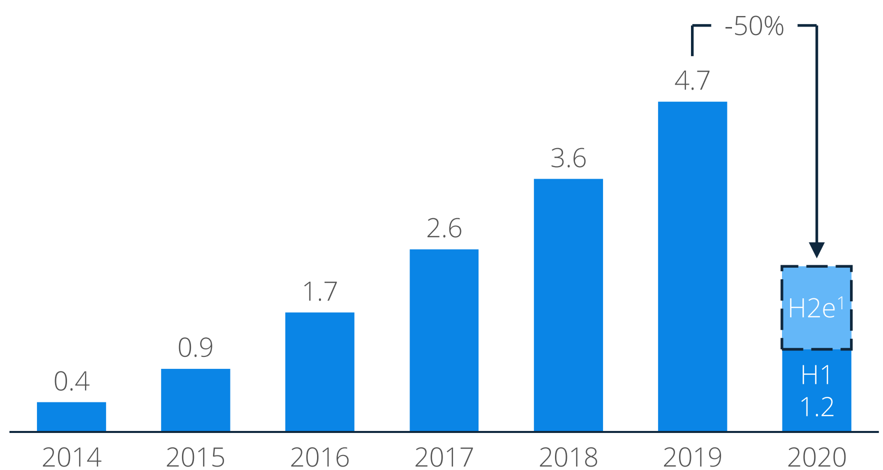
1: Q2 '20 y-o-y, Q2 '20 result as of June 30, 2020 2: as of May 2020
Sources: Uber, NDTV.com

Airbnb valuation dropped by 49% in Apr '20, with revenues declining by an estimated 50% in 2020

Airbnb valuation in billion US$



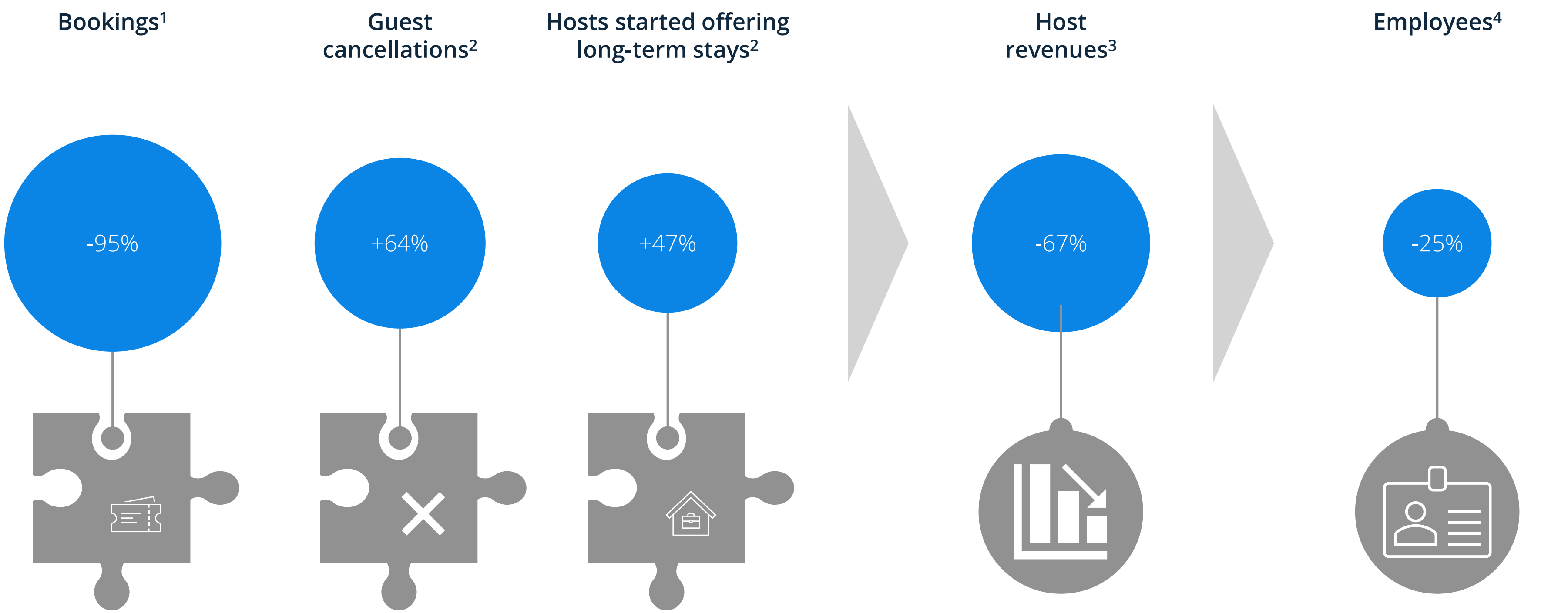
Airbnb revenue in billion US$



1: Estimated
Sources: Business of Apps, Trefis.com, Forbes, BloombergQuint

Airbnb immediately experienced a near-complete loss of bookings

COVID-19 impact on selected Airbnb key performance indicators

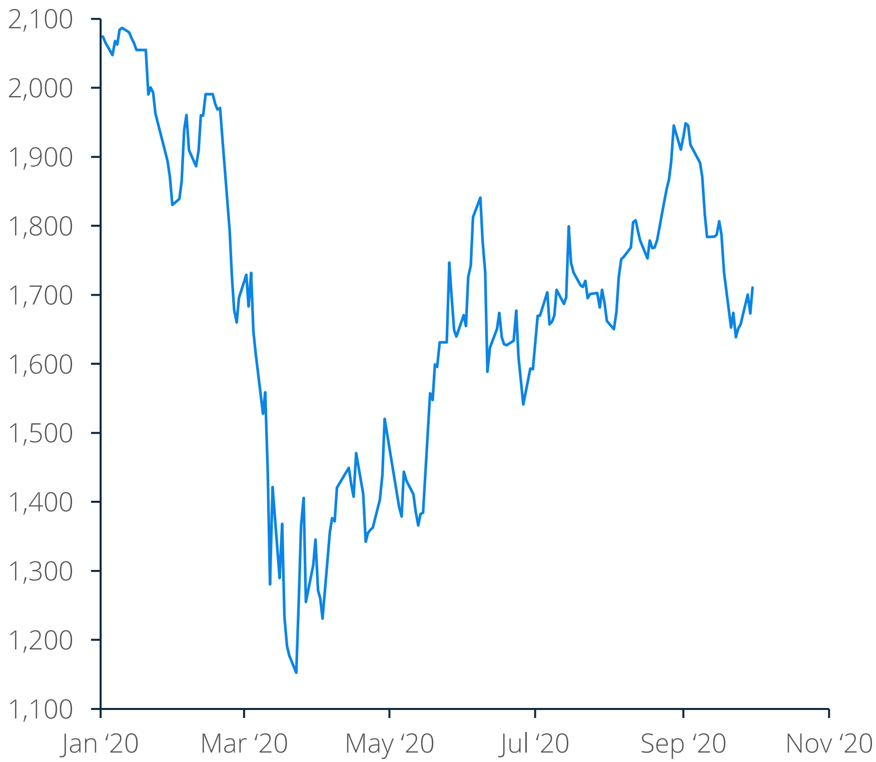


1: Q1 '20 y-o-y, Q1 '20 result as of March 31, 2020 2: IPX 1031 survey of part-time and full-time Airbnb host as of June 1, 2020
3: June to August 2020 4: as of May 2020
Sources: eTurbonews.com, Transparent, Businesstoday, businessinsider, Forbes

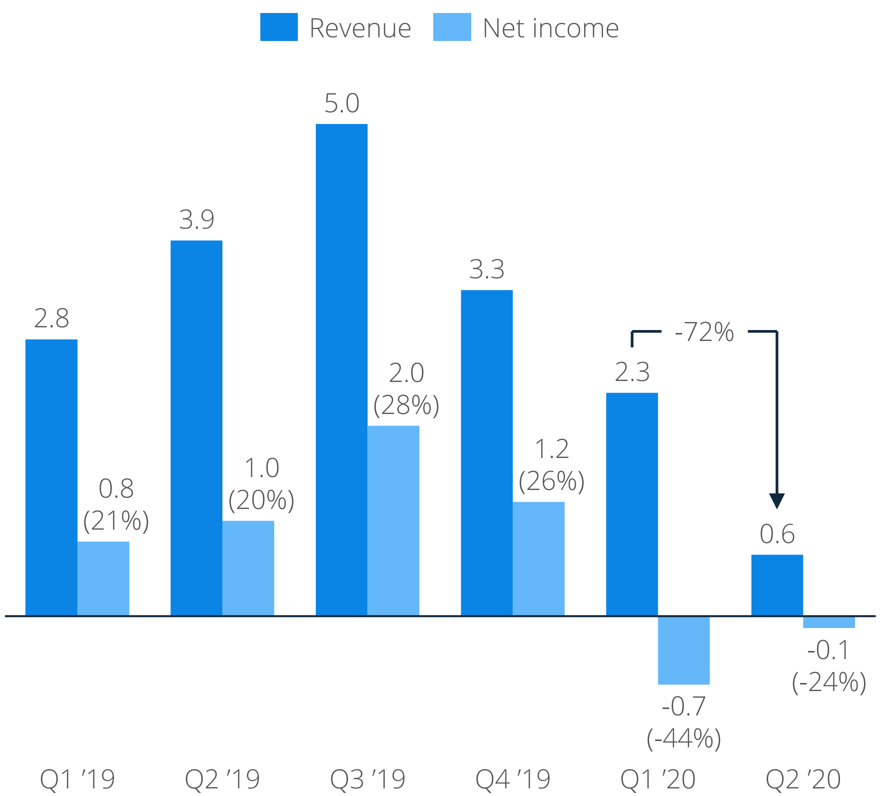
Booking.com stock price decreased until the end of Mar ’20, with revenues concurrently declining by 72%

Booking.com

Booking.com stock price in US$



Booking.com revenue and net income in billion US$

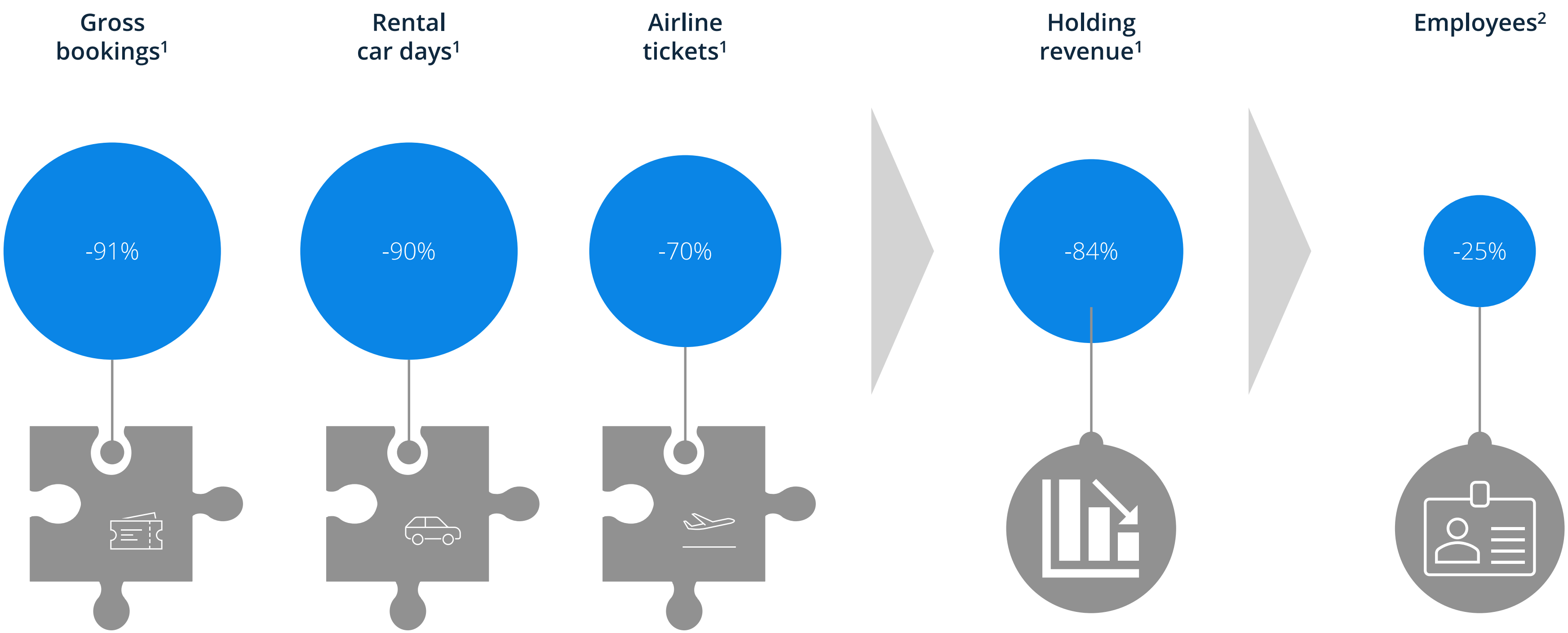


Note: January 1 to June 31, 2020 is considered H1 ’20
Sources: Yahoo Finance, Booking.com

statista

Booking.com felt the strong impact of COVID-19 as gross bookings plunged by 91% in Q2 ’20

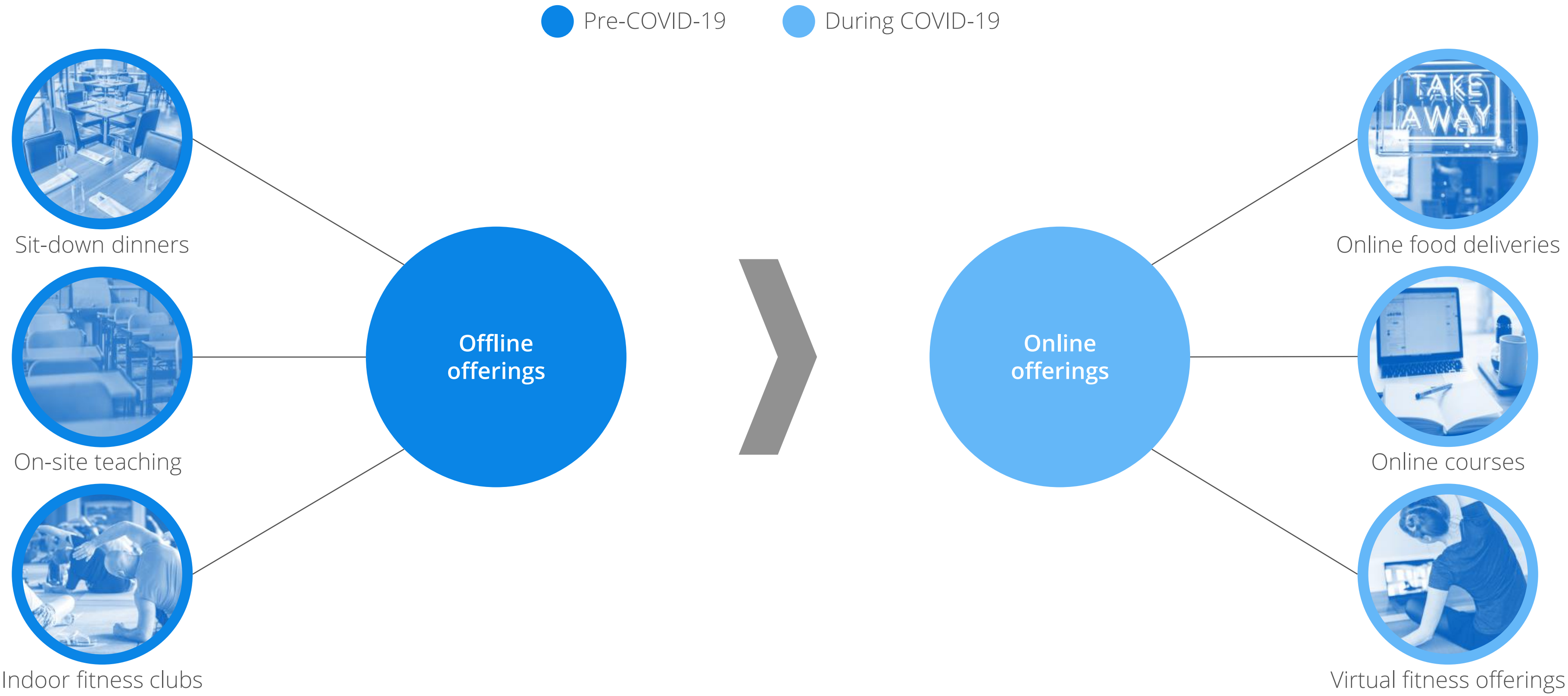
COVID-19 impact on selected Booking.com key performance indicators



1: Q2 ’20 y-o-y, Q2 ’20 result as of June 30, 2020 2: Q2 ‘20
Sources: phocuswire.com, macrotrends.net

Yet other industries faced economic disaster but became more resilient by transforming to digital

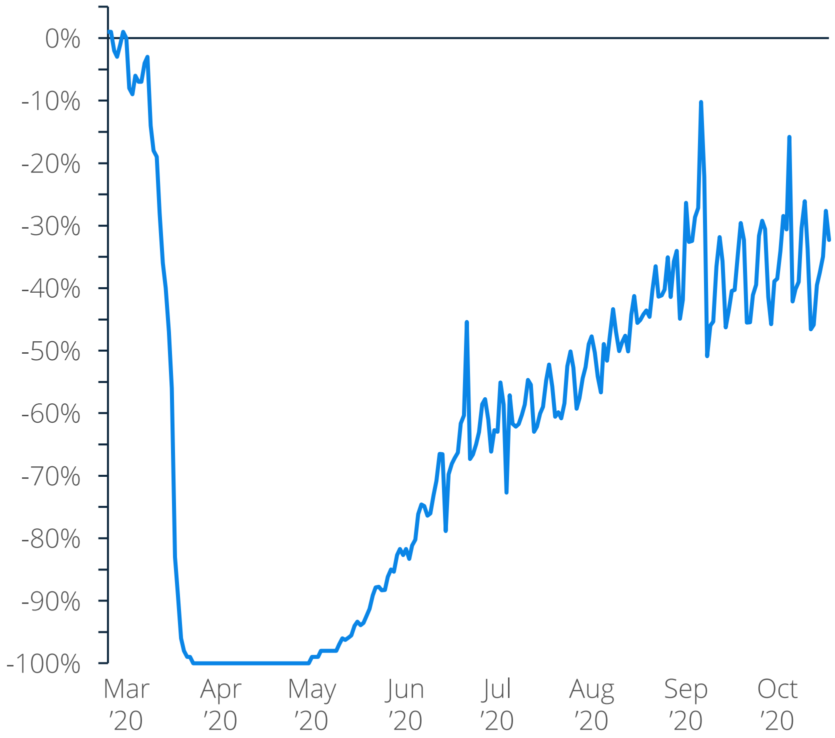
Indicative COVID-19 induced transformations of sample industries



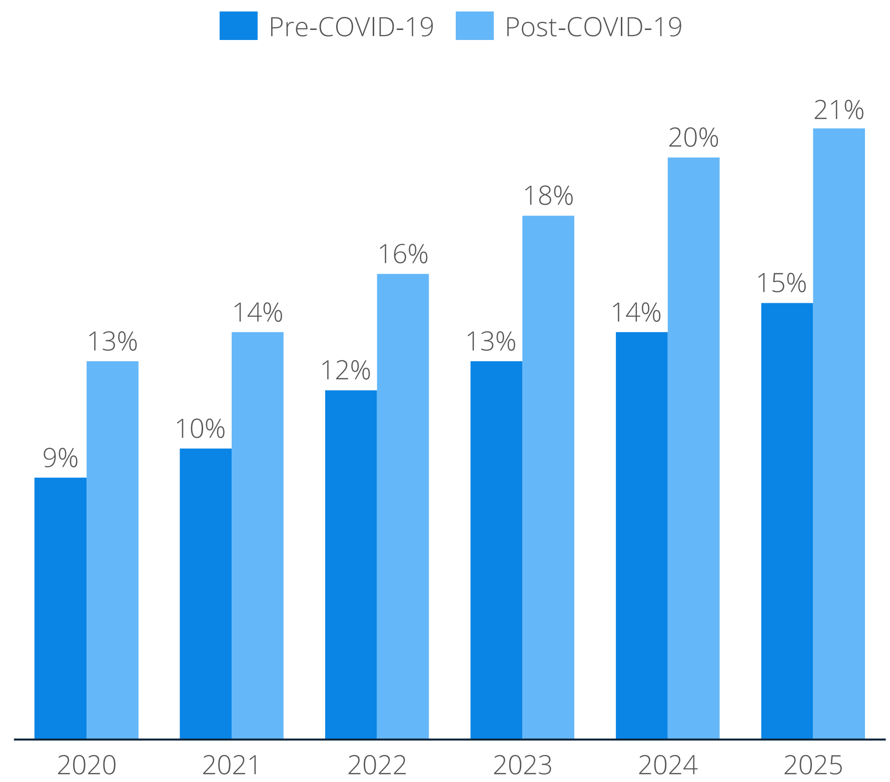
Sources: Statista

Restaurants as transformers turned to online food delivery to compensate for COVID-19 restrictions

Global y-o-y daily change in seated restaurant diners[1]



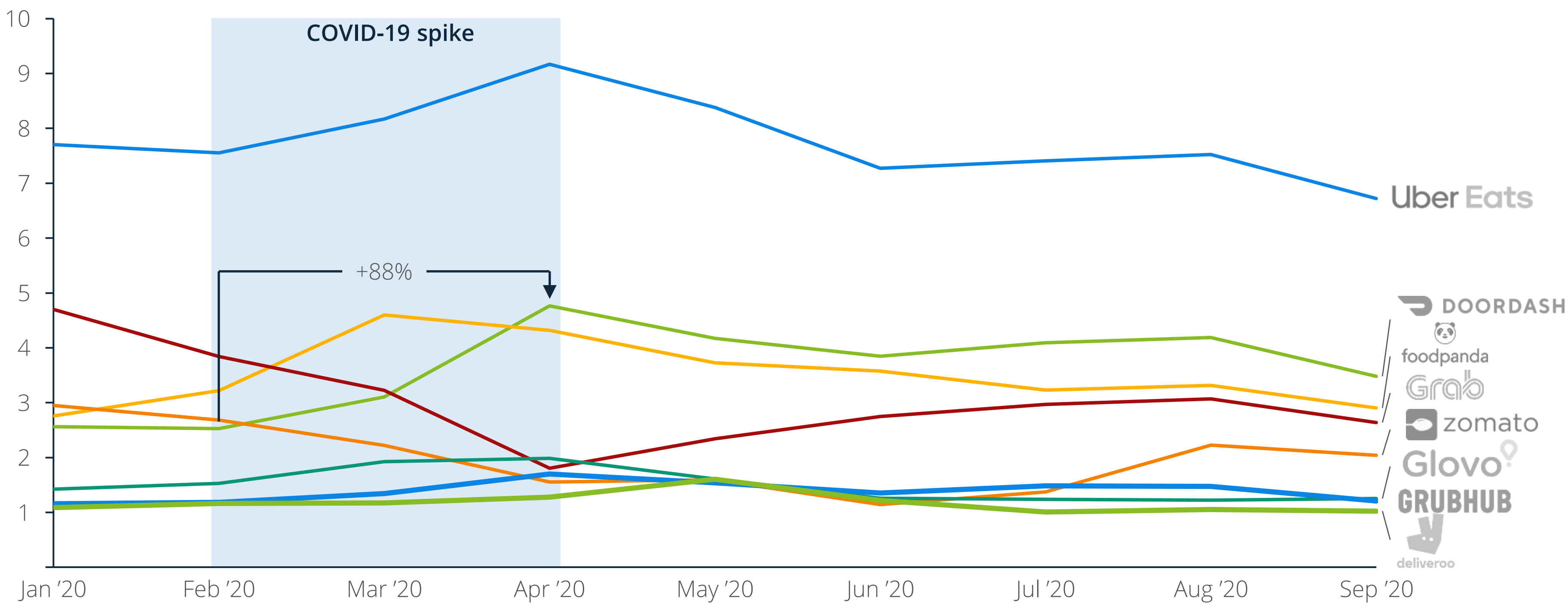
Change in online food delivery penetration in the U.S.



1: Including online reservations, phone reservations, and walk-ins. For year-on-year comparisons, as of October 2020
Sources: OpenTable, as of October 2020, Morgan Stanley, as of July 2020

Online food delivery experienced a gold rush, driving food delivery app downloads up by as much as +88%

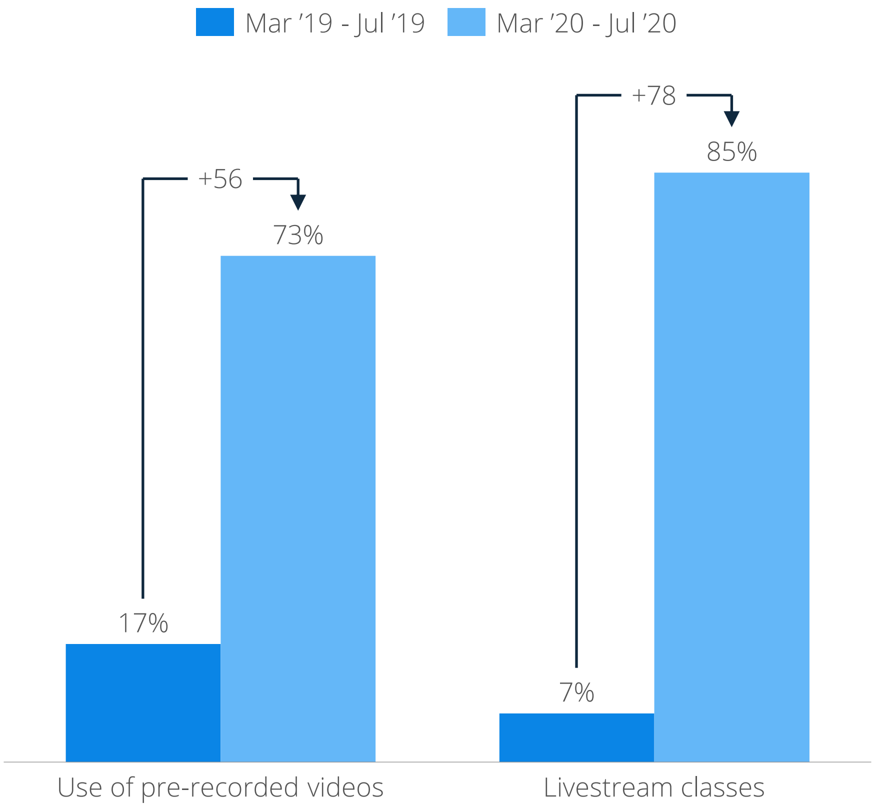
Global top food delivery app downloads in million



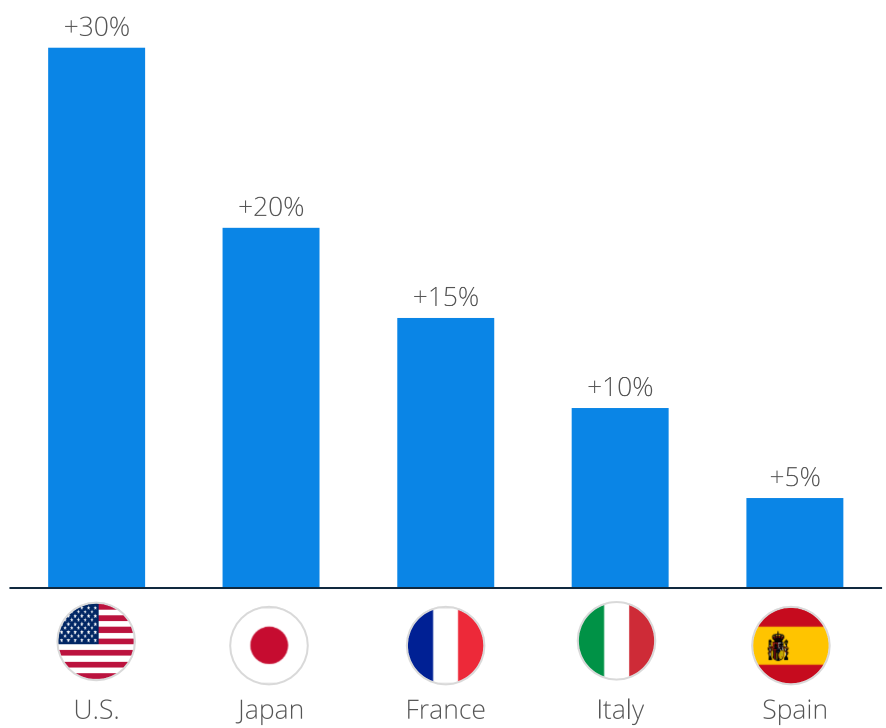
Sources: AppMagic, as of October 2020

The health & fitness industry responded to COVID-19 with an increase in virtual content offerings

Changing shares in the use of virtual fitness content[1]



Change in weekly hours spent by users on health & fitness apps between Dec '19 and Mar '20[2]



1: as of July 2020
2: as of March 2020
Sources: Forbes, Appventurez

Health & fitness apps have become increasingly popular and offer a wide range of application areas

Selected key players in health and fitness apps

General fitness apps	Workout apps	Healthy eating apps
Google Fit	PELOTON	Nutrients
FitNotes	Personal Fitness Coach	Fooducate
adidas RUNTASTIC	fitbit coach	MyPlate
SWORKIT	JEFIT	MyNetDiary
Better Me.	myfitnesspal	EASY MEALS
runkeeper	Home Workout	Calorie Counter & Diet Tracker
Calm	WORKIT	Lifesum
GoodRx	MAPMYRUN	Protein Tracker
moveGB	Fitness Coach	SuperFood
headspace		Lose It!
FIIT		

Note: as of July 2020
Sources: Forbes, Tomsguide.com, Sensortower.com

eLearning and online learning platforms experienced high growth

Impact due to COVID-19 on the online learning platforms Coursera and Udemy

Coursera

+640% increase in **enrollment**[1]

+500% **registrations** in Latin America[2]

+115 **free courses**[4]

Udemy

+425% increase in **enrollment**[5]

+320% **registrations** in Italy[6]

+600 **free courses**[7]

1: From mid-March to mid-April 2020 compared to same period in 2019 2: Between mid-March and June 2020 3: From May 1 to May 29, 2020 compared to same period in 2019 4: Free courses could be accessed between April 8, 2020 and December 3, 2020 5: Growth in March 2020 compared to February 2020 6: Growth as of April 2020 compared to April 2019 7: Courses were added on April 8, 2020
Sources: Coursera, Udemy, edexlive.com, Labsnews.com

Online learning landscape professionalized into segments with key players establishing themselves

Selected key players in online learning

Online learning platforms	MOOC[1]	Serious gaming/gamification
Drexel University; ITT Educational Services, Inc. ITT; Universal Technical Institute; apei; Excelsior College; The Washington Post Company; duolingo; DeVry University	edX; Vedantu Live Online Tutoring; coursera; BenchPrep; BYJU'S The Learning App; toppr; udemy "academy of you"; straighterline; Adda 247; unacademy; MRUniversity; Khan Academy; openlearning	sifteo; BBC Bitesize; Quipper; Caspian Learning; Totem learning
Mobile education	**Immersive learning**	**eBook rentals**
babbel; myngle; Rosetta Stone; Lingueo.com; Mango; learndirect	ayogo; Santillana; venueGEN beta	amazon; Chegg; aptara; Rafter; CourseSmart; PennState World Campus; Texas Instruments

1: MOOC=Massive open online course
Sources: slideshare.net, IBIS Capital

statista

The digital economy might have held its breath due to COVID-19 but is thriving once more

Most valuable companies by market cap in billion US$

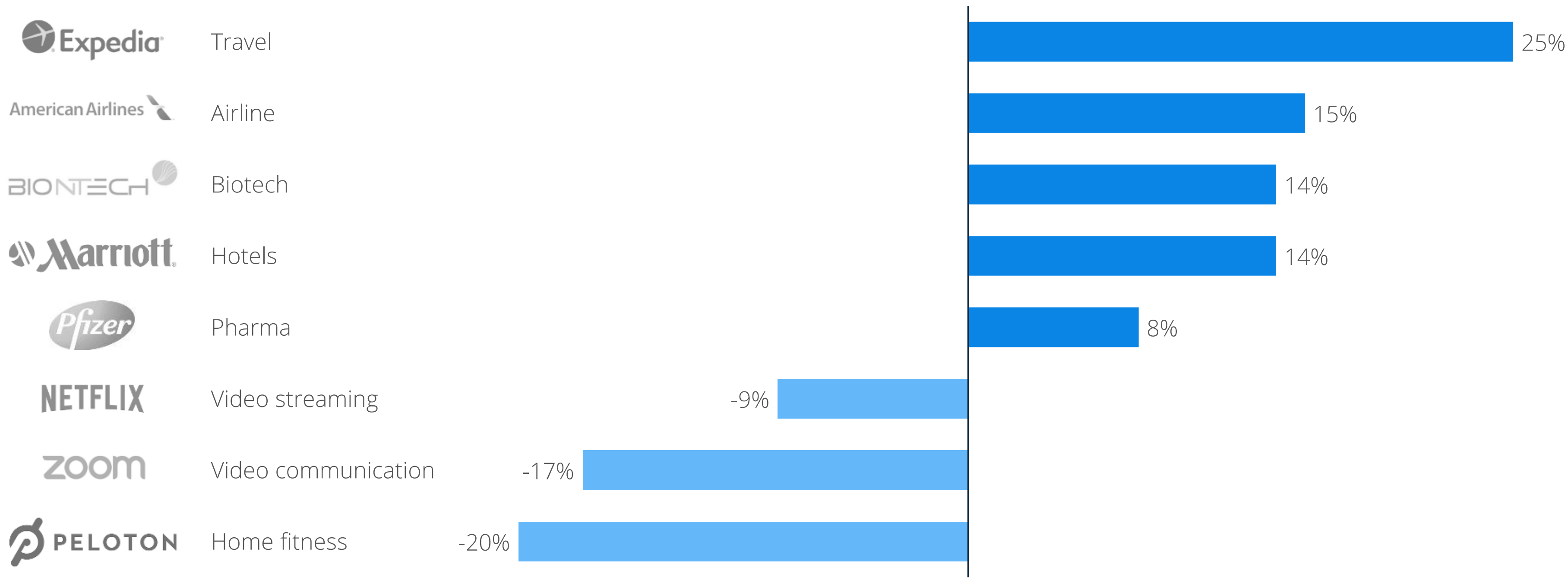
Digital company | Traditional company

Top	2006[1] US$1,670bn	2011[1] US$1,519bn	2016[1] US$2,407bn	2017[1] US$3,328bn	2019[1] US$5,194 bn	2020[2] US$8,298 bn
1	ExxonMobil US$447bn	ExxonMobil US$406bn	US$609bn	US$861bn	US$1,296bn	أرامكو السعودية saudi aramco US$2,093bn
2	US$383bn	US$377bn	Google US$539bn	Google US$730bn	Microsoft US$1,205bn	US$1,993bn
3	Microsoft US$294bn	PetroChina US$275bn	Microsoft US$483bn	Microsoft US$660bn	Google US$934bn	Microsoft US$1,588bn
4	citi US$274bn	US$234bn	Berkshire Hathaway Inc. US$402bn	amazon US$564bn	amazon US$933bn	amazon US$1,578bn
5	Gazprom US$272bn	ICBC US$227bn	ExxonMobil US$374bn	facebook US$513bn	Berkshire Hathaway Inc. US$826bn	Google US$1,046bn

1: Valuation based on data from December 31 of the respective year
2: Year-to-date, valuation based on data from September 15, 2020
Sources: morningstar.com, Financial Times, Bloomberg, Value.today, stockapps.com, Forbes

Regardless the current situation, COVID-19 related actions have the potential to shift markets again

Impact of COVID-19 vaccine development on stock performance of selected companies



Sources: Yahoo Finance, as of November 9, 2020, Statista

DIGITAL COVID-19 RESPONSES

The digital COVID-19 response occurs on three fronts: discovery, diagnostics & prevention, and treatment

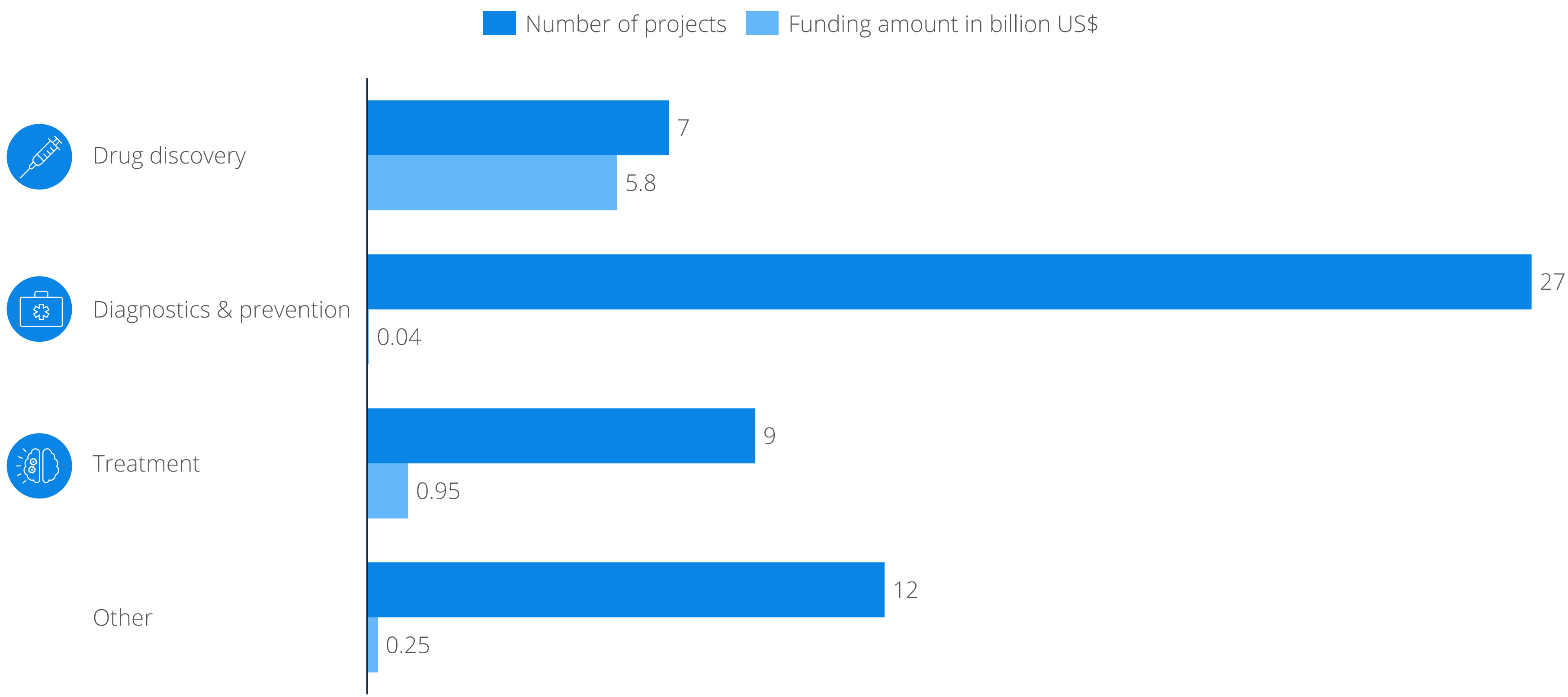
Selected digital players responding to COVID-19

Drug discovery	Diagnostics & prevention	Treatment
Pfizer	QuestDirect™	media4care
BenevolentAI	ro	CovidMD™
NOVAVAX AB	COVIDSAFE	doctorlink
AstraZeneca	pinpoint Wellness Check	GILEAD
moderna messenger therapeutics	pixel by LabCorp	pflege.de
INOVIO POWERING DNA MEDICINES™	Seegene	CoVIg-19 PLASMA ALLIANCE Working Together to Fight COVID-19 with Immunoglobulin (Ig) Therapy
SANOFI	Medical Realities	
Janssen PHARMACEUTICAL COMPANIES OF Johnson & Johnson		
CanSinoBIO		

Sources: Frontiersin.org, appier.com, sciencedaily.com

U.S. government investments in COVID-19 research have skyrocketed, thus fueling the industry

U.S. government's COVID-19 funding

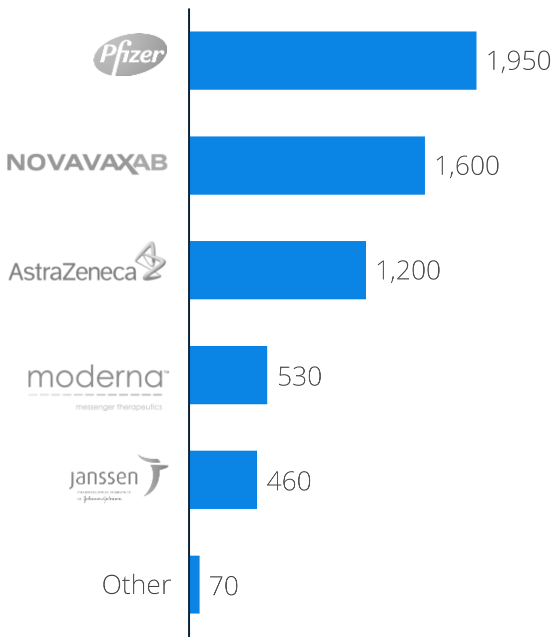


Sources: qz.com, as of July 2020

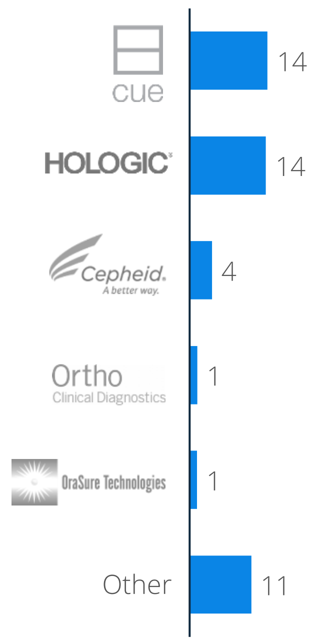
Leading players to receive U.S. COVID-19 research grants are Pfizer, Cue Health, and Regeneron

Distribution of U.S. government COVID-19 grants in million US$

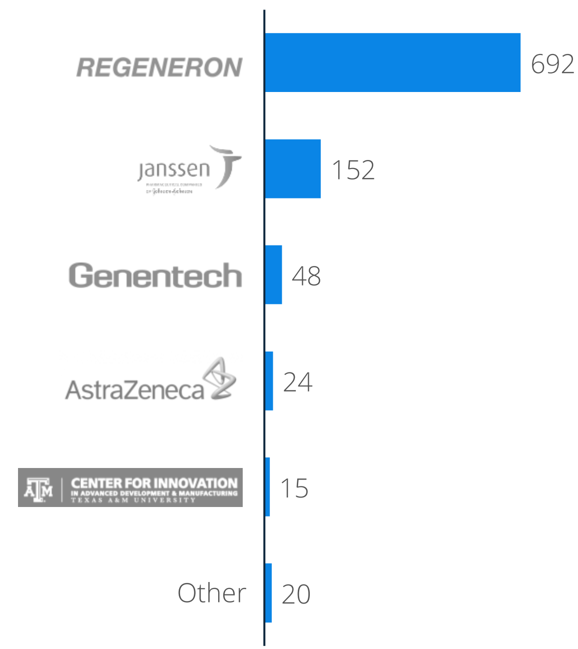
Top five players in drug discovery



Top five players in diagnostics & prevention



Top five players in treatment



Sources: qz.com, as of July 2020

statista

Digital companies, mostly in data analytics, health, and new work, support the response to COVID-19

Selected start-ups working on COVID-19 responses

HR	Risk/data analytics	New work	Community	Health
retorio, TALENTCUBE, carewithcare, SKILLARY	Climedoscale, inspirient, appinio, traversals, GREYCORTEX, statista, coronika, CIVEY, MINESPIDER, castor, polyteia, TakeTask, adjust	quofox, publicplan, CAYA, Jolt, SlidePresenter, LiveChat, VALSIGHT, enabley, Grover, Zenkit, echometer, Staffbase, SOSAFE, SPENDIT AG, webtogo	nebenan.de FÜR LOKALES GEWERBE, Unipos, HilfeLokal.de	CASPAR, media4care, CLINISERVE, evermood, KRY, medGo, cerascreen, idana, midge, BLUSENSE, symptoma, aidminutes, GYANT, Allm, TeleClinic, SeDiDoc, verisana, Caseform, doctorlink, simplinic., pflege.de
Automation	**Retail & consumer**	**Crisis management**	**Education**	
neohelden, VITAS, SPECTRM, HilfeLokal.de	NavVis, Glovo, ESHOP GUIDE	Taxy.io, PREVISEC Community, SERINUS, alarmdispatcher	edyoucated, ANTON, StudySmarter, Studybees, Kognity, Sdui, StuDocu.com, sofatutor, ubiMaster	

Sources: PWC

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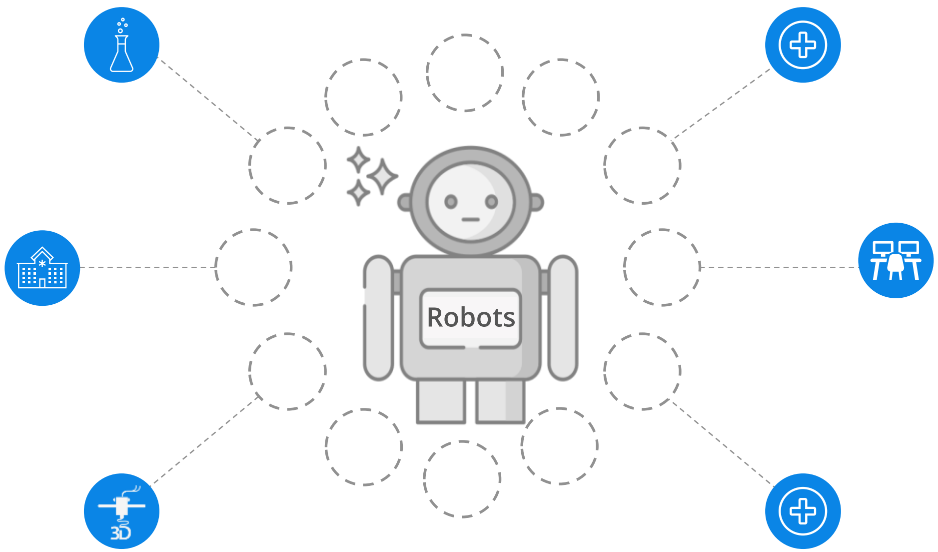
COVID-19 has prompted more robot usage around the world to fight the pandemic

Global reported use of robots as COVID-19 response

Laboratory and supply chain automation
- Laboratory automation
- Handling of infectious materials

Clinical care
- Disinfection at point of care
- Patient intake & visitors

Production of 3D printed tools
- Nasopharyngeal swab
- Face shields/masks



Public safety and non-clinical public health
- Temperature measurement

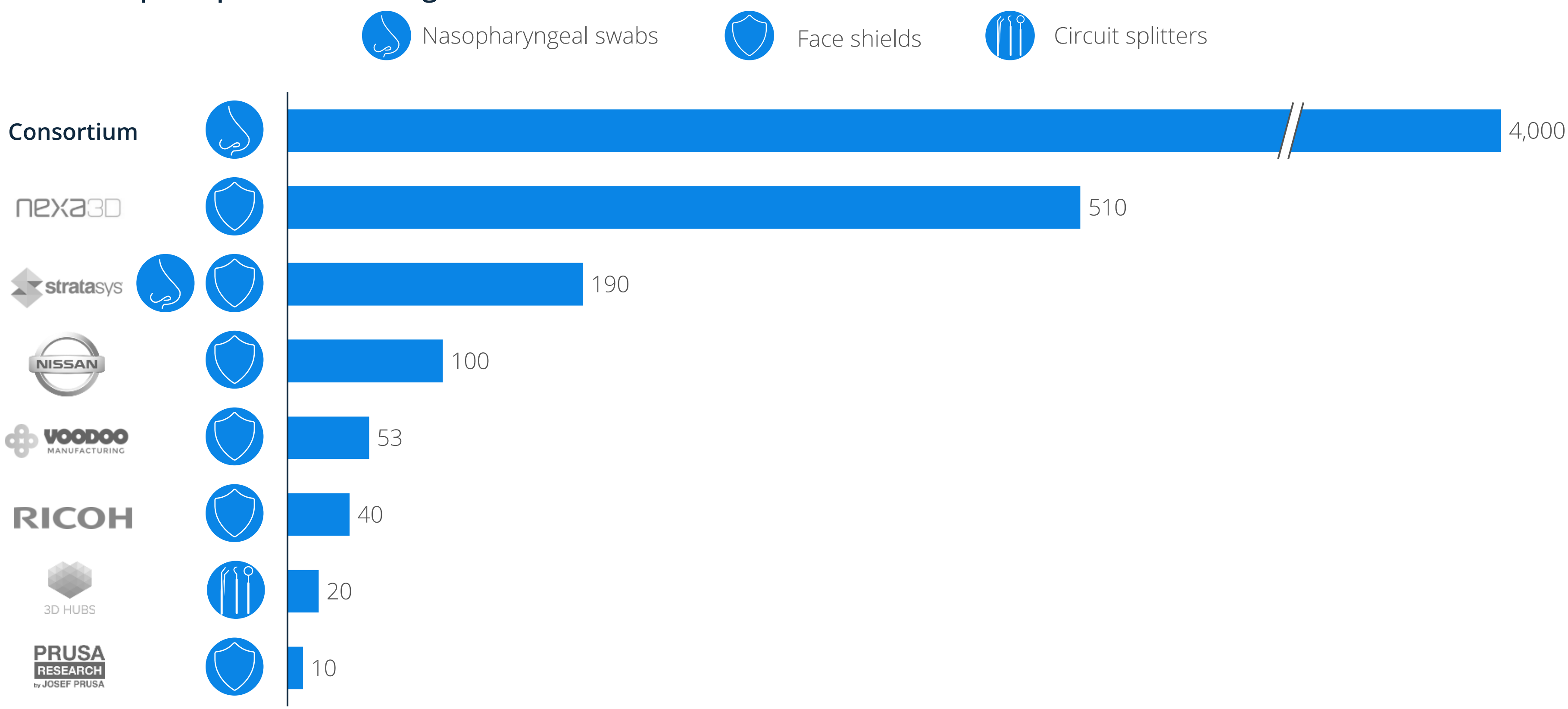
Work, critical infrastructure, and quality of life
- Telecommerce
- Protection of critical infrastructure
- Robot assistants

Non-hospital care
- Delivery to quarantined
- Off-site testing

Sources: WeForum

3D printing has proven to be a particularly relevant technology for reacting quickly to new demands

Global 3D parts produced during COVID-19 in thousand[1]



1: as of June 2020
Sources: BioMed Central Ltd., Nature.com, 3dprintingindustry.com

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Contact tracing apps, too, have proven to be of utmost importance to battle COVID-19

Selected contact tracing apps

Americas					Asia Pacific				
Argentina	Brazil	Canada	Chile	Colombia	Australia	Bangladesh	India	Japan	Hong Kong
Ecuador	Ecuador	Peru	U.S.	Uruguay	Singapore	Indonesia	Malaysia	Fiji	New Zealand
Europe					**Middle East and Africa**				
Austria	Belgium	Czech Republic	Denmark	France	Bahrain	Ghana	Jordan	Kuwait	Morocco
Germany	Hungary	Ireland	Norway	UK	Qatar	Saudi Arabia	South Africa	Tunisia	UAE

Sources: Company information

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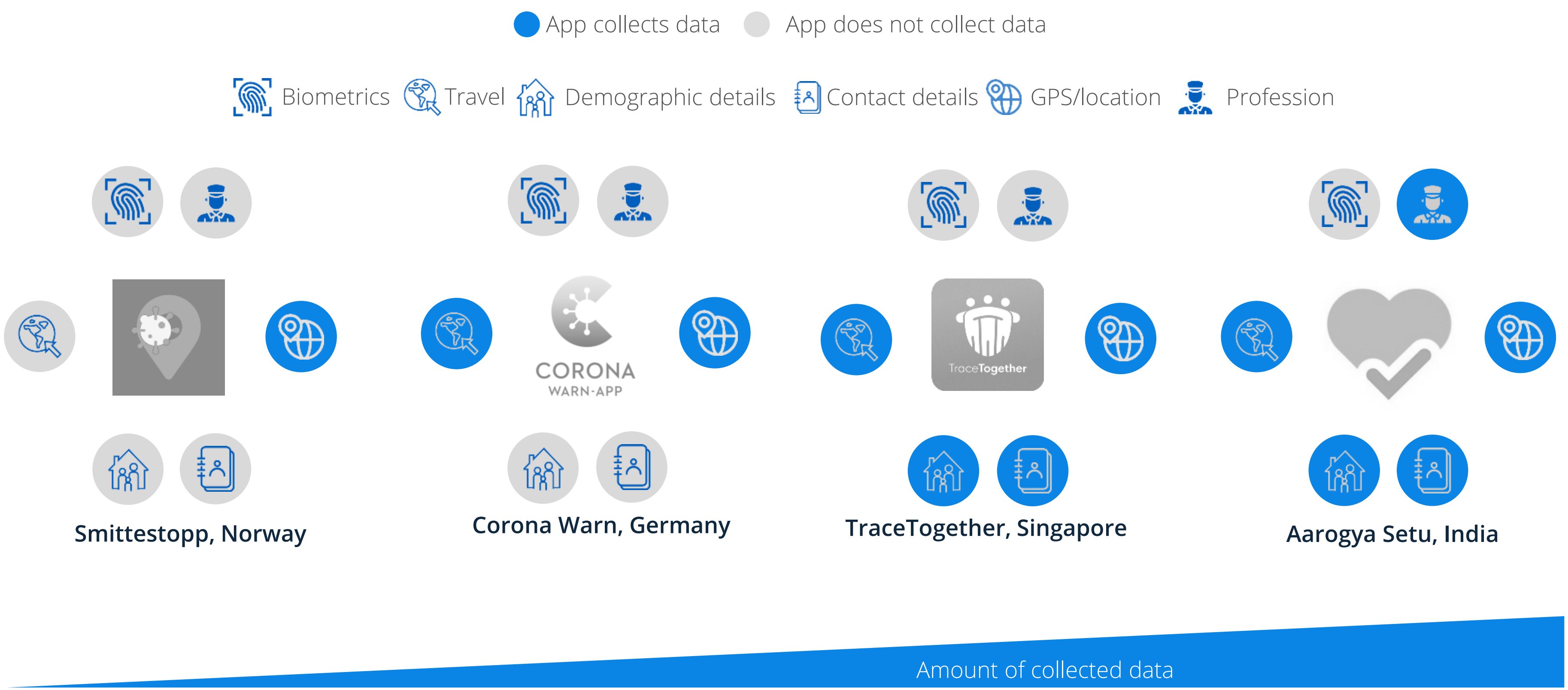
Major contact tracing apps collect and use various types of data to provide their services

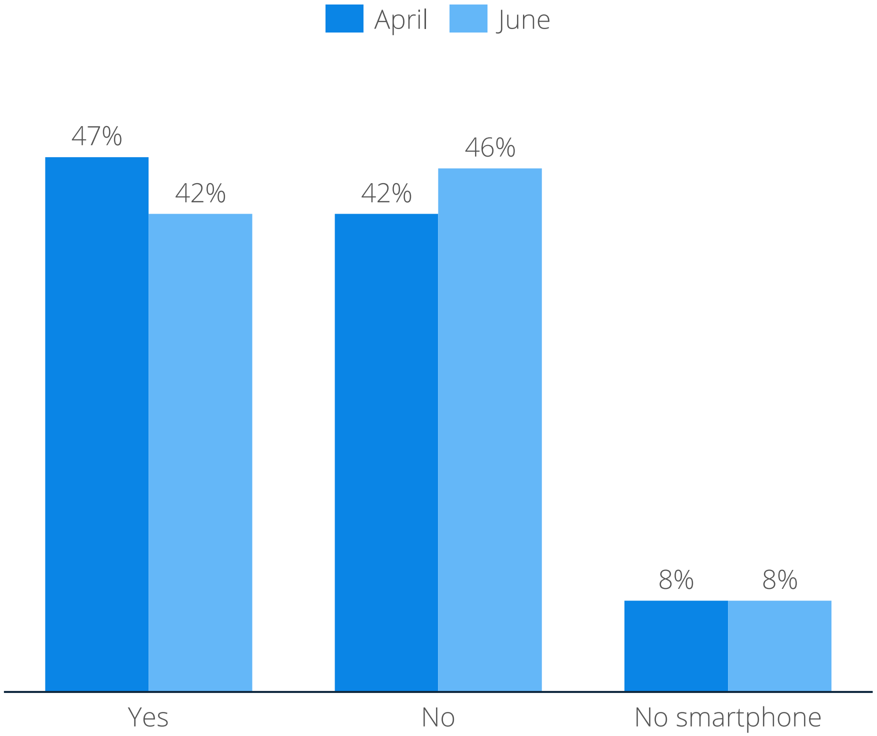
Data types collected by major COVID-19 contact tracing apps



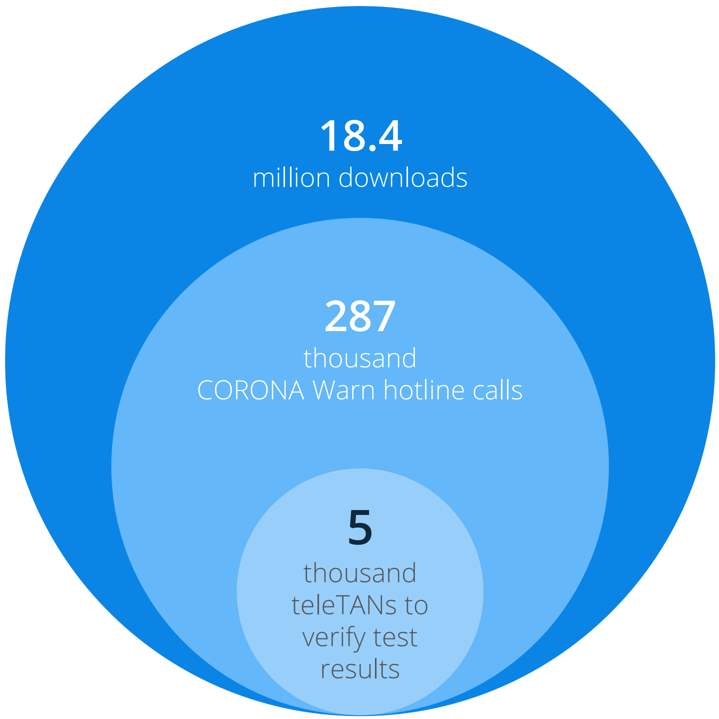
Sources: Economic Times, Financial Times, as of June 2020

Contact tracing in Germany is done through the well accepted, nationally rolled-out, app CORONA WARN

Share of people who would use an app providing information on people infected with COVID-19[1]



Results of first 100 days of CORONA WARN-APP[2]



1: n=1,323 respondents in April 2020, 1,270 respondents in June 2020
2: as of September 2020
Sources: Forschungsgruppe Wahlen, RKI

Consumers perceive various concerns and risks when using contact tracing apps for COVID-19

Contact tracing apps during COVID-19

71%

of Americans are unwilling to use COVID-19 contact tracing apps due to their concern about data privacy

45%

of Singapore's residents are afraid to download the TraceTogether app because of data privacy concerns

93%

of IT professionals were at least slightly concerned about the collection of personal data of contact tracing apps[3]

22%

is the highest contact tracing app adoption rate, estimated in July for Australia[1]

15%

adoption rate can already lead to 12% fewer deaths and 15% fewer infections over the course of 300 days[2]

1: as of July 14, 2020 2: According to a model ran for a study from Oxford University and Google "Modeling the combined effect of digital exposure notification and non-pharmaceutical interventions on the COVID-19 epidemic in Washington state"
3: n=300 IT professionals in August 2020
Sources: Financial Express, SCMP, Securityprivacybytes, Avira, Sensor Tower, MIT Technology Review, SecureAge

2 DIGITAL HUMAN

DIGITAL CONSUMER BEHAVIOR

Led by video streaming and gaming, in-home media consumption changed

Changes in consumer behavior during COVID-19

44%

increase of in-house social media consumption[1, 2]

70%

of people spent more time on their smart-phone/mobile phone[1, 3]

80%

higher traffic on media sites[4]

67%

of people watched more news coverage[1]

28%

more video streaming users for key players in 2020

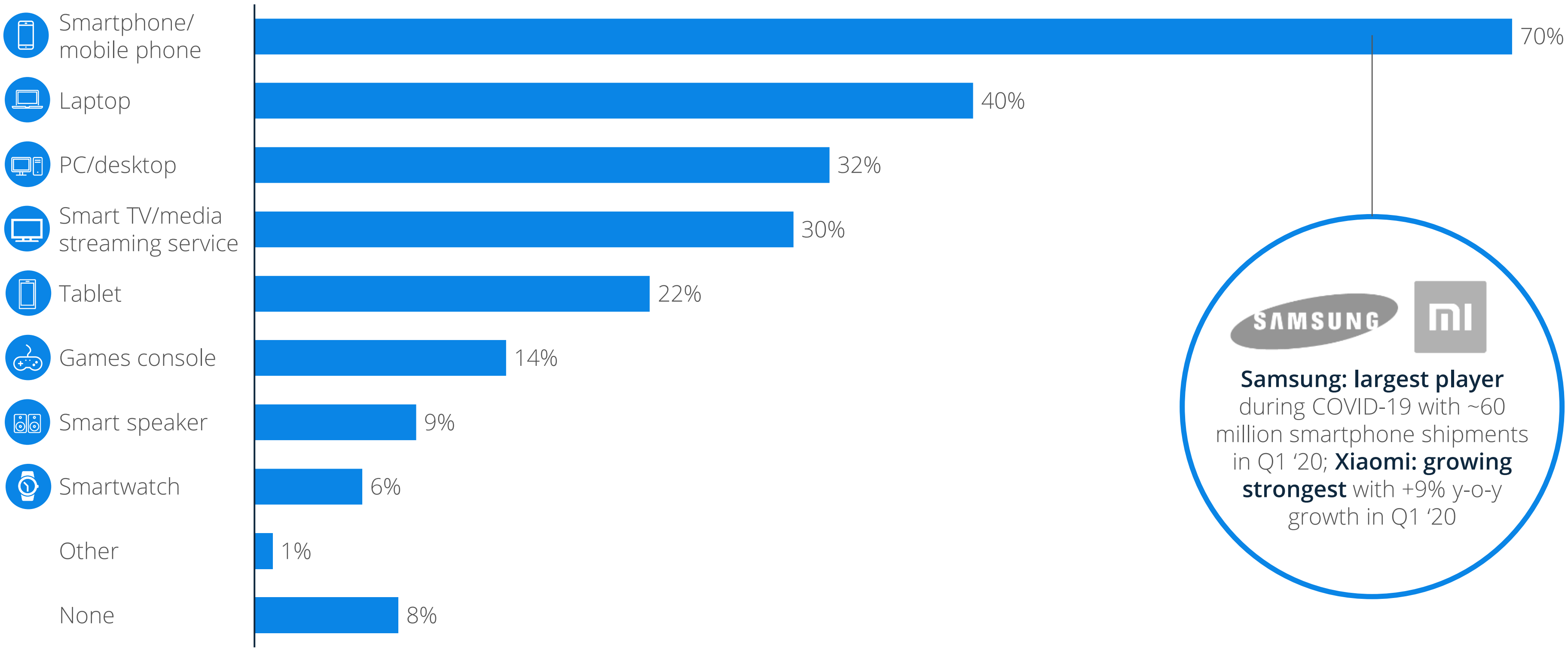
39%

increase in U.S. video game sales in 2020[5]

1: March 16 to 20, 2020 2: "Which of the following have you been doing at home, because of the coronavirus/COVID-19 outbreak?" 3: "Which device(s) have you been spending more time using since the start of the coronavirus/COVID-19 outbreak?" 4: CW11-CW12 2020 compared to reference (January 6 to February 16) 5: March to August 2020 compared to March to August 2019
Note: More information in the [Statista Dossier "Coronavirus impact on media consumption worldwide"]
Sources: GlobalWebIndex, as of March 2020, ContentSquare, as of March 22, 2020, Netflix financial statements, as of Q2 '20, The Walt Disney Company Results, as of Q3 '20, Technology Ihs, Techcrunch, The Verge, Variety, Venturebeat, Statista

70% of consumers increased their time using a smartphone during COVID-19

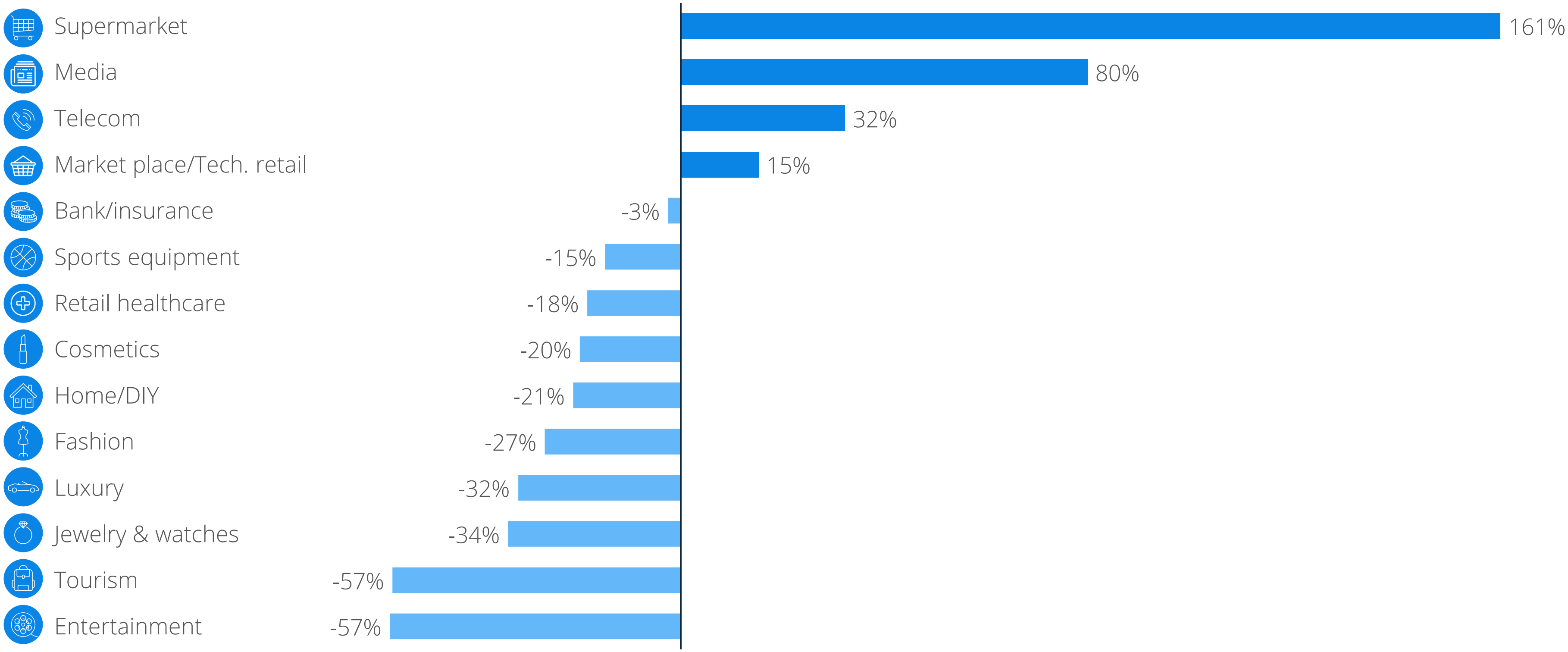
Globally increased device usage at the onset of the COVID-19 outbreak[1]



1: March 16 to 20, 2020; "Which device(s) have you been spending more time using since the start of the coronavirus/COVID-19 outbreak?"
Note: More information in the [Statista Dossier "Coronavirus impact on media consumption worldwide"]
Sources: GlobalWebIndex, as of March 2020, Canalys Smartphone Analysis, as of April 2020, Statista

Consumer online interests shifted during COVID-19 and pushed web traffic to supermarkets and media

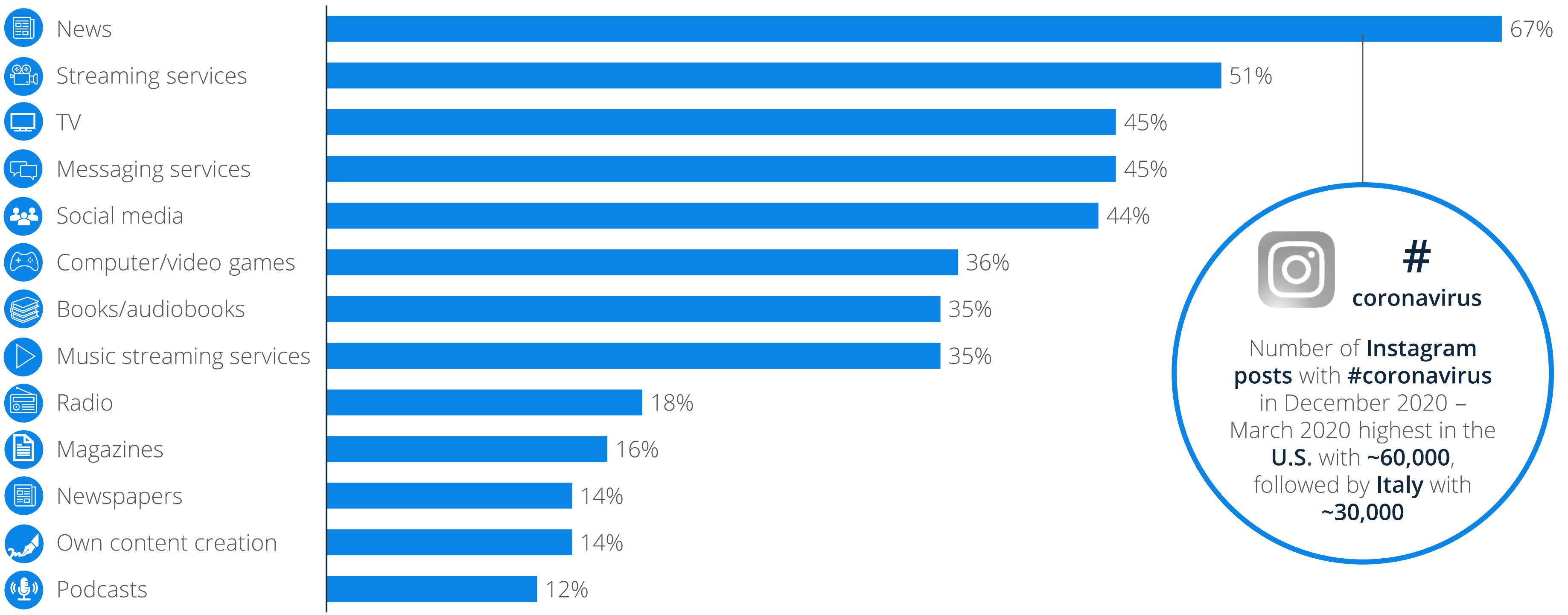
COVID-19 impact on online traffic[1]



1: Week ending on March 16, 2020 to week ending on March 22, 2020 compared to reference (January 6 to February 16), 1,400 sites, 4.8b sessions and 23bn page views over the final 11 weeks of 2020
Note: More information in the Statista Dossier "Coronavirus impact on media consumption worldwide"
Sources: ContentSquare, as of March 22, 2020, Statista

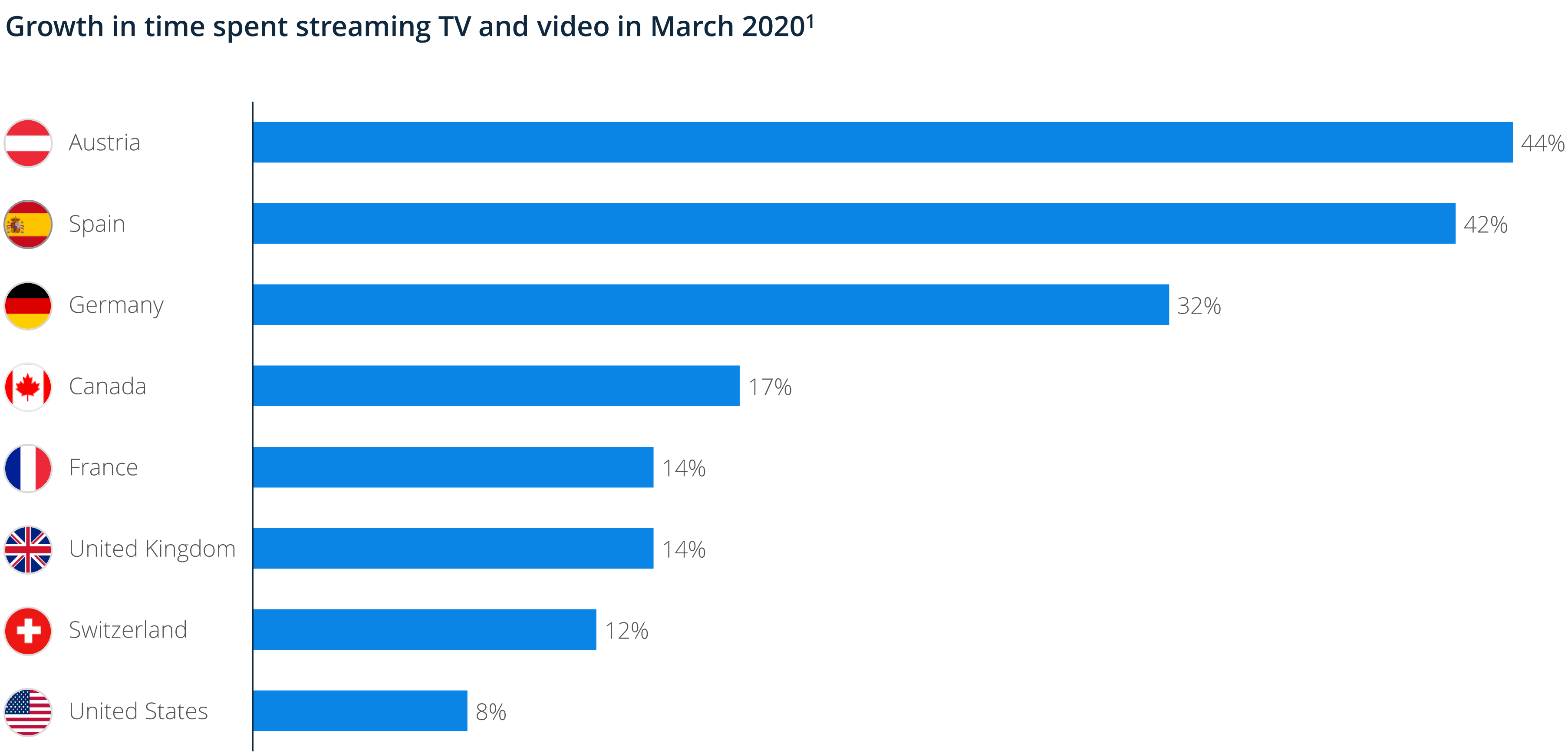
Content consumption moved towards news, streaming, TV, messaging, and social media

Global increase of in-home media consumption at the onset of the COVID-19 outbreak[1]



1: March 16 to 20, 2020; "Which of the following have you been doing at home, because of the coronavirus/COVID-19 outbreak?"
Note: More information in the Statista Dossier "Coronavirus impact on media consumption worldwide"
Sources: GlobalWebIndex, as of March 2020, HypeAuditor, as of March 2020, Statista

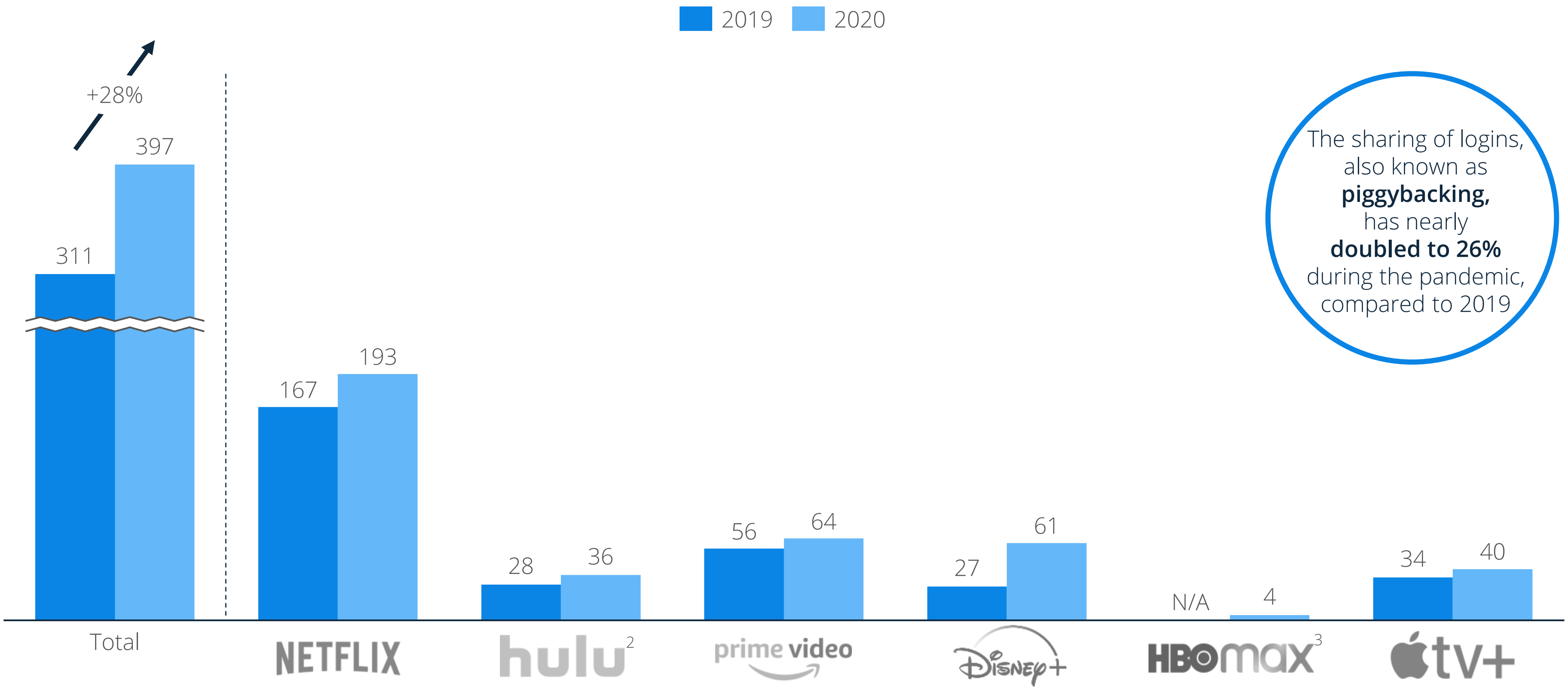
Video streaming spiked as soon as COVID-19 hit, with the most growth seen in Austria, Spain, and Germany



1: March 13 to 14, 2020
Note: More information in the Statista Dossier "Coronavirus impact on media consumption worldwide"
Sources: Bloomberg, Wurl, Strategy Analytics, Digital TV Europe, Statista

Number of subscriptions for key video streaming providers increased by 28% in 2020

Number of global subscriptions for key SVoD providers in million[1]



1: SVoD=Subscription Video-on-Demand (Video streaming) 2: Hulu is only available in the U.S. 3: HBO Max was launched in 2020
Sources: Netflix financials, as of Q2 '20, The Walt Disney Company Results, as of Q3 '20, Technology Ihs, Techcrunch, The Verge, Variety, BCG

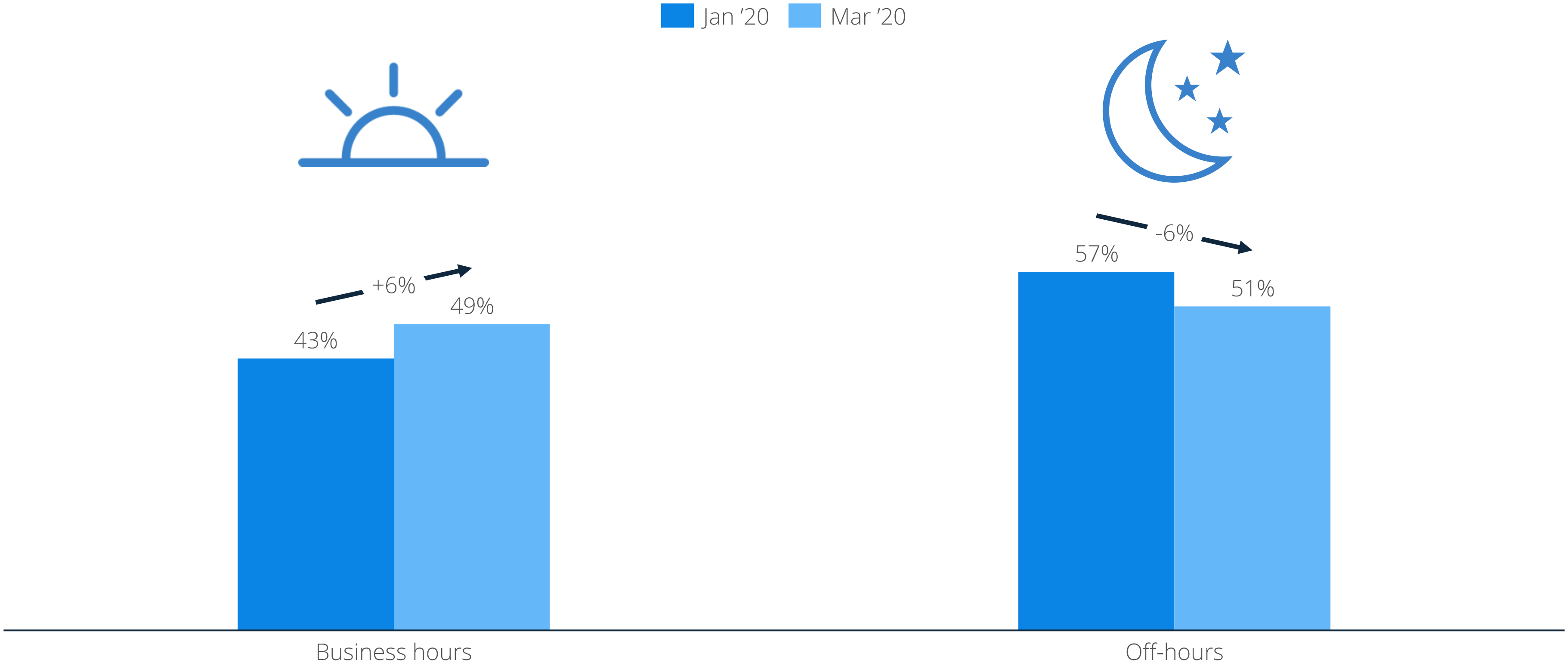
The rapid increase of video streaming subscribers increased churn risks, especially for smaller players

Churn risk of users who acquired a VoD[1] service[2]

1: VoD=Video-on-Demand 2: Surveyed 6,000 OTT users in April 2020 and 3,000 OTT users in December 2020, % of respondents who intend to leave an OTT service 3: Niche services also include showtime anytime
Sources: BCG

As consumers spent more time at home, video streaming activity shifted towards business hours

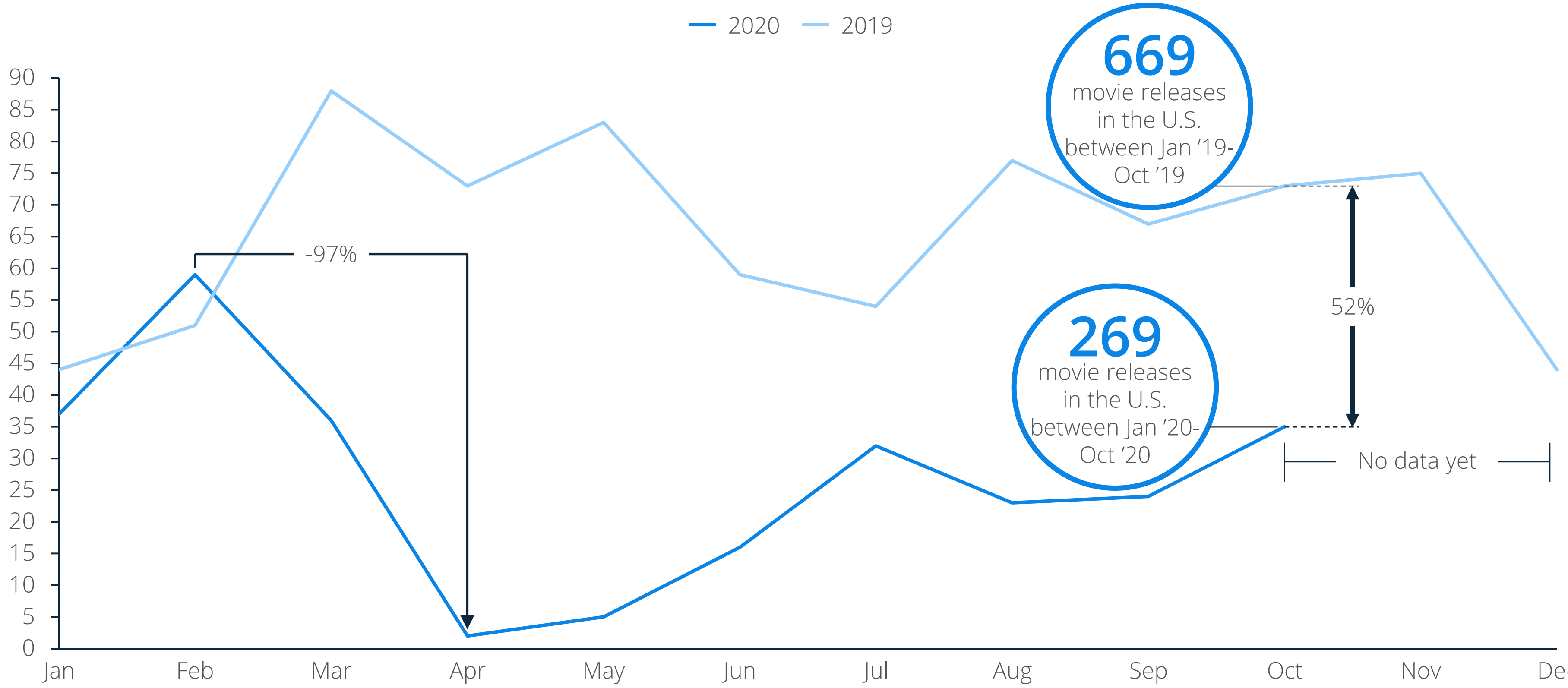
Video streaming audience distribution during business vs. off-hours in the U.S. 2020[1]



1: Business hours are from 8 a.m. to 6 p.m., off-hours are from 7 p.m. to 7 a.m.
Note: More information in the Statista Dossier "Coronavirus impact on media consumption worldwide"
Sources: Diario Jaén, Reelgood, as of March 2020

Movie releases in cinemas dropped in Apr’ 20 to nearly zero and are still 52% below 2019 levels

Number of movie releases in the U.S.

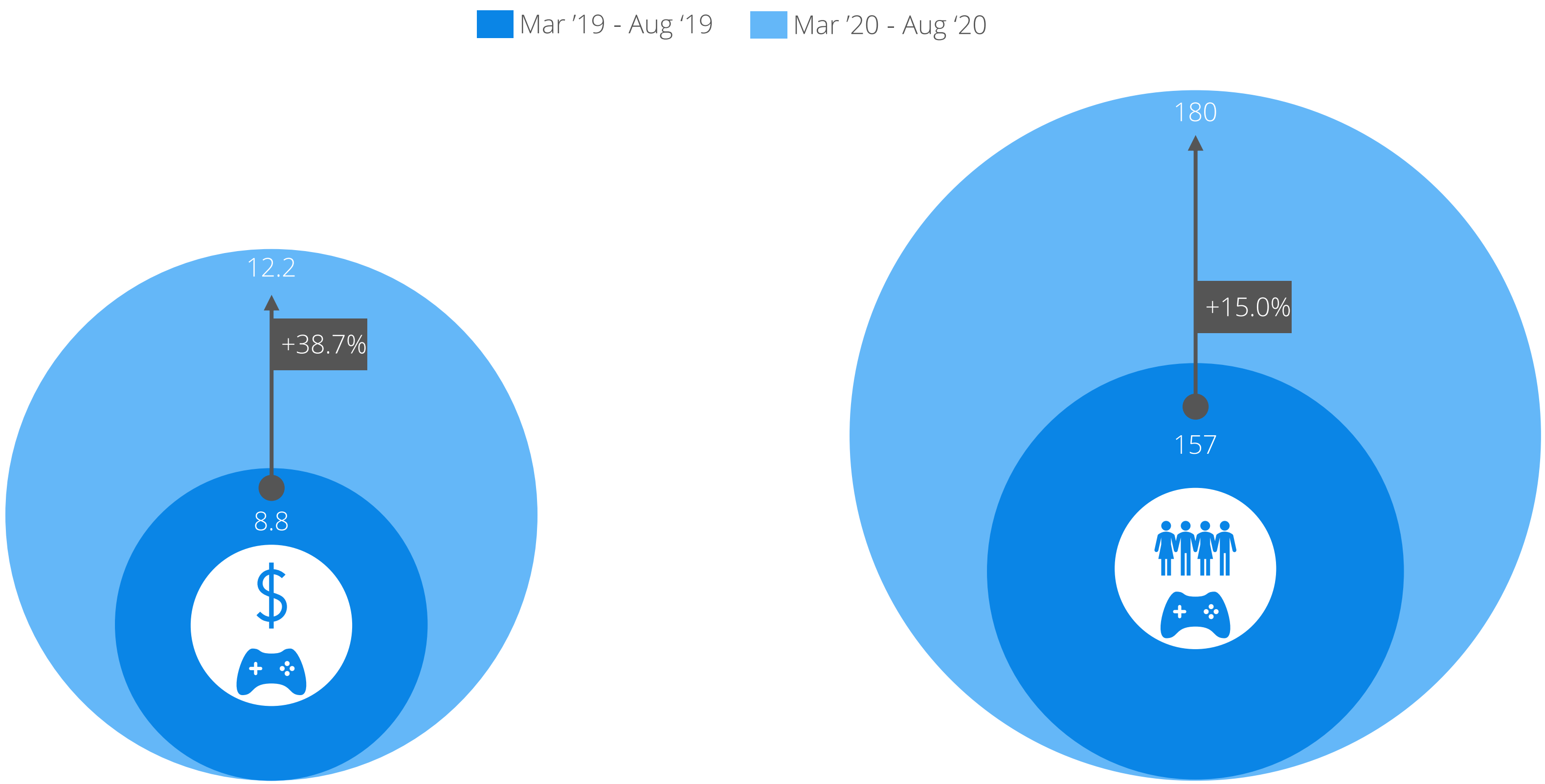


Sources: Box Office Mojo by IMDbPro, as of October 2020

Video games significantly increased their sales and number of players since the outbreak of COVID-19

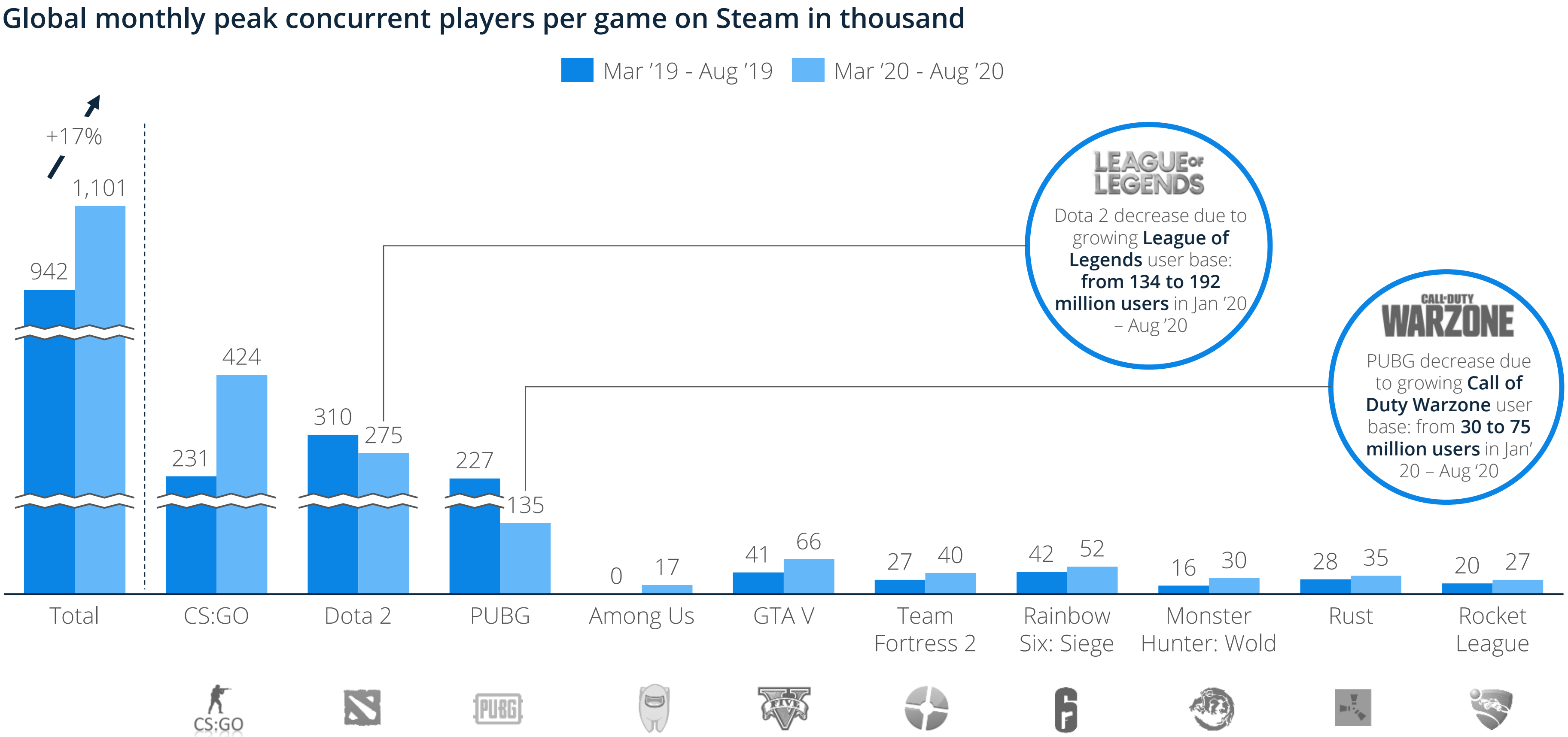
U.S. video game sales in billion US$

Players on leading platform Steam globally in million[1]



1: Average players of the top 10 video games on Steam
Sources: Venturebeat, Steam Charts

Monthly number of peak concurrent players of top 10 games on Steam grew by 17%

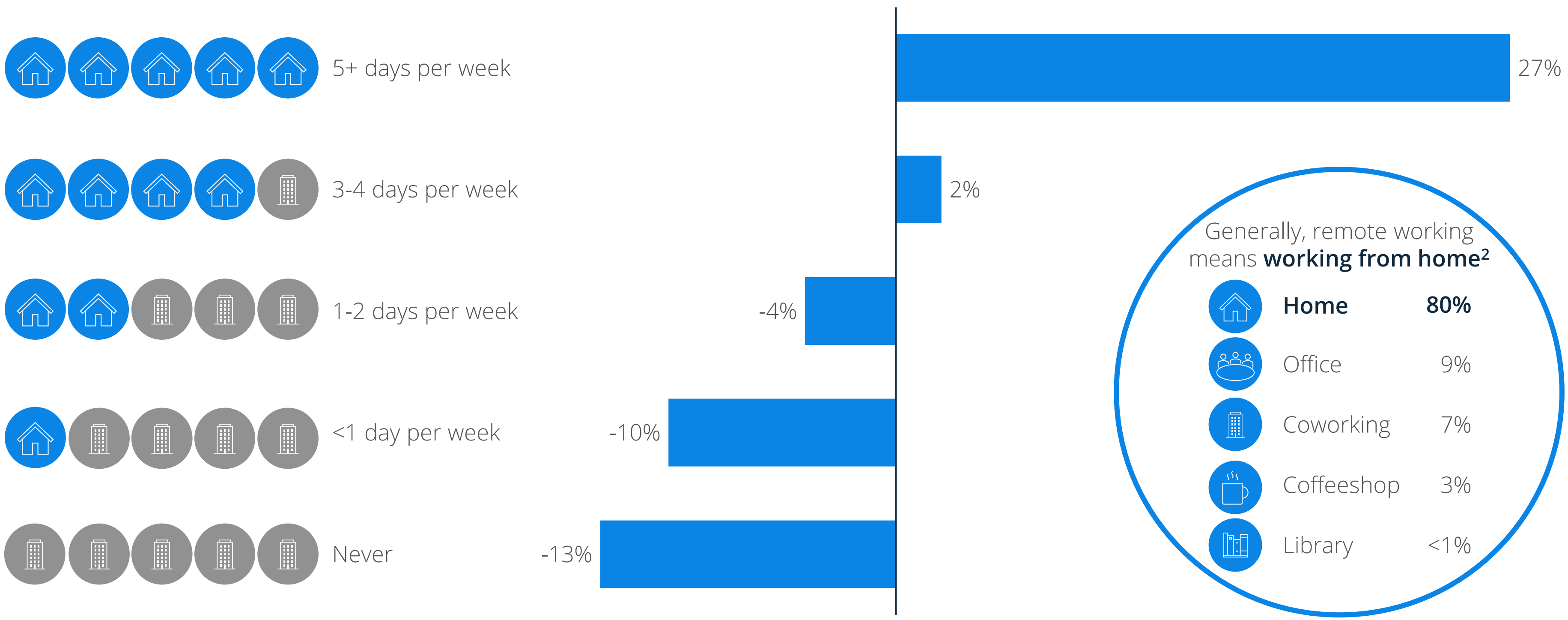


Note: League of Legends and Warzone non-Steam games
Sources: Steam Charts, Leaguefeed, Gamestat, Twitchtracker, Blizzard Results, as of Q2 '20

REMOTE WORKING

Working from home became the new normal with 27% of workers shifting to 5+ days per week at home

Remote work frequency change in the U.S. during COVID-19 in Apr '20[1]

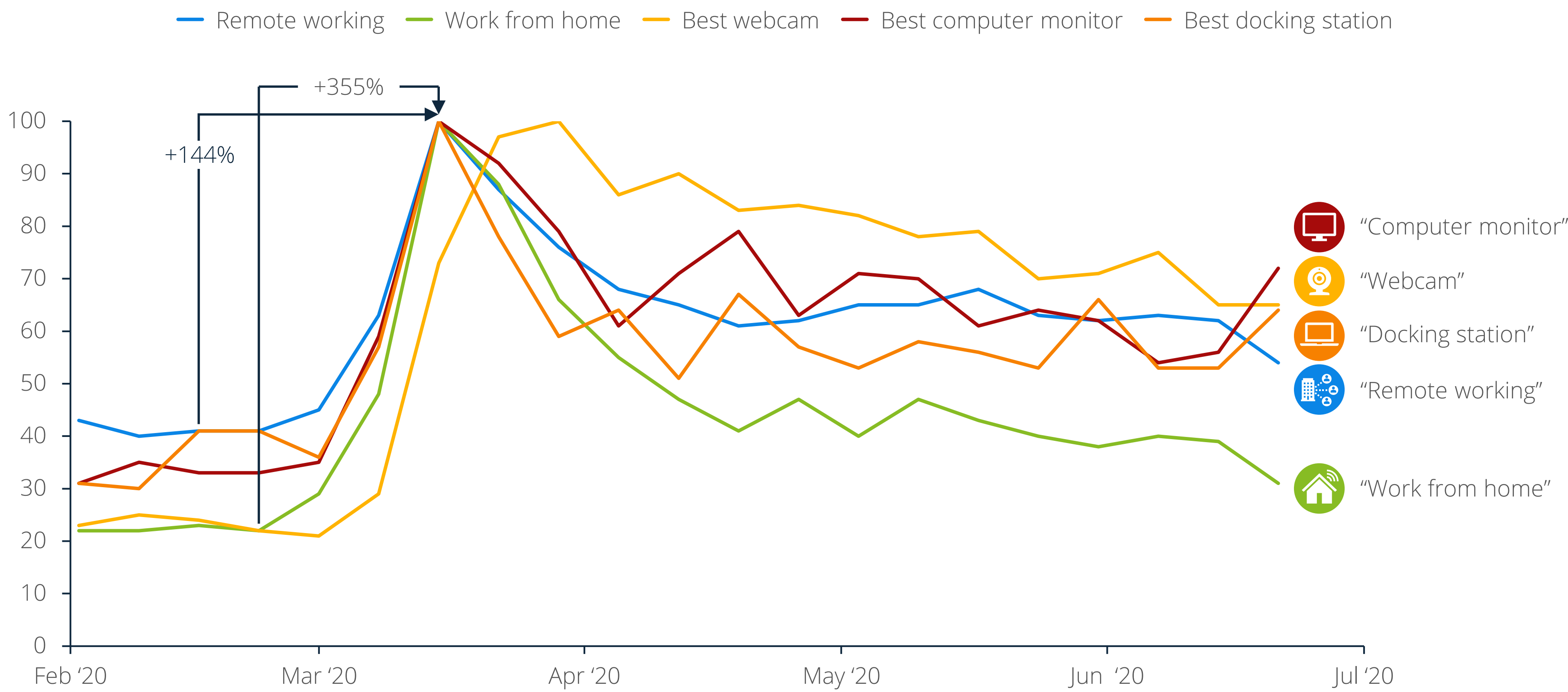


1: n=365 2: n=3,500 global remote workers as of November 2019
Sources: Clutch.co, as of April 2020, Buffer

statista

Google search interest in remote working keywords rose significantly during COVID-19

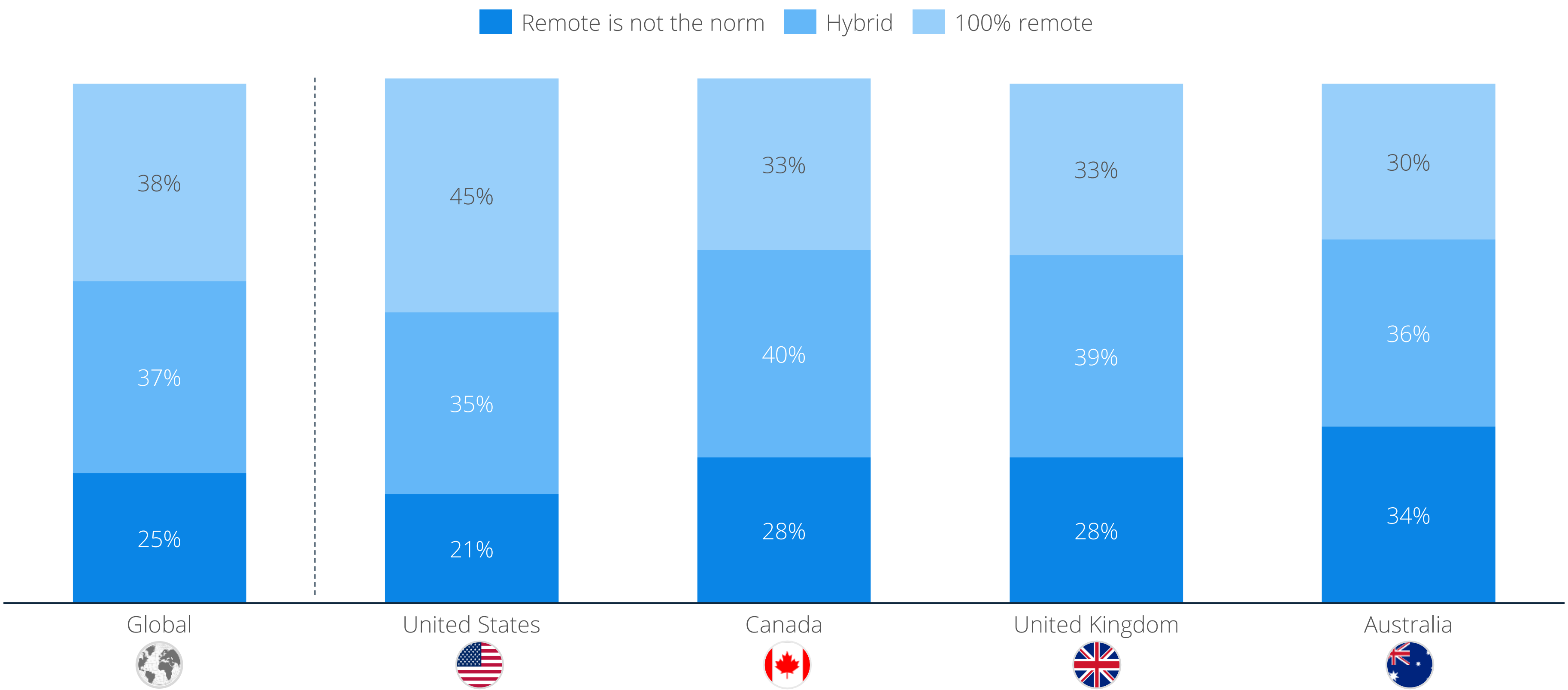
Interest in remote working related search terms during COVID-19 outbreak[1]



1: Search interest relative to the highest point on the chart for the given region and time. A value of 100 is the peak popularity for the term. A value of 50 means that the term is half as popular. A score of 0 means there was not enough data for this term
Sources: Google, as of June 2020

Corporate remote working policies have changed with a majority allowing a full or hybrid remote model

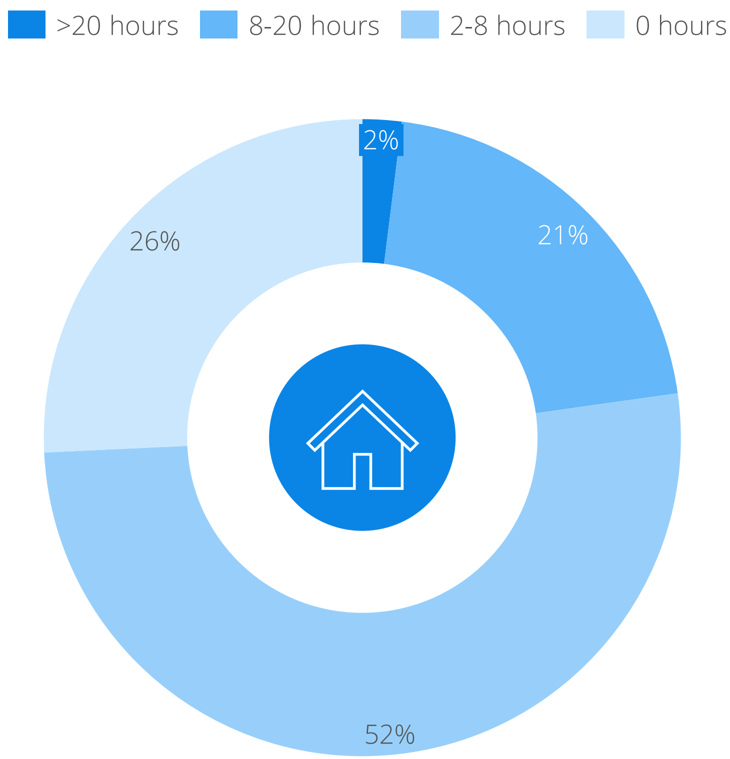
Company policy on remote work for workers with digital output[1]



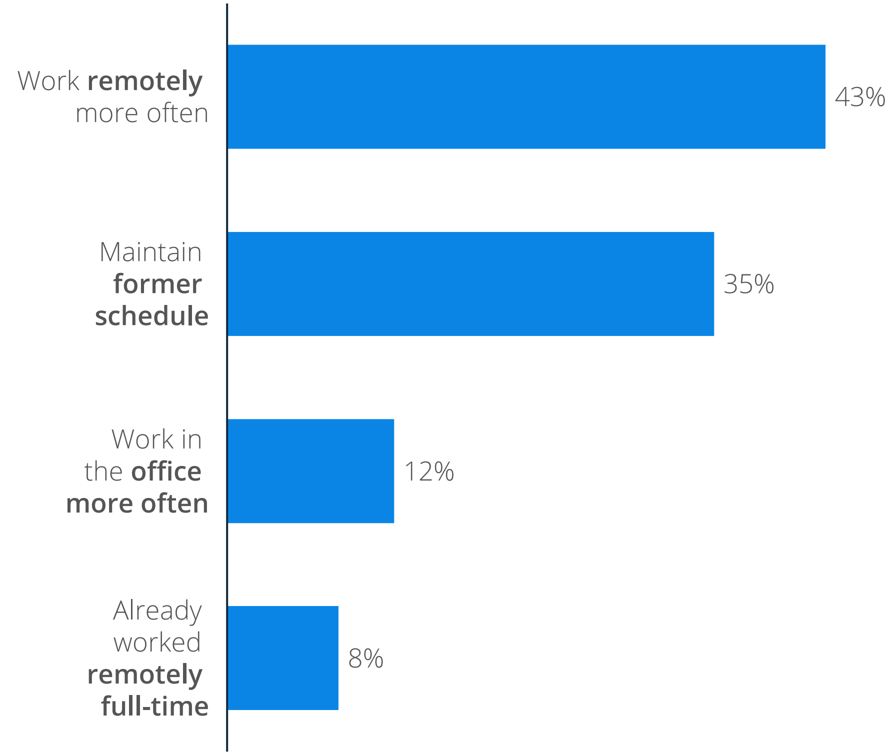
1: January 30 to February 10, 2020, n=3,000+ adult professionals who work remotely or have the option to work remotely and are in roles with digital output
Note: Segments may not add to 100% due to rounding
Sources: GitLab, as of February 2020

Remote working is expected to stay relevant, even after COVID-19

Weekly hours expected to work remotely post-COVID-19[1]



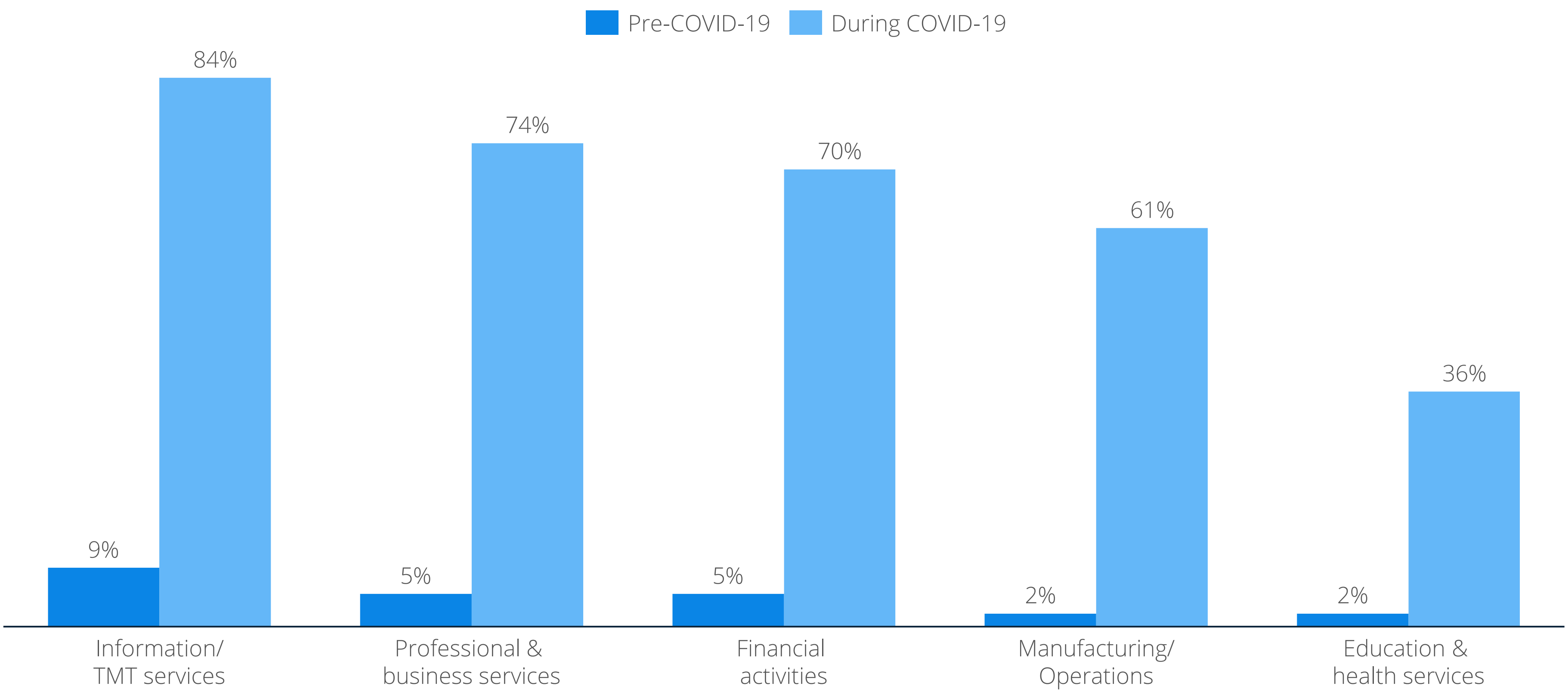
Respondents who would like to change their work schedule after COVID-19[2]



1: n=317 CFOs and finance leaders
2: n=1,200 full-time employees in the U.S., re-calculated for 40 hours work week, April 16 to 17, 2020
Sources: Gartner, getAbstract, as of April 2020

Information/TMT[1] industry went almost entirely into remote working; other industries had lower shares

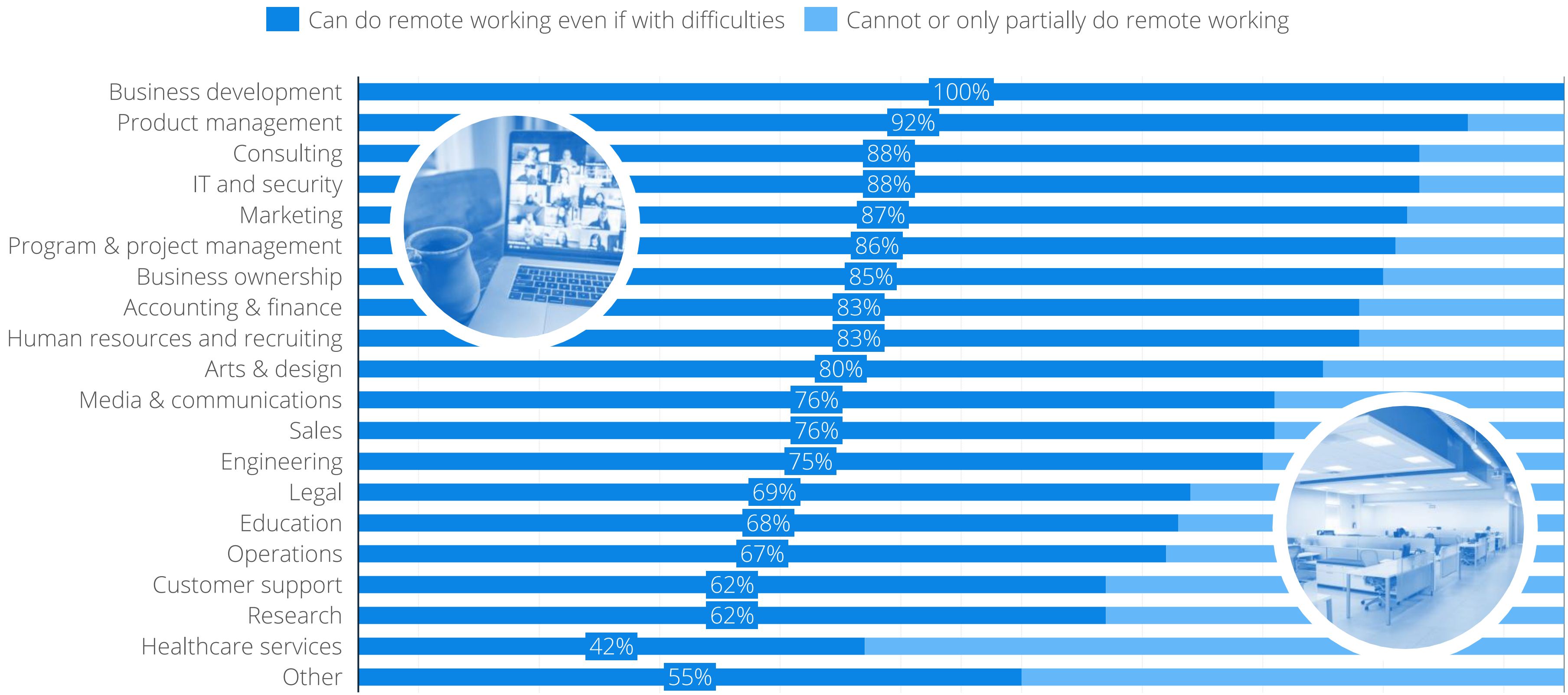
Share of employees working remotely full time during COVID-19 in 2020[2]



1: Technology, media and telecom 2: n=134 expert interviews
Sources: American Time Use Survey, U.S. Bureau of Labor Statistics, McKinsey Analysis

Job types differed in their suitability for working from home with business development leading

Suitability of remote work by industry[1]

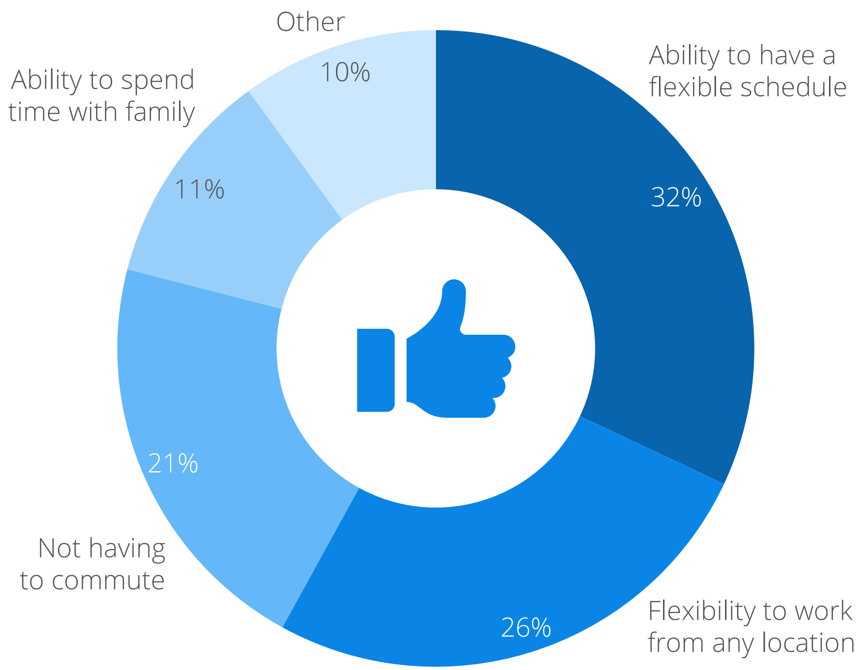


1: n=2,877
Sources: Slack Survey of knowledge workers, as of March 2020

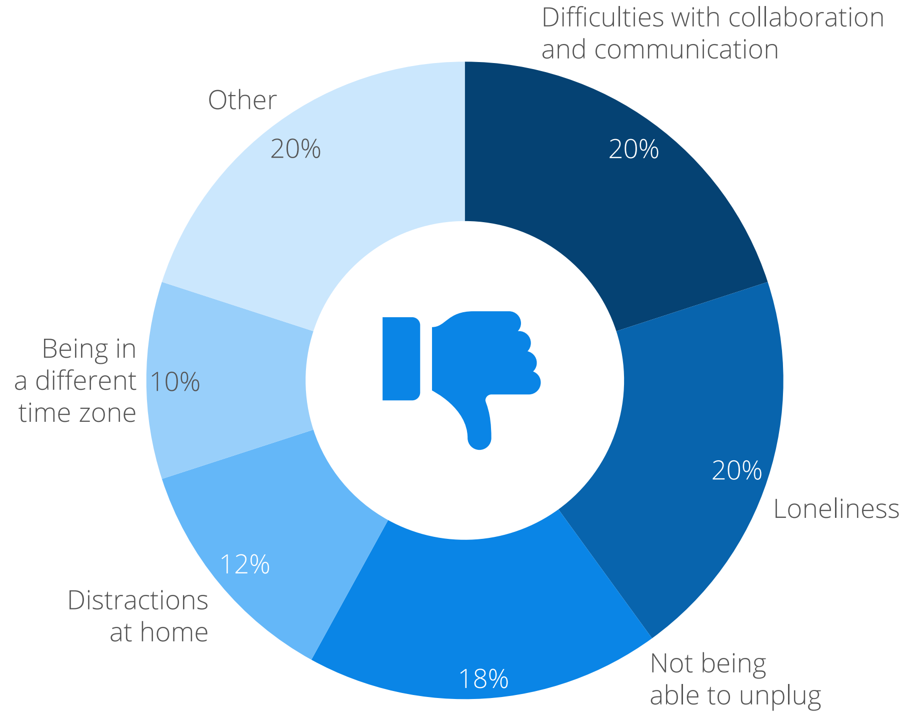
statista

Benefits and struggles of working from home became quickly apparent

Biggest benefits to working remotely[1]



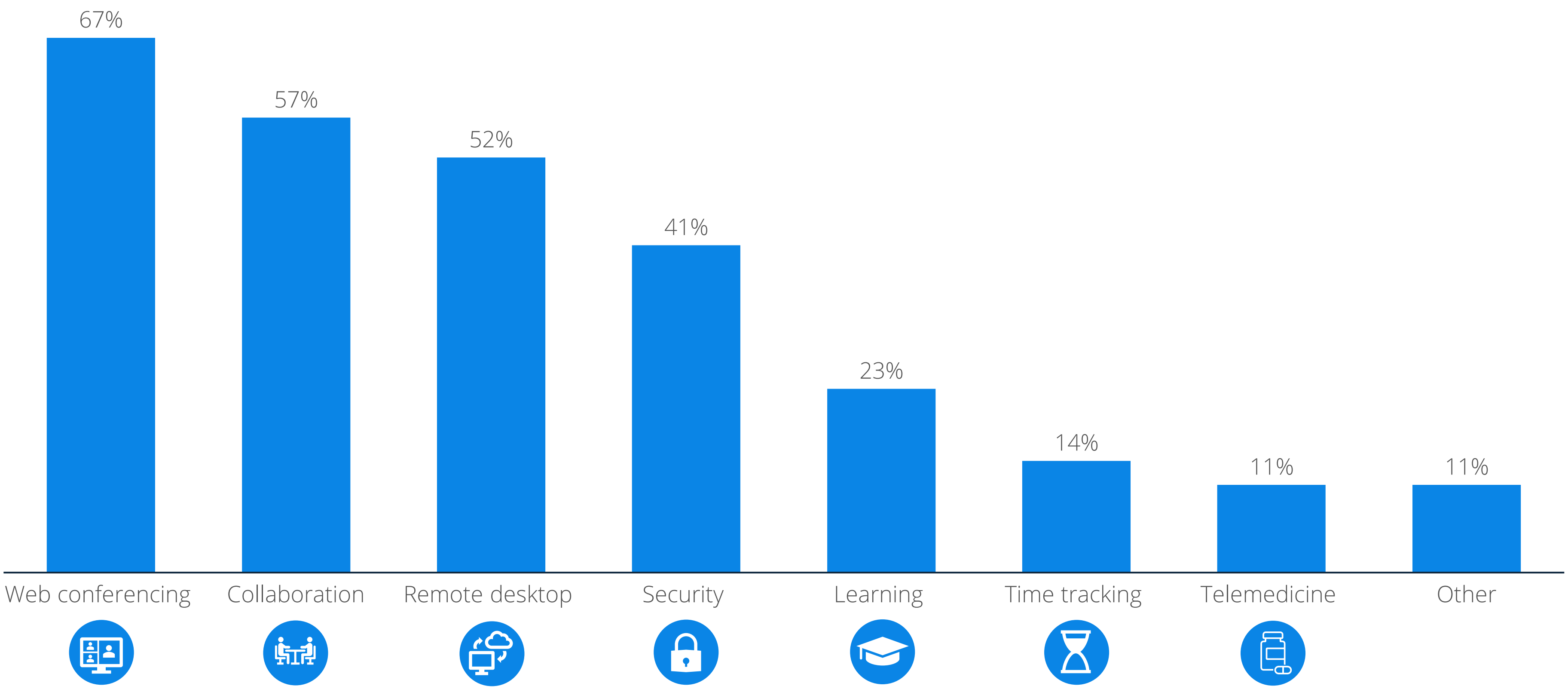
Biggest struggles with working remotely[2]



1: "What's the biggest benefit you see to working remotely?"; n=3,521 remote workers
2: "What's the biggest struggle you see to working remotely?"; n=3,521 remote workers
Sources: Buffer, as of February 2020

Software spending fundamentally changed with a surge in web conferencing and collaboration tools

Global business software spending increased amid COVID-19[1]



1: n=2,168 TrustRadius database of software buyers and users, April 9 to 10, 2020
Sources: TrustRadius, as of April 2020

The collaboration software ecosystem has particularly thrived and comprises a multitude of segments

Selected key players in enterprise collaboration and social software

Team collaboration, presentation & virtual offices	Social VR	Meetings & events	Medical training
meetingRoom, Microsoft Teams, pluto, rumii, flock, zoom, slack, Trello, CITRIX, Spatial, LogMeIn, Skype	VR CHAT, sinespace, horizon, REC ROOM, SANSAR	AltspaceVR, evrbit, Qbit Technologies, hubs by mozilla, ZREALITY	SimforHealth, OMS Oxford Medical Simulation, ARCH VIRTUAL, FUNDAMENTALVR, UbiSim

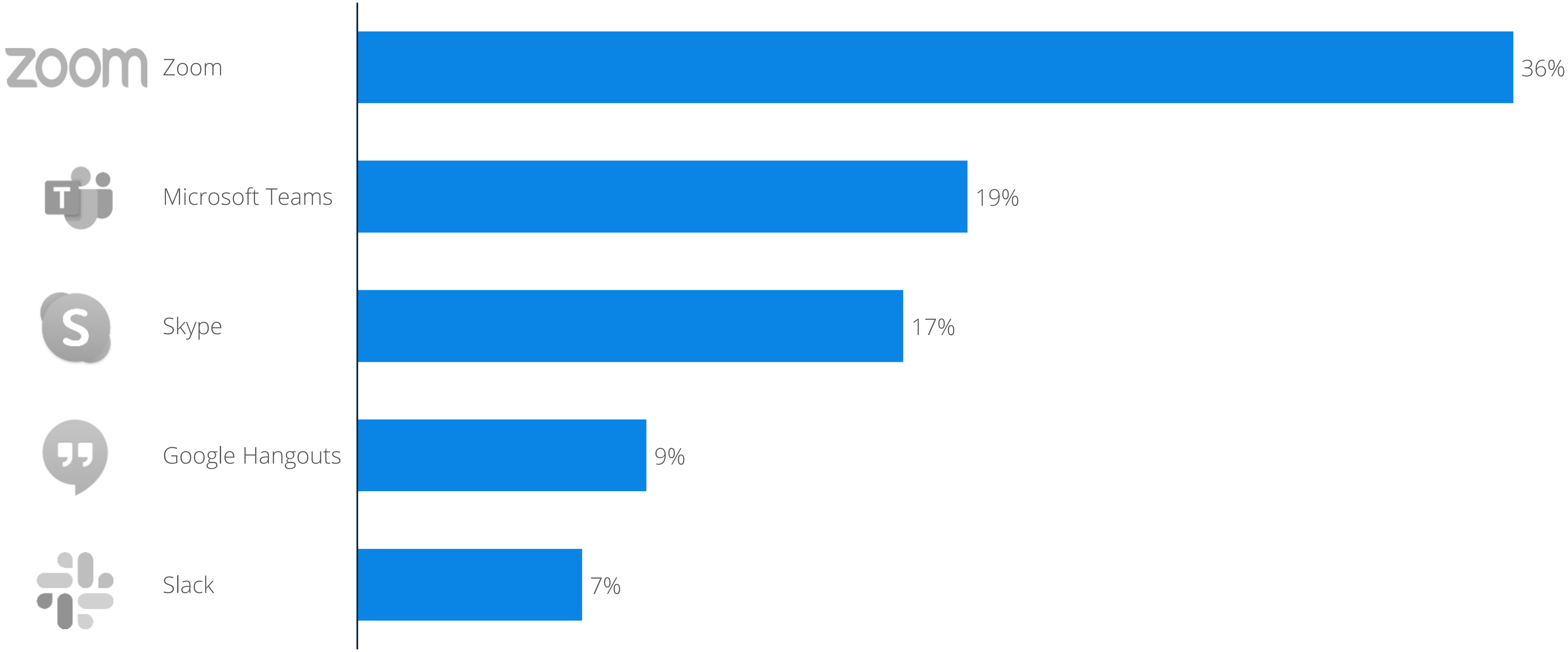
Education & training	Visualization & review	Architecture	Design, creation & prototyping
EXP360 Expanding Reality. Virtually., WONDA VR, Fraunhofer IGD, immerse, 3spin	Dimension10, improov3 VR teleconferencing for CAD teams, worldviz, NVIDIA, VIRTALIS	TENEBRIS LAB, IRISVR, ALLVR, Archilogic, InsiteVR	MINDESK, Softspace, SkyReal, THE WILD, sketchbox

Sources: Institute for Immersive Learning, as of 2020, Statista

statista

Zoom is the clear leader in the U.S. collaborative software market

Top collaboration tools used for remote work in the U.S.[1]



1: n=242 U.S. employees who work remotely as a result of the COVID-19
Sources: Clutch.co, as of April 2020

statista

Economic impact of remote working could result in annual savings of over US$700bn in the U.S. alone

Overall impact of remote working

US$700bn[1] **savings** in the U.S.

76%[2] of respondents experience **less distractions**

66%[2] agree on an **increase in productivity**

74%[3] feel it is **motivating**

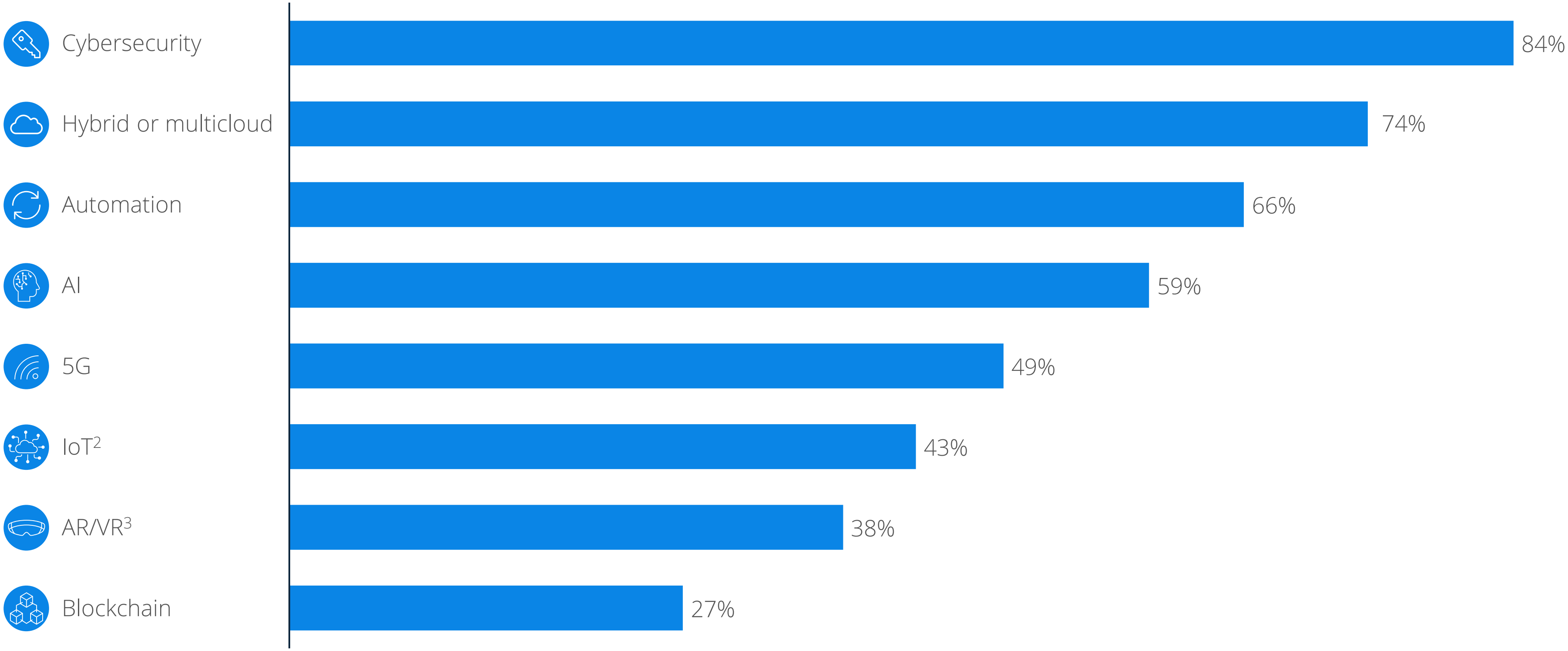
1: Global Workplace Analytics, as of July 2020 2: n=5,500 FlexJobs' sixth annual survey 2017 3: n=1,000; Softchoice survey "Working Hard or Hardly Networked"
Sources: globalworkplaceanalytics.com, as of June 2020

statista

3 DIGITAL TECHNOLOGY

COVID-19 is expected to push spending for trend technologies including cybersecurity and cloud on top

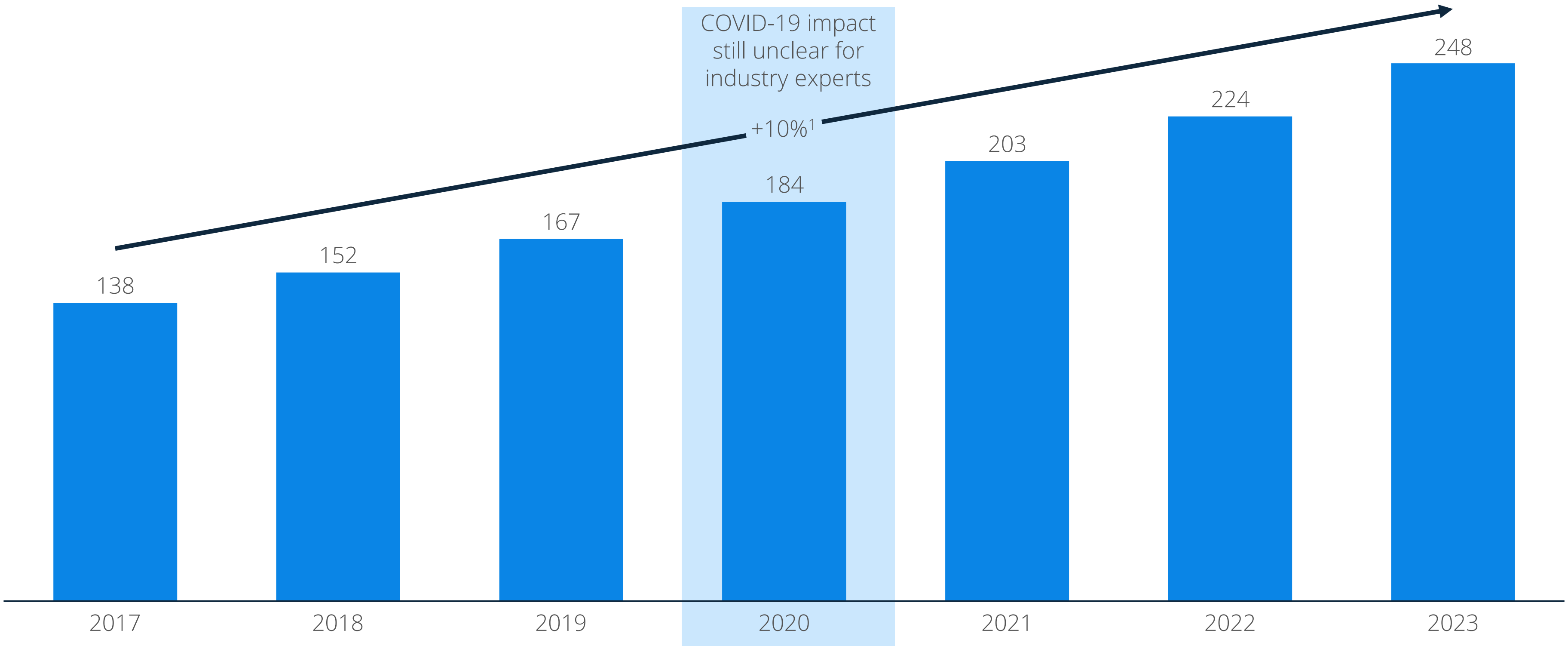
Global increase in technology spending due to COVID-19[1]



1: Survey conducted by HFS Research on 631 major tech enterprises on April 6, 2020 2: IoT=Internet of Things 3: AR/VR=Artificial reality/Virtual reality
Sources: HFS Research, as of April 2020, Canalys 2020

Cybersecurity market expected to grow to nearly US$250bn in 2023 with a 10% CAGR[1] from 2017-2023

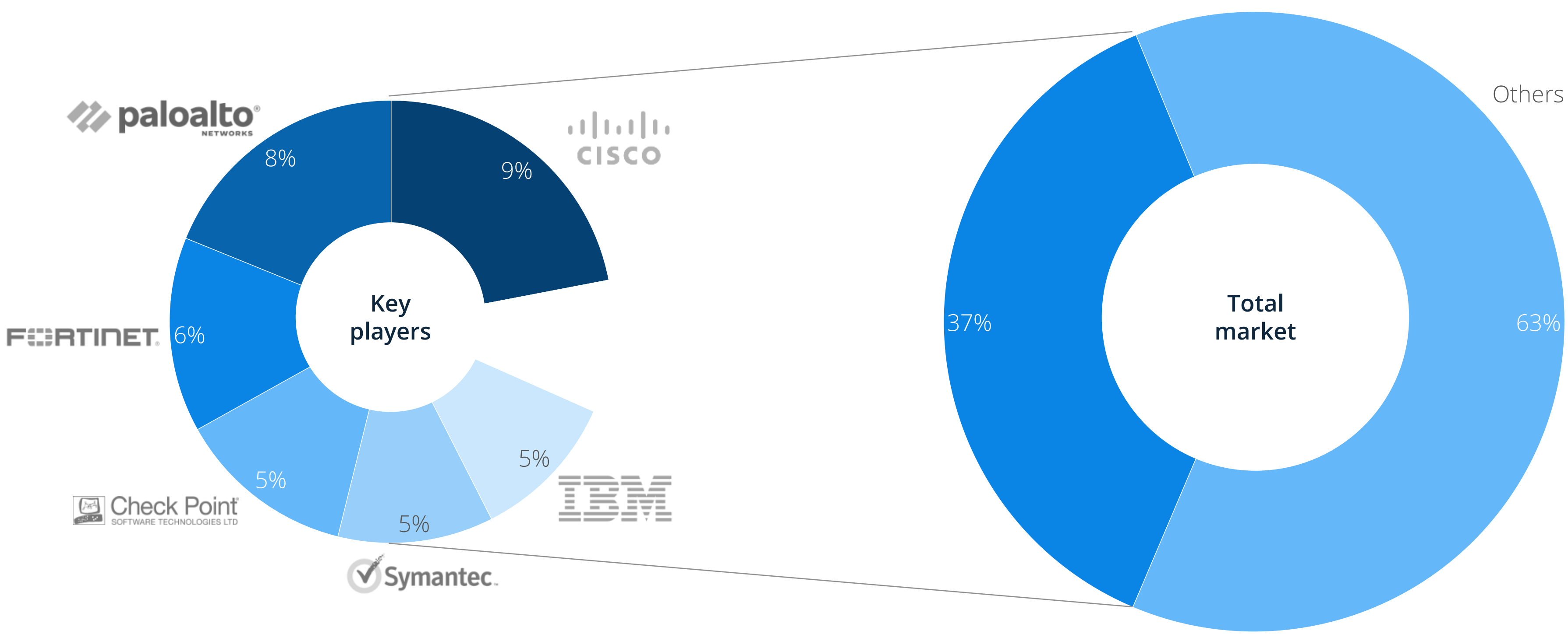
Global cybersecurity revenue forecast in billion US$[2]



1: CAGR: Compound Annual Growth Rate/average growth rate per year
2: Includes Identity and Access Management, Encryption, Unified Threat Management, Antivirus/Intimalware, Firewall, IDS/IPS, Disaster Recovery, and DDOS Mitigation
Sources: MarketsandMarkets

Key players in cybersecurity are Cisco, Palo Alto Networks, and Fortinet

Global market shares of key players in cybersecurity market in 2020[1]



1: as of Q1 '20
Sources: canalys.com

statista

Cyberattacks spiked during COVID-19 and created a particular challenge for the digital economy

Cyberattack highlights during COVID-19

667%

increase in email scams related to COVID-19 in Mar ‘20

400%

increase in brute-force attacks in Mar and Apr ‘20

40%

more desktop PCs are unsecured (driven by an increase in remote working and remote desktops)

530k

Zoom login data sets sold on the dark net

2000%

increase in malicious files with "Zoom" included in their filename

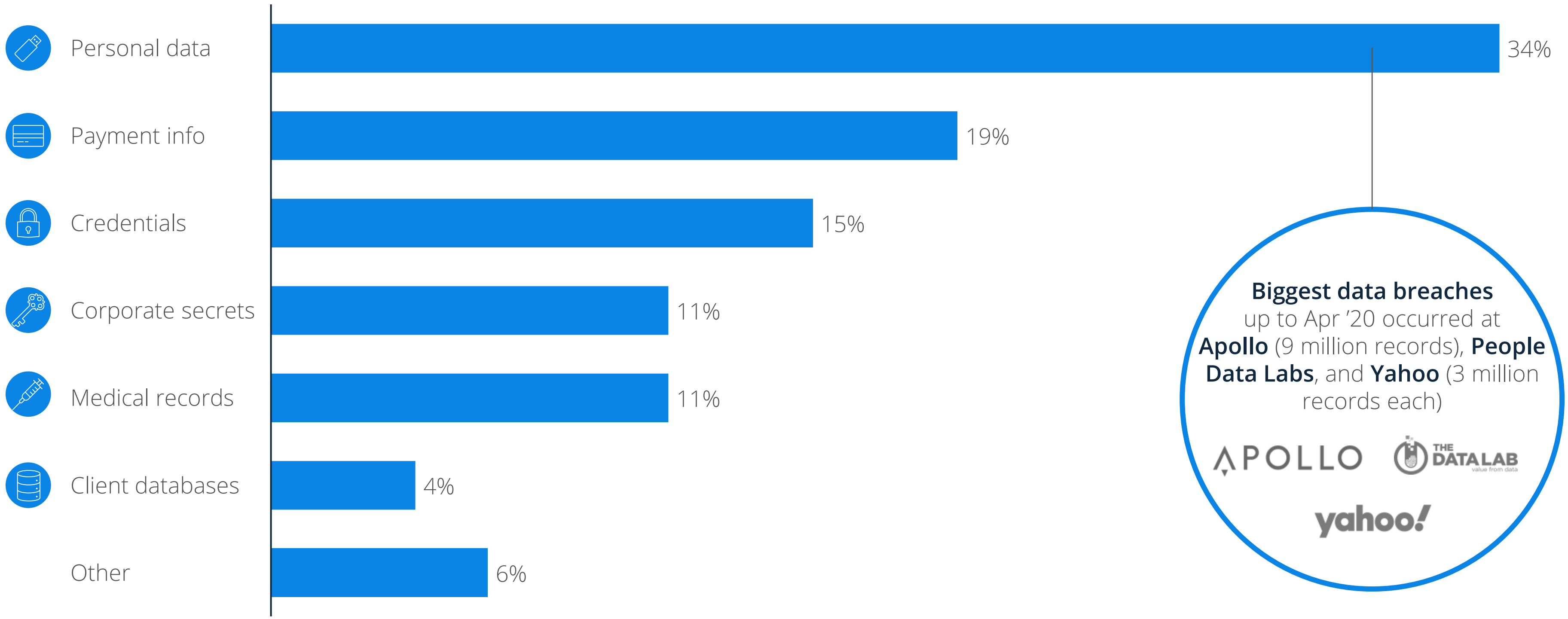
3x

higher likelihood of users clicking COVID-19-related scam content

Sources: ZDNet, as of September 2020

Retrieving personal data and payment information was the primary aim of cyberattacks

Globally most typically stolen data during a cyberattack in 2019



Sources: Positive Technologies, as of Q1 '20, Information is Beautiful, Thomson Reuters, Statista

Cyber attacks were mostly conducted through malware and social engineering

Attack methods most typically used in cyber attacks

1: Social engineering is the term used for a broad range of malicious activities accomplished through human interactions. It uses psychological manipulation to trick users into making security mistakes or giving away sensitive information. Social engineering attacks happen in one or more steps
Sources: Positive Technologies, as of Q1 '20, Statista

Cyberattacks have succeeded in inflicting significant and highly public damage to their victims

Prominent press headlines concerning cyberattacks during COVID-19

"WHO reports fivefold increase in cyberattacks, urges vigilance"

"Shopify internal data breach exemplifies insider threat trend"

"Razer data leak exposes over 100K customer records"

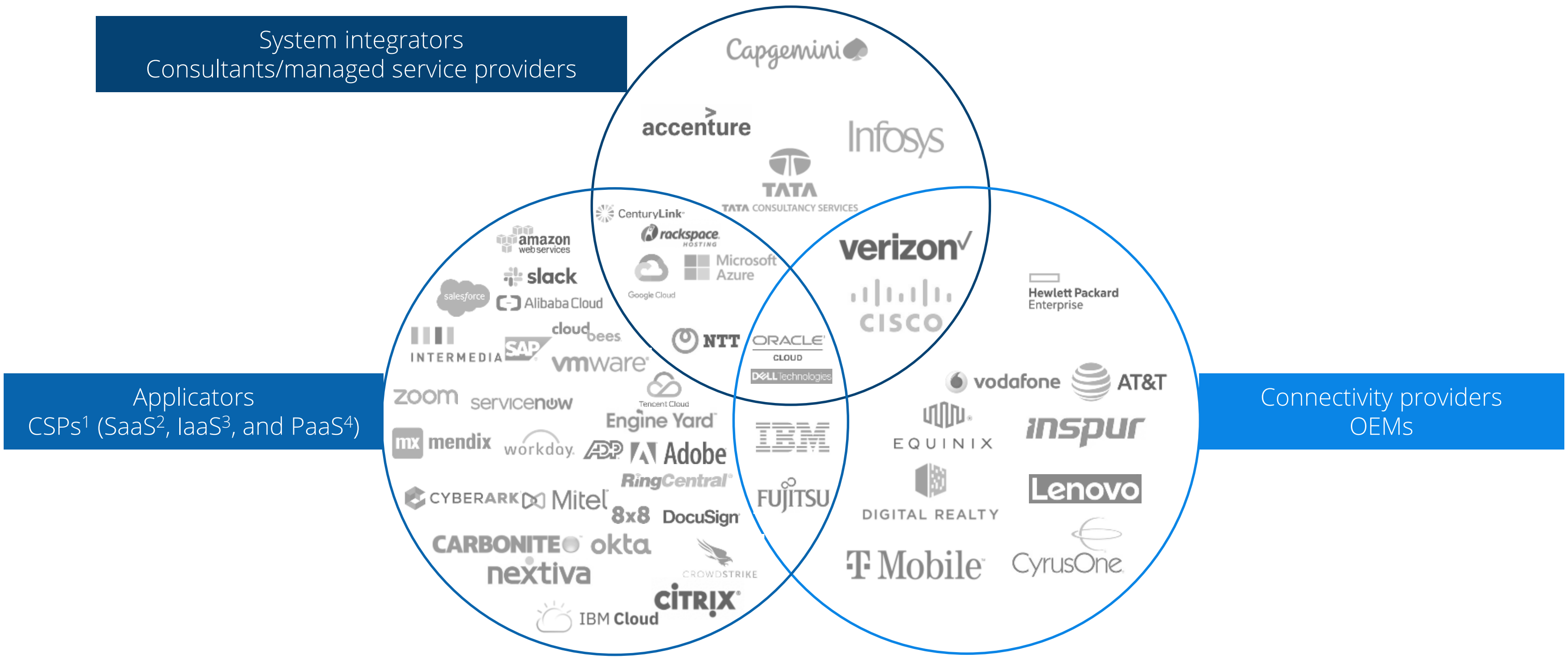
"London's Hackney Council hit by serious cyber attack’"

"VA data breach exposes personal information for 46,000 veterans"

Sources: WHO, Cyber Security Hub, CPO Magazine, Security Boulevard, Telegraph, Federals Network

The cloud market ecosystem comprises system integrators, applicators, and connectivity providers

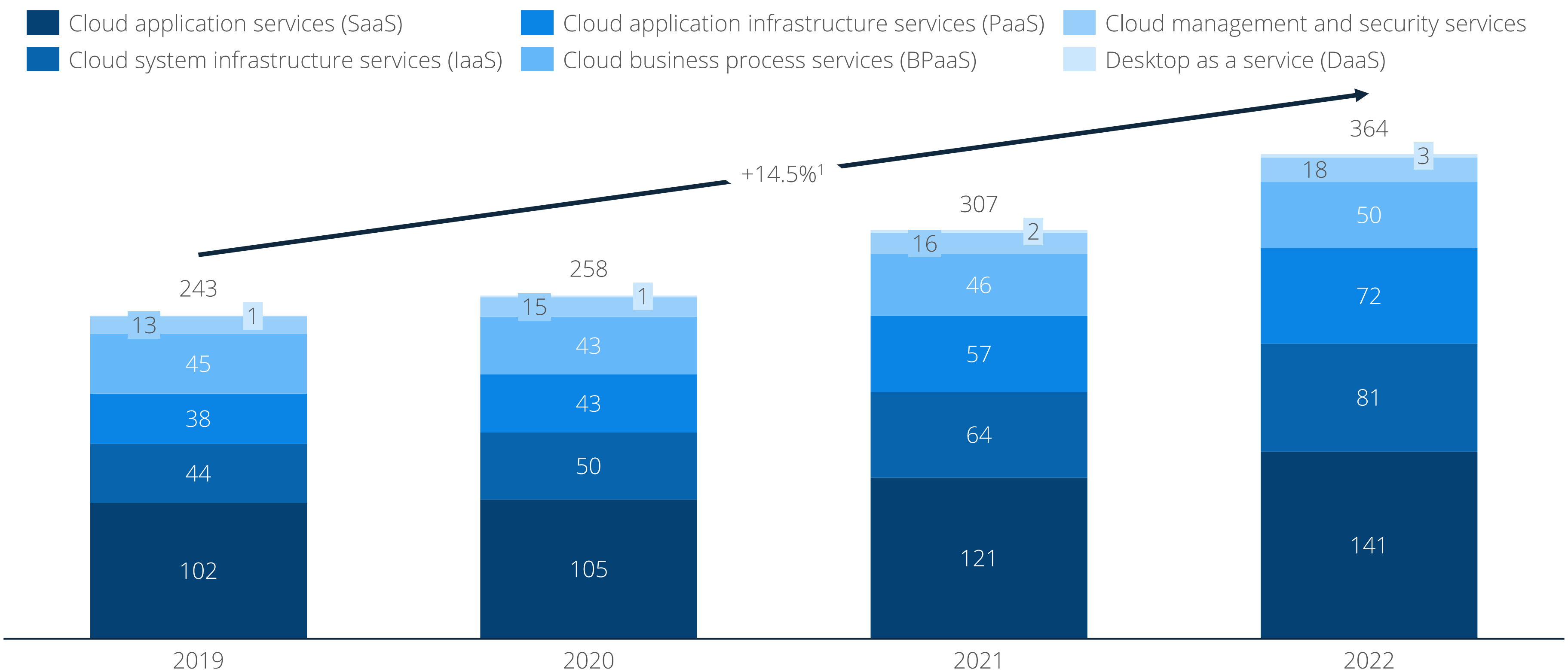
Cloud computing market ecosystem



1: CSPs=Cloud Solution Provider Programs 2: SaaS=Software as a Service 3: IaaS=Infrastructure as a Service 4: PaaS=Platform as a Service
Sources: Marketsandmarkets, as of July 2020

The cloud market is expected to grow to US$364bn in 2022 with a CAGR[1] of nearly 15% in 2019-2022

Global public cloud service revenue forecast in billion US$[2]

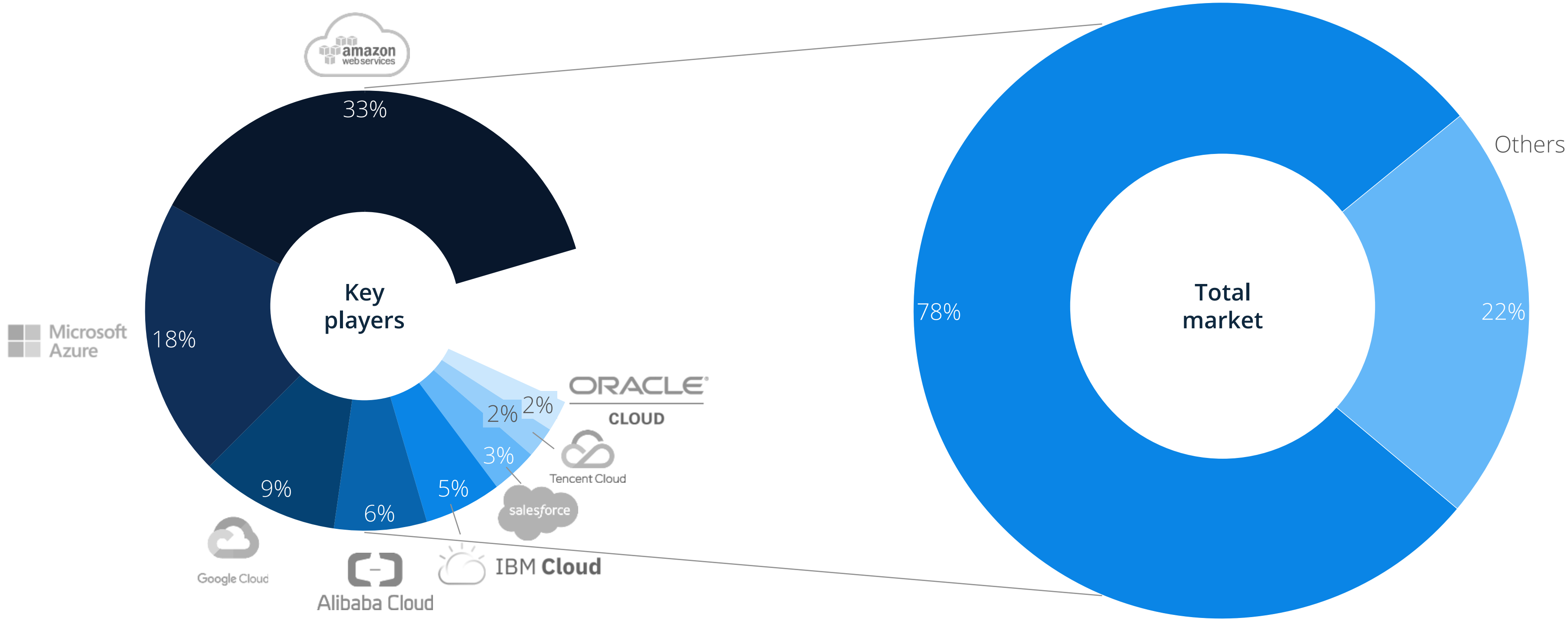


1: CAGR: Compound Annual Growth Rate/average growth rate per year
2: Public cloud services are on-demand computing services that range from applications to storage and processing power, which are usually delivered over the internet and on a pay-as-you-go basis
Sources: Gartner, as of July 2020

statista

Key players in cloud infrastructure service are Amazon, Microsoft, Alphabet/Google, and Alibaba

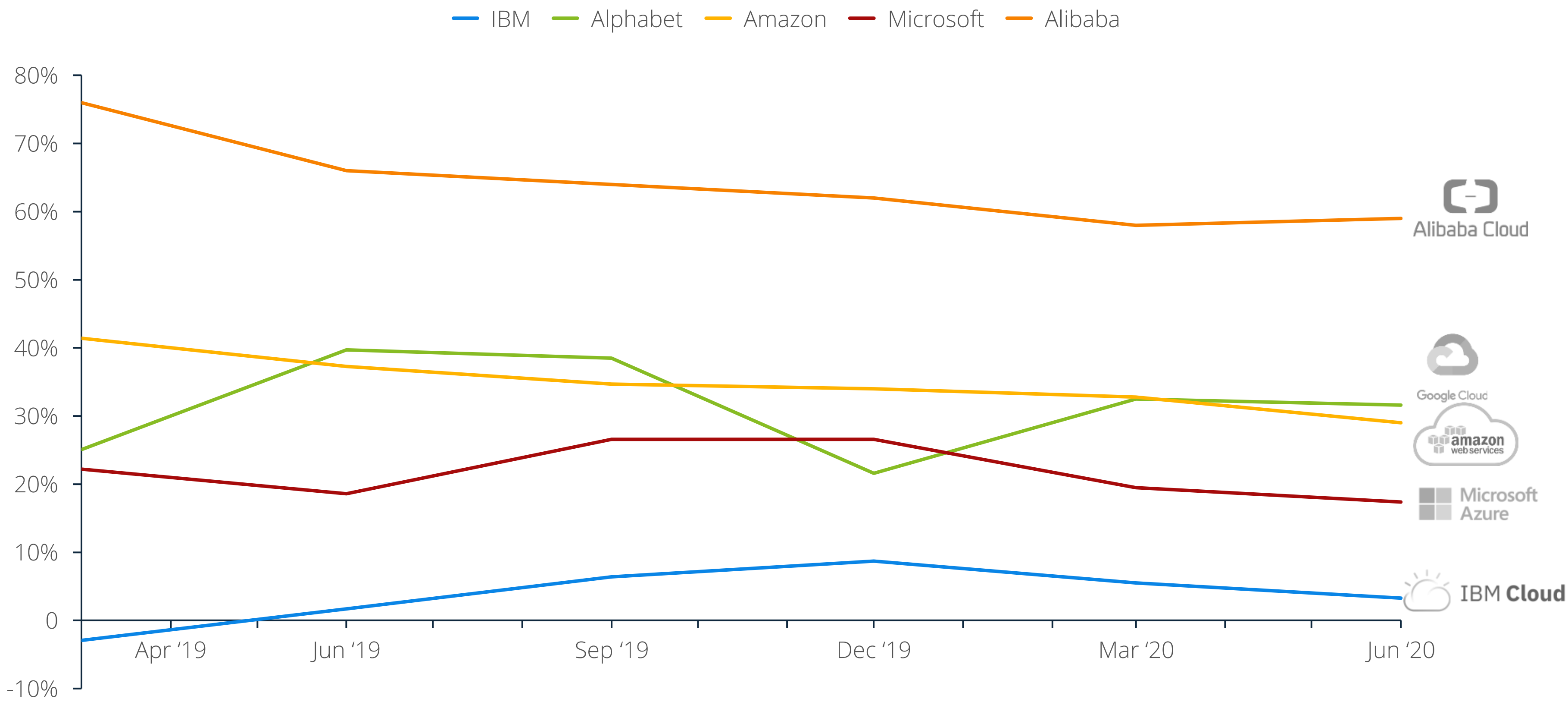
Global market shares of key players in cloud infrastructure services market in 2020



Sources: Synergy Research Group, as of Q2 '20

Cloud revenue growth is strongest with #4 player Alibaba, making them a challenger to incumbents

Cloud revenue growth compared on y-o-y basis for cloud market leaders

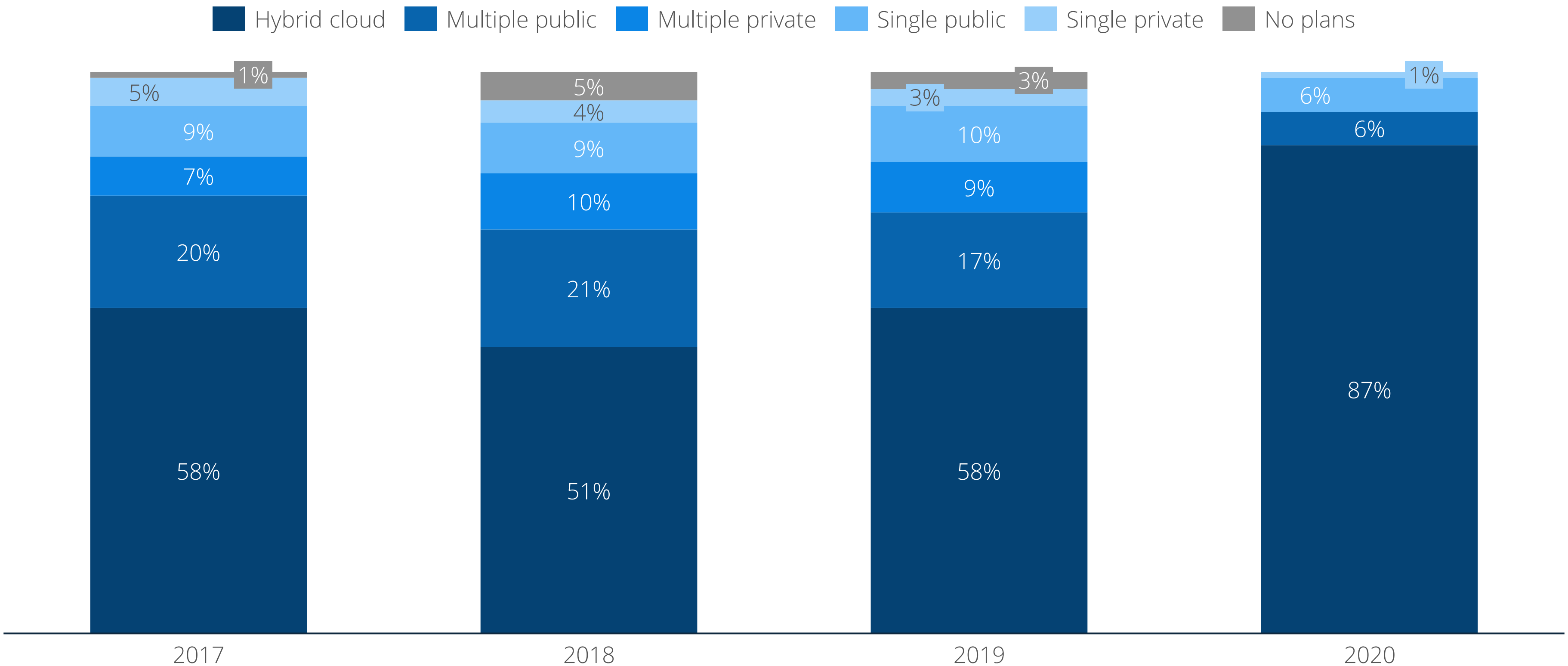


Sources: S&P Global, as of August 2020

statista

Hybrid cloud solutions are expected to grow to a market share of 87% in 2020

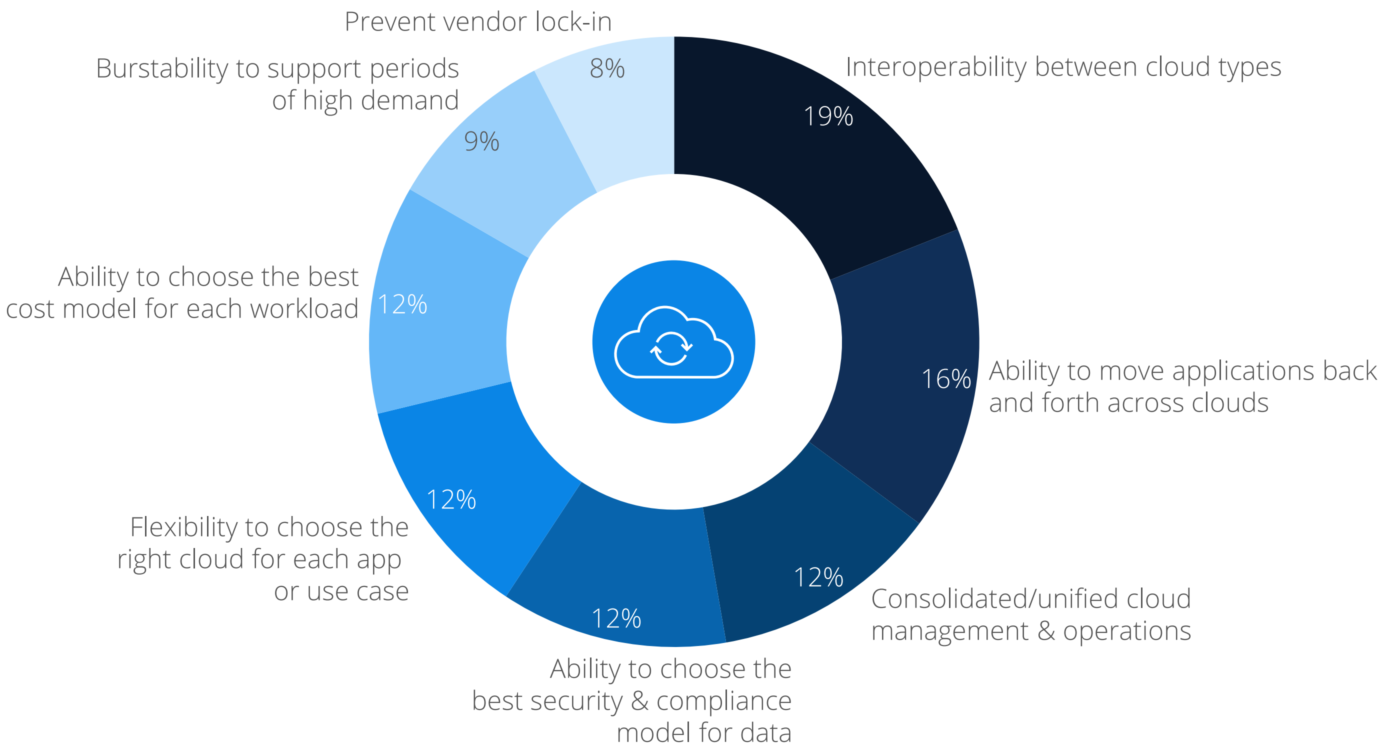
Global share of enterprise cloud strategies



Note: n=554 Enterprise (more than 1,000 employees); Technical professionals across a cross-section of organizations
Sources: RightScale, Flexera Software, as of Q1 '20

Hybrid cloud adoption mainly driven by increasing interoperability and flexible & unified application

Global primary benefits of using the hybrid cloud type for organizations



Note: Enterprise Clodu Index, n=2,650 IT decision makers, 2019
Sources: Vanson Bourne, Nutanix

Automation ecosystem comprises bot providers, consulting, cloud RPA[1], BPA[2], and marketplaces

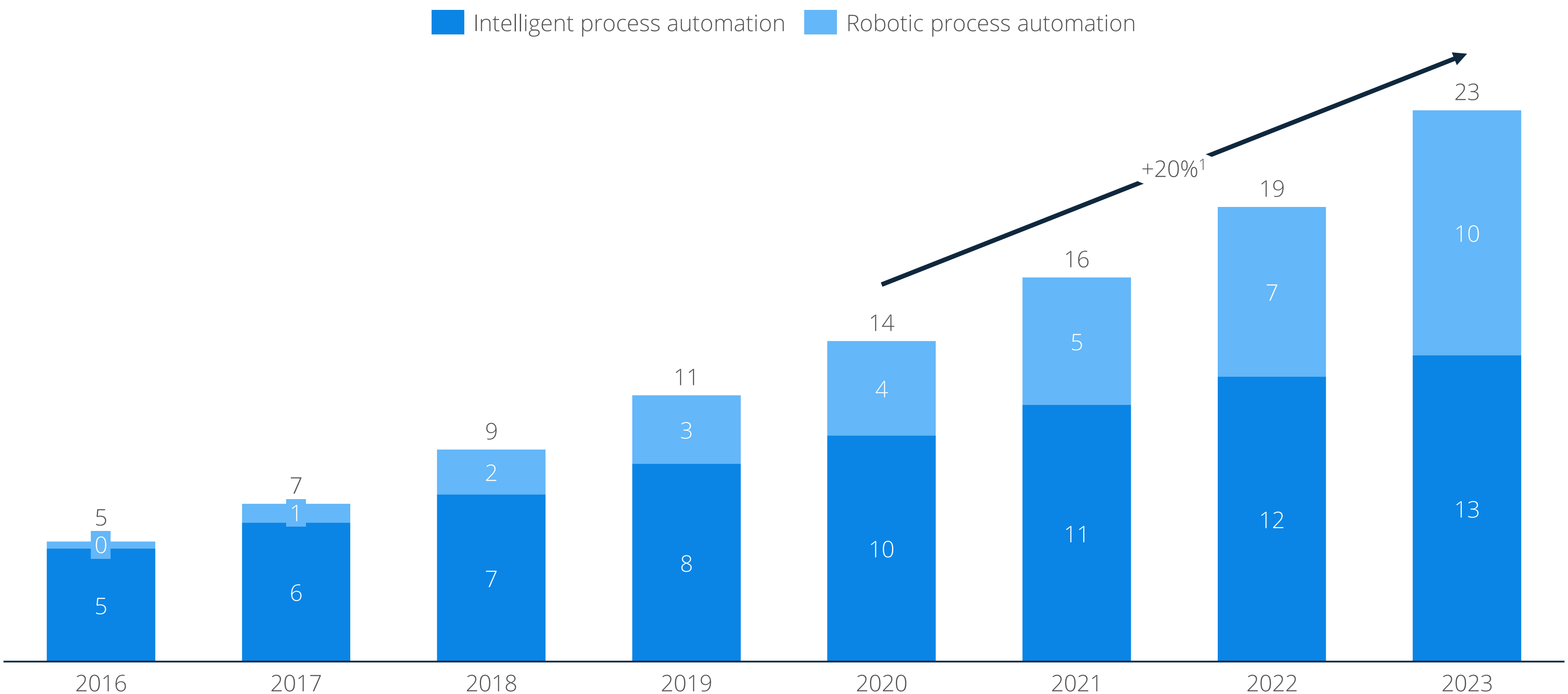
Automation market ecosystem

Bot providers	Consulting	Cloud robotic process automation	Business robotic process automation & implementation	Marketplaces
NICE tevron UiPath Pega Redwood WorkFusion KOFAX helpsystems contextor blueprism Automation Anywhere edgeverve	Deloitte. Another Monday Automation CoE accenture Capgemini Infosys pwc	Ratchet-X Cloud RPA thoughtonomy IBM Another Monday	celonis Pega WorkFusion DATAMATICS Appian be informed	UiPath blueprism Automation Anywhere

1: RPA=Robotic Process Automation 2: BPA=Business Process Automation
Sources: HFS, as of 2020, rpasuccess.com, as of 2019

The automation market is expected to grow to US$23bn in 2023 with a CAGR[1] of 20% in 2020-2023

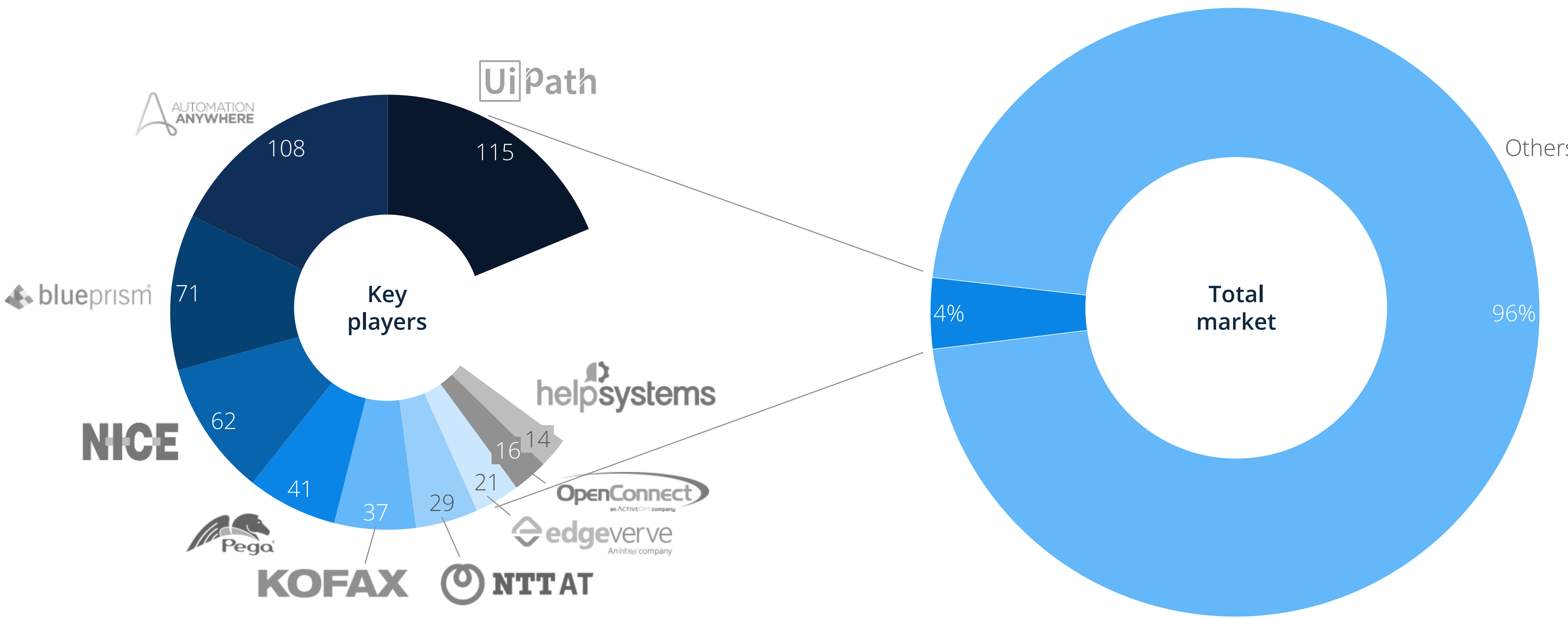
Global automation and AI business operations revenue forecast in billion US$[2]



1: CAGR: Compound Annual Growth Rate/average growth rate per year
2: Automation refers to the use of technology to perform various tasks with minimal human intervention. This includes robotic process automation, intelligent process automation, and various AI business operations
Sources: HFS

Key players in highly fragmented RPA[1] are UiPath, Automation Anywhere, and Blue Prism

Global market shares of key players in robotic process automation market in million US$ in 2020



1: RPA=Robotic Process Automation
Sources: Gartner, as of June 2019

statista

Robotic process automation is divided into four stages with increasing business impact

Stages of robotic process automation

	Desktop Process Automation	Robotics Process Automation	Cognitive Robotics Process Automation	Intelligent Robotics Process Automation
Characteristics	Simple rules	Complex rules	Advanced recognition (voice, optical character, image)	Artificial intelligence
Application	Non-recurring tasks	Recurring, repetitive tasks	Dynamic case management across departments	Autonomously deciding on process improvement
Example	Excel macros	Automated invoice processing	Virtual assistant	Intelligent system that individually executes and improves critical processes

Degree of automation →

Complexity/impact ↑

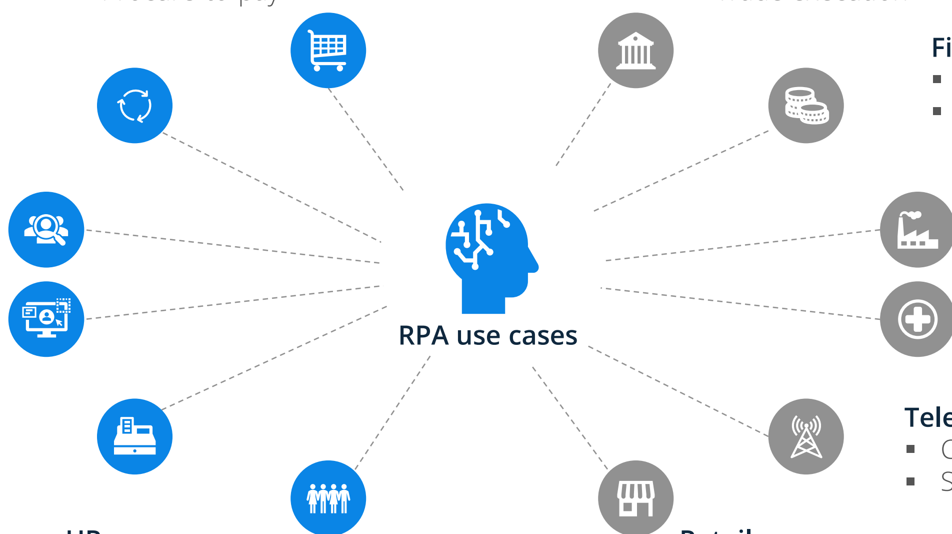
Sources: ABBYY, Emplotics, Medium

statista

Robotic process automation can be applied to a multitude of general and industry-specific use cases

Exemplary use cases for robotic process automation (RPA)

General | Industry-specific



Procurement
- Vendor updates
- Procure-to-pay

Banking
- Loan processing
- Trade execution

Support processes
- Data migration
- Report creation

Finance
- Financial planning
- Bank statement reconciliation

Marketing
- Lead processing

Manufacturing
- Bill of material processing
- Inventory control

Software
- Software installation
- Automated testing

Healthcare
- Appointment scheduling
- Patient data transfer

Sales
- Invoice creation
- Order-to-cash

Telecom
- Credit check
- SIM swapping

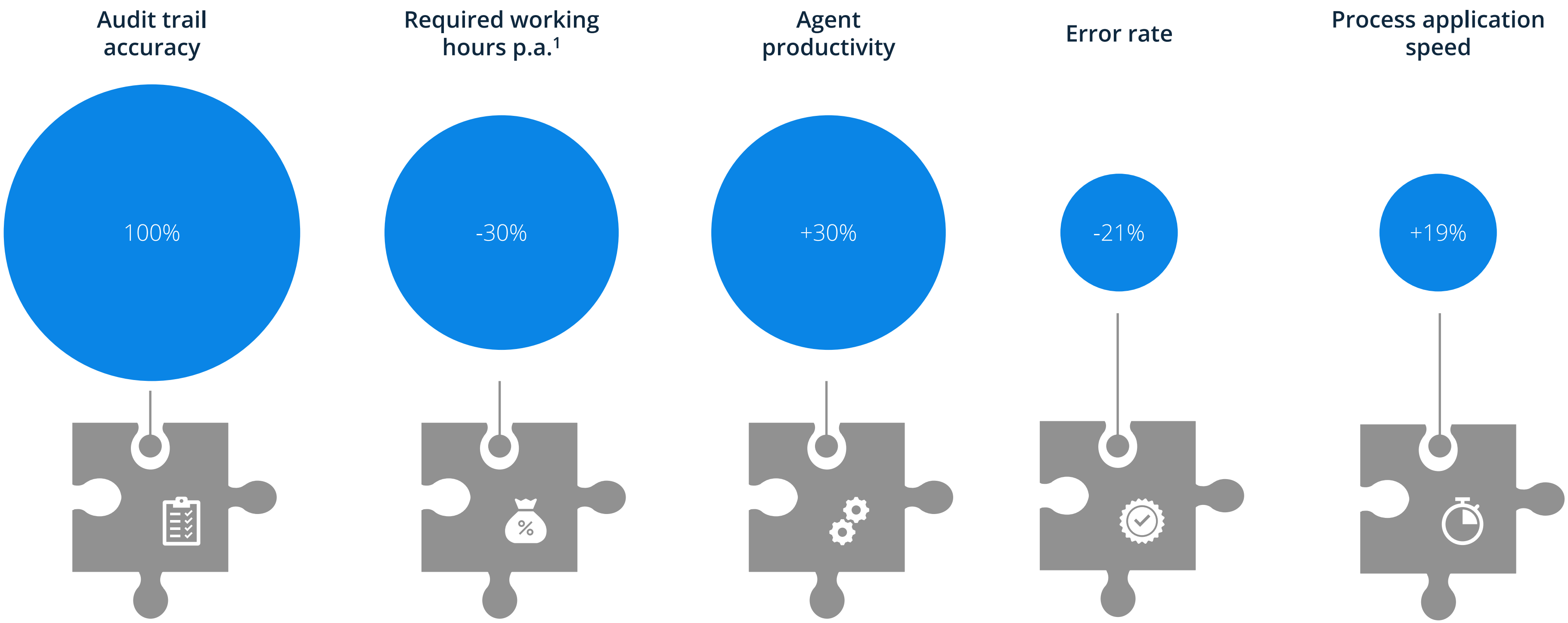
HR
- Payroll automation
- Expense management

Retail
- Product categorization
- Trade promotion

Sources: AIMultiple

There are huge improvement potentials with the use of robotic process automation

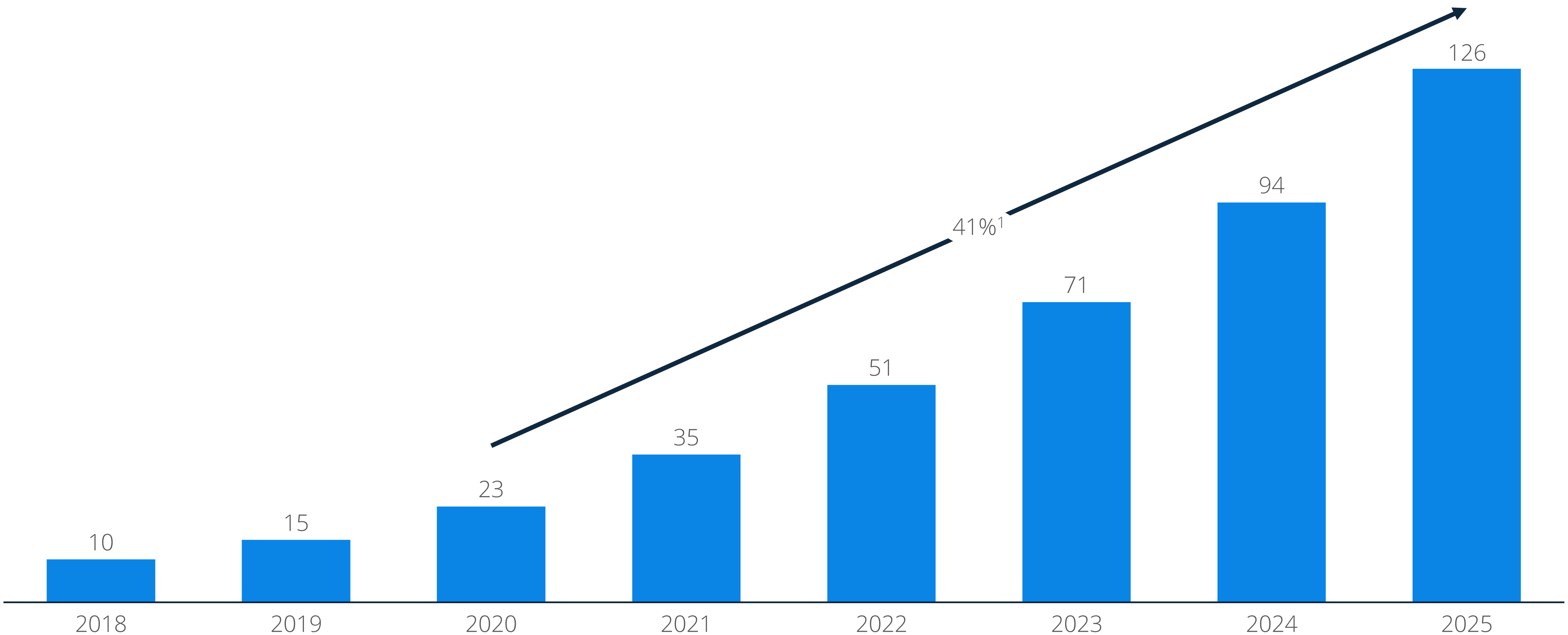
Exemplary impacts of robotic process automation (RPA) application on repetitive tasks



1: Projected savings of FTE hours through RPA application on repetitive tasks based on a 40-hour work week
Sources: KPMG, Gartner, Infosys

The AI market is expected to grow to US$126bn in 2025 with a CAGR[1] of 41% in 2020-2025

Global artificial intelligence revenue forecast in billion US$[2]

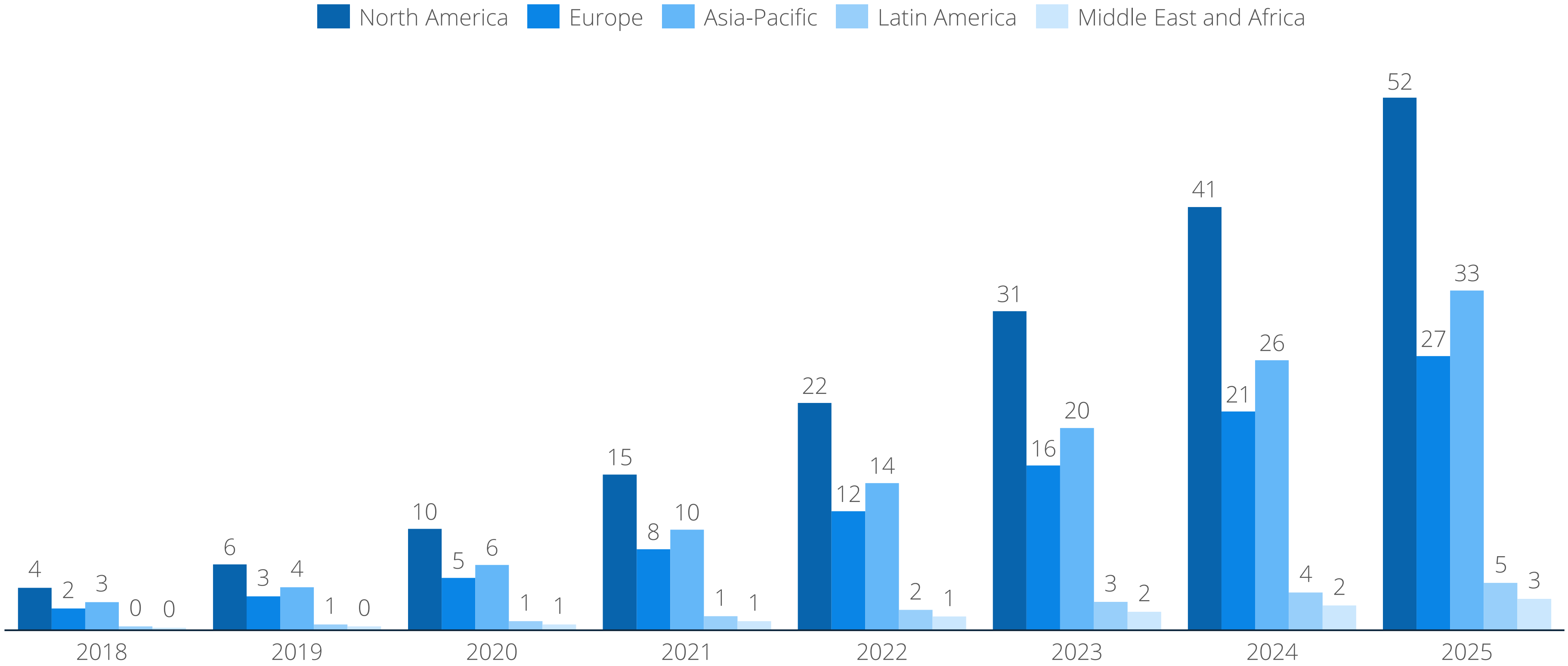


1: CAGR: Compound Annual Growth Rate/average growth rate per year
2: AI is a branch of computer science that deals with building smart machines that can perform tasks typically requiring human intelligence and includes the required software and services
Sources: Tractica, as of March 2020

statista

North America is the largest market for AI software, followed by Asia-Pacific and Europe

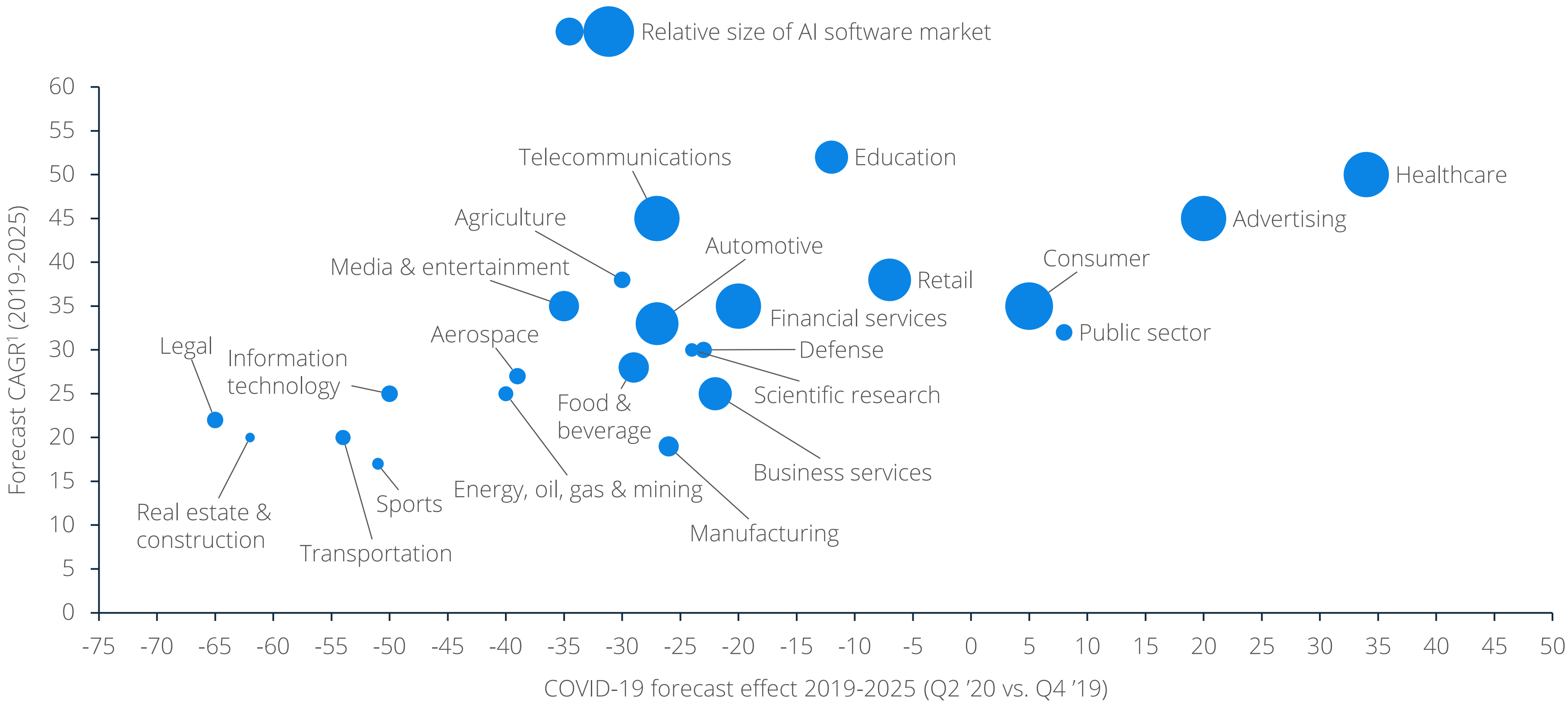
Regional AI software market revenue in billion US$



Sources: learnbonds.com

AI software revenue is impacted by COVID-19 with legal industry most severe growth decline

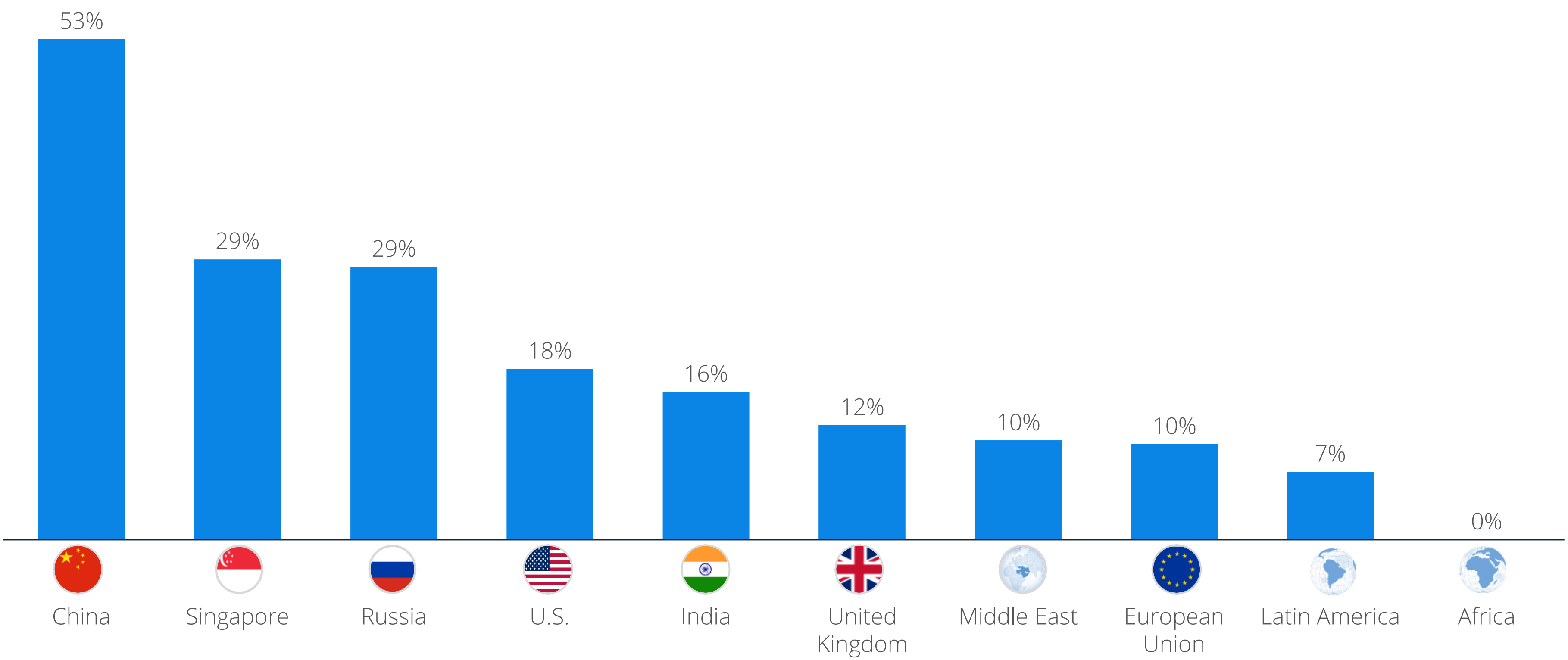
Global AI software revenue by industry: COVID-19 impact vs. 2019-2025 CAGR[1]



1: CAGR: Compound Annual Growth Rate/average growth rate per year
Sources: Tractica, Omdia.com

AI growth is fueled by continuous innovation with China leading the way

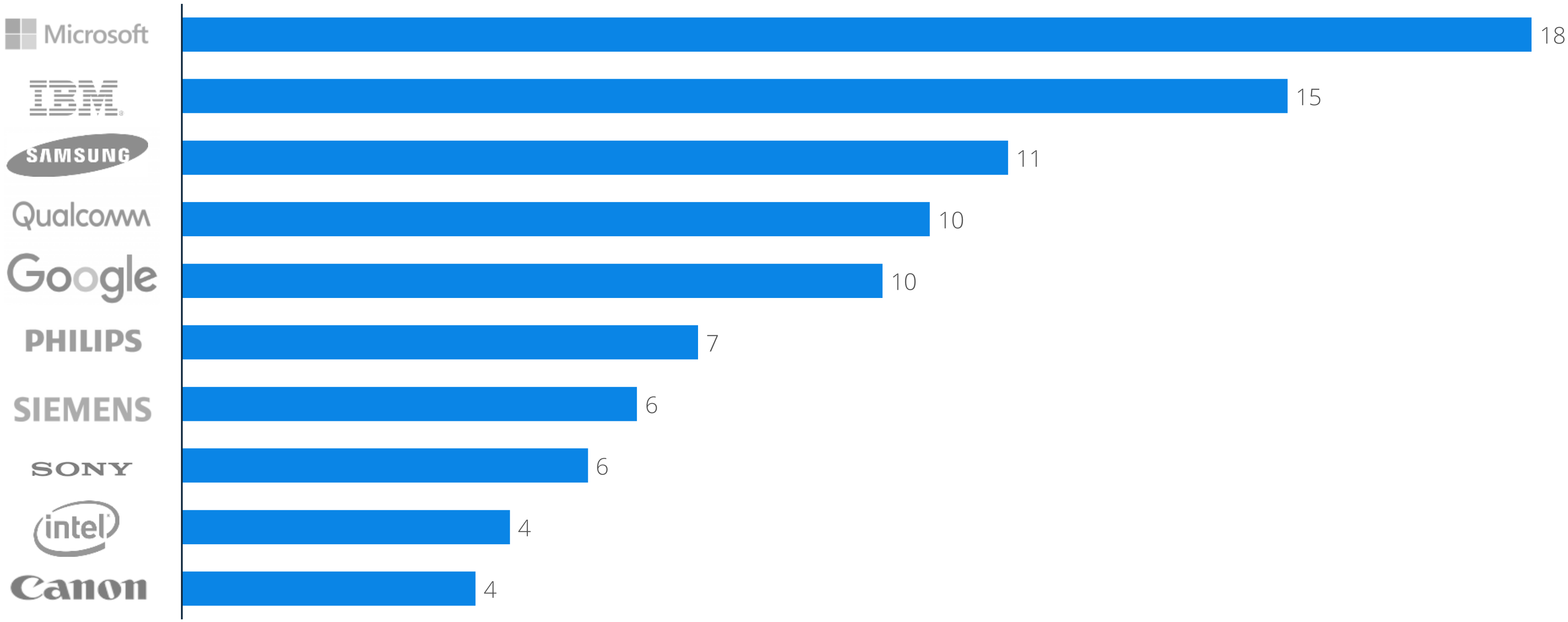
Expert estimation in the field of most impactful countries in AI innovation in the next 2-5 years[1]



1: Survey conducted by Atlantic Council's GeoTech Center including more than 100 technology experts to record their expectations about the impact of COVID-19 on innovation in five key fields: the future of work, data and AI, trust and supply chains, space commercialization, and health and medicine
Sources: atlanticcouncil.org

Number of patent applications positions Microsoft as market leader, followed by IBM and Samsung

Number of AI patent applications globally in thousands



Sources: IDC, IPlytics GmbH, as of January 2019

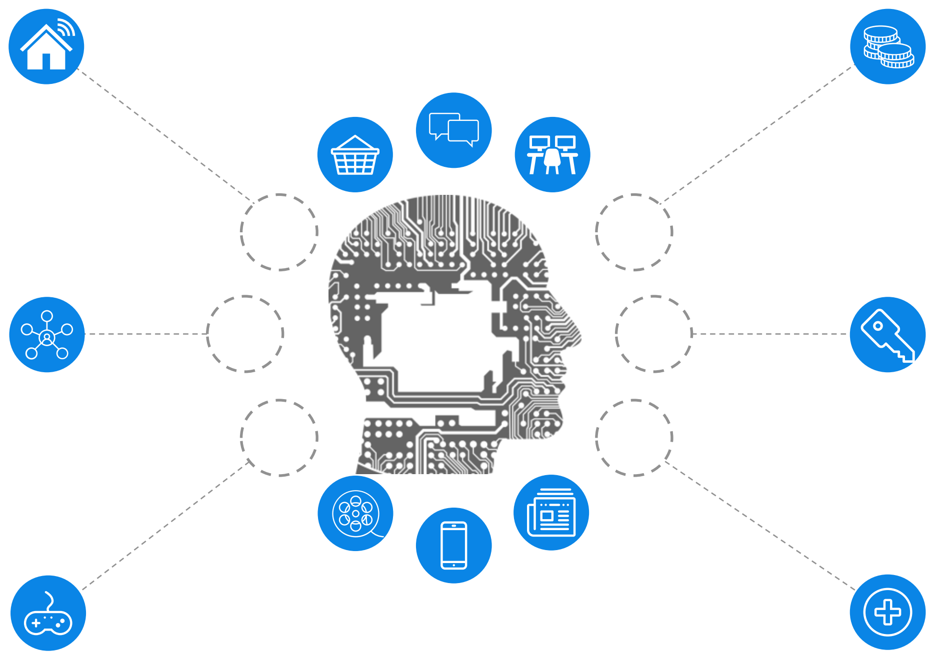
Continuous extension of AI market is driven by high applicability in all major areas of life

Exemplary use cases for AI

Smart home
- Personal assistants
- Automatic goods ordering
- Home security & convenience

Social networks
- Photo recognition
- Newsfeed personalization
- Augmented reality filters

Gaming
- Thought-controlled gaming
- Gesture control
- Facial recognition avatars



Banking & personal finance
- Fraud protection
- Client segmentation
- Portfolio rebalancing

Cybersecurity
- Incident detection
- Incident response

Healthcare
- Autonomous surgical robots
- Automatic disease diagnosis
- Personalized treatments

Sources: Chuntha

The 5G ecosystem comprises a vast variety of market participants and business models

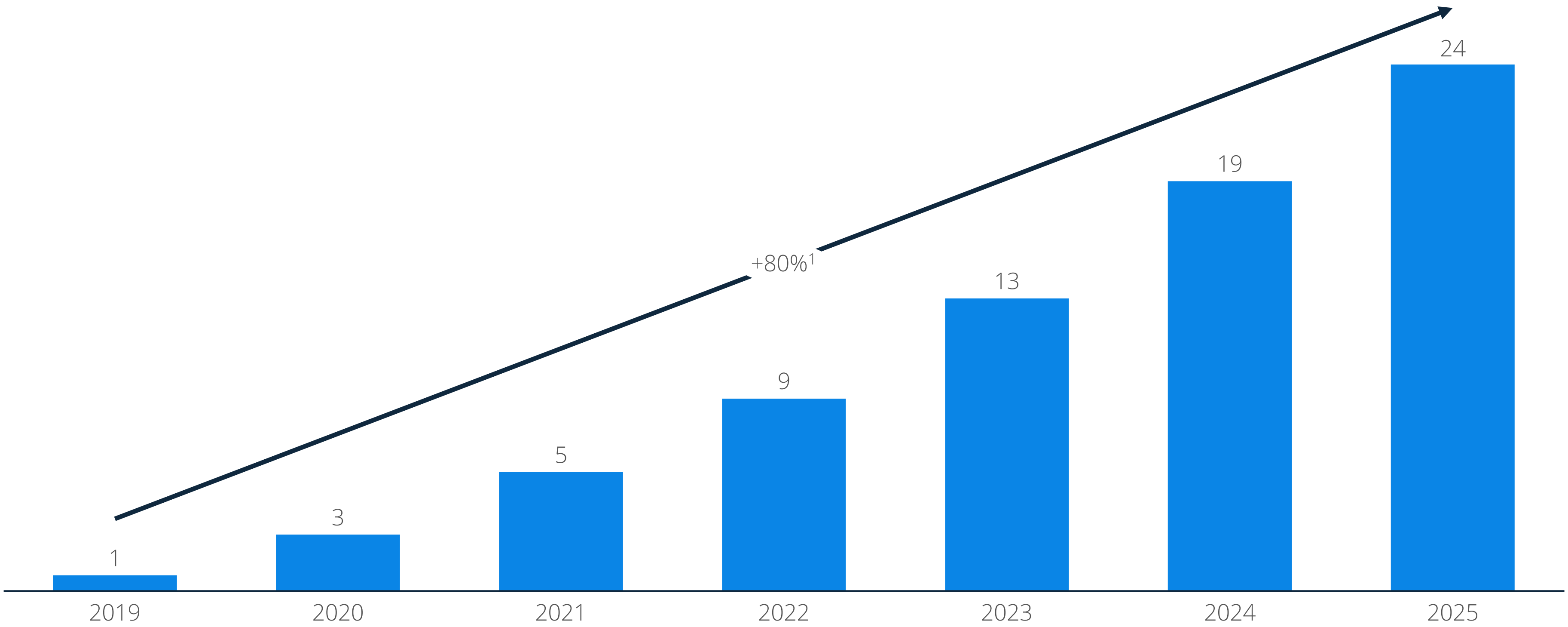
5G market ecosystem

5G phones	5G tower, small cells	5G management & orchestration	5G (new) radio access	5G voice & data processing (vEPC[1])	Cloud service provider
Apple, Mi, SAMSUNG, HUAWEI, motorola	CORNING, ip.access, Uniti, AT&T, cellnex, zinwave	blueplanet, infinera, cisco, ADVA, Hewlett Packard Enterprise, amdo	altran, Airspan, NEC, ALTIOSTAR, Comba, Qualcomm	ATHONET, kaloom, ZTE, Quortus, NOKIA, SAMSUNG	aws, Microsoft Azure, Google Cloud, IBM Cloud, LG, Alibaba Cloud, Tencent Cloud
5G testing	**5G transport**	**5G network slicing**	**5G OSS/BSS[2]**	**5G laptops**	**5G silicon, chip, device manufacturers**
Spirent, EXFO, infovista, netrounds, Anritsu, KEYSIGHT	ciena, JUNIPER, DRIVENETS, VOLTA Networks, cradlepoint, MICROCHIP	ENEA, ADVA, kaloom, ETIYA, NOKIA, SAMSUNG	cerillion, dgit, HANSEN TECHNOLOGIES, Enghouse Networks, OPENET	DELL, hp, Lenovo	AMD, arm, intel, ANALOG DEVICES, ERIDAN, NVIDIA
5G open-source projects	**5G assurance**	**Network control (SD-WAN[3])**	**5G system integrators**	**Security (SASE[4])**	**5G security**
OPEN AIR INTERFACE, ONF, OPNFV	ACCEDIAN, mycom OSI, EMPIRIX, TEOCO, SevOne, SANDVINE	Meraki, infovista, viptela, flexiWAN, silver peak	accenture, Capgemini, HCL, Deloitte., dimension data, BearingPoint	Akamai, McAfee SECURE, Forcepoint, vmware, netskope, paloalto	A10, digicert, CLOUDFLARE, allot, NetNumber, TREND MICRO

1: Virtual Evolved Packet Core 2: Operational & busines support systems 3: Software Defined Wide Area Network 4: Secure Access Service Edge
Sources: Teck nexus

The 5G chipset market is expected to grow to US$24bn in 2025 with a CAGR[1] of 80%

Global 5G chipset revenue forecast in billion US$

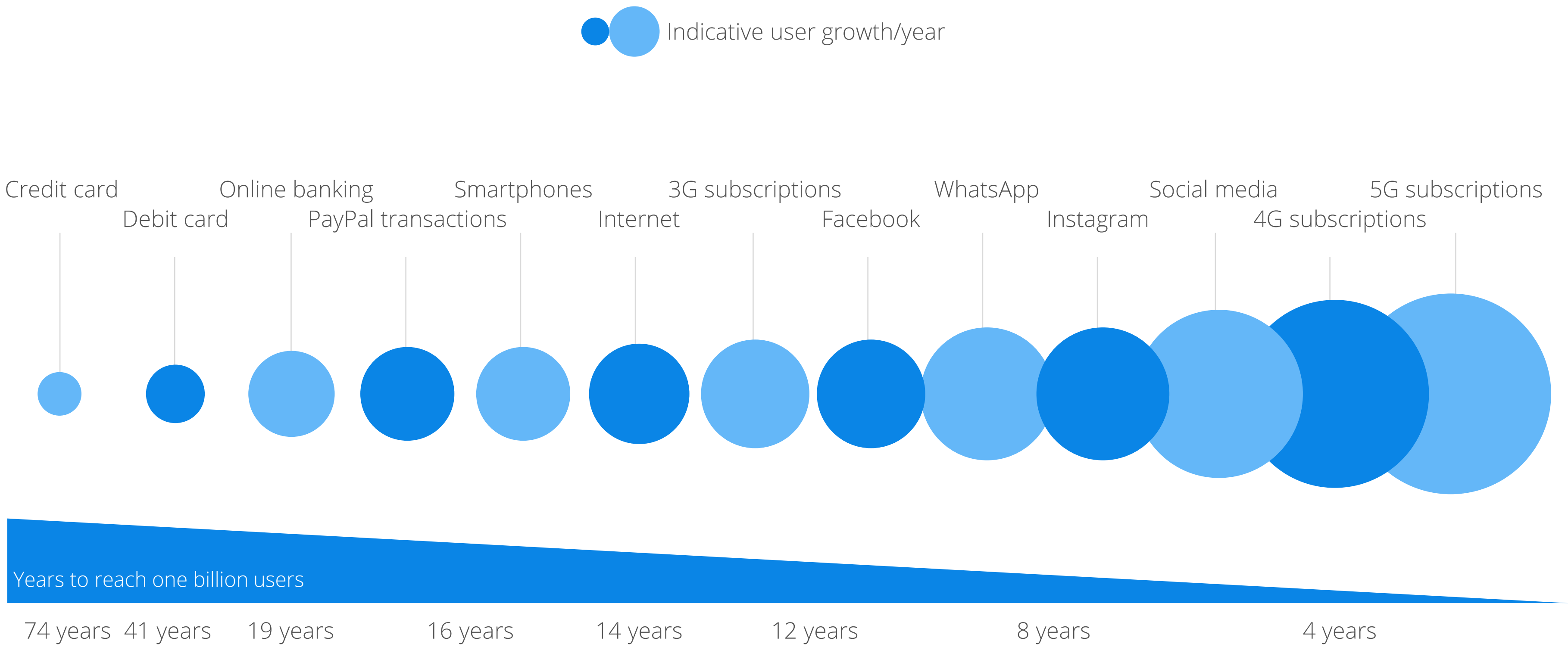


1: CAGR: Compound Annual Growth Rate/average growth rate per year
Sources: CCS Insight, as of June 2020, The Insight Partners

statista

5G users are expected to reach one billion faster than any other technological phenomena

Yearly growth of users and time needed to reach one billion users

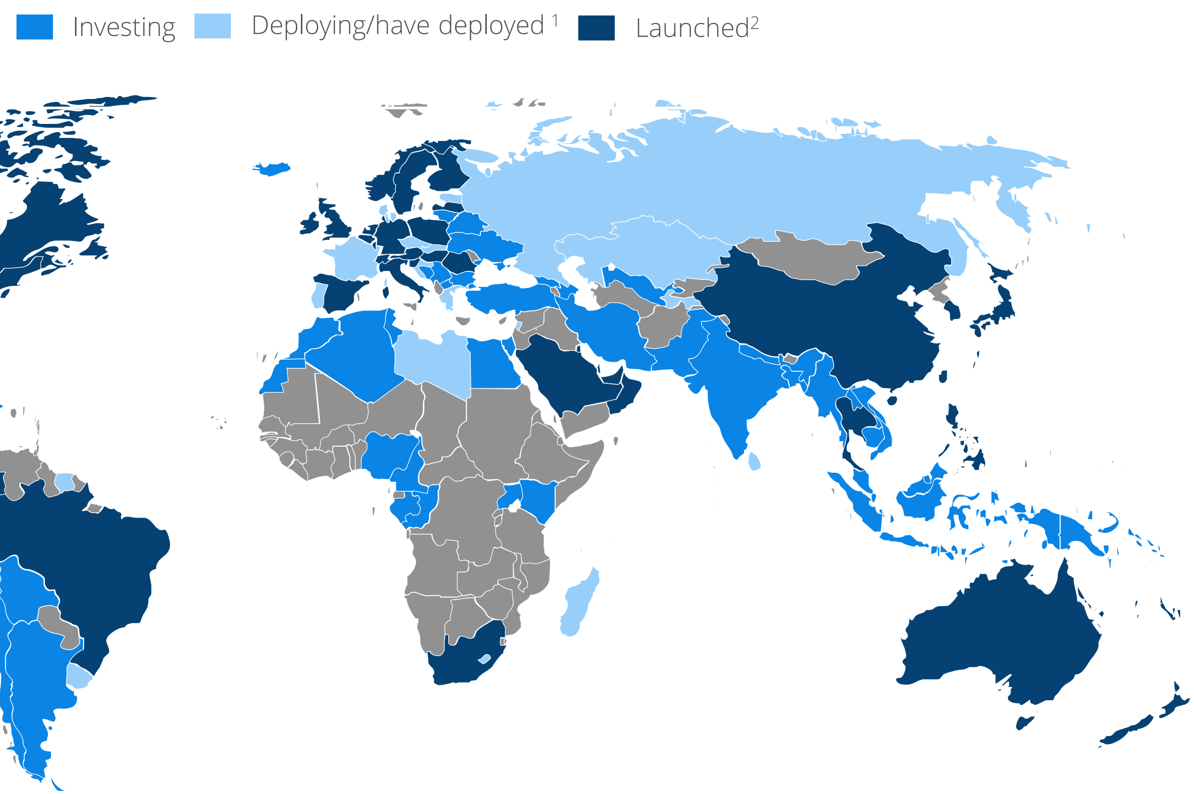


Sources: Statista, eMarketer, Ericsson mobility report, Facebook, GSA, Instagram, ITU, Jefferies & companies, Our world in data, Paypal, Strategy Analytics

statista

The 5G expansion has already reached 129 countries with different development stages

Global 5G operator investments

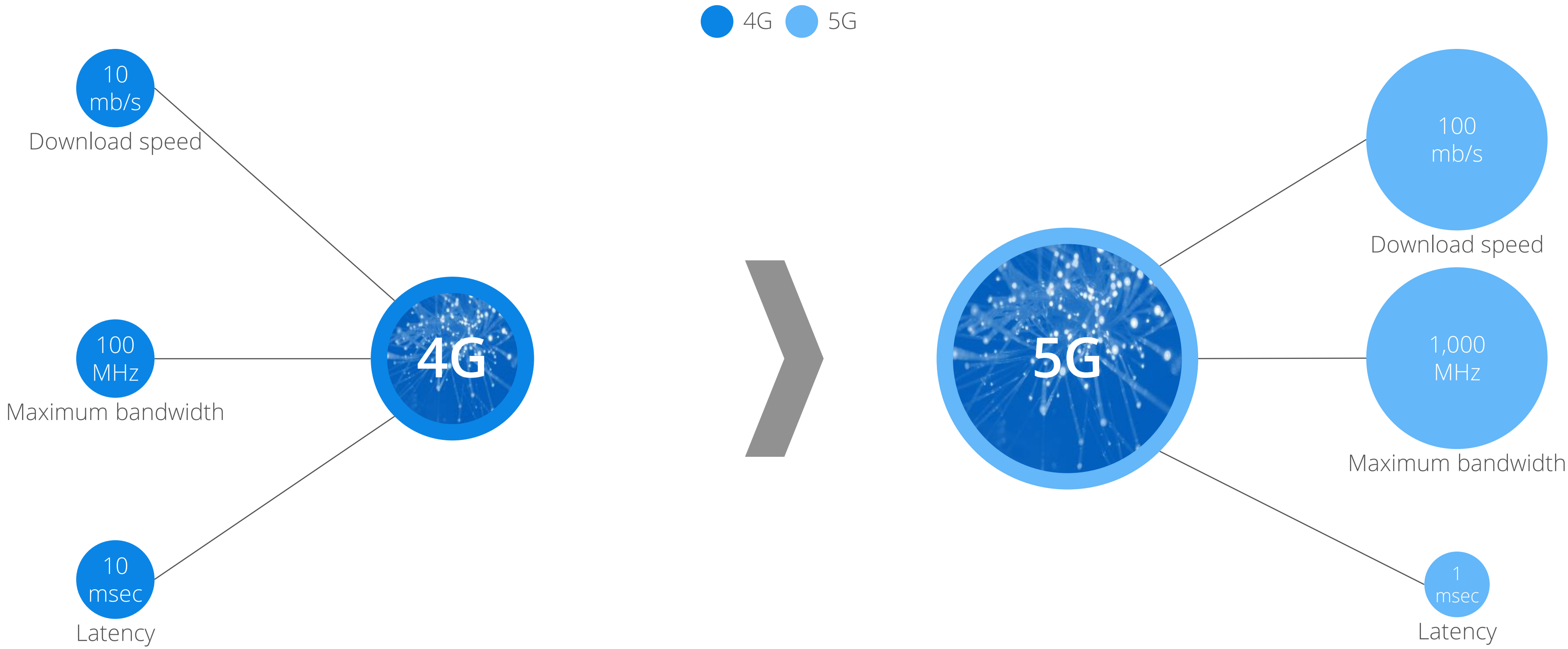


1: The operator has started actual construction/installation/deployment and maybe plotting the network in some locations 2: Commercial services are generally available to customers over a live 5G network
Sources: GSA, GSMA, as of August 2020

statista

The revolutionary character of 5G drives its growth: a turning point for all performance specs

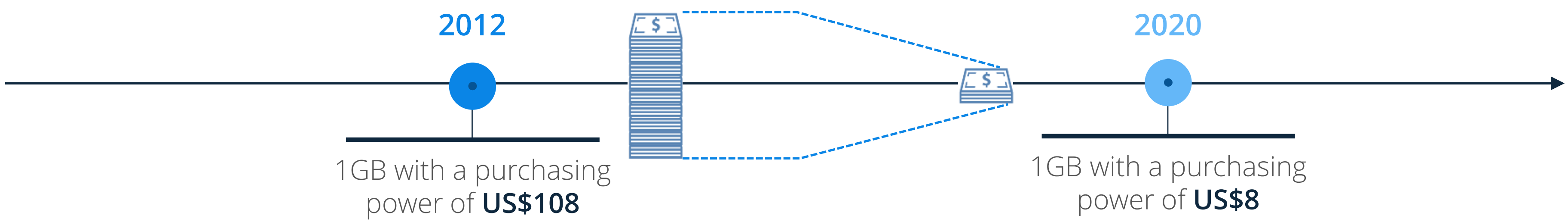
Comparison of key performance specifications of 4G and 5G networks



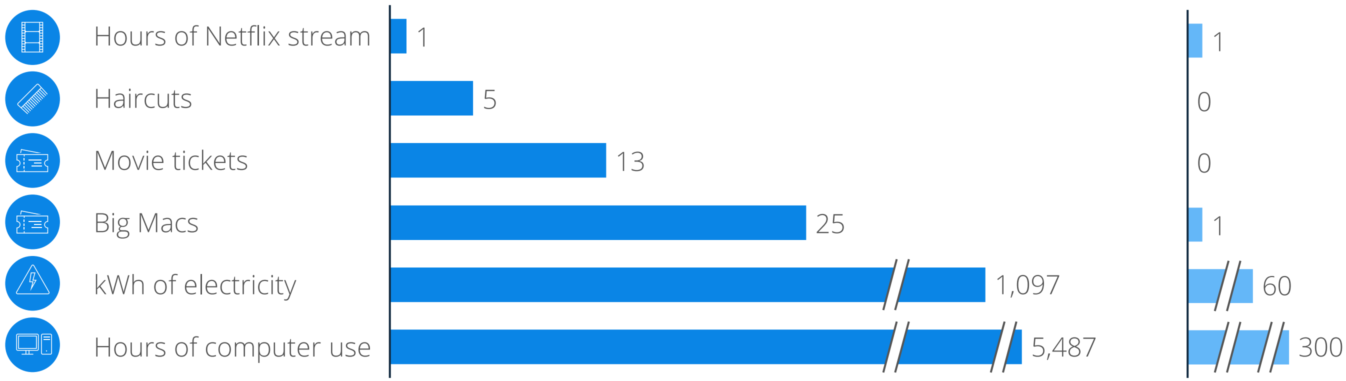
Sources: Android Authority, as of June 2020

Mobile data prices have significantly decreased, from US$108 in 2012 to US$8 in 2020 per 1GB

Change in the price of 1GB mobile data



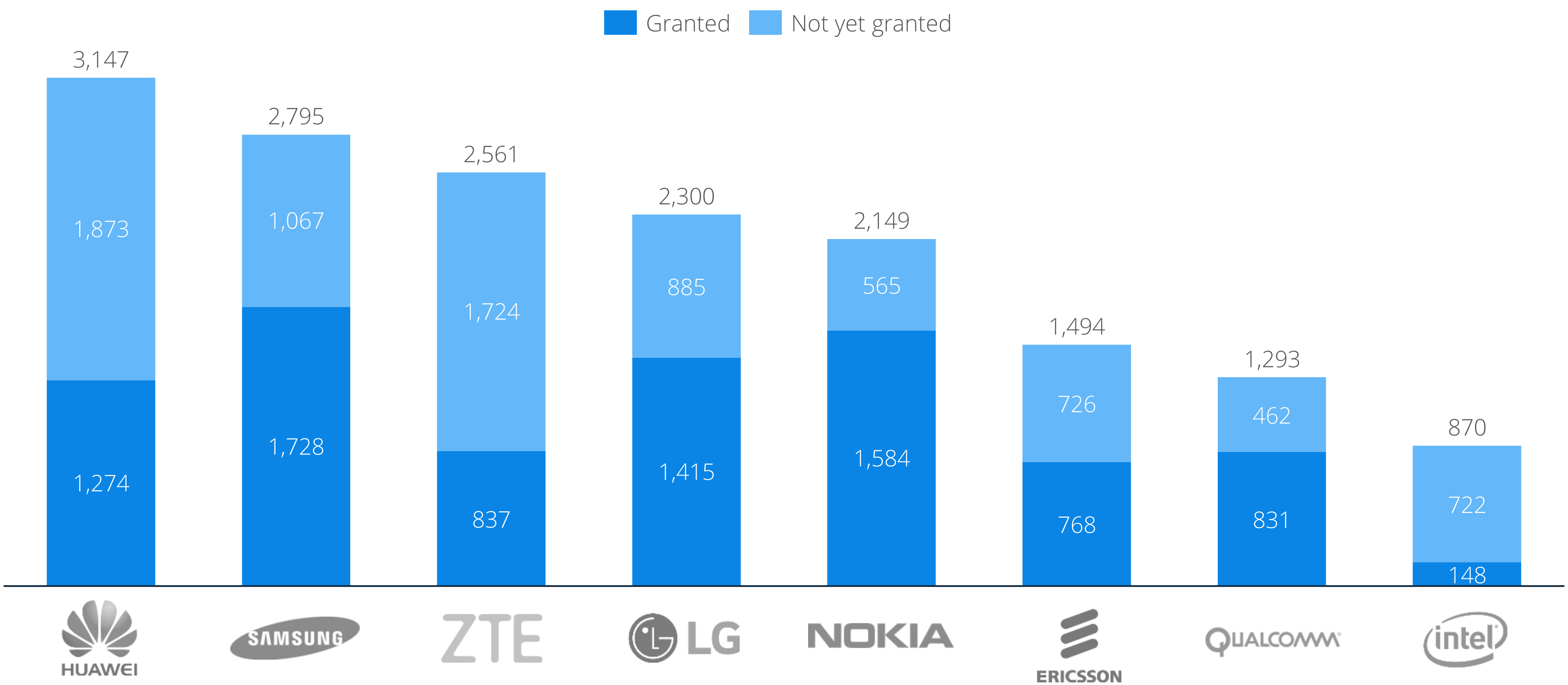
What you can buy for... ... US$108 in 2012 ... US$8 in 2020



1: The change in CPI is calculated from 2012-2019, as the 2020 numbers were not yet reported by WB, Base year 2010. 5 countries are taken as examples, bearing in mind that positive inflation is valid in most of countries in the world
Sources: Cable UK, Choose energy, Economist, EIA, Expatistan, ITU, MPAA, Statista, Time, USA Today, World Bank, Wholesale Solar

Key players in the 5G market are Huawei, Samsung, ZTE, LG, and Nokia

Number of patents of leading 5G players



Sources: Iplytics, as of February 2020

The IoT ecosystem comprises a vast variety of market participants and business models

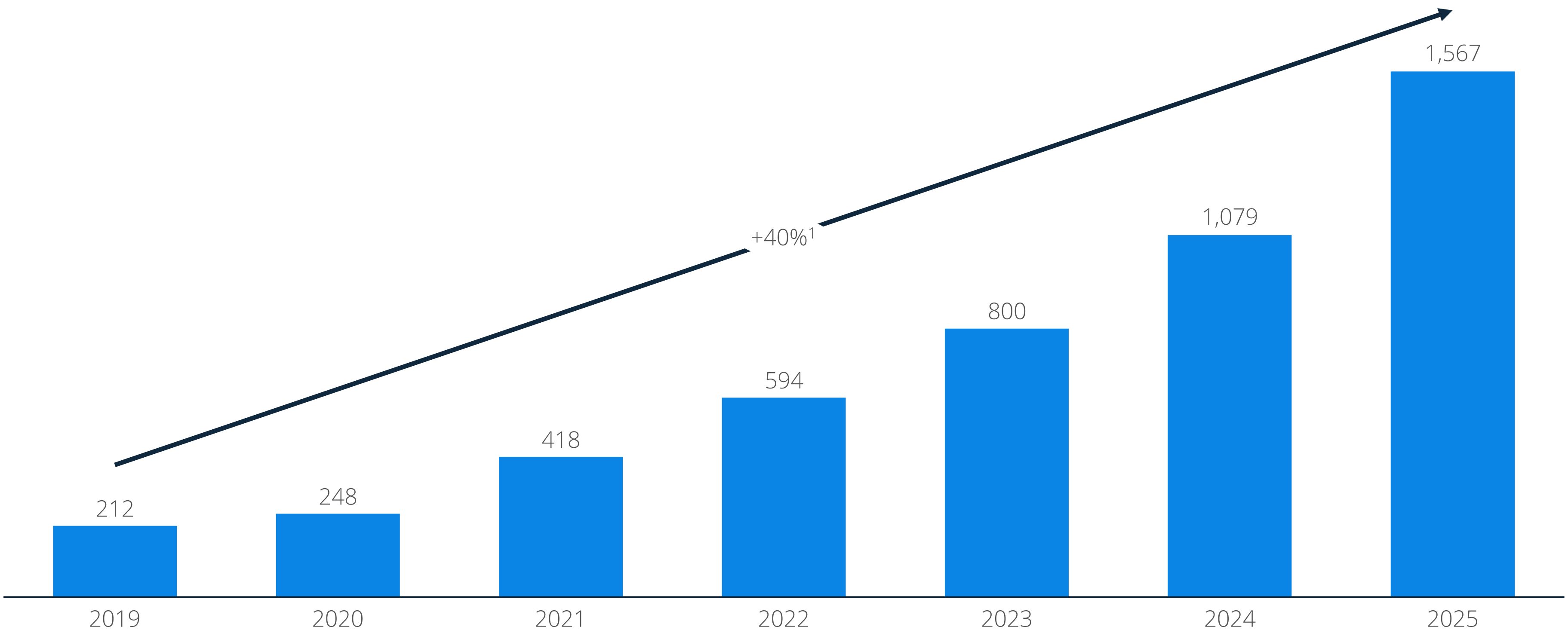
IoT market ecosystem

Smart modules	Smart objects	Connectivity/ carrier	Platform	System integration	Applications
▪ SIM card ▪ Sensors ▪ Chips	▪ Cameras ▪ Meters ▪ Cars	▪ Network ▪ Connectivity ▪ Availability	▪ IoT enabling ▪ Integration ▪ Analysis	▪ Interfaces ▪ Hardware ▪ Backend	▪ Verticals ▪ Solutions ▪ Support
intel gemalto security to be free Qualcomm zigbee ARM NOVOTECH CISCO Telit libelium Digi MultiTech Systems RaspberryPi ClearConnex RFM CORPORATION CalAmp	SAMSUNG Landis+Gyr BOSCH GE Audi Itron fitbit Honeywell SIEMENS PHILIPS GM Johnson Controls	Telefónica AT&T vodafone verizon orange Sprint O2 T-Mobile SingTel ROGERS BT airtel TELUS	CISCO Microsoft IBM Google Axeda wyless HomeKit SIERRA WIRELESS Digi ILS technology xively gemalto security to be free WIRELESS LOGIC ThingWorx ORACLE Jasper wireless	Infosys ptc HCL ERICSSON IBM vates accenture Microsoft FUJITSU intel DELL Ayla Networks SAMSUNG WIND arrayent	adidas micoach Honeywell Building Solutions salesforce vidavo OnStar Red Bend Software HUGHES TELEMATICS WirelessCar mbrace KORE OCTO TELENAV Telogis

Note: Depicted key players may be active in different parts of the IoT ecosystem given the vast range of business models
Sources: Recap-Project, IoT Evolution World, Broadband World Forum

The IoT market is expected to grow to US$1.6bn in 2025 with a CAGR[1] of 40% in 2019-2025

Global IoT revenue forecast in billion US$[2]

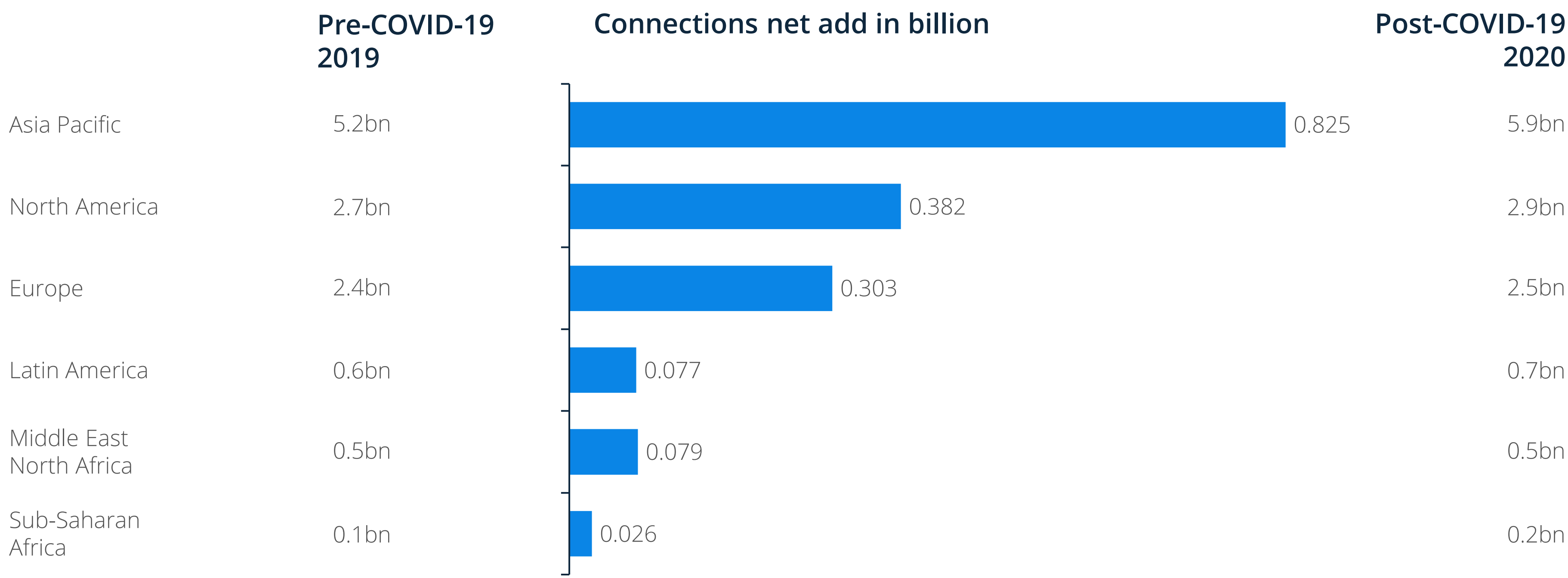


1: CAGR: Compound Annual Growth Rate/average growth rate per year
2: Shown here: End-user spending. IoT refers to interconnected equipment and products autonomously communicating with each other along the entire value chain. Includes handheld devices, home appliances, industrial internet, connected cities, and digital virtual assistants
Sources: Finch Capital, IoT Analytics, Statista

statista

Strongest increase of IoT connections despite COVID-19 is in Asia Pacific, followed by North America

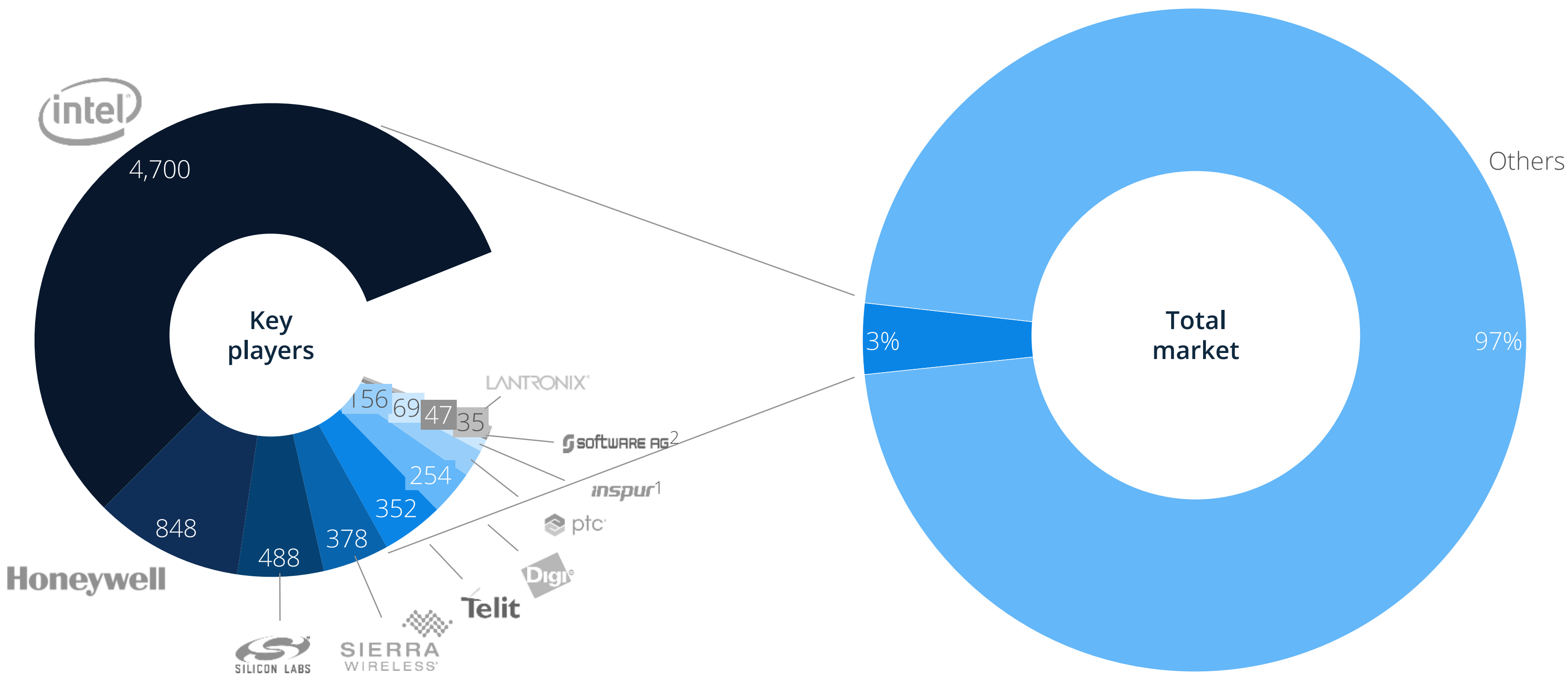
IoT connections pre-COVID-19 vs. post-COVID-19



Sources: GSMA Intelligence, as of May 2020

Key players in highly fragmented IoT include Intel, Honeywell, Silicon Labs, and Sierra Wireles

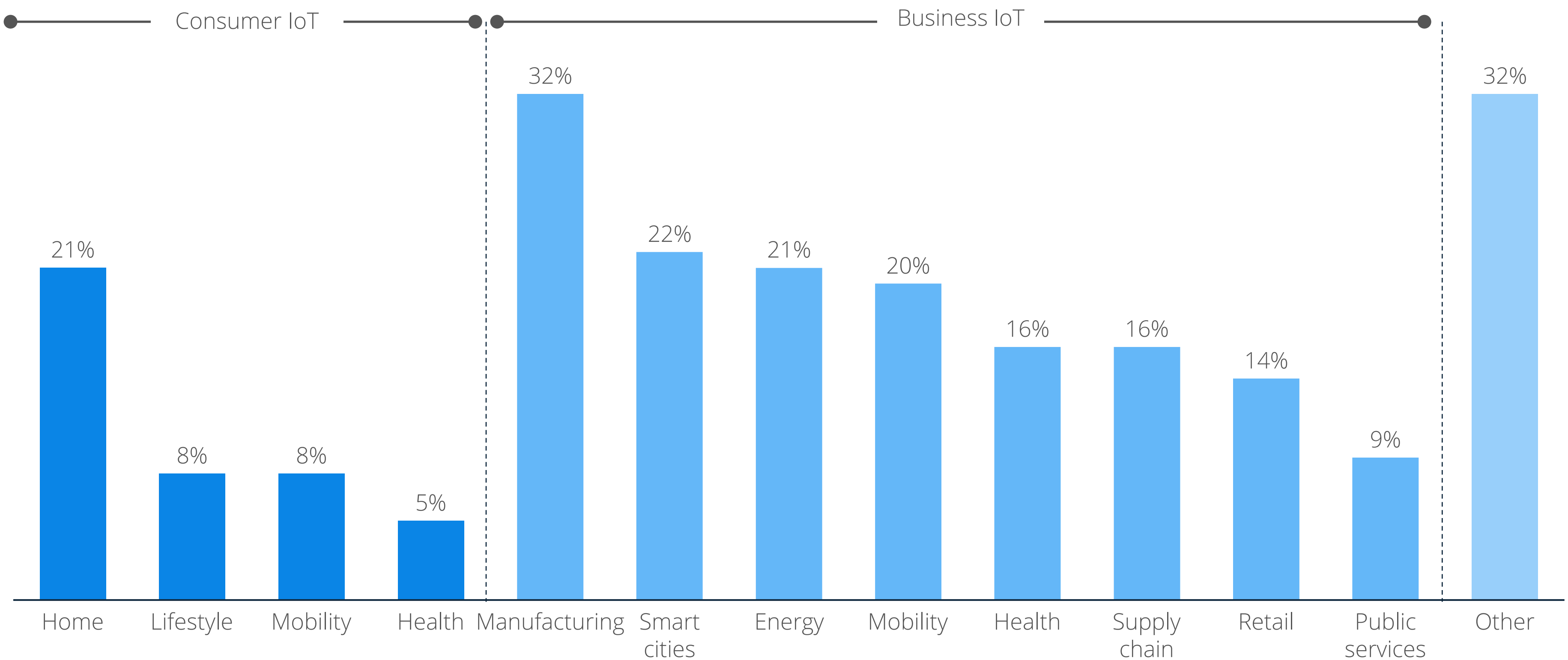
Global market shares of key players in IoT market in million US$ in 2019



1: Converted from HKD to US$, exchange rate: HKD-US$ 0.12841, as of December 31, 2019 2: Converted from € to US$, exchange rate: €-US$ 1.11986, as of December 31, 2019
Sources: Company annual report 2017, 2018, and 2019

IoT platforms focus on business rather than consumer applications

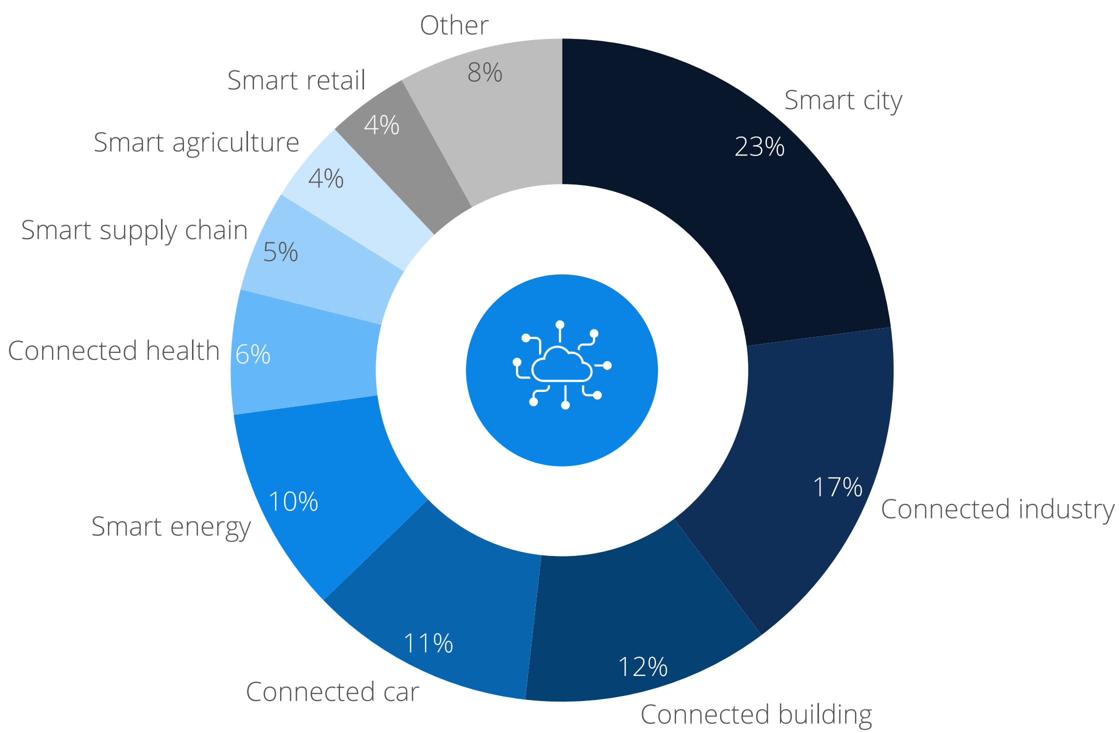
Global percentage of IoT vendors with product offering in each segment[1]



1: Sum larger than 100% due to vendors having offerings in more than one segment
Sources: IoT Analytics

Most IoT projects are conducted in the smart city and connected industry segments

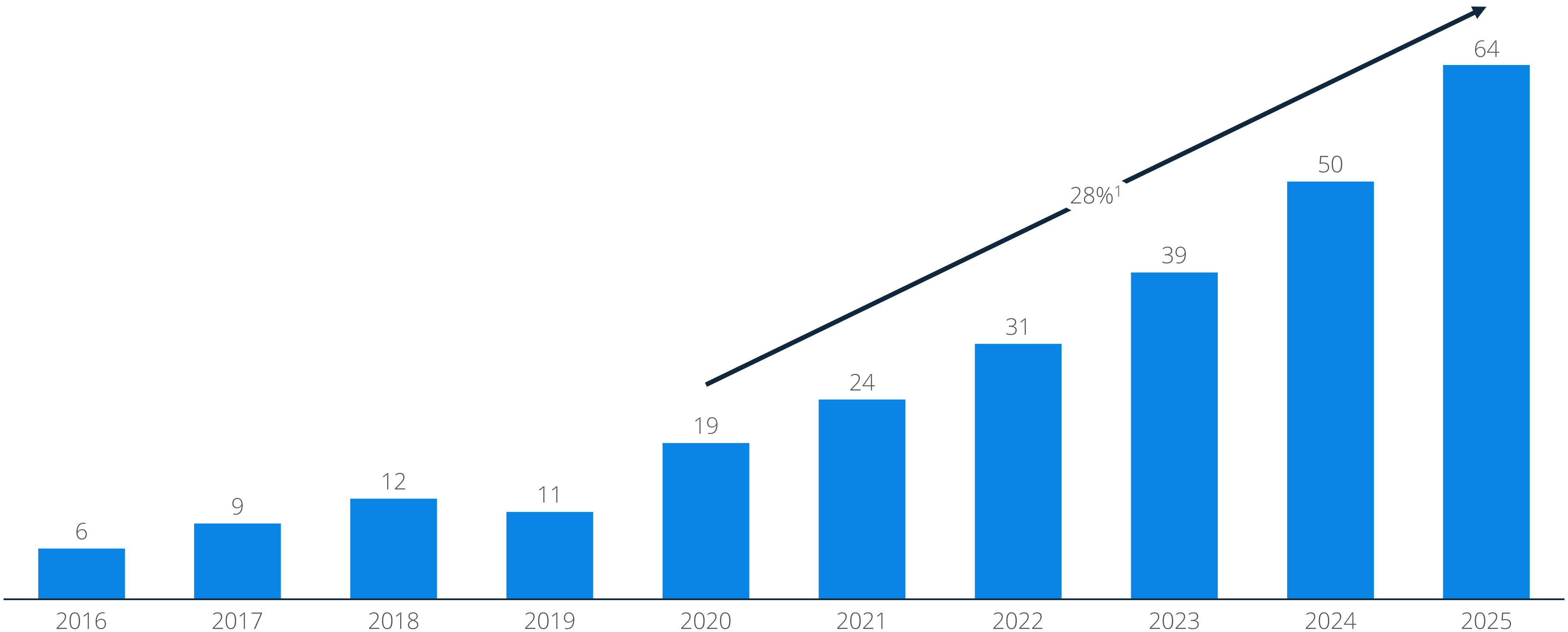
Global share of IoT projects per segment



Note: Number of projects conducted per industries is not an indicator for IoT revenue per industry
Sources: IoT Analytics, as of 2018

The AR/VR market is expected to grow to US$64bn in 2025 with a CAGR[1] of 28% from 2020-2025

Global AR/VR revenue forecast in billion US$[2]

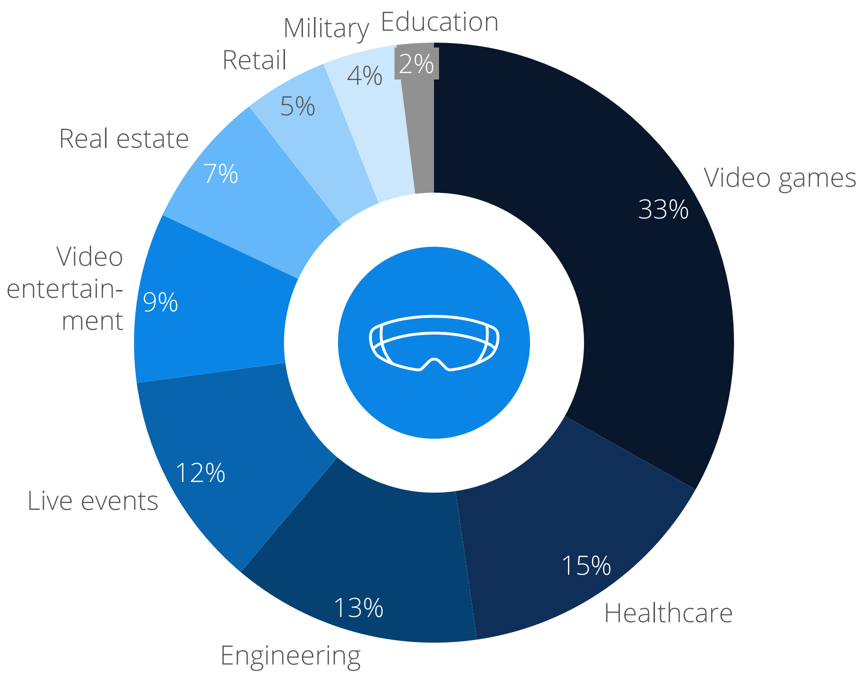


1: CAGR: Compound Annual Growth Rate/average growth rate per year 2: Virtual reality (VR) is a computer-generated simulation of a real-life environment that enables the user to experience a particular situation firsthand. Augmented reality (AR) on the other hand is a computer simulation that not only creates a virtual environment mirroring the actual one but also adds virtual enhancements on top of it, in order to make the environment more interactive for the user

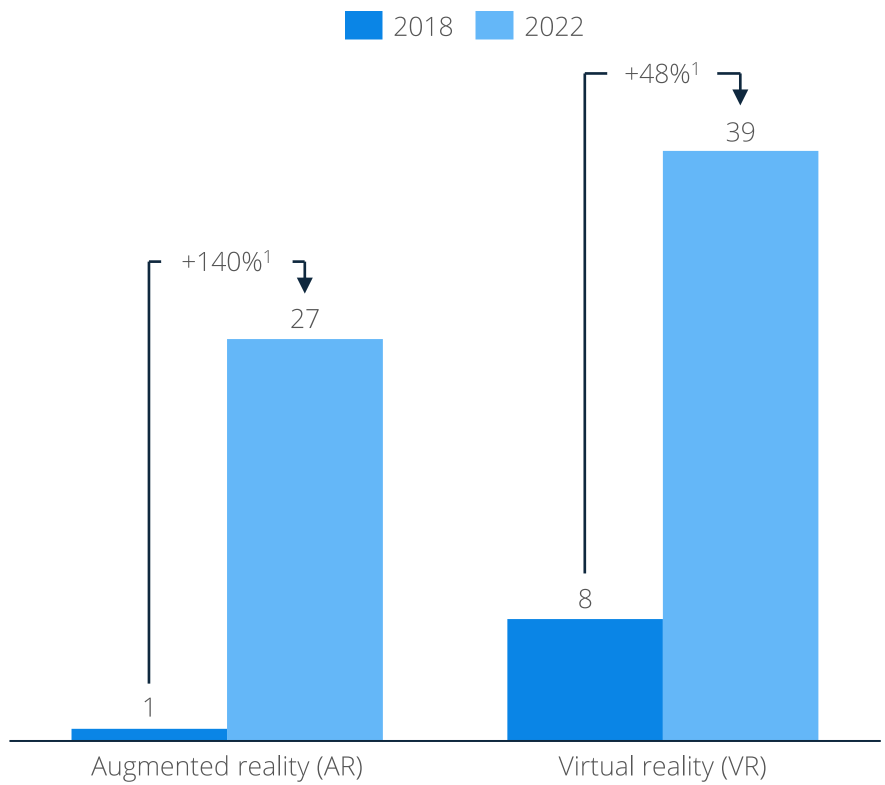
Sources: IDC, MarketsandMarkets

Video games expected to account for largest share of AR/VR use cases in 2025

Estimated use case shares of AR/VR software in 2025



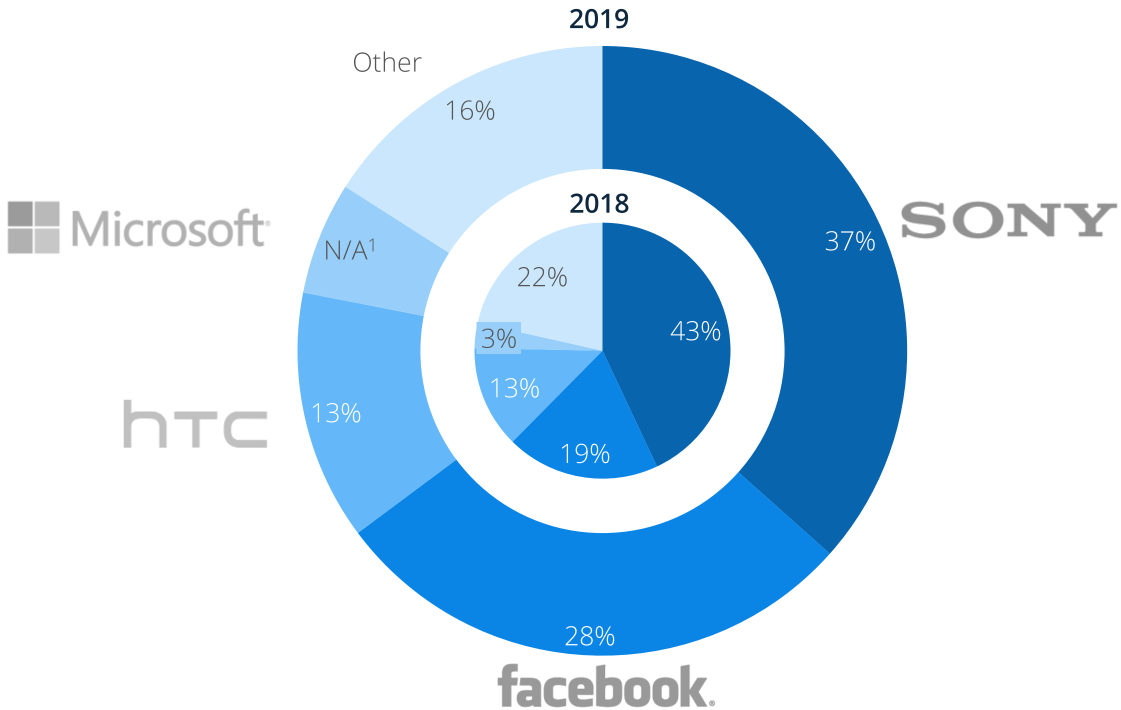
Estimated global headset shipments in millions



1: CAGR: Compound Annual Growth Rate/average growth rate per year
Source: Goldman Sachs, IDC, as of June 2018

Key players in AR/VR are Sony, Facebook, and htc, with Facebook challenging Sony as incumbent

Global market shares of key players in AR/VR market



1: No data available but expected to be growing and highly relevant player in the market
Sources: TendForce, Statista

The blockchain ecosystem comprises a vast variety of infrastructure and service providers

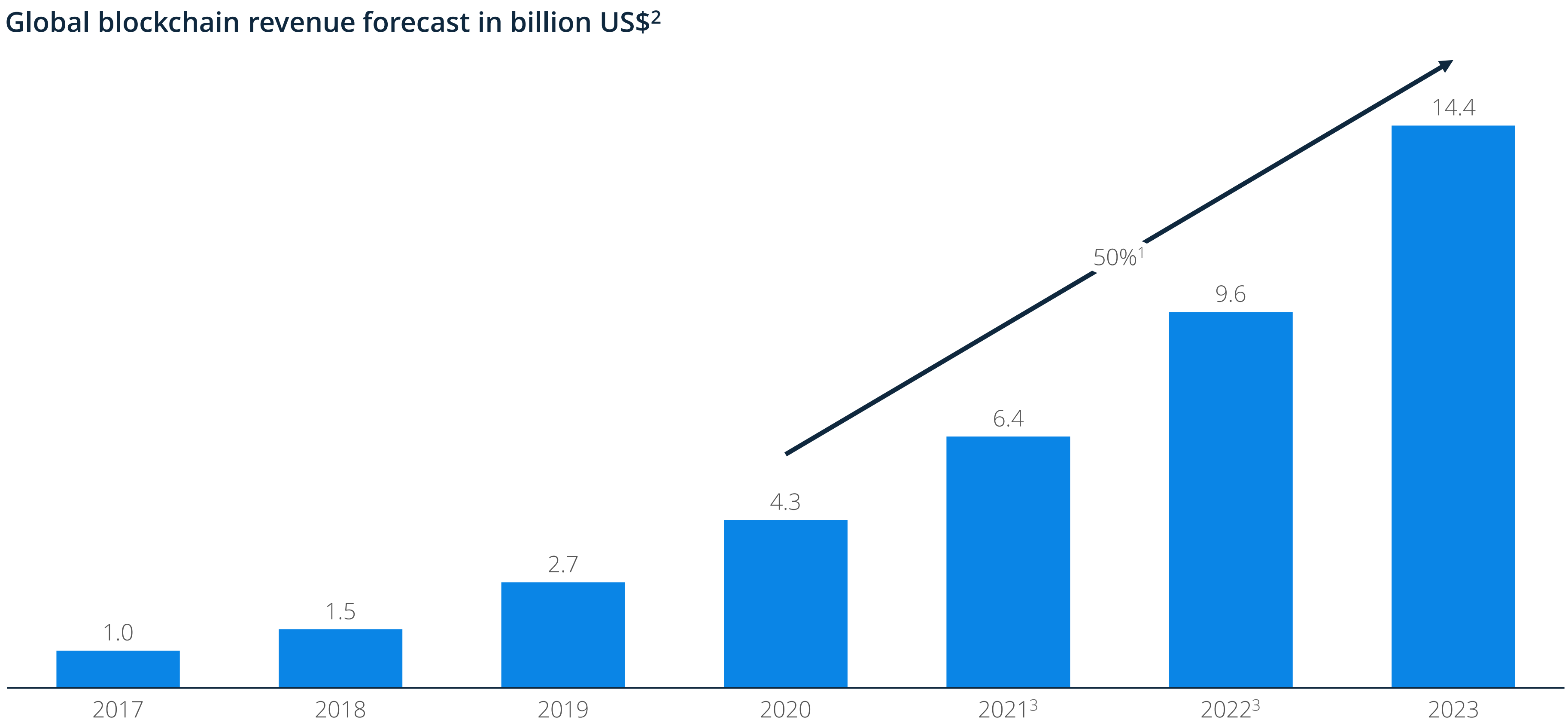
Blockchain market ecosystem

Marketing	Cryptofund	Analysis & ratings	Platform	Payment	Media
Ambisafe AD4TH INSIGHT FOXTAIL MARKETING New Alchemy Priority Token	Verizon Ventures Crypto20 TradingView POLLINATE CAPITAL NODE CAPITAL 节点资本	CRYPTO PANIC loom CHAINALYSIS TradingView Deloitte.	Lisk TRON ZENGOLD tether bitUSD	BITCOINGOLD stellar ripple GIFTO by Uplive bitcoin	finector cointime coindesk® TOKENPOST Forbes

Exchange & trading	Networking	Token sale	Mining	Utilities	
BINANCE TRON HitBTC GDAX GEMINI	BLOCKCHAIN INSTITUTE CLASS CENTRAL	CME Group ICO TRACKER TOKENTOPS SMITH + CROWN	Dwarfpool BTC.com ANTPOOL F2Pool ViaBTC	patientory COSMOCHAIN INSUREUM BYTOM RCHAIN COOPERATIVE oraclize	Bancor synereo SHIPCHAIN friendz

Sources: ad4th Insight Inc.

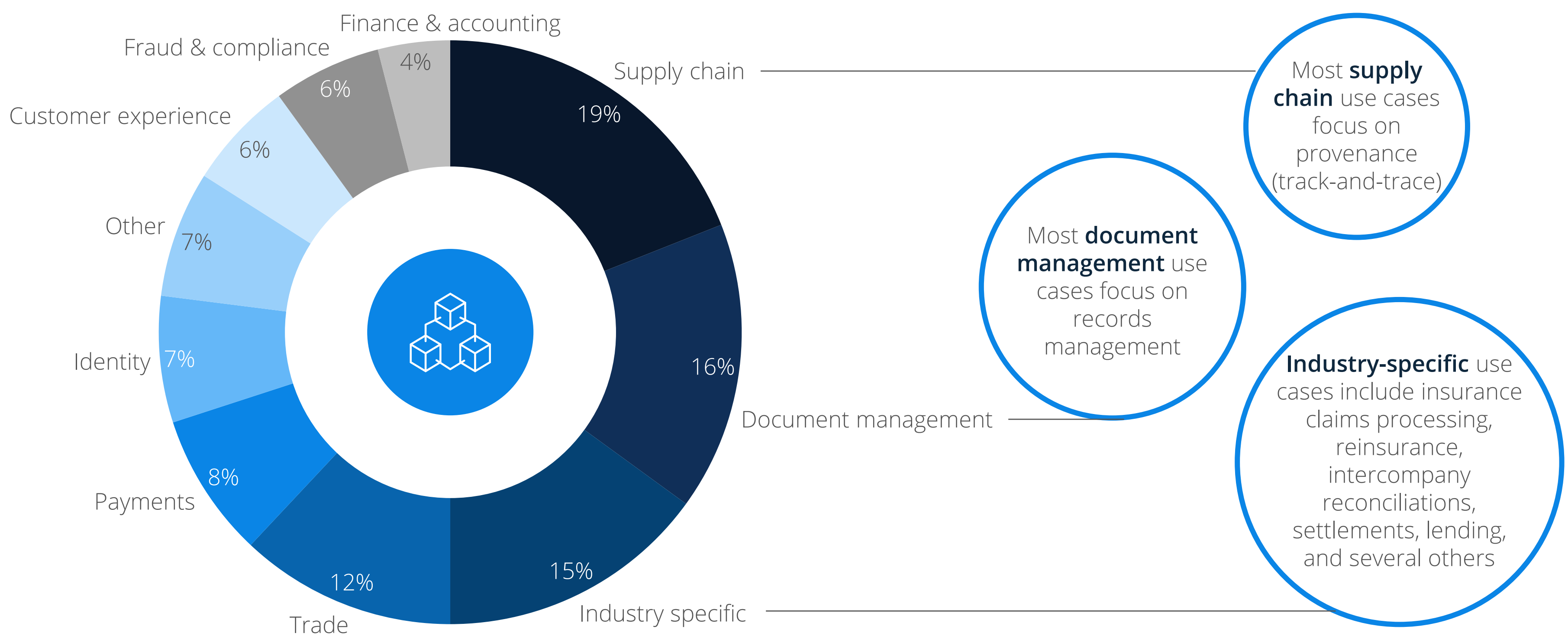
The blockchain market is expected to grow to US$14bn in 2023 with a CAGR[1] of 50% in 2020-2023



1: CAGR: Compound Annual Growth Rate/average growth rate per year 2: Blockchain is a distributed ledger technology that can be used to execute, store, and verify transactions of every kind. It allows parties to make and verify transactions or contracts instantly without the approval of a central authority. It includes cross-border payments and settlements, lot lineage/provenance, trade finance & post trade, asset/goods management, and identity management 3: Data projected considering 2020-2023 CAGR
Sources: IDC, as of June 2020

Most blockchain engagements are in supply chain and document management

Number of blockchain engagements per industry

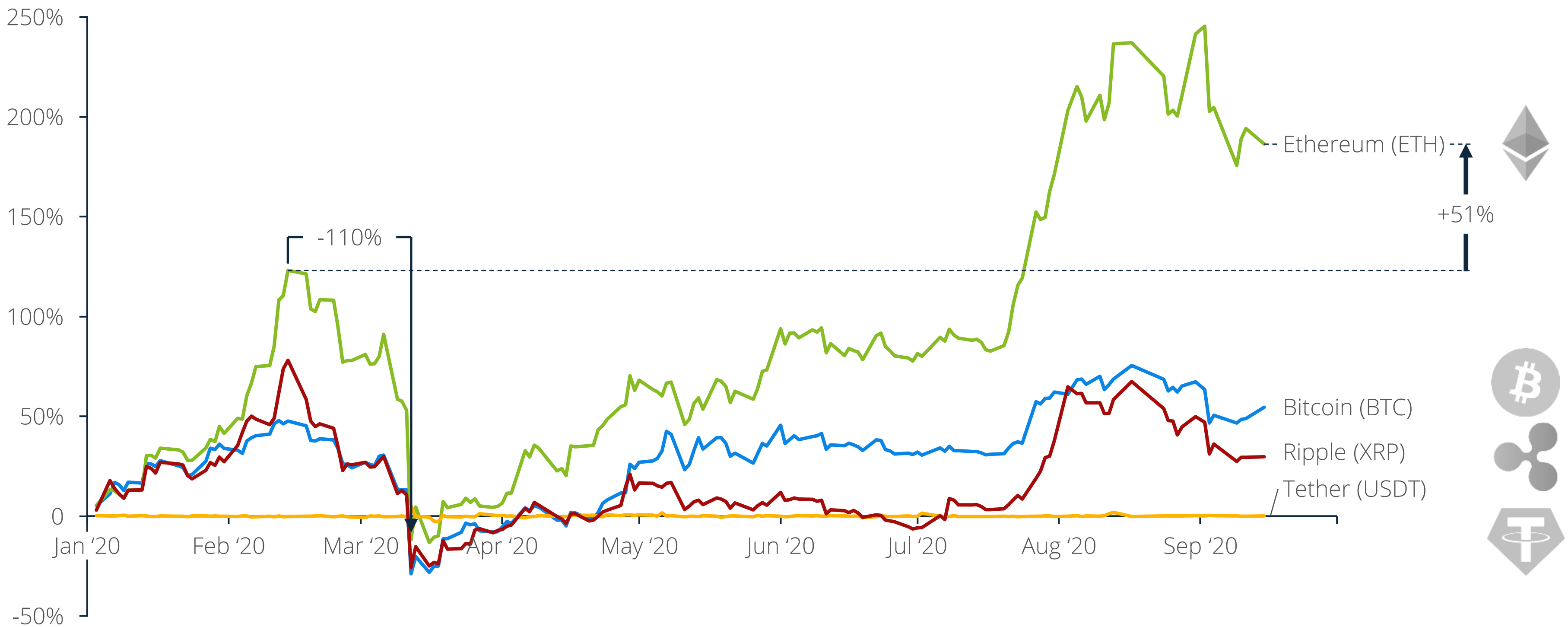


1: n=~640 blockchain engagements across 12 service providers (Accenture, Cognizant, DXC, EY, IBM, Infosys, KPMG, LTI, Mphasis, NTT DATA, TCS, and Wipro)
Sources: HFS Research Ltd, EY, as of April 2020

statista

Almost all cryptocurrencies were down in Mar '20 but recovered by Q4 '20

Year-to-date performance of major cryptocurrencies



Sources: Yahoo Finance, as of September 15, 2020

4 DIGITAL MARKETS

eCommerce

In the last decade, the eCommerce market has evolved from a simple concept of brick-and-mortar retail to a shopping ecosystem that involves multiple devices and store concepts. Many players from both online and offline retail are moving to multi-channel strategies and are continuously reinventing the way we shop online. Expectations are growing rapidly as customers discover more convenience on all levels – be it product customization, mobile-optimized search, quick checkout processes, and/or hassle-free delivery.

The Statista Digital Market Outlook divides the eCommerce market into five product segments: Fashion, Electronics & Media, Toys, Hobby & DIY, Food & Personal Care, and Furniture & Appliances.

In 2020, the global eCommerce market was worth US$2.4 trillion. China was the biggest eCommerce market globally, generating revenues of US$1,116 billion. China's eCommerce market growth is fueled by both the increasing purchasing power of the local population and cross-border eCommerce. With revenues of US$411 billion in 2020, the U.S. constitutes the second biggest eCommerce market, followed by Japan with US$105 billion.

Chinese key market players such as Alibaba Group, JD, and Tencent jointly contribute to the comprehensive eCommerce ecosystem in China – and are increasingly penetrating other promising Asian markets such as Indonesia and India. The Chinese population is tech savvy and mobile-first, and Chinese eCommerce giants are therefore constantly pushing technology forward. They have diversified into literally every sphere that comes in touch with online retail, from payments to logistics. Current developments in China will – to a large extent – define the next decade's global eCommerce.

In the U.S. the biggest three players in the eCommerce market are Amazon, Walmart and Apple eCommerce players. Amazon also dominates the most relevant European eCommerce markets.

Note: More information in the Statista Digital Market Outlook

We have been observing three major trends in the eCommerce market:

The growth of cross-border eCommerce is a hot topic in the Western markets, especially within the EU free trade zone. Geographic proximity and logistics make it possible for sellers to offer attractive shipping times and convenient returns to not only local buyers but to the entire EU population. Cross-border eCommerce is also an opportunity for players from the mature UK, French, and German markets to expand their businesses to all corners of Europe.

eCommerce marketplaces continue to gain momentum. Marketplaces such as eBay and Amazon have a firm grip on the market as they have long become primary product search engines. They enjoy a significant amount of repeat customers, who come back for best prices, transparent quality, and easy returns. We expect marketplaces to become the primary shopping destination for almost all product categories. The exception will be context-rich categories such as luxury goods, interior design, and fashion, where stand-alone shops will have their share of the market.

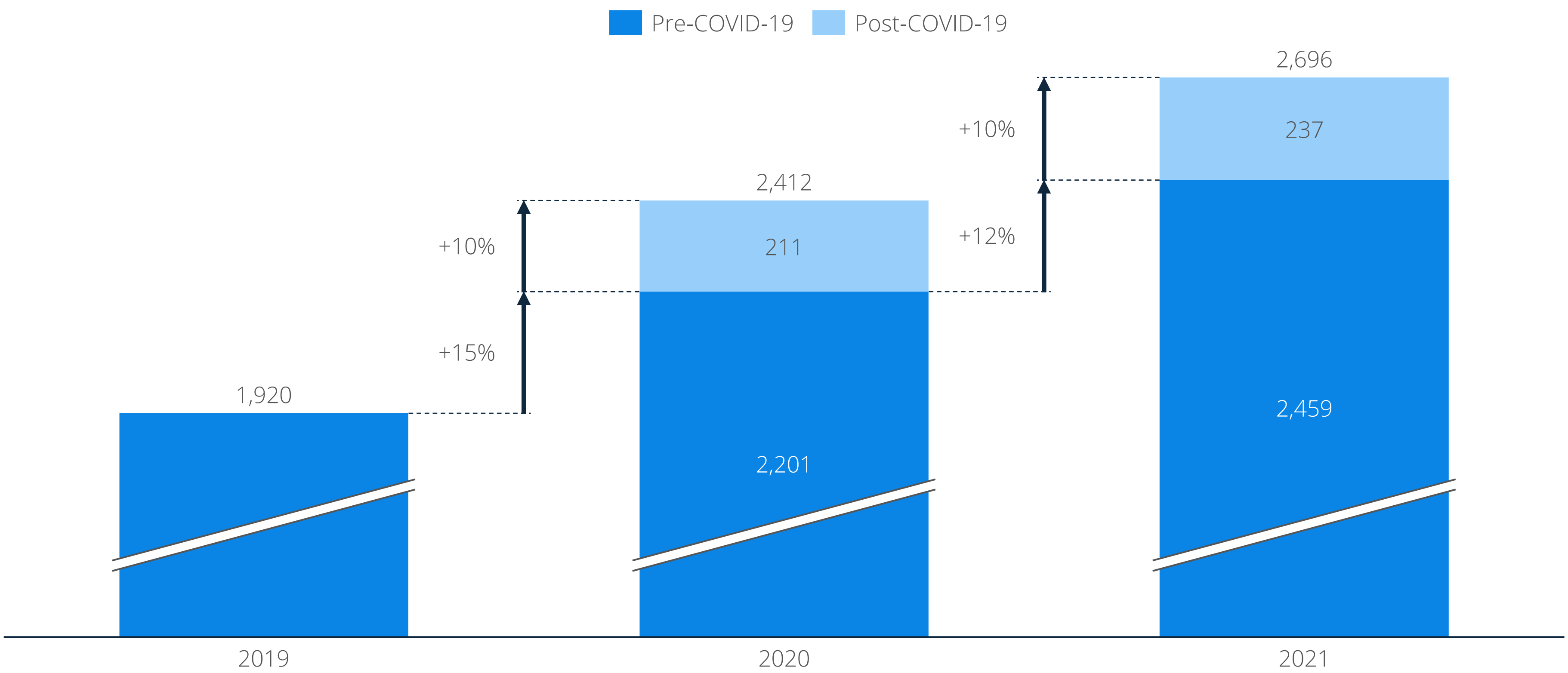
Mobile eCommerce is now the fastest-growing segment as customers enjoy shopping on the go and increasingly browse shops and place orders on their smartphones or tablets. Its scope is not limited to creating mobile-friendly shop interfaces or separate shopping apps. Rather, its major potential lies in AI applications, augmented reality, voice eCommerce, and customer profiling.

Both online-only players and traditional retailers are developing various multi-/cross-channel strategies to reduce inconvenience and increase customer satisfaction throughout the customer journey. Package delivery boxes and precise delivery times for working people, drone deliveries of time-sensitive products such as medicines as well as same-day-delivery services are only a few of many ambitious innovations and optimizations in the area of product and service delivery.

Rotar Alexandra
a.rotar@statista.com

Global eCommerce revenues are expected to see an additional growth of 10% in 2020 due to COVID-19

Global eCommerce revenue forecast in billion US$

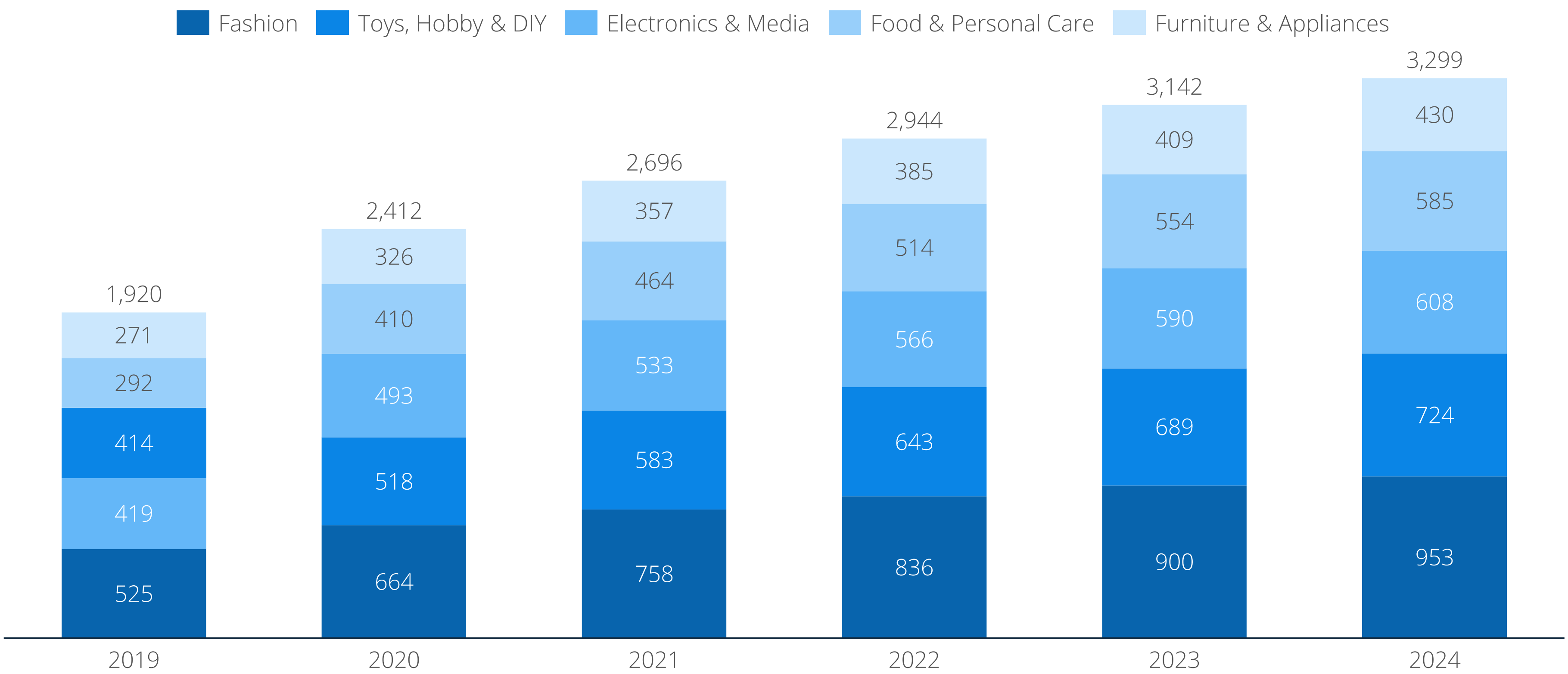


Sources: Statista Digital Market Outlook, as of October 2020

statista

The eCommerce market is expected to reach US$3.3 trillion by 2024 with Fashion as largest segment

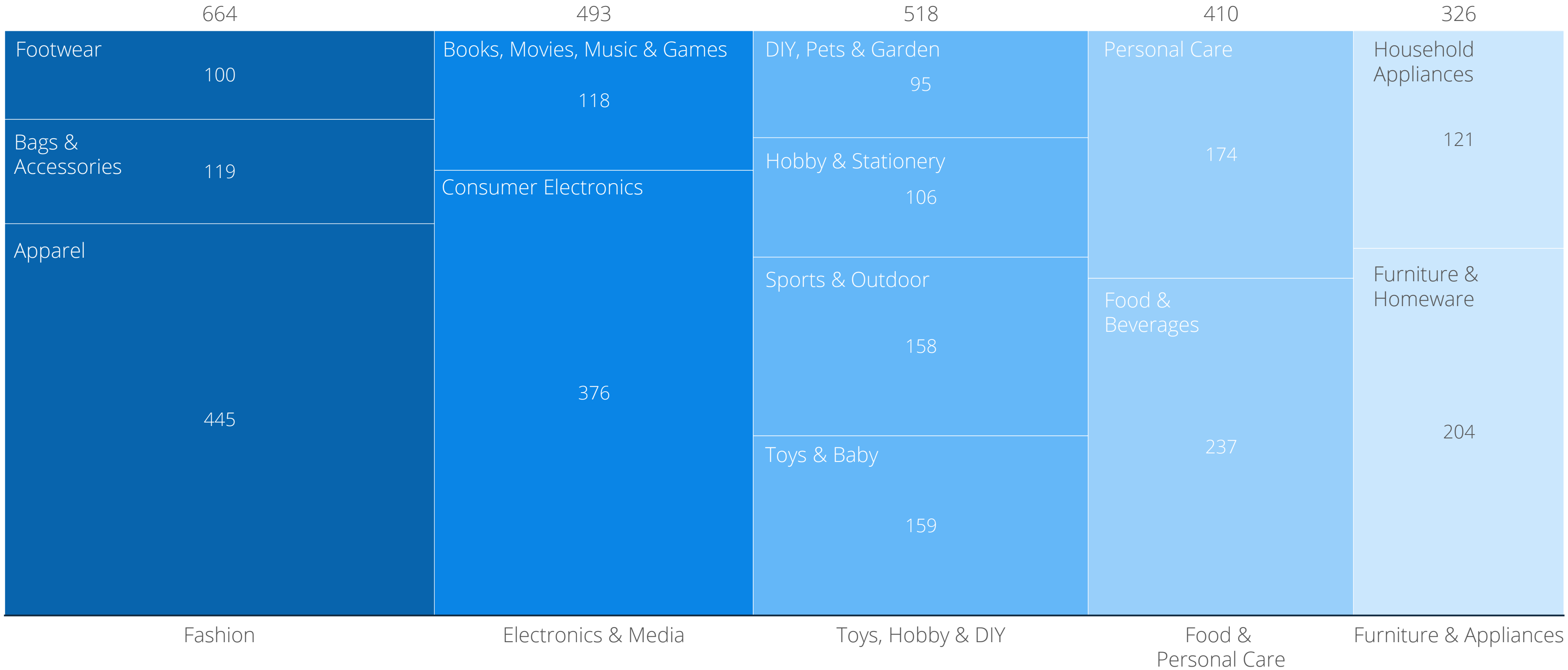
Global eCommerce revenue forecast in billion US$



Sources: Statista Digital Market Outlook, as of October 2020

Apparel is the biggest segment in eCommerce followed by Consumer Electronics

Global eCommerce revenue in billion US$ in 2020

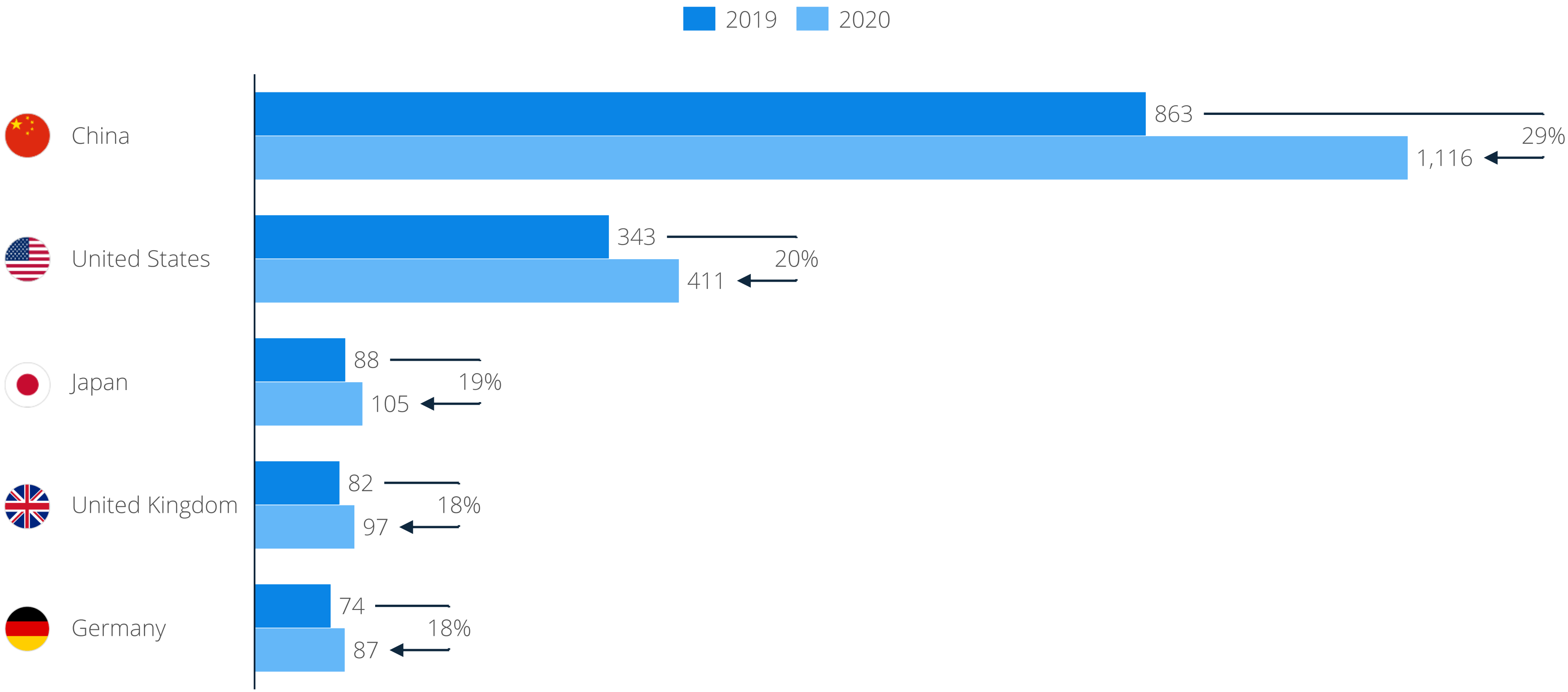


Sources: Statista Digital Market Outlook, as of October 2020

statista

China is expected to grow by nearly 30% and remain #1 in global eCommerce

Top 5 eCommerce countries by market revenue in billion US$



Sources: Statista Digital Market Outlook, as of October 2020

The range of marketplaces, retailers, and direct sellers is broad due to the high variety of product categories

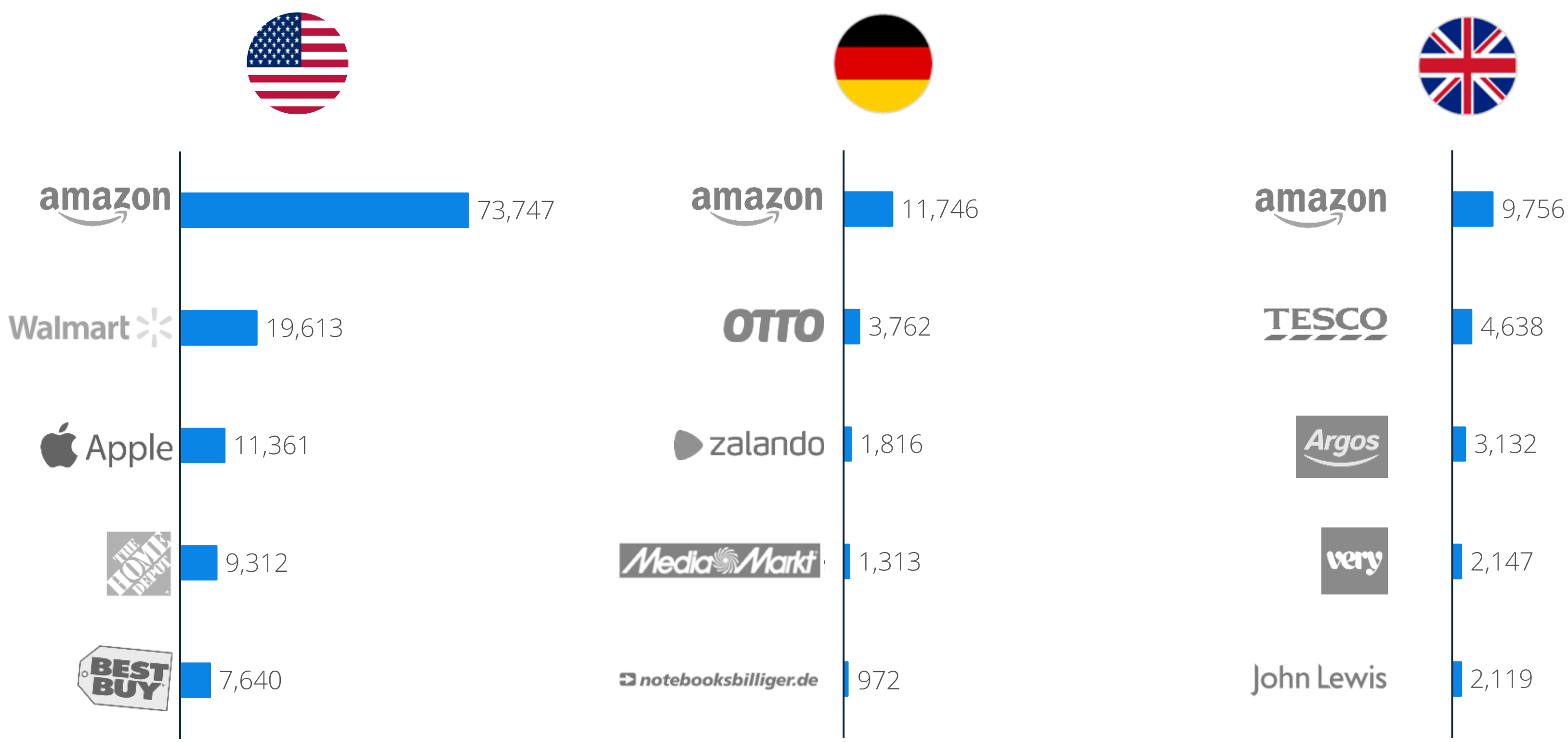
Selected key players in eCommerce

	Fashion	Electronics & Media	Toys, Hobby & DIY	Furniture & Appliances	Food & Personal Care
Marketplaces	vente-privee.com, zalando	newegg, amazon	Alibaba Group	淘宝网 Taobao.com	
Online retailers	NORDSTROM, macys.com, asos, next	BEST BUY, Cdiscount	STAPLES, Cabela's, Walmart, Office DEPOT, Argos, SPORTS DIRECT.com	Crate&Barrel, home24, houzz	TESCO, COSTCO WHOLESALE, ocado, SEPHORA
Direct sellers	ZARA, VICTORIA'S SECRET, H&M	DELL, hp, Lenovo	asics, adidas, LEGO	wayfair, LOWE'S, IKEA, THE HOME DEPOT, POTTERY BARN	Hello FRESH, WHOLE FOODS, SAFEWAY

Sources: Statista Digital Market Outlook, as of October 2020

Amazon is the #1 online shop in the U.S., the UK, and Germany

Top 5 online shops by revenue in million US$ in 2019

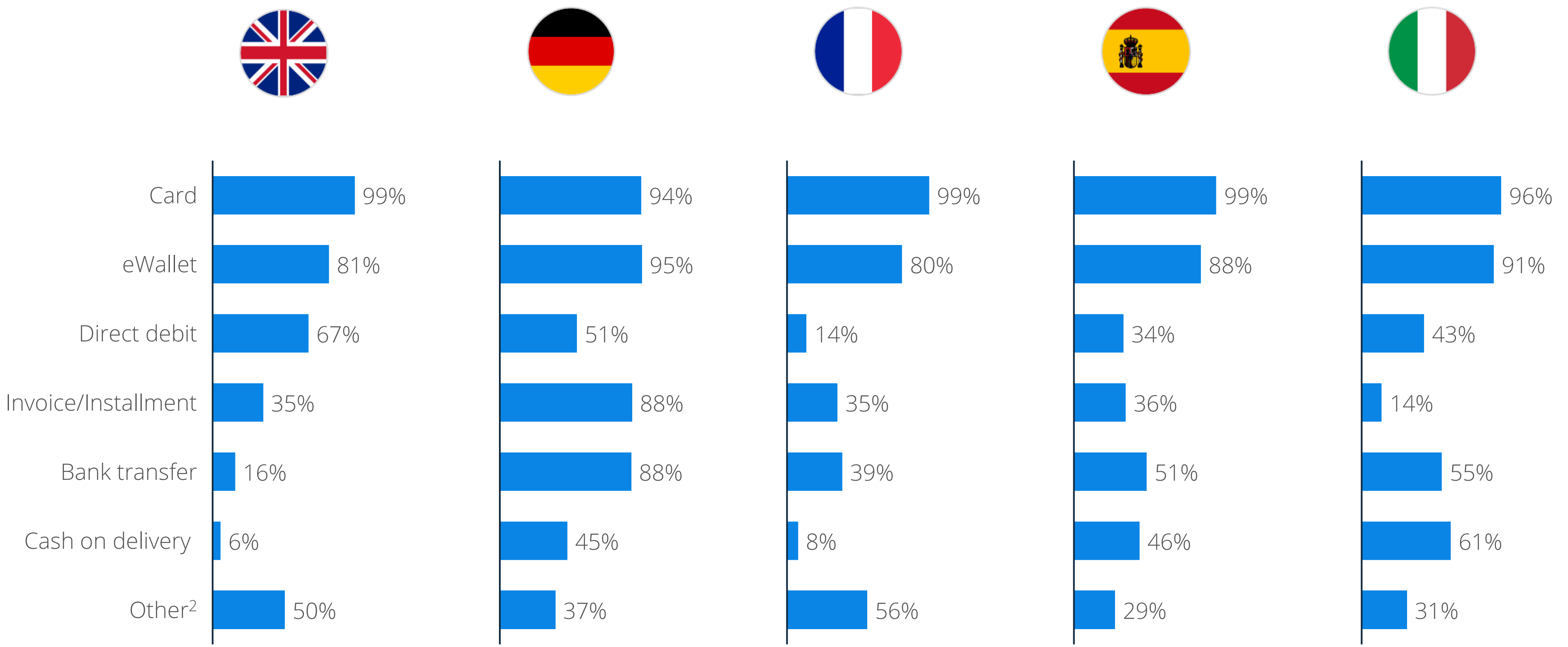


Note: eCommerce net sales generated via the respective country domain only
Sources: Statista ecommerceDB, as of September 2020

statista

Cards and eWallets are the most predominant payment methods offered in Europe

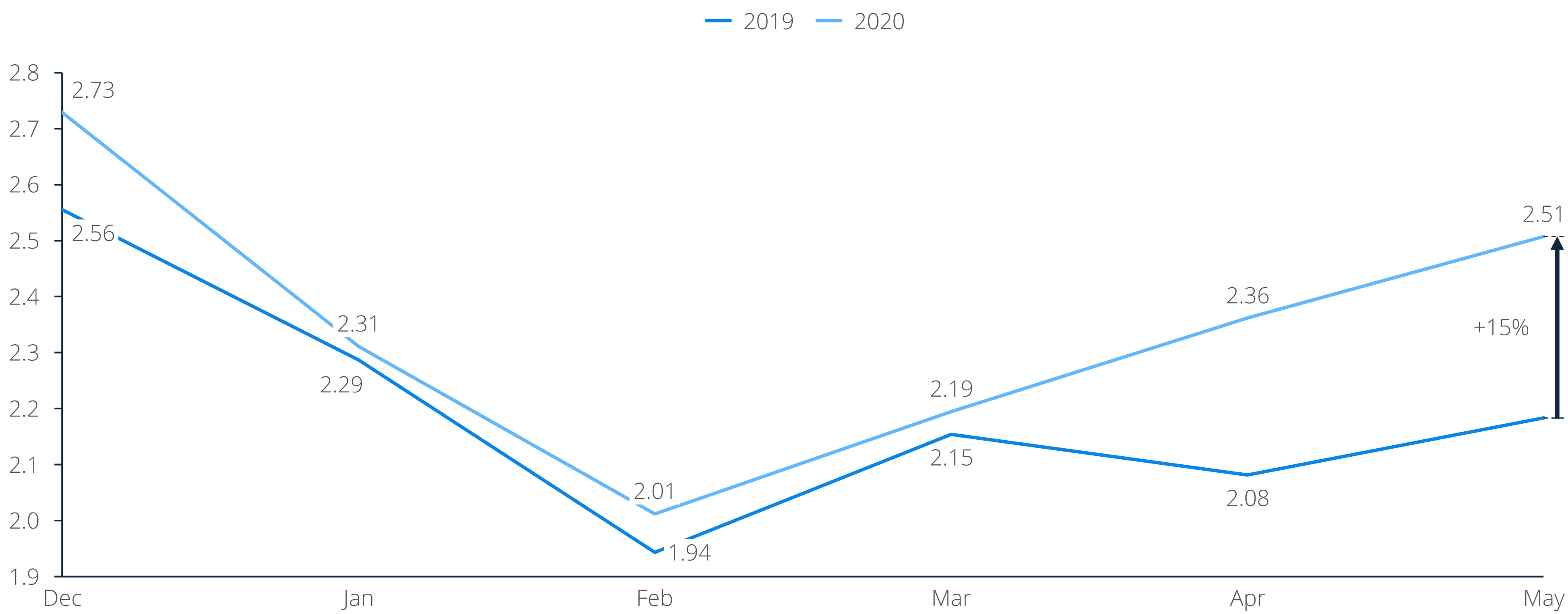
Payment methods offered by online stores in 2019[1]



1: Payment methods offered in the main country (covered by the ecommerceDB). A store can offer more than one payment methods (Multi-Pick) 2: Includes gift cards and check. Base: top 500 online stores by net sales for which payment information is available (Italy and Spain top 250)
Sources: Statista ecommerceDB, as of September 2020

For amazon.com, May 2020 seemed like Christmas with visits to amazon.com up to +15%

Total visits to amazon.com in billion

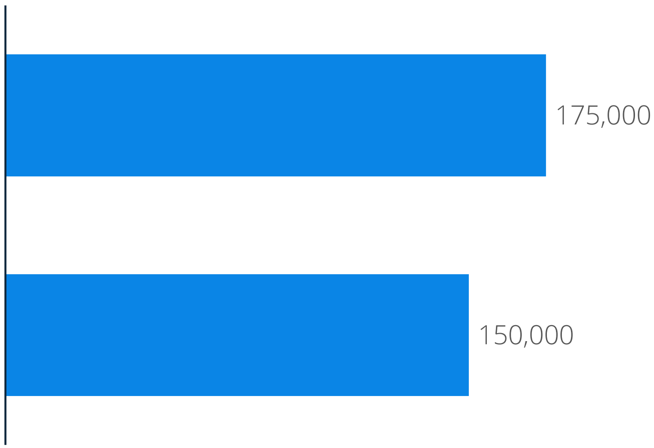


1: Difference in total visits to amazon.com from March to May in 2020 versus 2019
Note: More information in the Statista ecommerceDB
Sources: SimilarWeb

statista

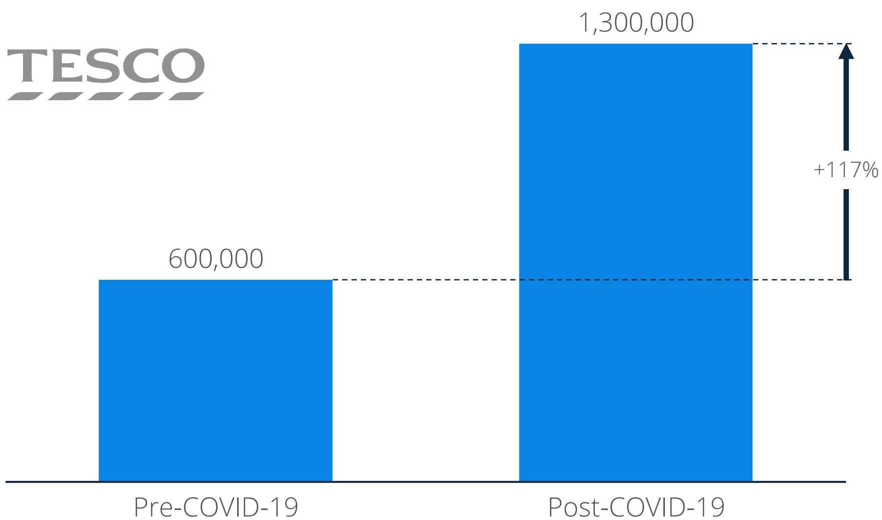
eCommerce players reacted to increased demand by hiring more people and extending home shopping

New employees hired during COVID-19



- Since March, Amazon has hired 175,000 additional people in its fulfillment and delivery network in response to increased customer demand and to assist existing employees.
- In April 2020, the retail giant Walmart announced that it succeeded in hiring 150,000 additional workers more than six weeks ahead of schedule. On average, 5,000 people per day were hired using an expedited hiring process.

Number of Tescos's weekly grocery home shopping slots

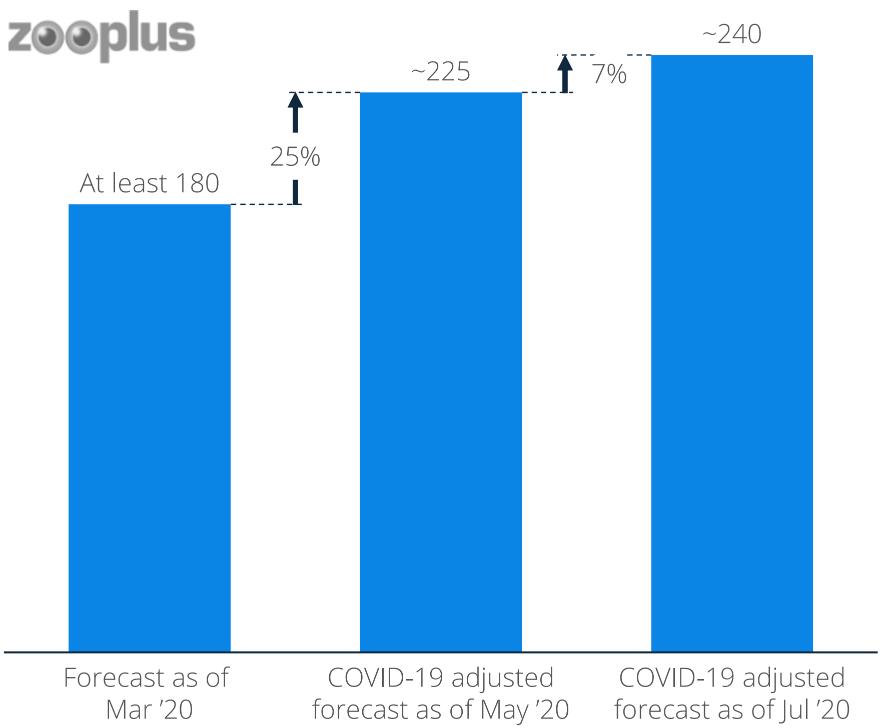


- Tesco, the UK's largest online grocery store, more than doubled its weekly slots for grocery home shopping during the COVID-19 crisis to meet soaring consumer demand. An order is placed online at Tesco and the customer can pick up their grocery or it will be delivered.
- Sales in its online channel increased by +48.5% (13 weeks ending May 30, 2020) in the UK.
- In May 2020 alone, Tesco's online sales surged by more than 90%.

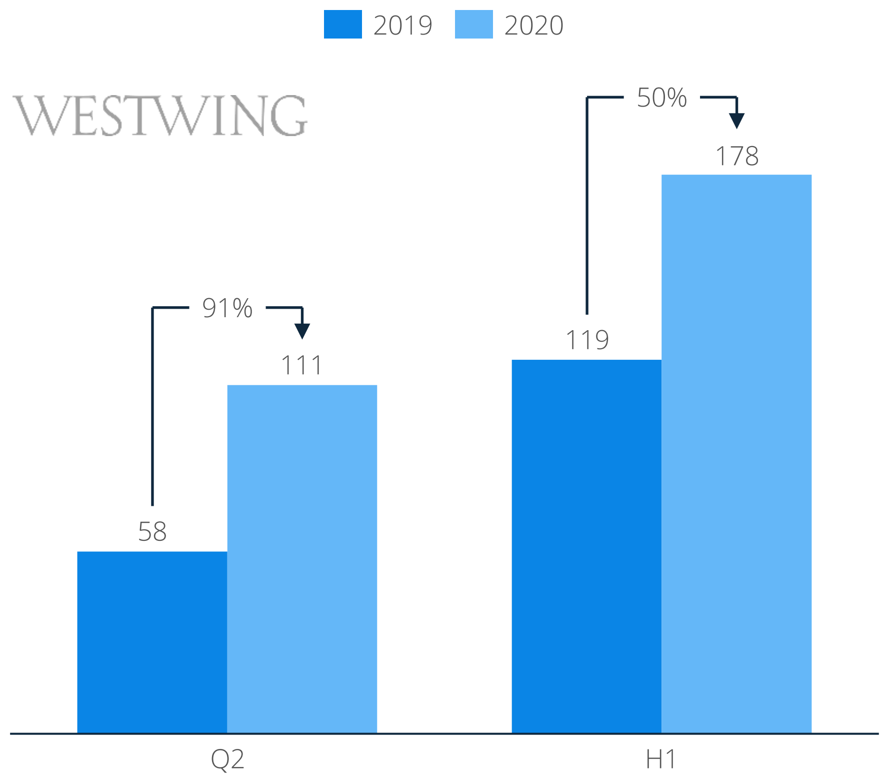
Note: More information in the Statista ecommerceDB
Sources: Company information

Revenue of eCommerce players grew extensively and beyond expectations

Zooplus sales growth forecast 2020 in million €



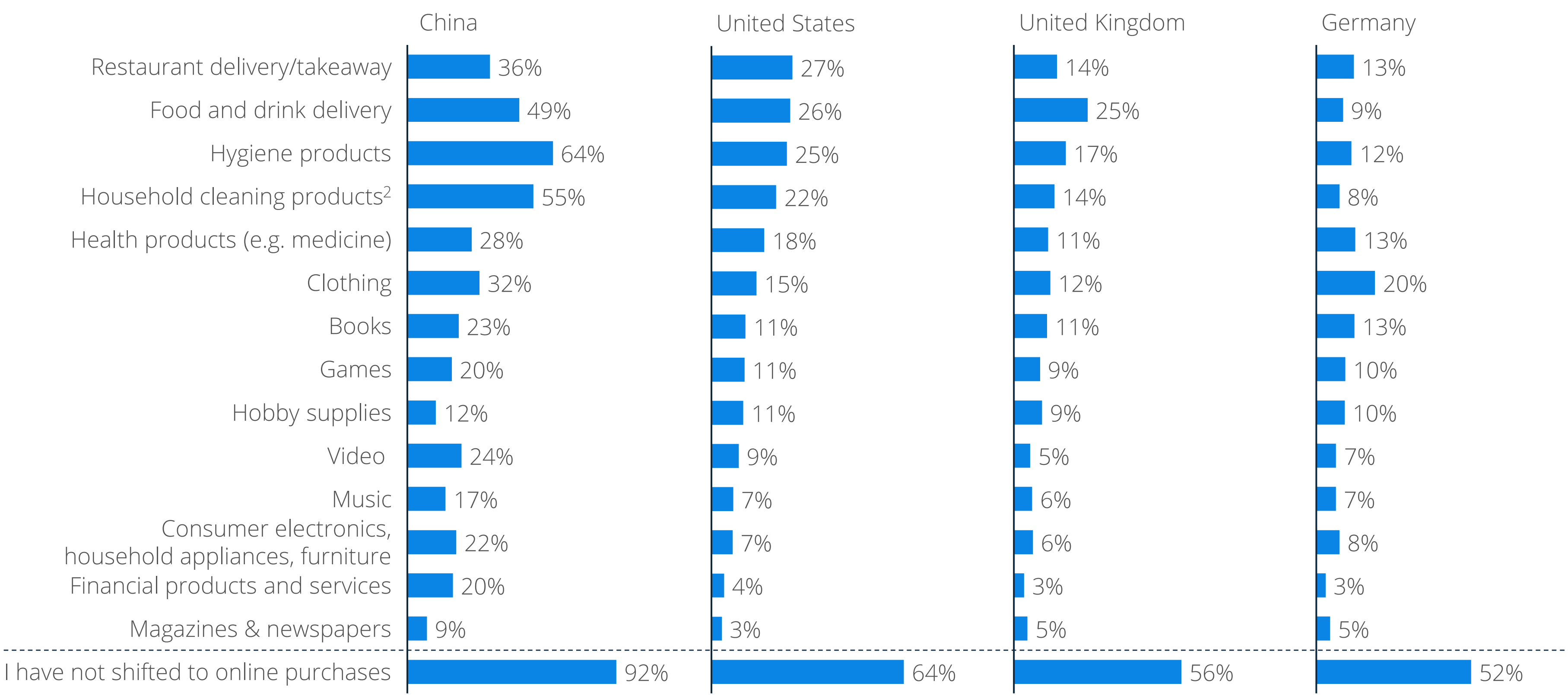
Group revenue of Westwing in million €



Note: More information in the Statista ecommerceDB
Sources: Company information

Shopping behavior has shifted from offline to online purchases in all major eCommerce segments

Online purchases replacing offline purchases related to the COVID-19 pandemic[1]

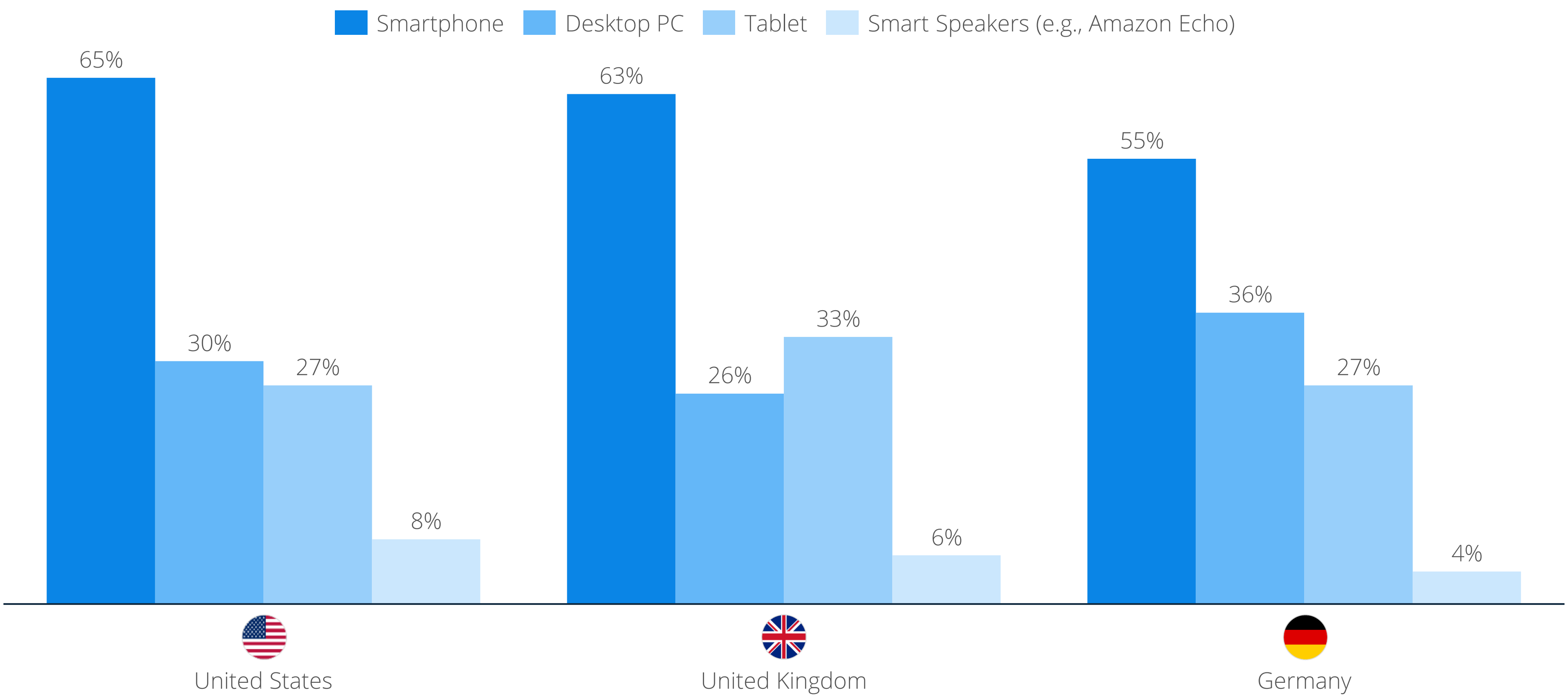


1: Survey period March 23, 2020-May 10, 2020; "Have you deliberately purchased any of these products or services online instead of offline because of the COVID-19/Corona pandemic?"; Multi-pick; Base: n=19,259; all respondents 2: e.g., hand sanitizer, toilet paper
Note: More information in the Statista Global Consumer Survey
Sources: Statista Survey "COVID-19 Barometer 2020"

statista

The U.S. and the UK have the highest mobile shopping rates - voice shopping is still at a low level

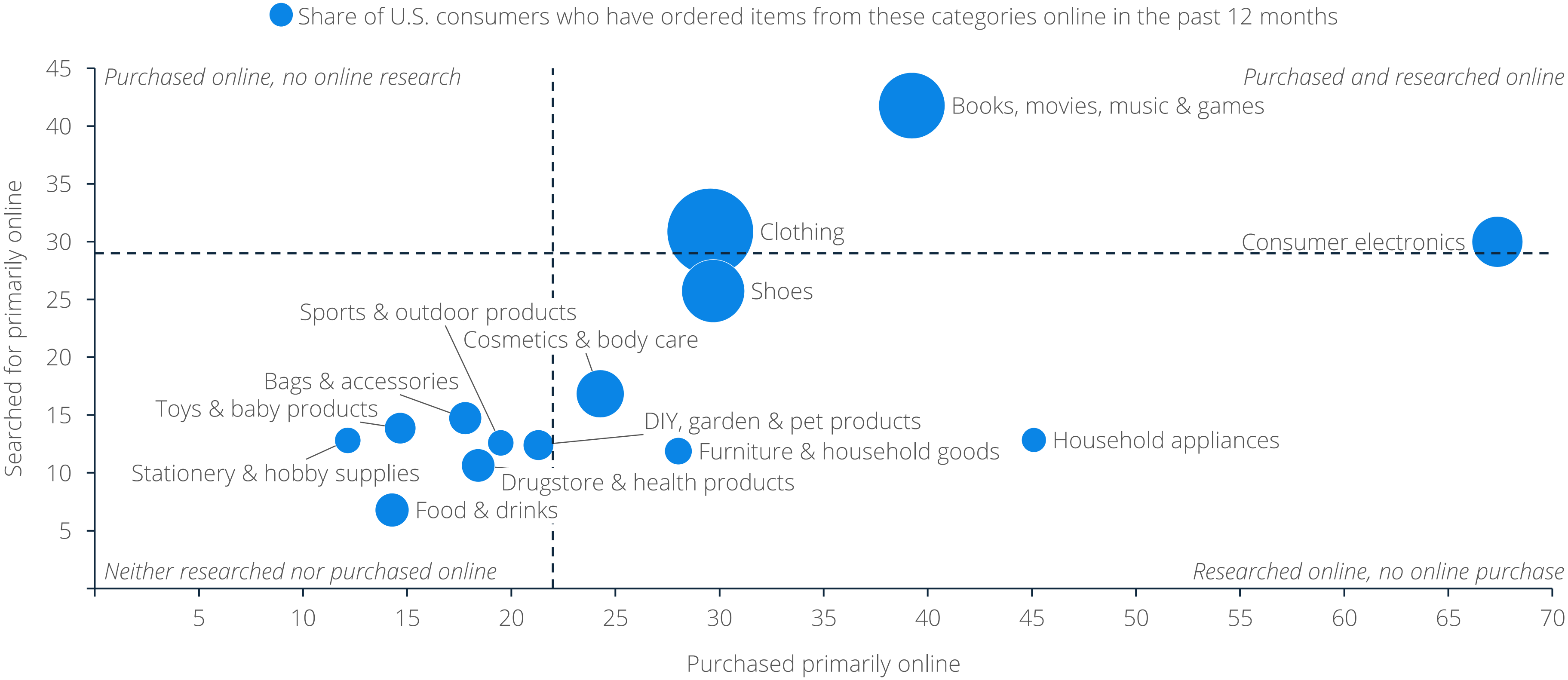
Devices used for online shopping in 2020



"Which of the following devices have you used for online shopping in the past 12 months?"; Multi pick; U.S.: n=4,185; UK: n=2,088; Germany: n=2,081
Sources: Statista Global Consumer Survey, as of October 2020

Books, movies, music & games, and consumer electronics are mainly searched for and bought online

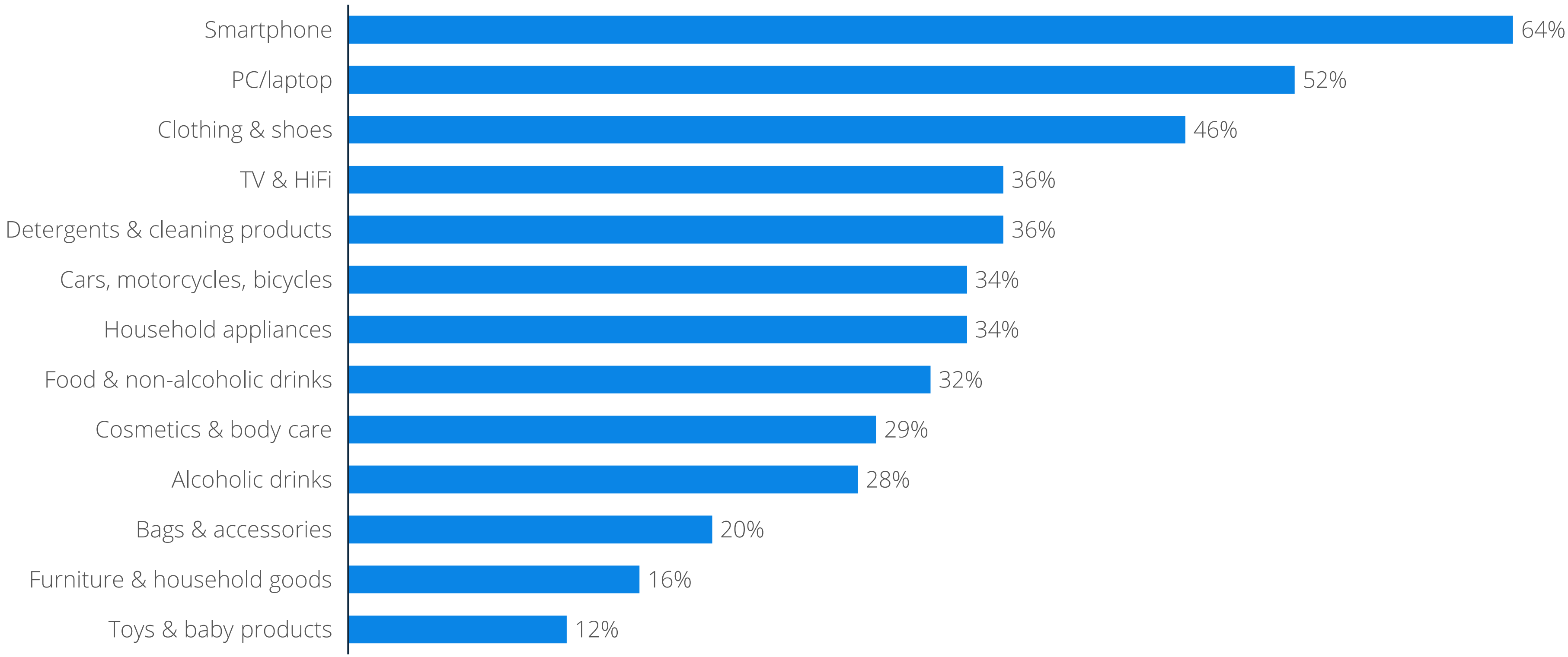
Share of U.S. consumers who primarily search for and purchase a product online in %



"For which of these products do you mostly look for information online?"; Multi pick; "Which of these products do you mostly buy/order online?"; Multi pick; "Which of these items have you bought online in the past 12 months?"; Multi pick; U.S.: n=4,120
Sources: Statista Global Consumer Survey, as of October 2019

To U.S. consumers, brands matter most when it comes to smartphones

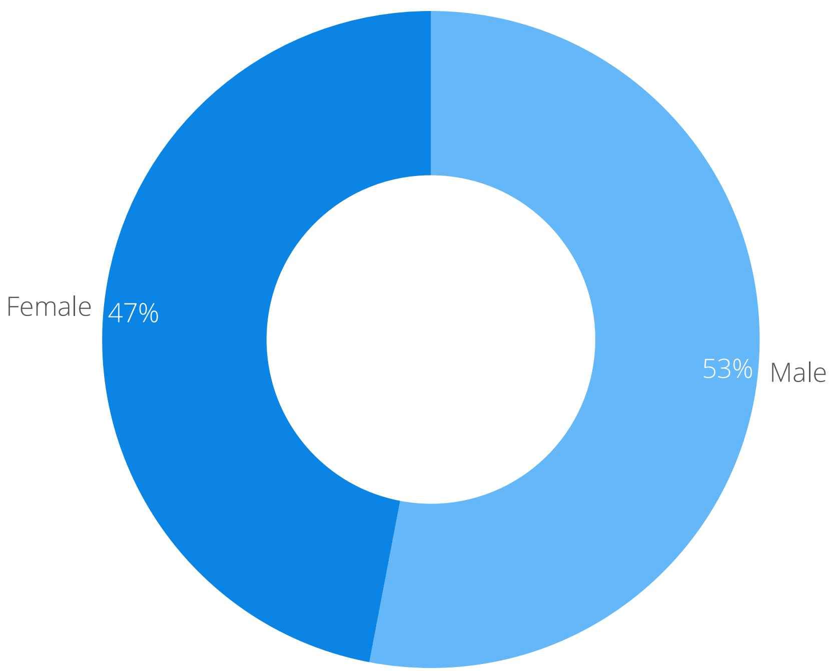
Brand awareness in the U.S. in 2020



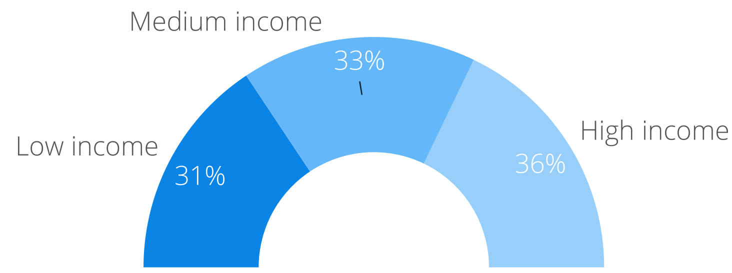
"In which of these categories do you pay particular attention to brands?"; Multi pick; n=25,110
Sources: Statista Global Consumer Survey, as of October 2020

36% of Chinese online shoppers belong to the higher-income demographic group

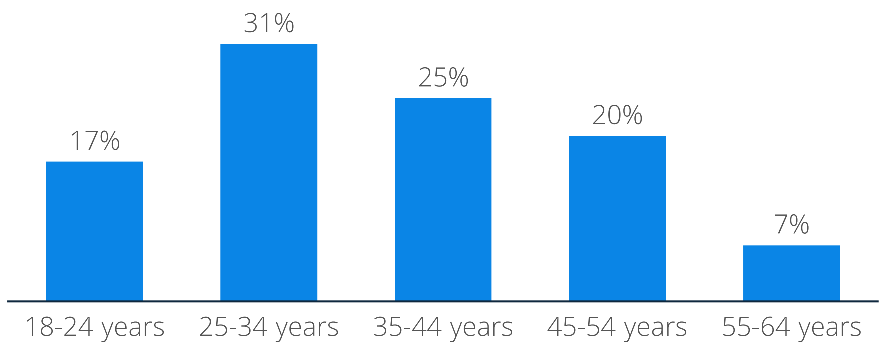
Gender



Income



Age



"Which of these items have you bought online in the past 12 months?"; Multi pick; n=2,048
Sources: Statista Global Consumer Survey, as of October 2020

Digital Media

The emergence of MP3 players and online file-sharing services such as Napster has not only caused a big disruption of the music industry's entire business concept, but it has also fundamentally changed the way in which music is sold, distributed, and consumed nowadays. While Napster is just an exemplary starting point for the music industry's transition, developments such as eReaders, smartphones, and tablets are additional symbols of the digital revolution of traditional media.

The Digital Media market in the Statista Digital Market Outlook is divided into Video Games, Video-on-Demand, ePublishing, and Digital Music.

The global Digital Media market reached US$200 billion in 2020. Video Games are by far the biggest market in 2020 with a global revenue of US$93 billion, which represents a share of 46% of the overall Digital Media market. The Video Games market highly benefits from a shift from desktop computers to mobile devices: Every third US$ in Digital Media is generated by mobile games.

Video-on-Demand is the second biggest digital market with a global revenue of US$61 billion in 2020. The continuing popularity of subscription-based services will lead to steady growth up to 2025, whereas the growth of Pay-per-View and video download services will decrease significantly in the next couple of years.

The next segment in terms of revenue is ePublishing, which is expected to grow to US$35 billion by 2025. This growth is mainly driven by emerging markets, such as China, where eBook prices are substantially lower.

Digital Music is the smallest segment in 2020 with a revenue of US$18 billion. The market is dominated by Music Streaming offerings. This is so because Music Downloads are one of the very few shrinking segments in the digital economy.

Note: More information in the [Statista Advertising & Media Outlook]

The media business had to endure difficult times when illegal distribution and downloads of digital content became common among users. This development particularly threatened the music and video business, causing sales to decline. Faced with changing customer behavior and demands, companies had to find new ways of monetizing their content.

Customer requirements have become clear over time: easy access to a wide range of media content at any time, in any place, and at a good price. These needs triggered the birth of online streaming and lending, a trend which can especially be observed in the rising popularity of music and video streaming as well as mobile gaming. Companies such as Amazon, Apple, Netflix, or Spotify have successfully responded to these needs and provide huge content libraries and convenient purchasing models for their customers.

Competition remains fierce in the Digital Media market and companies have to constantly reassess their business strategy in order to be ahead of their competitors. Netflix and Amazon, for example, have been increasingly investing in the production of their own exclusive content to minimize dependency on production companies and to have a unique competitive advantage. This strategy seems to pay off: Although Netflix has recently increased prices again, it announced another big boost in streaming subscribers at the beginning of 2020. In the gaming business, big companies such as Nintendo participate in the huge, fast-growing field of mobile games by releasing their own games on third-party platforms and by cooperating with franchise partners.

Another trend is live content: Periscope, Facebook Live, Instagram Live, live.ly, Snapchat Live Stories, YouTube Live, Alibaba Tmall, Sina Weibo Miaopai, Yizhibo, TikTok — nearly every social media network offers the possibility to stream live videos in real time. Apart from the benefit for users to share moments with friends and family, live streaming opens up new commercial scenarios for manufacturers to advertise their products.

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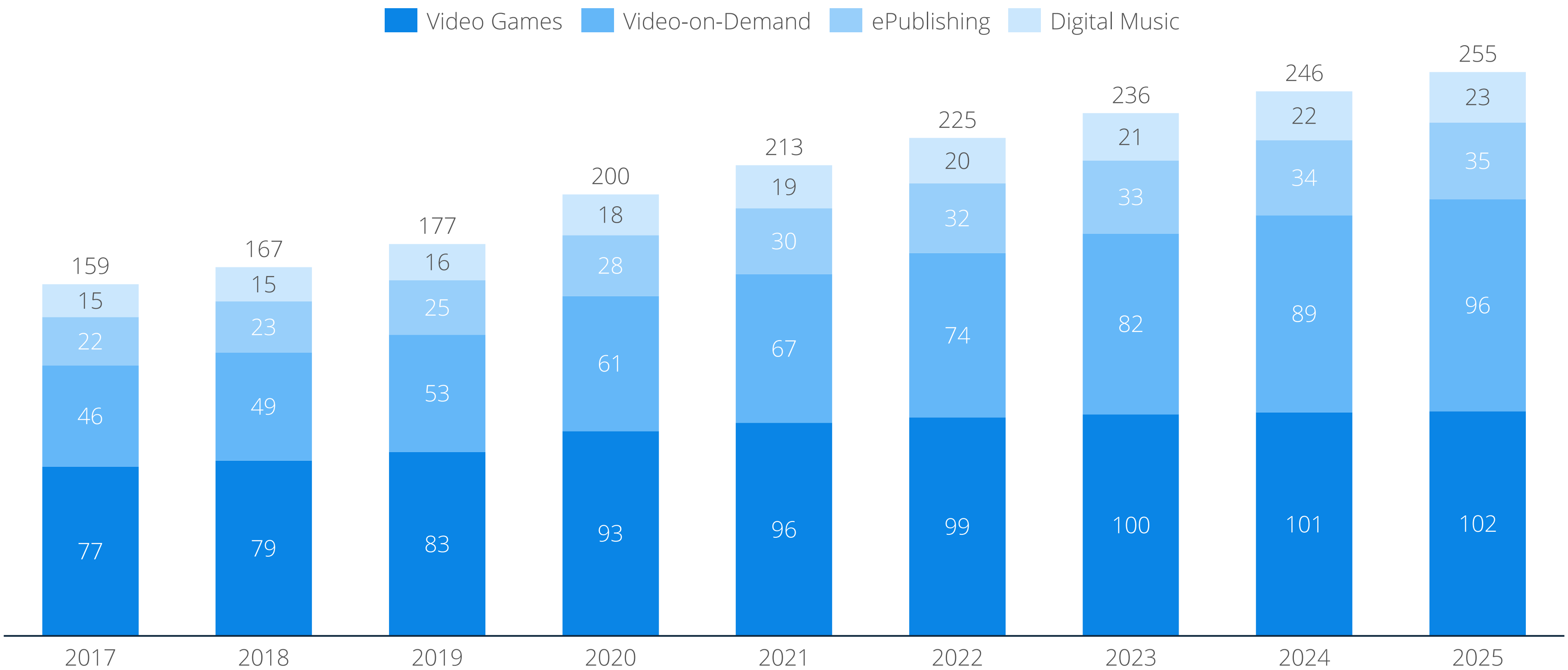
Digital Media market to reach US$255 billion until 2025 with Video Games being the largest segment

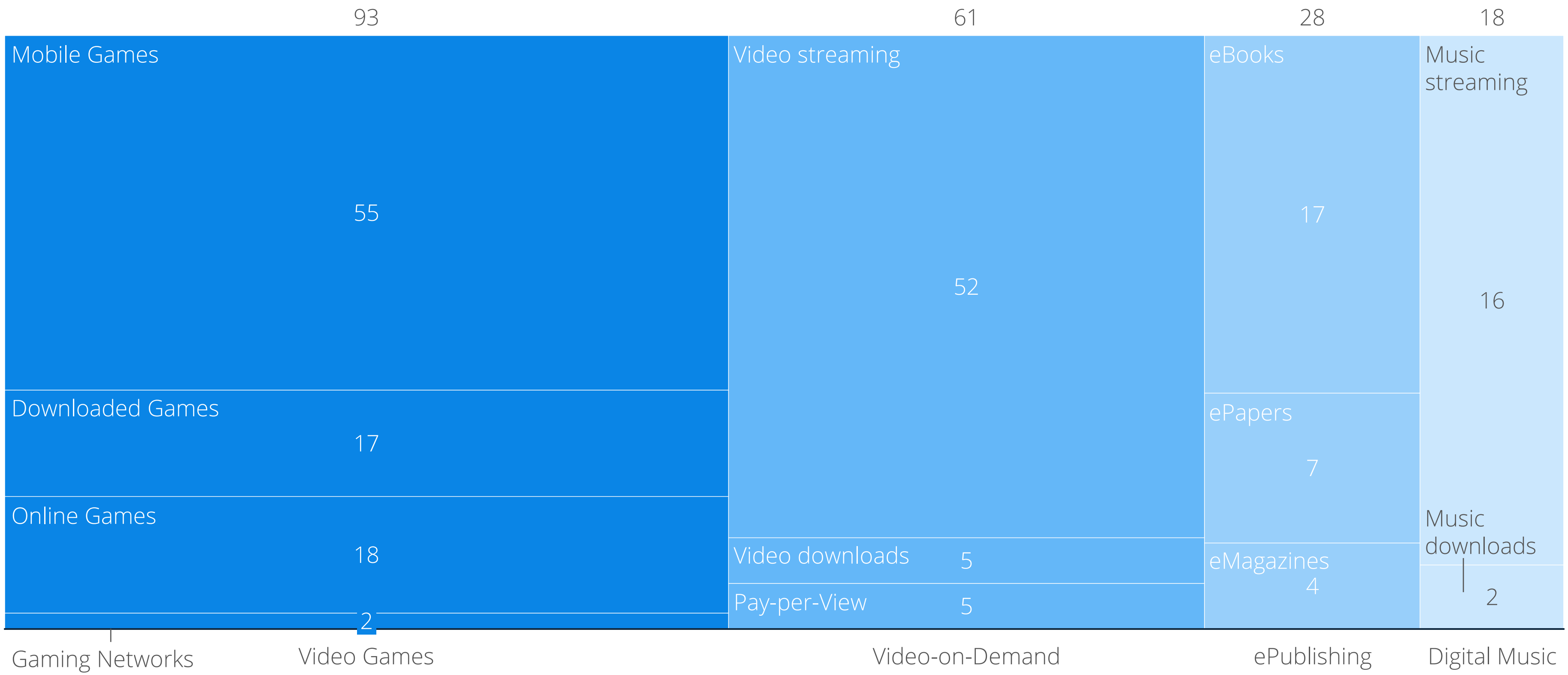
Global Digital Media revenue forecast in billion US$



Sources: Statista Advertising & Media Outlook, as of October 2020

Video Games dominate the Digital Media market followed by Video-on-Demand

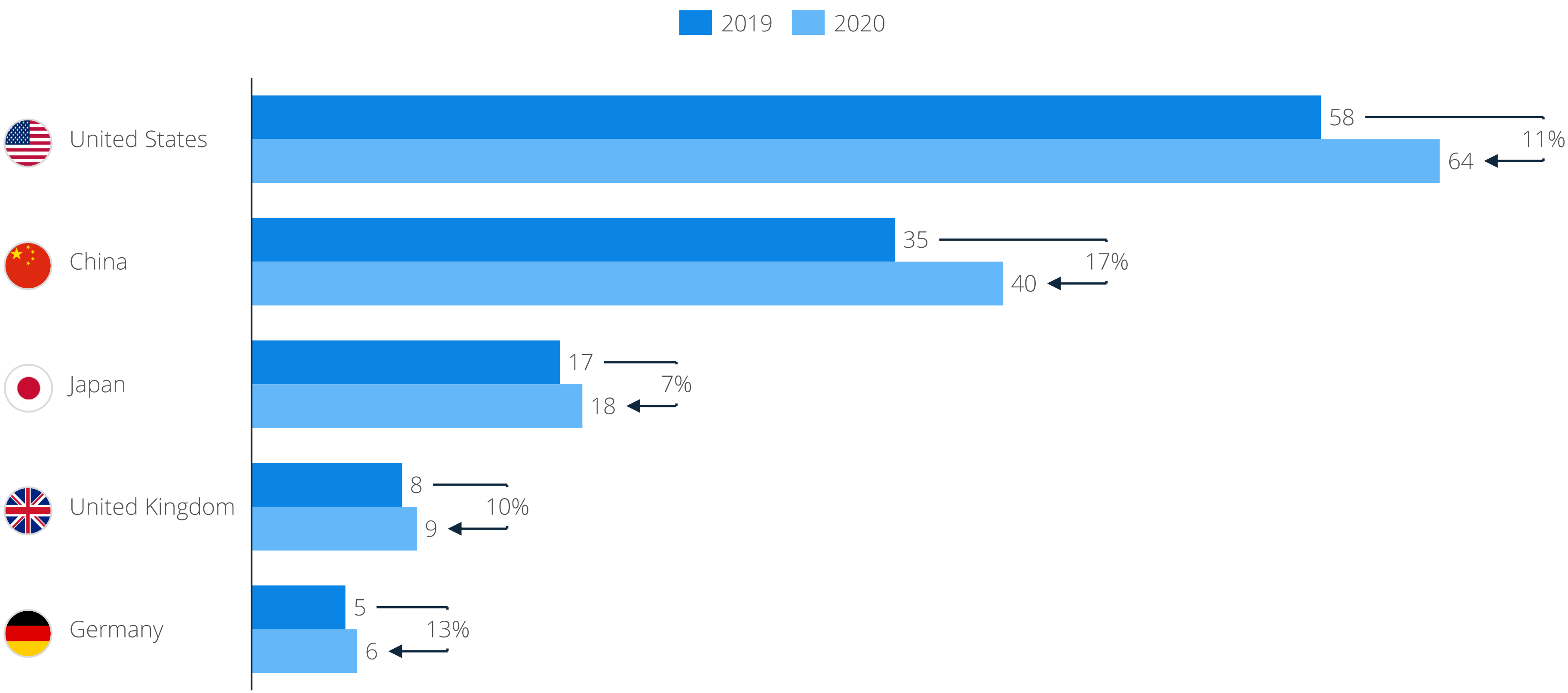
Global Digital Media revenue in billion US$ in 2020



Sources: Statista Advertising & Media Outlook, as of October 2020

The biggest Digital Media market in 2020 is still the U.S. with revenues of US$64bn

Top 5 Digital Media countries by market revenue in billion US$



Sources: Statista Advertising & Media Outlook, as of October 2020

statista

The Digital Media landscape is split into content specialists and those with a diversified portfolio

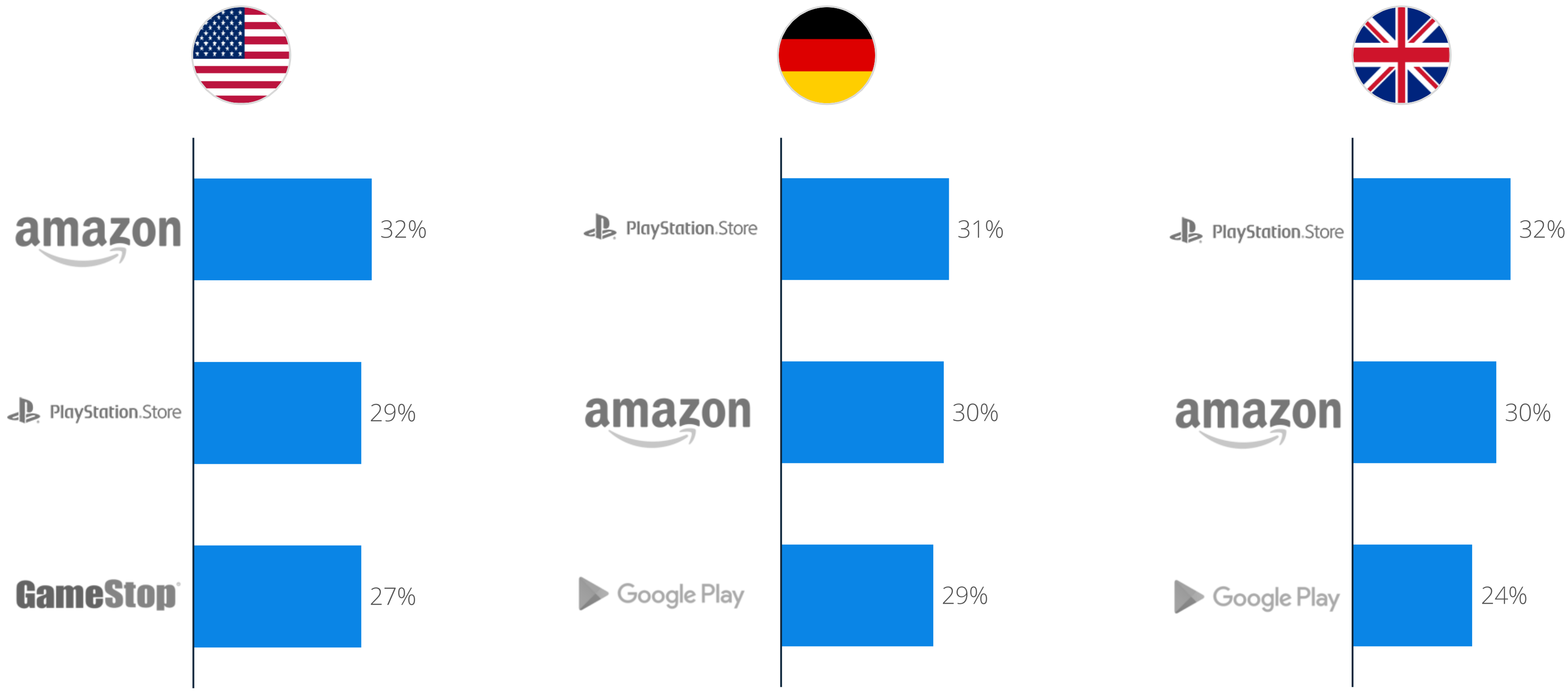
Selected key players in Digital Media

	Video Games	Video-on-Demand	ePublishing	Digital Music
Pure players	Origin Powered by EA, G2A, Humble Bundle, Nintendo eShop, Uplay, Battle.net, gog.com, PlayStation Store	NETFLIX, iQIYI 爱奇艺, Disney+, ESPN	nook by Barnes & Noble, Readly	SoundCloud, pandora, napster, TIDAL, DEEZER
Diversified players	amazon.com, WeChat, imvu	prime video, hulu, sky, HBO NOW, maxdome	amazon kindle, tolino, kobo, dangdang.com	Spotify, MUSIC, amazon music

 Sources: Statista Advertising & Media Outlook, as of October 2020

Amazon is the preferred online video games provider in the U.S.

Selected video game shop shares of video game purchases in 2020

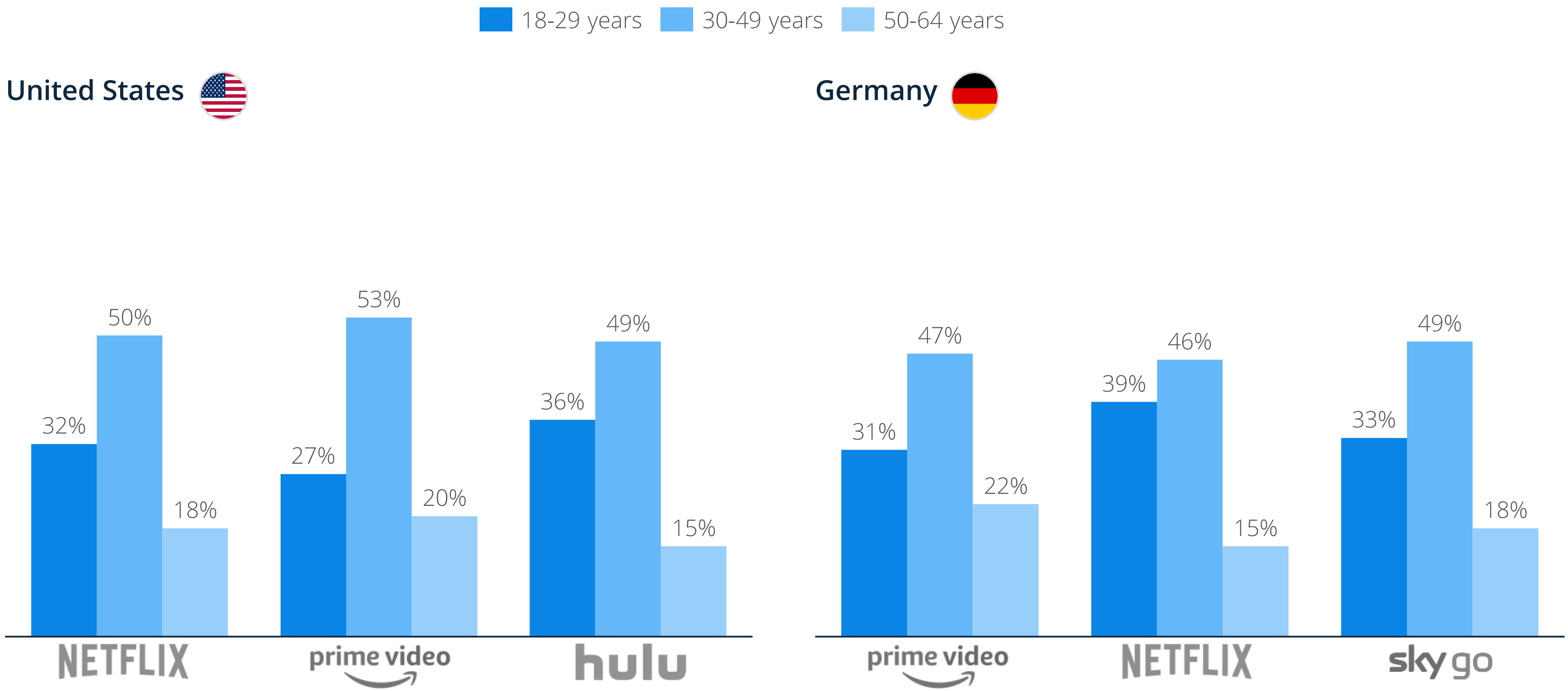


"Where have you spent money on online video games in the past 12 months (downloads, in-app purchases, subscriptions)?"; Multi Pick; U.S.: n=25,131; Germany: n=12,539; UK: n=12,588 respondents who play video games regularly and spent money on downloads, in-app purchases and subscriptions in the past 12 months

Sources: Statista Global Consumer Survey, as of September 2020

All video-on-demand services still lack customers over 49, whereas they are popular among younger people

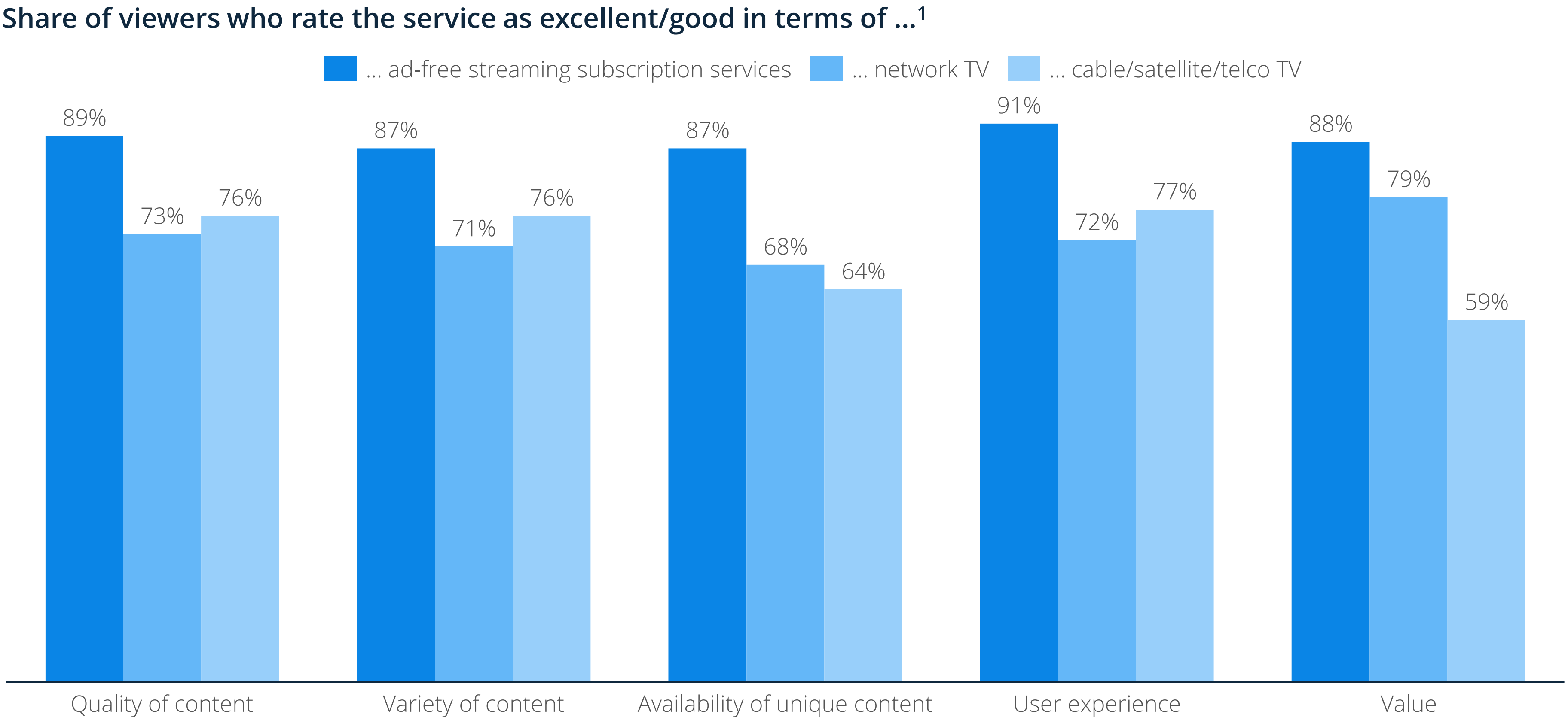
Share of onliners who purchased video-on-demand services of selected providers in 2020



"Which of these video on demand providers have you used in the past 12 months as a paying customer?"; Multi Pick; U.S.: n=25,131; Germany: n=12,539 respondents who spent money on digital video content in the past 12 months
Sources: Statista Global Consumer Survey, as of September 2020

statista

Streaming services beat (paid) TV in customer satisfaction

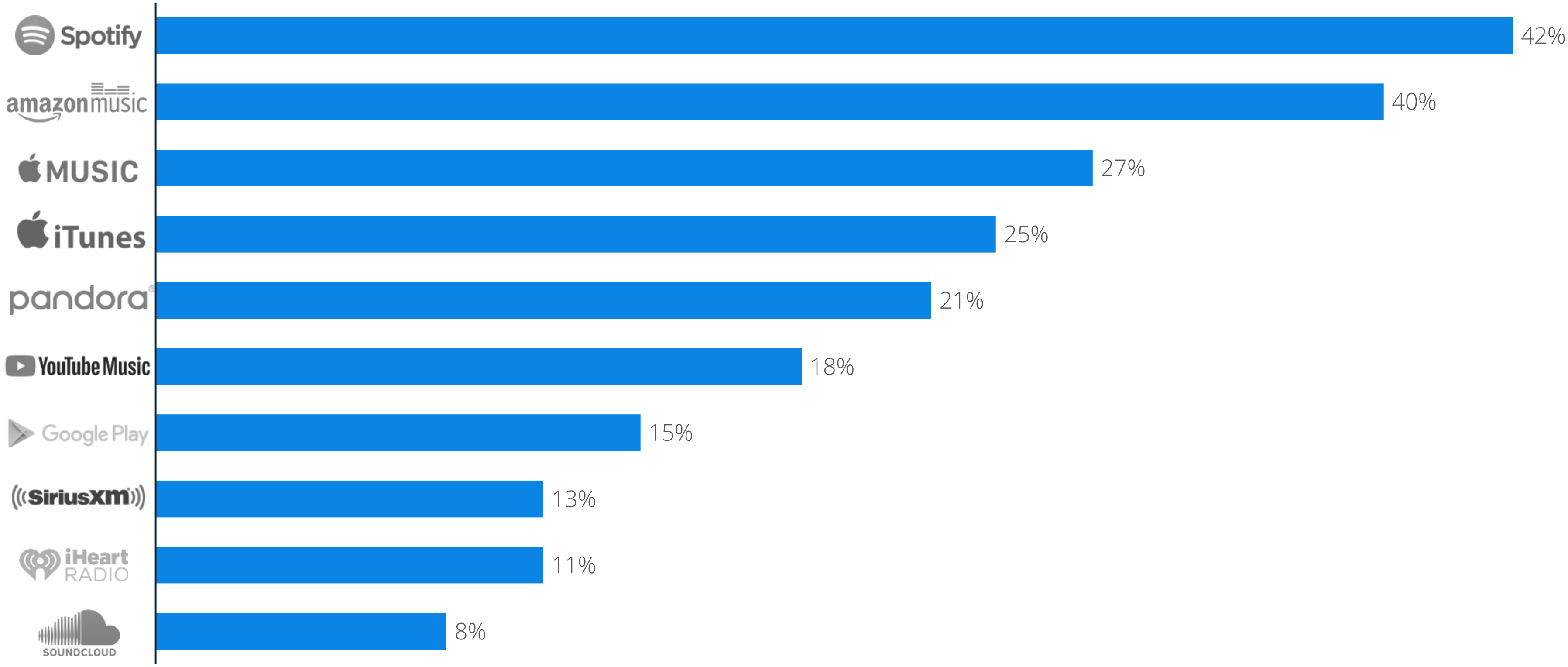


1: n=1,200 respondents in the U.S. Who are >=18 years old in 2019
Sources: Interactive Advertising Bureau

statista

Spotify leads the list of Digital Music services in the U.S. followed by Amazon and Apple Music

Share of U.S. respondents who use digital music services of selected providers in 2020

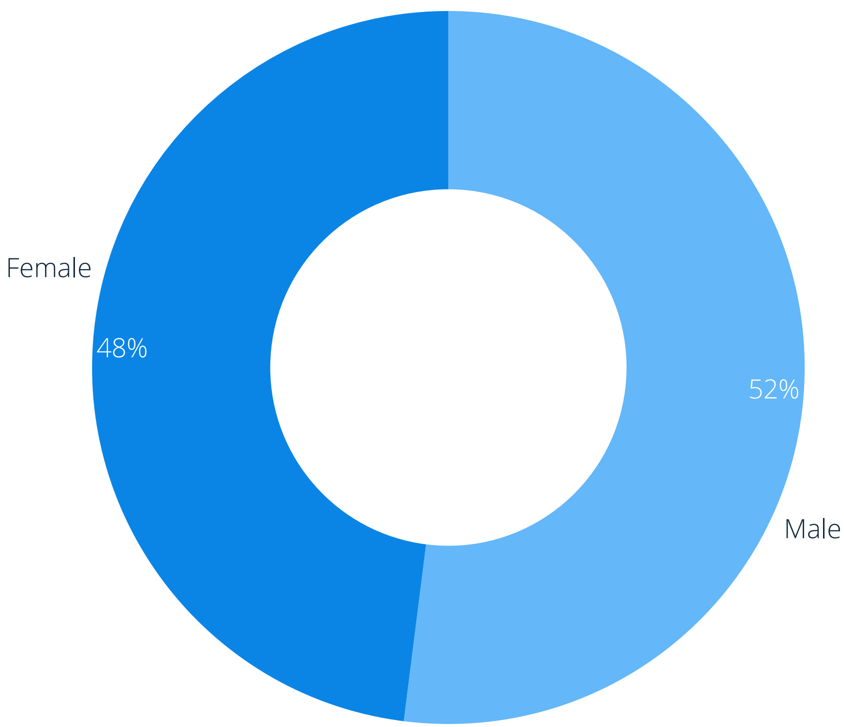


"Which of these providers have you bought music downloads or streaming services from in the past 12 months?"; Multi Pick; U.S.: n=1,930 respondents who spent money on digital music content in the past 12 months
Sources: Statista Global Consumer Survey, as of October 2020

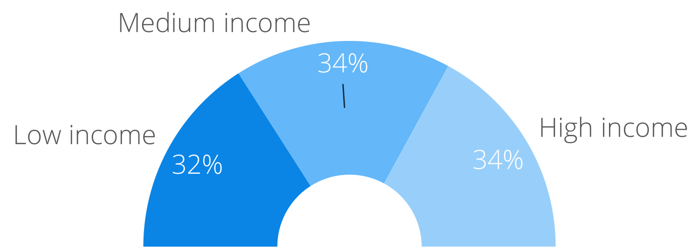
statista

In Spotify's home country, Sweden, 27% of 25-to-34 year olds spend money on digital music

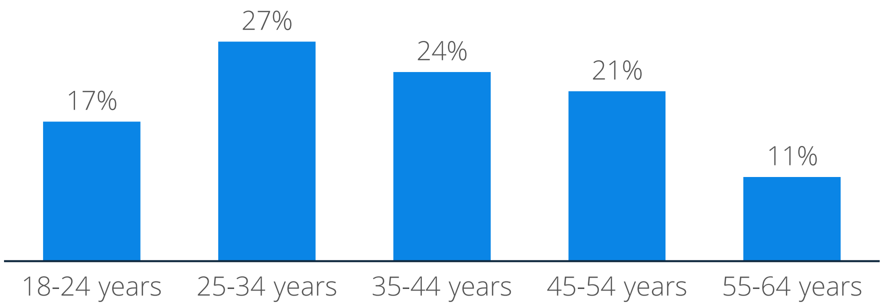
Gender



Income



Age



"Purchase of digital music (past 12 months) "; n=1,191
Sources: Statista Global Consumer Survey, as of October 2020

Digital Advertising

Global spending on Digital Advertising outpaced TV ad spending for the first time in 2017. Considering how great a role television used to play for generations of media consumers, this is quite a revolutionary development. And it shows how important Digital Advertising has become.

In the Statista Digital Market Outlook the segment Digital Advertising is categorized according to the environment where ads are played. Search Advertising, Social Media Advertising, and Online Classifieds are categorized with in-page ads as Banner Ads, and in-stream ads – be it videos or text overlays – are part of Video Advertising.

The global Digital Advertising market reached US$129 billion in 2020. The dominating segment is Search Advertising with a global market volume of US$159 billion in 2020, making up a market share of 45%. Having keywords as its underlying basis, Search Advertising enables marketers to reach a relevant target group in a very simple and precise way. These keywords can be complemented with a range of options, such as location-based factors, website and audience types, or remarketing based on user behavior.

Social networks usually work with newsfeeds, where user-specific content and shared information are shown. This presents an ideal advertising environment that offers numerous opportunities for personalized user targeting. But it also makes advertisers vulnerable to changes in algorithms, as can now be seen in Facebook's shrinking traffic after its recent update. The global Social Media Advertising market size is about US$99 billion in 2020.

Although we can observe an advancement in the field of targeting solutions, Banner and Video Advertising still face the challenge of reaching the right audiences. They have a much more random advertising environment than social networks and search engines.

Note: More information in the Statista Advertising & Media Outlook

This difficulty is reflected in the market size of both Banner and Video Advertising: With a volume of US$53 billion, Banner Advertising has a share of only 15% of the total Digital Advertising market. As video players have much more limited advertising space than banners, Video Advertising has an even smaller share of 8%, corresponding to a market volume of US$27 billion. Nevertheless, we believe that the development of targeting solutions is still at an early stage. Once it is in full swing, it will have noticeable effects on the advertising market.

Furthermore, in the field of Banner Advertising, we observe the positive impact of native ads matching the environment in which they appear in terms of form and function. In other words, these native ads appear as paragraphs within articles in a form and style which is like the content provided by the actual platform's editorial staff. This format works very well on smaller displays and is ideal for advertisements on mobile devices. The proximity to editorial contributions increases consumer engagement and ad acceptance.

Online Classifieds make the smallest contribution to overall market revenues with US$19 billion in 2020. Their revenues are more or less equally distributed across categories such as automotive, jobs, and real estate.

One major trend that has been discussed lately is programmatic advertising including (re-) targeting and real-time bidding. We believe that although this development is still at its beginning, it will also have a big impact. Programmatic advertising describes the software-based buying of advertising space based on audience data to target certain potential customers. The recipient of the ad is known before the ad is sold. Therefore, the ad can be even more personalized. This process takes place within a split second. We expect programmatic advertising and (re-) targeting to become increasingly precise, which will allow for increasing average revenue per user.

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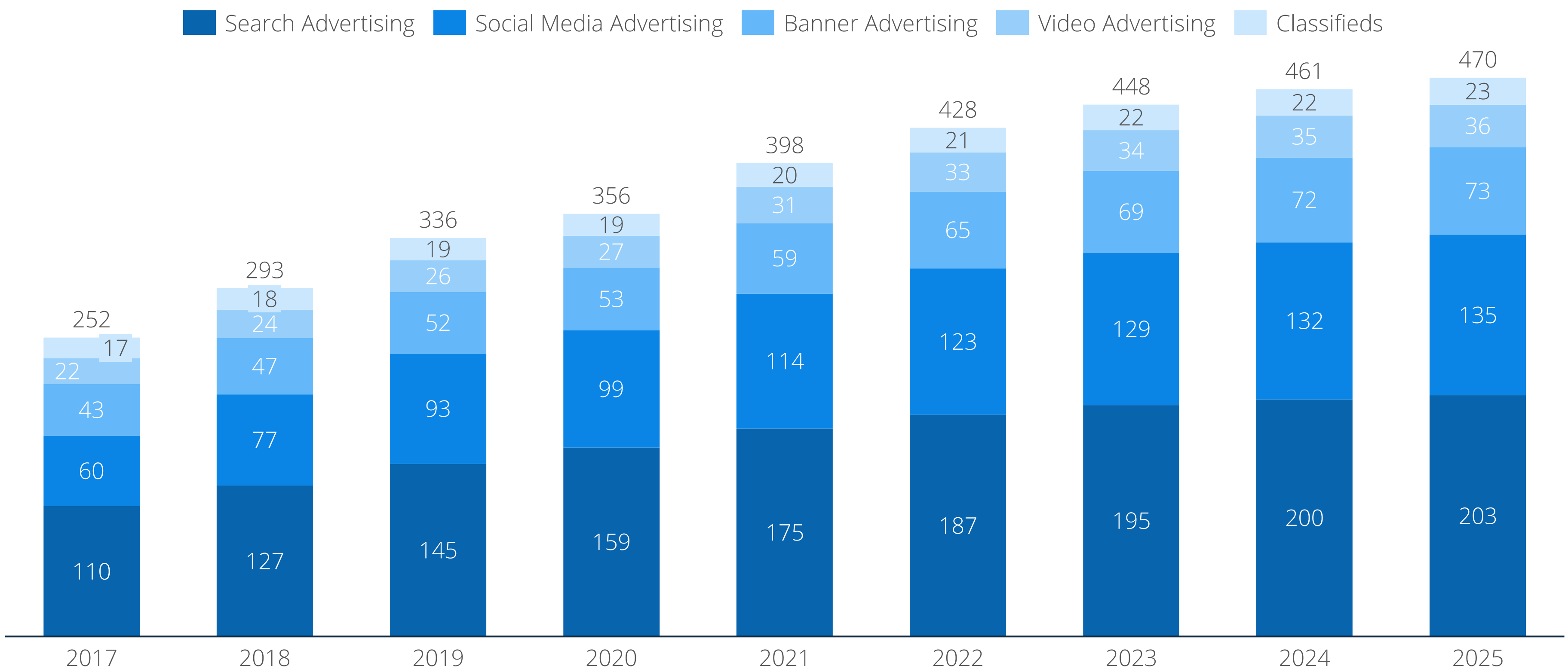
The Digital Advertising market is expected to reach US$470 billion in revenues in 2025

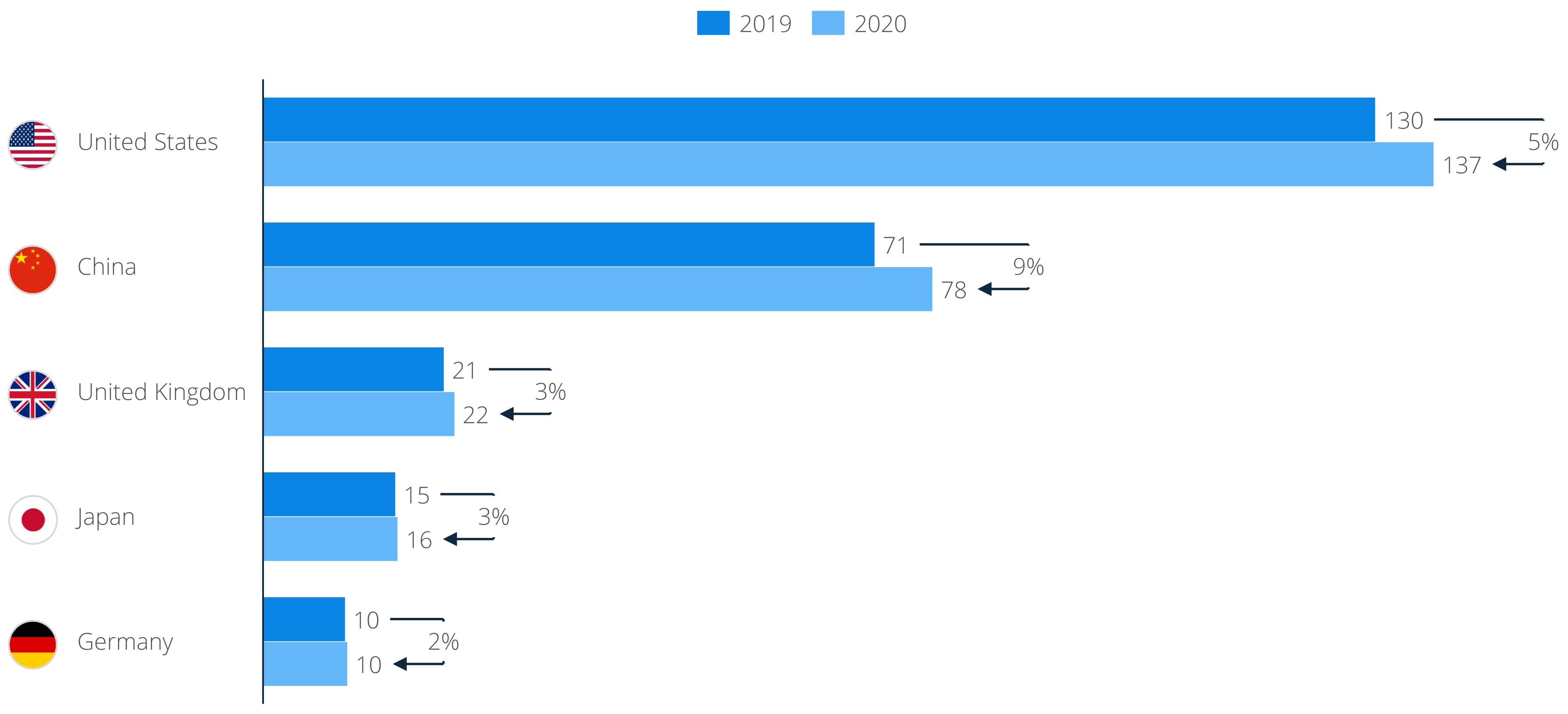
Global Digital Advertising revenue forecast in billion US$



Sources: Statista Advertising & Media Outlook, as of October 2020

China's Digital Advertising revenues increased by almost 10% from 2019 to 2020

Top 5 Digital Advertising countries by market revenue in billion US$



Sources: Statista Advertising & Media Outlook, as of October 2020

Digital Advertising is a complex business with many players

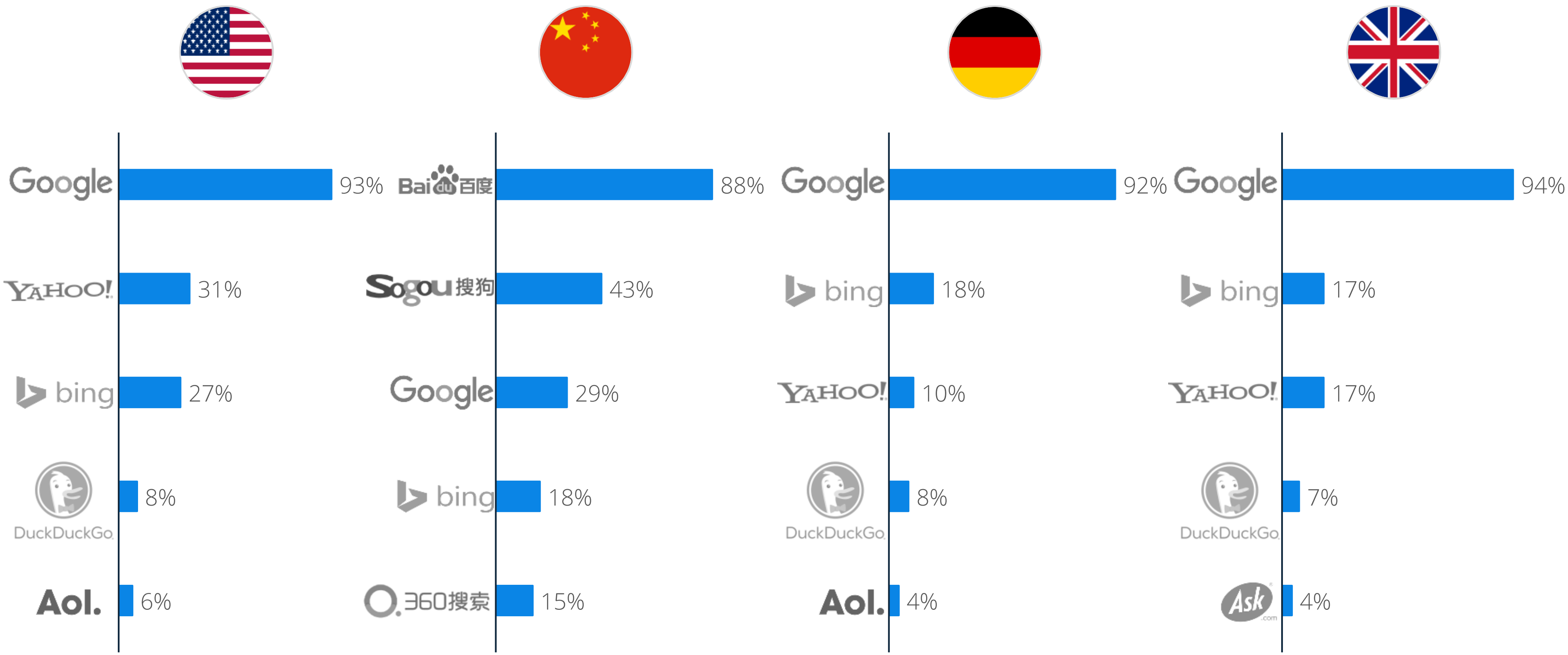
Selected key players in Digital Advertising

Agencies and trading desks	Demand-side platforms (DSPs)	Ad networks/exchanges	Supply side platforms (SSPs)	Publishers
WPP, MEC, Xaxis, GroupM, OmnicomGroup, iCrossing, IPG, Cadreon, Havas, Affiperf, Amnet, Publicis Groupe, Accuen, Vivaki, Infectious Media, Dentsu	TubeMogul, Choozle, theTradeDesk, Sizmek, invitemedia, MediaMath, Amobee, dataxu, rocketfuel, Google Marketing Platform, Facebook, amazon advertising, smartyads, Oath:, Adobe Advertising Cloud, Tremor VideoDSP	SpotX, Oath:, smartclip, gumgum, JustPremium, specificmedia, amazon advertising, Google Marketing Platform, Google Ads, 24/7 Media, Amobee, adjug, Zenovia, exponential, YuMe, PulsePoint	Verizon, Beachfront, VDO.AI, PubMatic, adpushup, SpotX, Google Ad Manager, Teads, Xapads, OpenX, Sovrn, Numerator, rubicon, ReklamStore, velti, Fyber, smaato, telaria, Improve Digital, adform, LKQD, SetupAd, AppNexus, Sulvo	Google, Naver, Baidu 百度, Bing, DuckDuckGo, Yandex, Yahoo!, Facebook, Instagram, Twitter, LinkedIn, Snapchat, Tumblr, WeChat, YouTube, Tastemade, twitch, dailymotion, @mail.ru group, BuzzFeed, Ströer digital media, Forbes, The Weather Channel, ESPN, Tencent 腾讯

Sources: Statista Advertising & Media Outlook, as of October 2020

With the exception of China, Google is the most-used search engine in the U.S., Germany, and UK

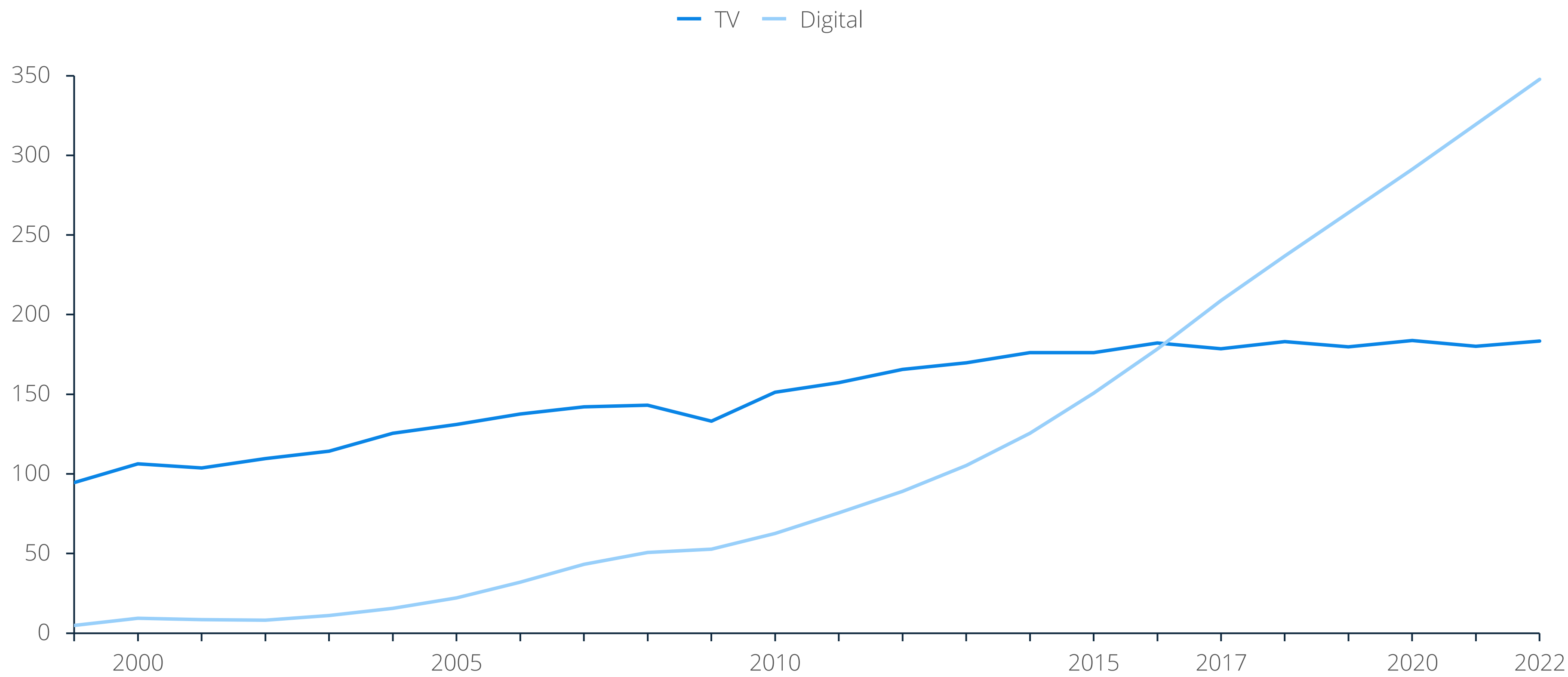
Usage shares of selected search engines in 2020



"Which search engines have you used in the past 4 weeks?"; Multi Pick; U.S.: n=4,189; China: n=2,088; Germany: n=2,087; UK: n=2,104
Sources: Statista Global Consumer Survey, as of October 2020

Spending on Digital Advertising outpaced TV ad spending in 2017

Ad spending in billion US$



Sources: Magna Global

Nearly 60% of respondents use an ad blocker to avoid annoying or intrusive advertising

Reasons for users to turn on their ad blockers and/or anti-tracking software in 2019

Germany: n=3,875 in 2019
Sources: YouGov

FinTech

FinTech, a combination of financial services and technology, has been rapidly evolving in the last decade and has already reinvented the financial services landscape, that is to say: the way people spend, invest, and lend money. With more than 40% of the global adult population using the internet to pay bills or shop online, FinTech is not an emerging market anymore but an established industry with enormous potential yet to be unlocked.

The most important driving forces for the adoption of any FinTech innovation are minimal entrance barriers for both consumers and providers, comprehensive information, intuitive end-user handling, and favorable regulation and legislation.

The FinTech market in the Statista Digital Market Outlook focuses on the consumer-oriented FinTech space. It includes the segments Digital Payments, Personal Finance Services, such as Robo-Advisors and Digital Remittances, Alternative Financing (financing platforms for crowdfunding and crowd investing), as well as Alternative Lending (Crowdlending and Marketplace Lending).

Digital Payments - by far the largest segment - has a global transaction value of US$4.9 trillion in 2020 and is expected to reach US$8.2 trillion by 2024. Although China and the U.S. clearly lead the market with transaction values of US$3.3 trillion and US$910 billion in 2020 respectively, Europe is struggling to catch up.

The payments landscape in Europe is evolving, but market dynamics and the penetration of digital payments are not comparable to China or the U.S. Different cultural mindsets and the overall state of the economy also play a significant role in the speed of innovation: While cash is still king in Germany, mobile payments in China (e.g. Alipay and WeChatPay) have already all but replaced cash.

Note: More information in the Statista Digital Market Outlook

Personal Finance is currently the second biggest FinTech segment and accounted for US$907 billion in transaction value in 2019. Traditional banks' wealth management services often fail to keep up with middle-class consumers' expectations in terms of both performance and technological elegance. This has led to the emergence of a broad spectrum of digital investment services, Robo-Advisors, in North America and Europe. The current value of assets under management of these services globally is estimated at US$827 billion for 2019.

Alternative Lending has not lived up to the industry's expectations and has suffered some reputational damage. Nevertheless, this segment still accounted for US$291 billion in global transaction value in 2020. Borrowing money from an online community instead of turning to family or friends is an attractive option in growing economies, where traditional bank loans are less accessible. The alternative lending sector in China has grown exponentially in the past several years. But it also received scrutiny from Chinese authorities due to several major fraud incidents.

Alternative Financing is currently the smallest segment with a global transaction value of US$6 billion in 2020. But it shows promising growth as many entrepreneurs and small business owners are starting to recognize its benefits.

The most frequently used buzzword within FinTech is probably blockchain. It is a distributed ledger technology that records peer-to-peer transactions across decentralized computers without a central authority. Information is written in blocks that are visible to everyone. Blockchain grows with the number of transactions and information stored in it. Blockchain participants also referred to as miners provide computing power and receive an incentive for their work. The immense number of equivalent replications makes fraud almost impossible. Blockchain technology will gain importance and we expect it to shape the FinTech landscape in the future.

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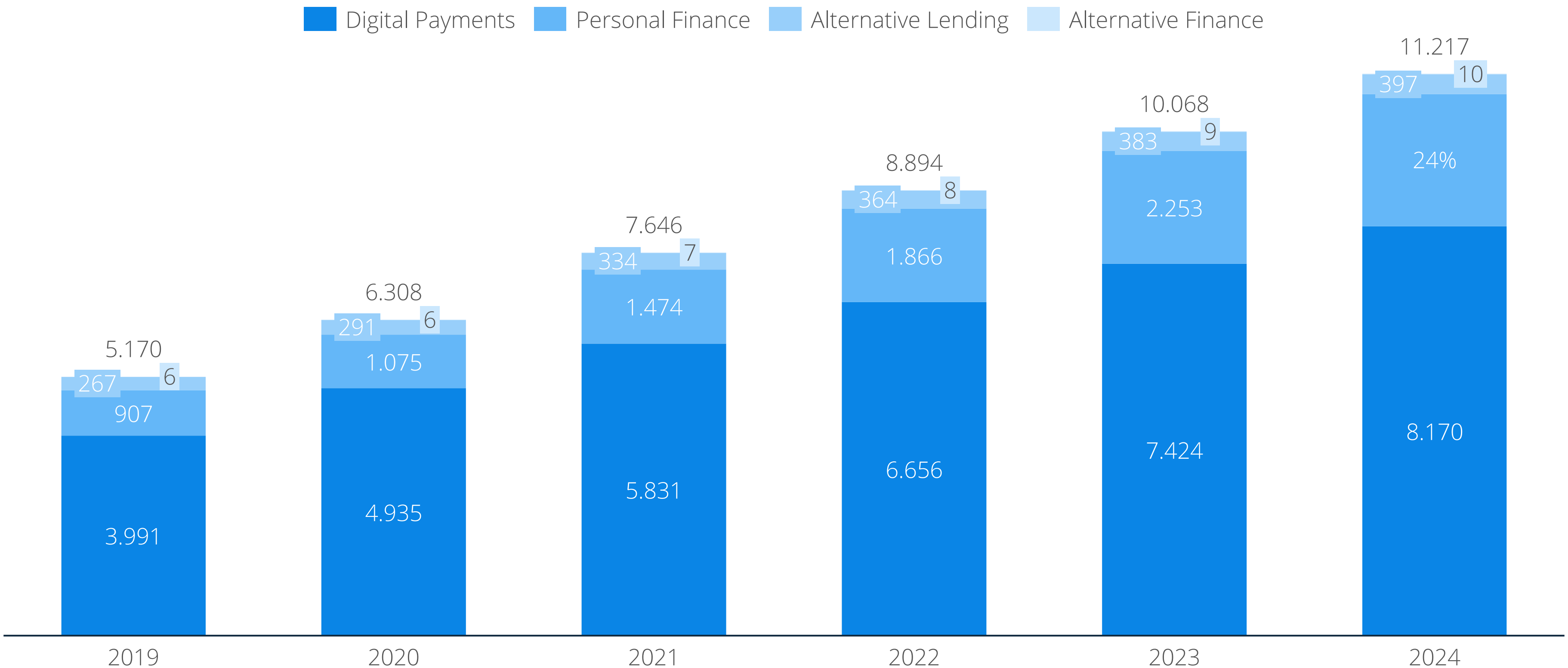
The FinTech market is expected to reach US$11.2 trillion in transaction value in 2024

Global FinTech transaction value forecast in billion US$



Sources: Statista Digital Market Outlook, as of October 2020

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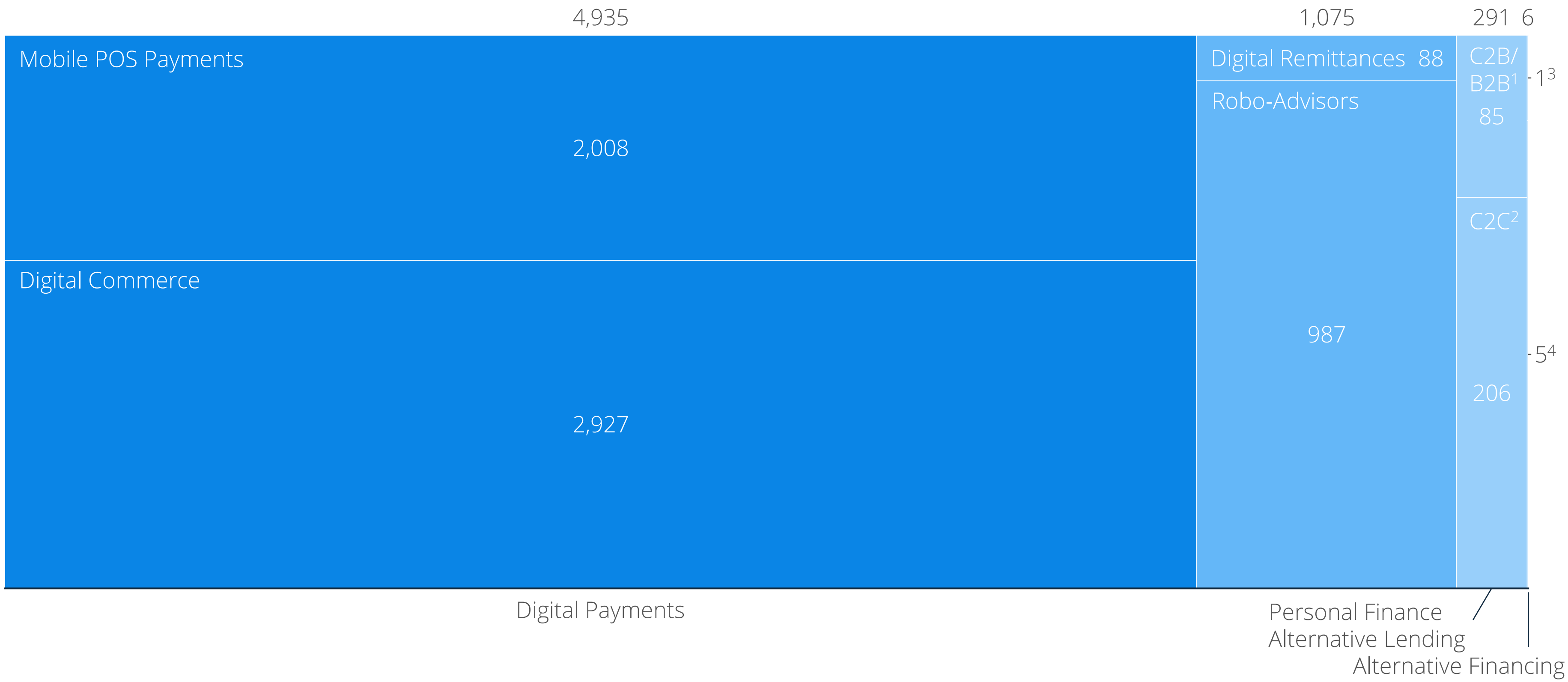
Digital Commerce is responsible for the biggest amount of transaction values in the Fintech market

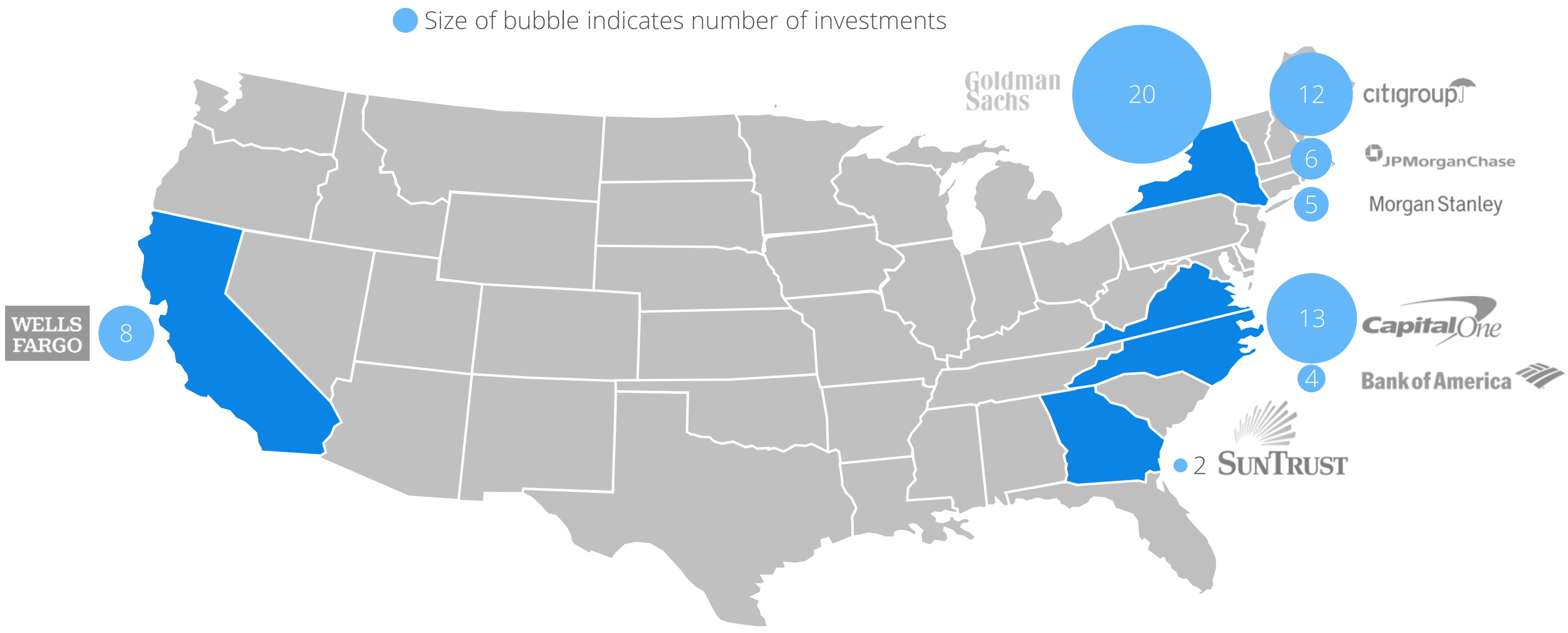
Global FinTech transaction value in billion US$ in 2020



1: Marketplace Lending (Consumer) 2: Crowdlending (Business) 3: Crowdinvesting 4: Crowdfunding
Sources: Statista Digital Market Outlook, as of October 2020

Major U.S. banks adopt and invest in financial technology

Location and number of investments of selected U.S. banks involved in FinTech activities



Sources: Statista, Crunchbase

statista

The FinTech landscape is highly competitive with several different business models

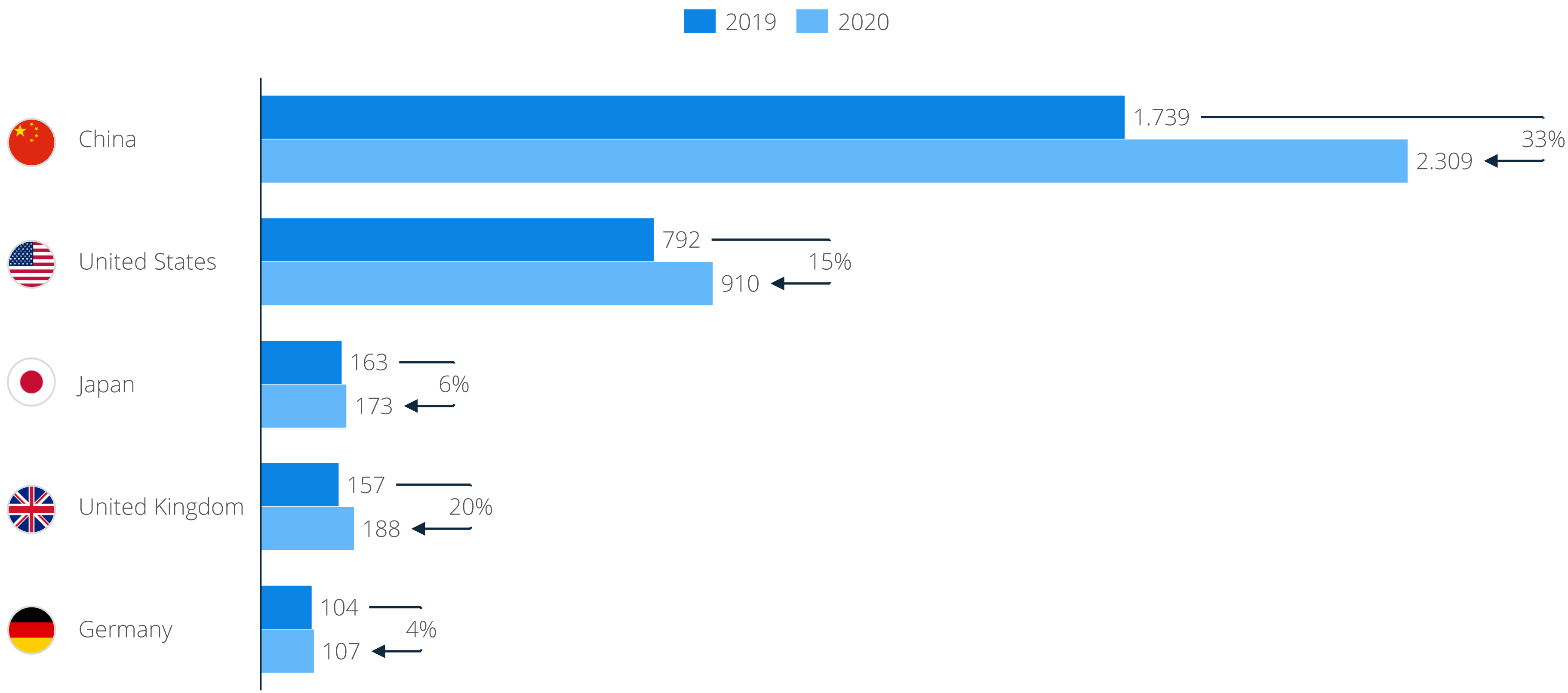
Selected key players in FinTech

Digital Payments	Personal Finance	Alternative Lending	Alternative Financing
Digital Commerce	**Robo-Advisors**	**Crowdlending**	**Crowdfunding**
amazon pay, G Pay, PayPal, American Express, mastercard, Klarna	scalable capital, Personal Capital, nutmeg, wealthfront, Betterment, charles SCHWAB	拍拍贷 ppdai.com, ondeck, LendingKart (Think Cash, Think Lendingkart!), 点融网 Dianrong.com, iwoca (instant working capital), Funding Circle, lendinvest	点名时间, Kickstarter, Indiegogo, gofundme, Thundafund, Pozible, vision bakery
Mobile POS Payments	**P2P Money Transfers**	**P2P Marketplace Lending**	**Crowd Investing**
G Pay, Alipay, m-pesa, PAY, Samsung Pay, Apple Pay, UnionPay 银联, 微信支付, masterpass by mastercard	MoneyGram, xoom A PayPal Service, TransferWise, Remitly (Promises Delivered), currencyfair, Azimo, worldremit	RateSetter, 宜信 CreditEase, Social Finance, Prosper, LendingClub, Avant, 陆金所 LU.com, younited credit (Empruntez. Investissez. Entre vous.), auxmoney	Seedrs, crowdcube, CircleUp, EquityNet, start engine, FundersClub, AngelList, seedinvest

Sources: Statista Digital Market Outlook, as of October 2020

Digital Payments in China grew by more than 30% from 2019 to 2020

Top 5 FinTech countries by Digital Payments transaction value in billion US$



Sources: Statista Digital Market Outlook, as of October 2020

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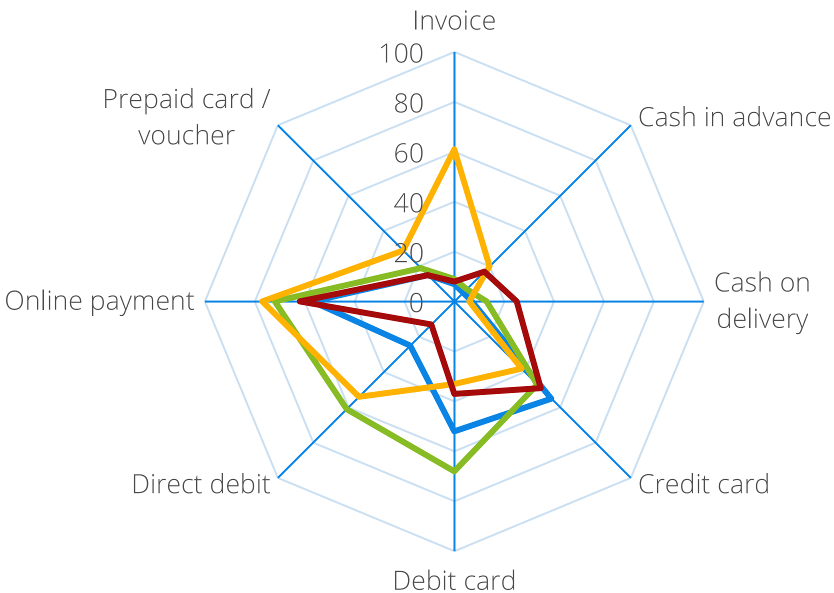
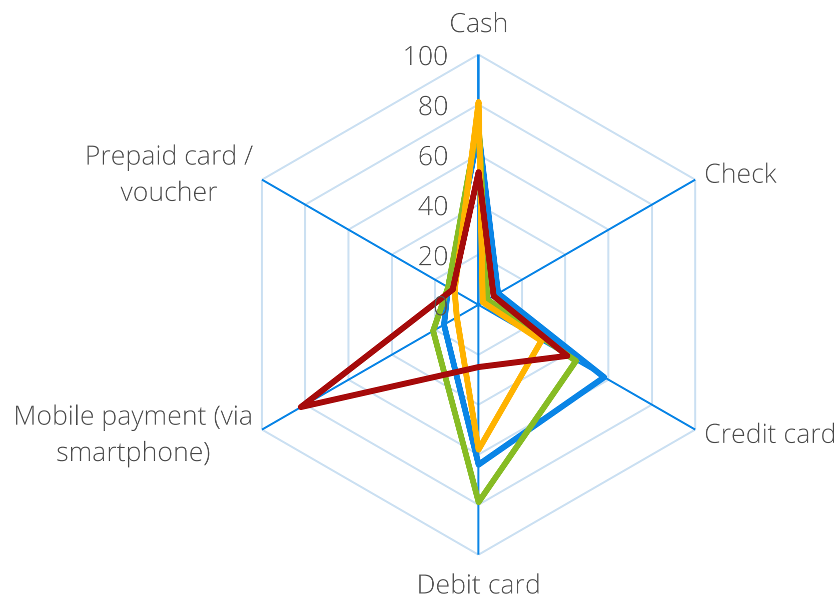
While the preferred online payment method is nearly the same, payment at POS differs greatly by country

Usage of payment methods online in % in 2020

Usage of payment methods at POS in % in 2020

U.S. UK Germany China





"How have you conducted online payments in the past 12 months?"; Multi Pick; U.S.: n=4,173, UK: n=2,093, Germany: n=2,094, China: n=2,098
Sources: Statista Global Consumer Survey, as of September 2020

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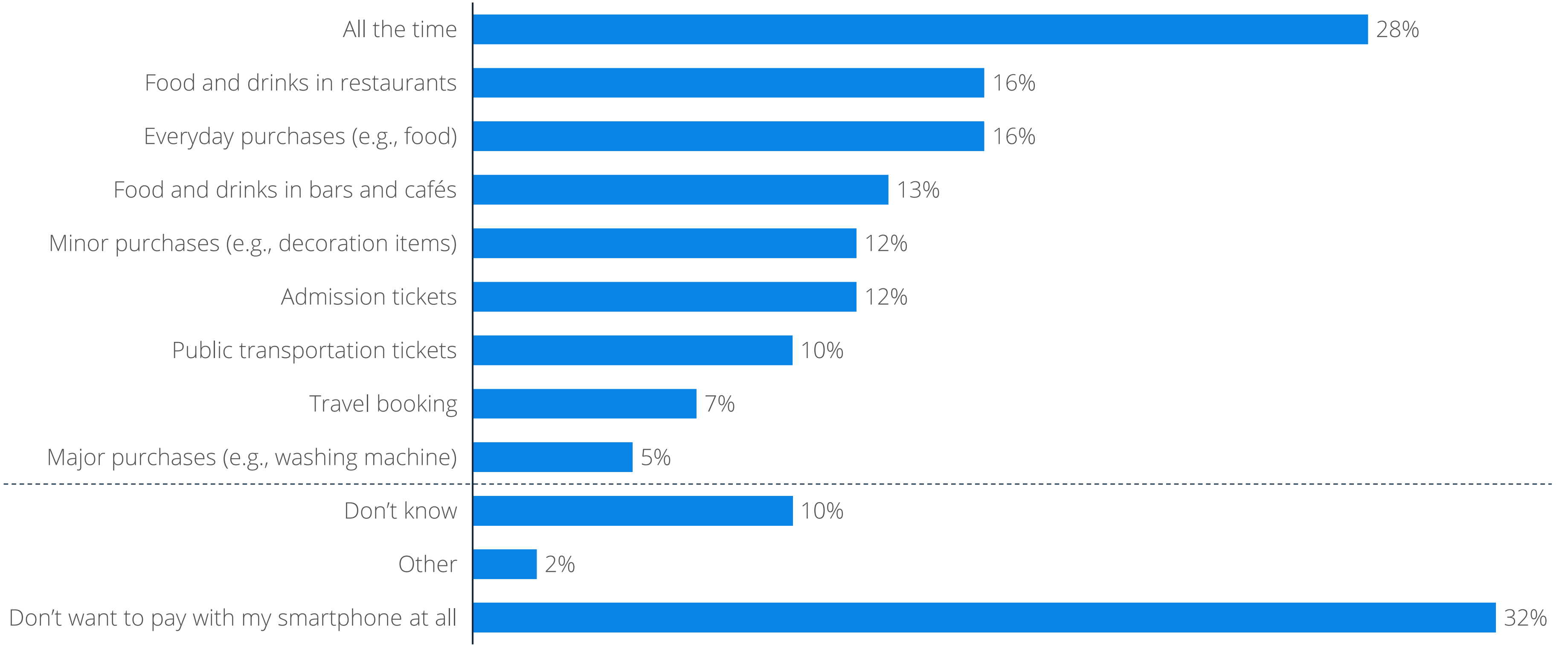
28% of U.S. consumers would like to use mobile payment methods at all times

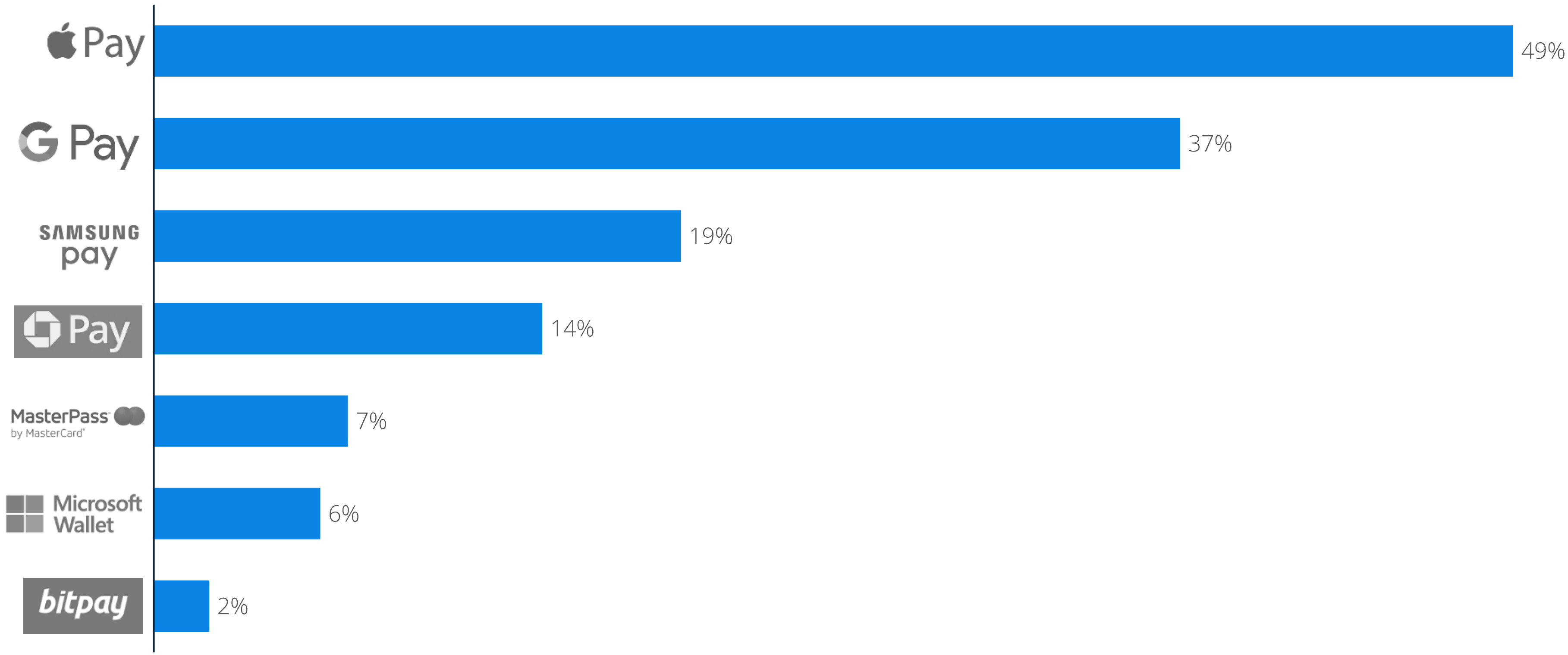
Relevance of mobile payment methods in the U.S. in 2020



"In what situations would you like to be able to pay with your smartphone (without debit/credit card or cash)?"; Multi pick; n=4,173
Sources: Statista Global Consumer Survey, as of October 2019

ApplePay and GooglePay are the most popular mobile payment methods in the U.S.

Usage share of selected mobile payment methods in 2020



"Which of these services have you used in the past 12 months to pay in stores, restaurants or other points of sale with your smartphone?"; Multi pick; n=684 respondents who used mobile payment in restaurants, stores and other points of sale in the past 12 months
Sources: Statista Global Consumer Survey, as of October 2020

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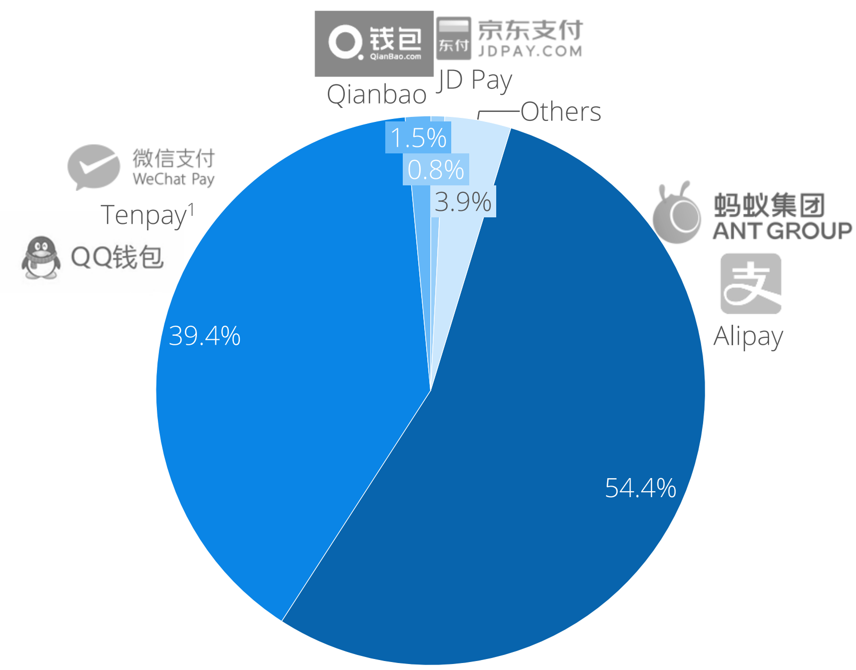
Besides China's largest digital payment platform, Ant Group offers a diverse set of financial solutions

蚂蚁集团
ANT GROUP

Market share of leading third-party online payment providers in China in 2019



Ant Group business breakdown

Digital Payment

Alipay

CreditTech

Huabei
Consumer credit

Jiebei
Consumer micro loan

My Loan
Business micro loan

InvestmentTech

Ant Fortune
Wealth management

Yu' E Bao
Cash management

Zhao Cai Bao
Financial information

InsureTech

Ant Insurance
Scenario-based insurance

Xiang Hu Bao
Mutual aid

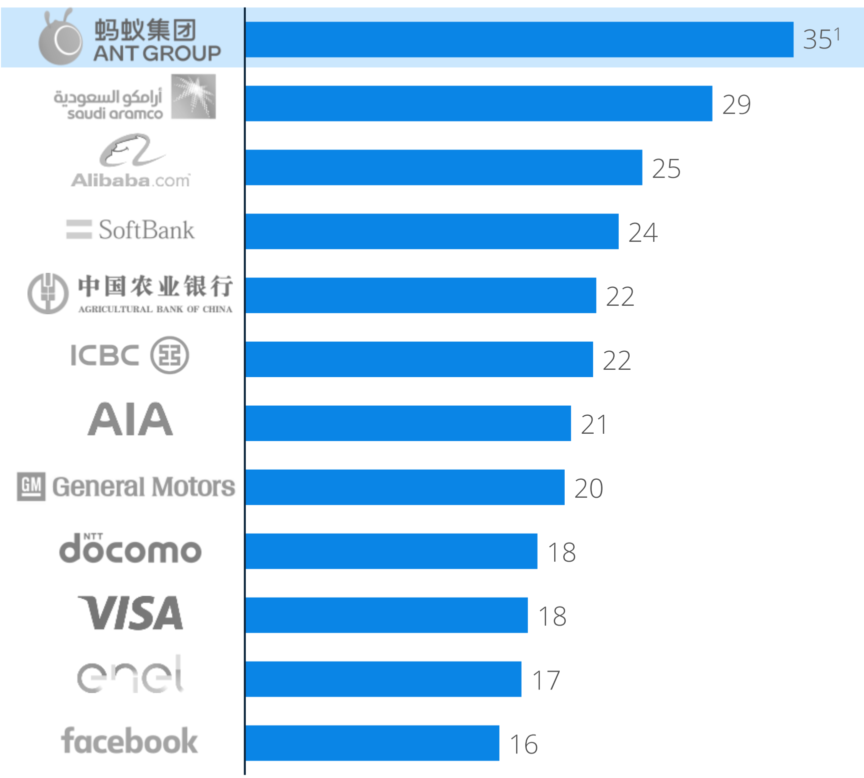
Hao Yi Bao
Healthcare insurance

1: Tenpay includes WeChat Pay and QQ Wallet
Source: iresearch, Ant Group, KrASIA

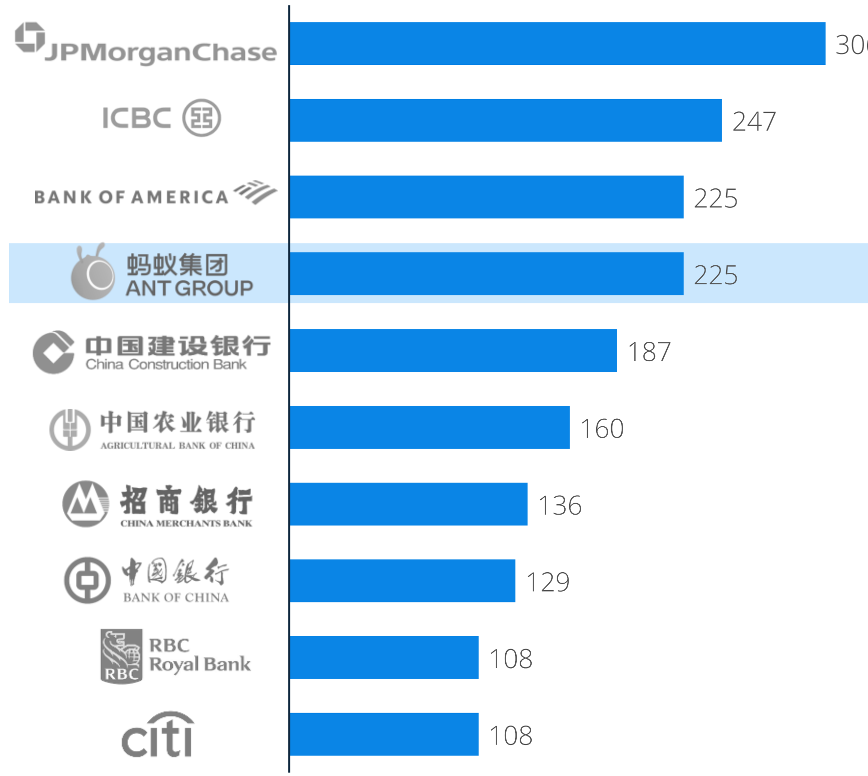
statista

After Ant Groups record IPO it will be one of the world's highest-valued financial firms

Global IPOs with most money raised in billion US$



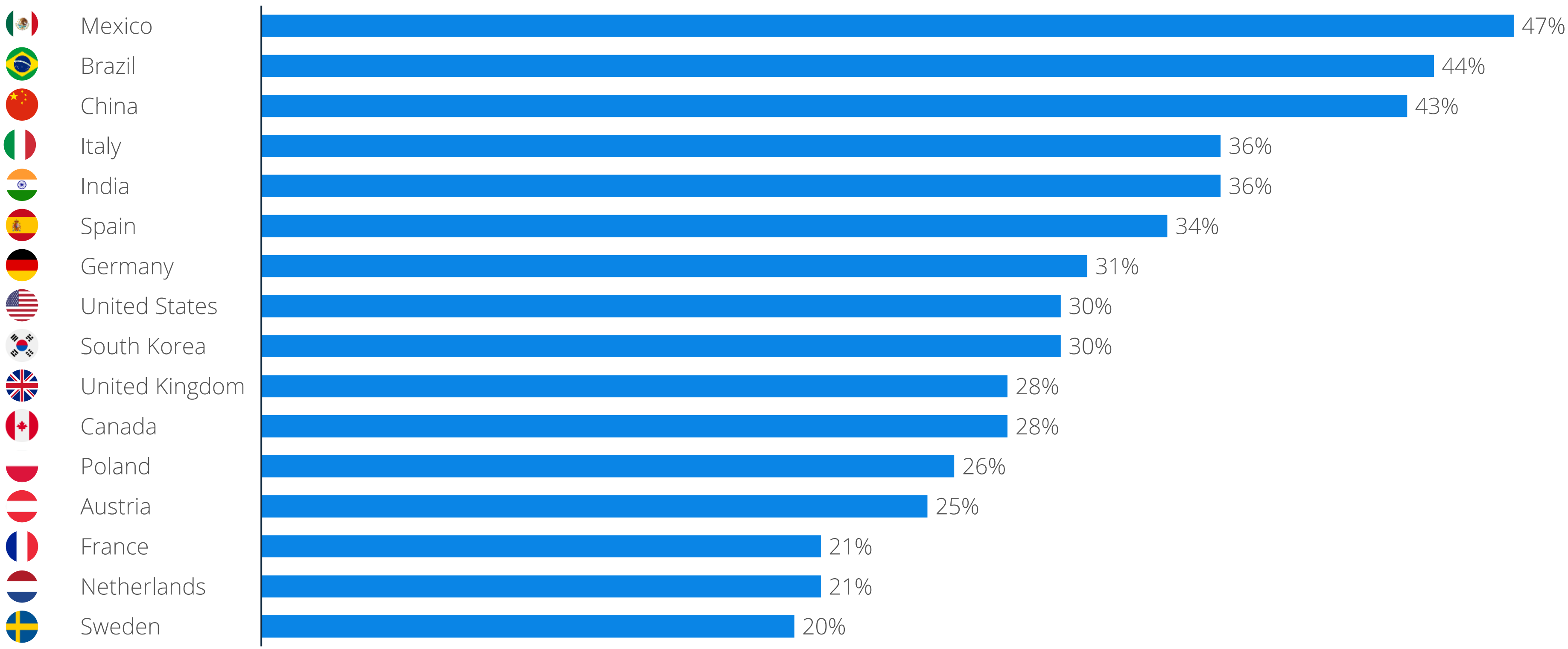
Global financial firms market cap in billion US$ in 2020[2]



1: estimated 2: Bloomberg, as of August 2020, Ant Group valuation based on target IPO raise
Source: Media reports, company information, Bloomberg

Interest in Robo-Advisors is highest in Mexico, Brazil, and China

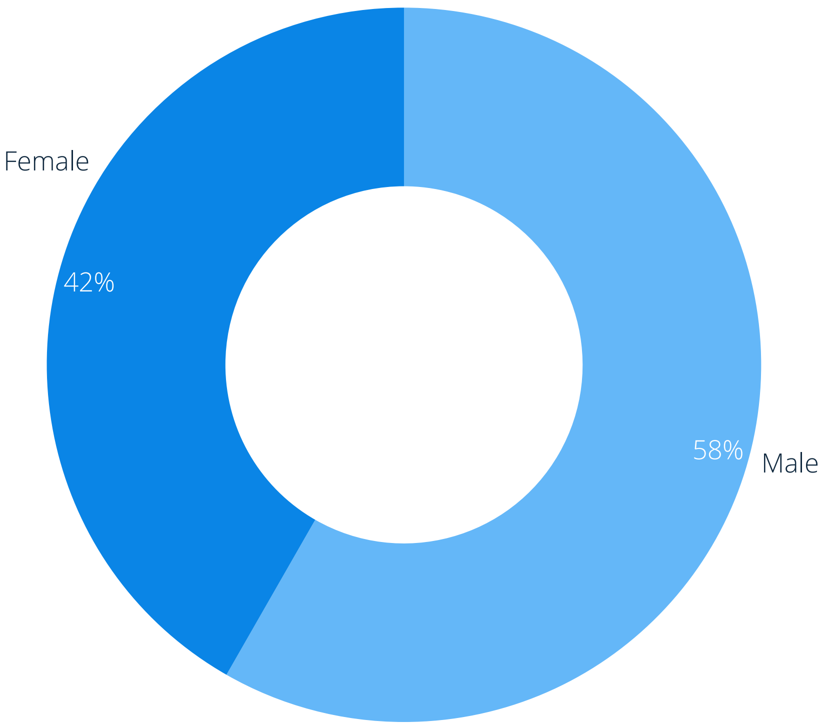
Share of respondents who could imagine consulting a digital program (Robo-Advisor) for financial advice in 2019



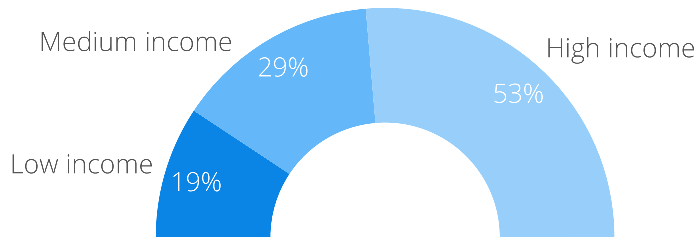
"Which of these statements apply to you?/I could imagine consulting a digital program (RoboAdvisor) for advice on finance issues"; Multi pick; n=40,600
Sources: Statista Global Consumer Survey, as of October 2019

A higher share of people with high income use Mobile POS Payments in the UK

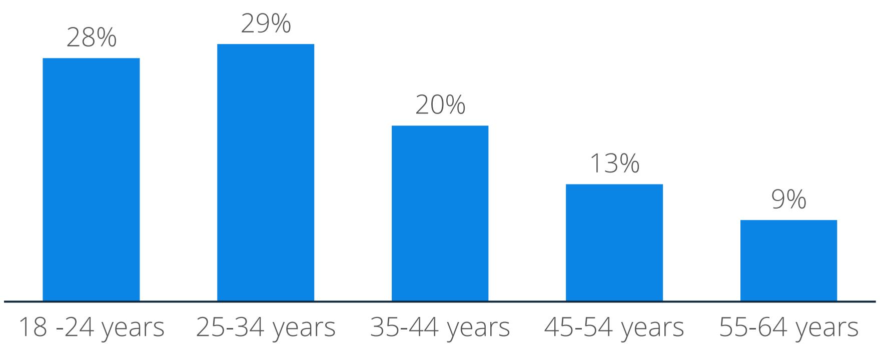
Gender



Income



Age



"How have you conducted payments online in the past 12 months?"; Multi pick; n=194
Sources: Statista Global Consumer Survey, as of October 2020

Smart Home

Smart homes and the internet of things (IoT) are irrevocably intertwined, and the IoT is currently one of the most disruptive trends, affecting consumers and businesses in traditional industries alike.

In the Statista Digital Market Outlook, we divide the Smart Home market into the segments Control and Connectivity, Comfort and Lighting, Security, Home Entertainment, Energy Management, and Smart Appliances.

The global Smart Home market reached US$93 billion in 2020. With revenues of US$25 billion, the U.S. is the biggest Smart Home market in 2020. Although prospects are positive despite the COVID-19 crisis, the U.S. grew only 6% from 2019 to 2020, which is significantly lower than the Chinese growth rate of 26%. The Chinese market is now almost the same size as the U.S. with revenues of just below US$25 billion in 2020.

The Smart Home landscape is strongly shaped by large players such as Google, Apple, Amazon, and Alibaba who have expanded their product portfolios and driven market consolidation. Examples include Amazon, which acquired Ring for US$1 billion in 2018, and Google, which merged its home devices team with Nest into Google Nest in 2018. Nevertheless, several market segments still have no clear market leader. Manufacturers, telcos, energy suppliers, medium-sized companies, and start-ups still have chances in the future, when practically every product in the average home will be connected to the internet.

Growth in Smart Home markets was strongly driven by Smart Speakers in 2018. The adoption rate for smart Speakers in the U.S. nearly doubled, which can be attributed to growth in both Alexa and Google Home devices. Apple's HomePod, on the other hand, only played a minor role. Moreover, there was an influx of smart displays, such as Echo Show, the Lenovo Smart Display, and Facebook Portal.

Note: More information in the Statista Digital Market Outlook
1: CAGR: Compound Annual Growth Rate/average growth rate per year

Growth is, however, limited due to still improving usability. No matter how many sensors or connected appliances consumers install, they are still required to control settings manually, whether through an app or a voice assistant.

Equally, a lack of unified Smart Home standards slows growth. Competing standards such as Bluetooth, Zigbee, Z-Wave, and Wi-Fi complicate interoperability among devices. However, devices in a smart home are seldom used separately. Customers do not want to switch devices and technologies when controlling, e.g., their home entertainment or security systems. Given this, Apple, Amazon, Google, and the Zigbee Alliance formed a working group in 2019 called "Connected Home over IP" to create an industry standard for smart home connectivity. The future of the Smart Home will be an integrated platform solution with a universal communication standard interlinking all smart devices.

The connection of all Smart Home devices, more sophisticated AI-driven services and the gathering of a gigantic amount of data presents a challenge for Smart Home development. In this respect, the implementation of 5G is vital. Sharing the data of homeowners with businesses will foster the growth of new individualized technologies and services in the market.

Considering the handling of all this data, security concerns will become even more relevant. As there currently are no minimum requirements, there is no industry standard for implementing cybersecurity into smart devices. Consumers are already worried about data security breaches in their Smart Home and providers need to respond to these concerns.

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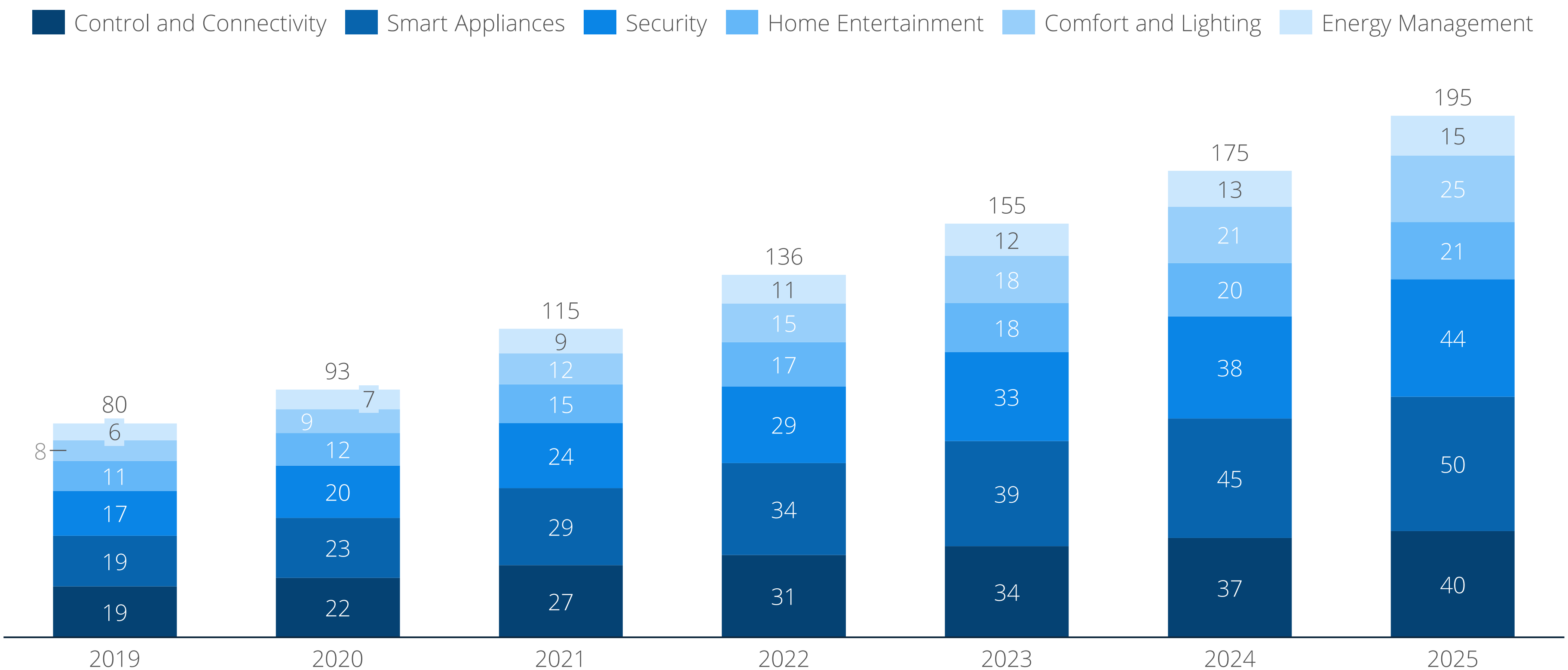
The Smart Home market is expected to reach US$195 billion in 2025

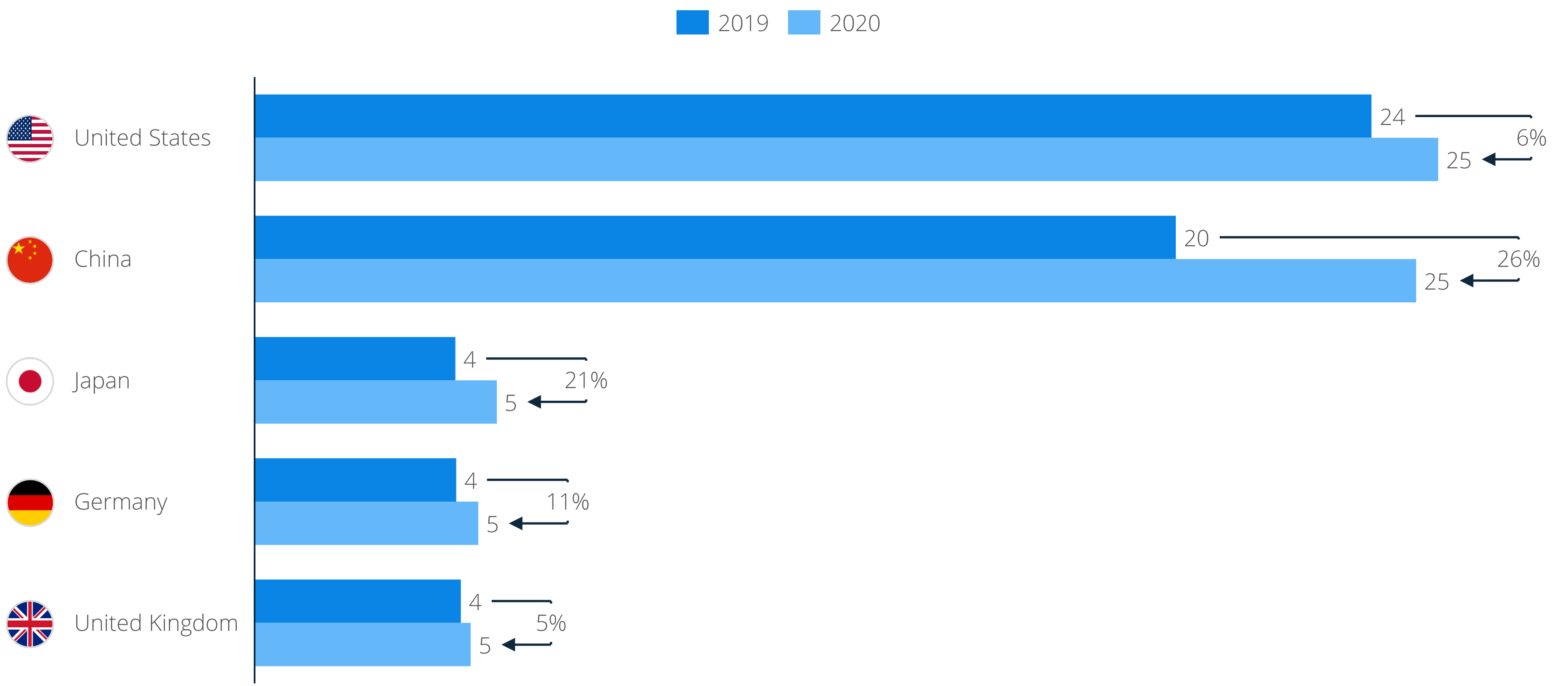
Global Smart Home revenue forecast in billion US$



Sources: Statista Digital Market Outlook, as of October 2020

China is catching up with the U.S. when it comes to Smart Home revenues

Top 5 Smart Home countries by market revenue in billion US$



Sources: Statista Digital Market Outlook, as of October 2020

The Smart Home market comprises both start-ups and established companies

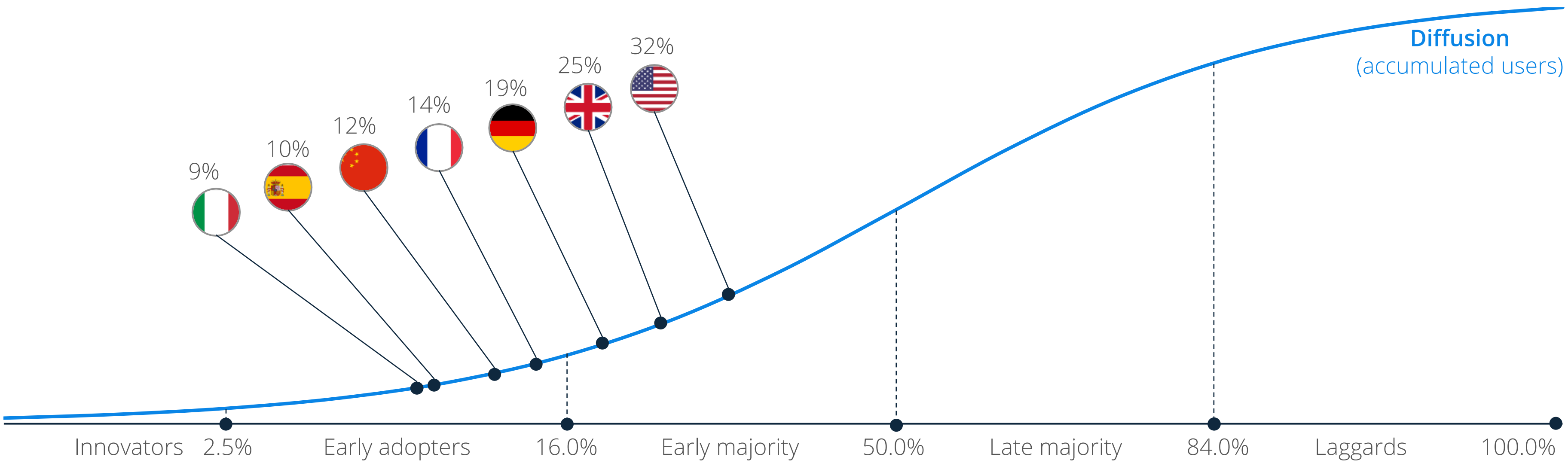
Selected key players in Smart Home

	Control and Connectivity	Comfort and Lighting	Security	Home Entertainment	Energy Management	Smart Appliances
Dedicated segment companies	Control4 FIBARO Home intelligence INSTEON LOXONE GIRA eQ-3	LEDVANCE LIFX BeON home moodnode COMFYLIGHT	ALARM.COM CHUANGO canary ADT Security LUPUS ELECTRONICS ring august vivint.SmartHome	SONOS PURE Roku BLUESOUND D. DEFINITIVE TECHNOLOGY	tado° ecobee climote nest netatmo	ECOVACS ROBOTICS iRobot neato robotics
Players entering the market from foreign industries	HomeKit Magenta SmartHome AVM Baidu 百度 amazon echo mi belkin NETGEAR	GE link somfy hue PHILIPS LEEDARSON SAMSUNG SmartThings	AT&T ASSA ABLOY SCHLAGE Gigaset	B&O BANG & OLUFSEN tv logitech BOSE DENON	hive innogy Danfoss BOSCH Honeywell	B/S/H/ Haier LG Whirlpool CORPORATION

Sources: Statista Digital Market Outlook, as of October 2020

The market is moving past the early-adopter stage in some countries towards acceptance and demand

Innovation diffusion curve for 2020

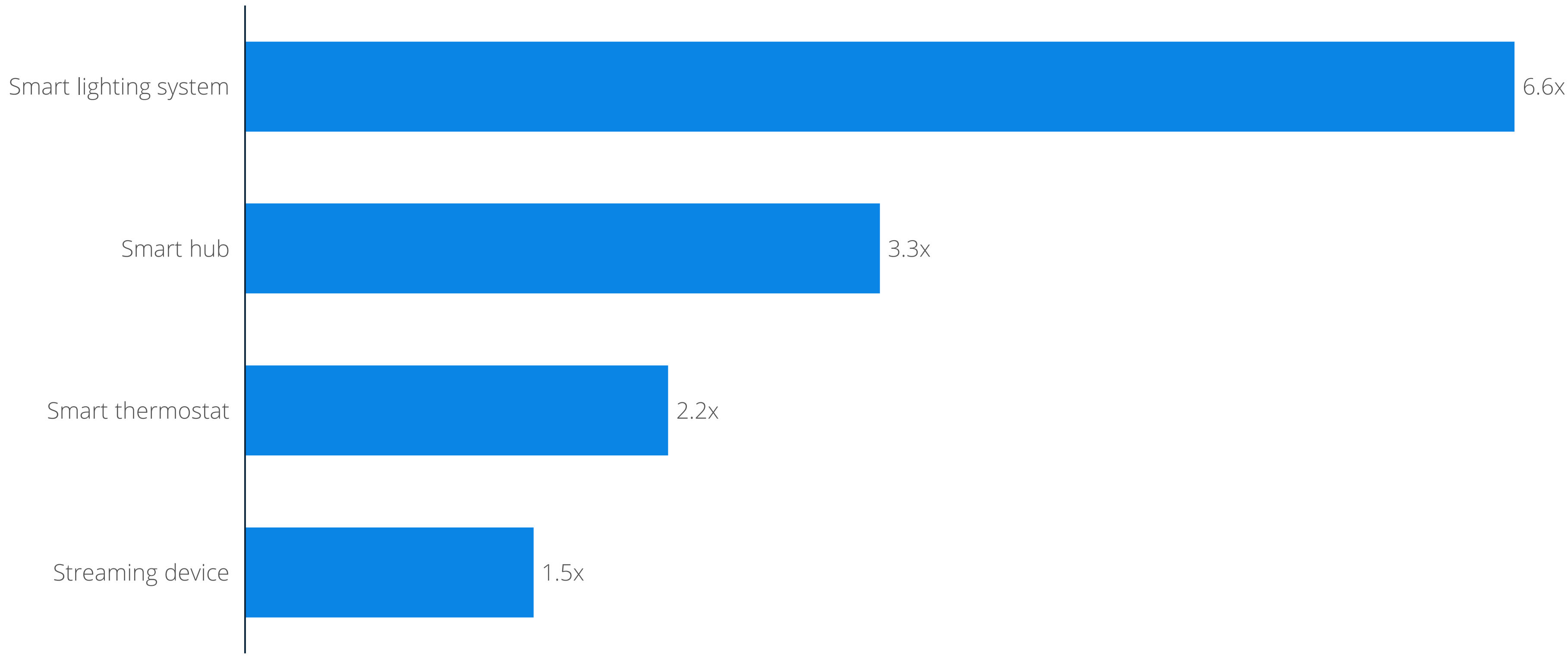


The diffusion of innovations graph shows successive groups of consumers adopting devices from the smart home market (the graph above shows the household penetration rate of selected countries). Innovations in general are not adopted by all individuals at the same time but tend to be adopted in a time sequence and can be classified into adopter categories based on how long it takes to begin using the service. Diffusion is regarded as the rate at which innovations spread among users (an adoption rate of 100% is theoretically possible but not realistic). Considering the moderate level of penetration, replacement cycles, and the fact that more and more devices will be connected, adoption will steadily grow in the coming years.

Sources: Statista Digital Market Outlook, as of October 2020

U.S. smart speaker households are 6.6 times more likely to also own a smart lighting system

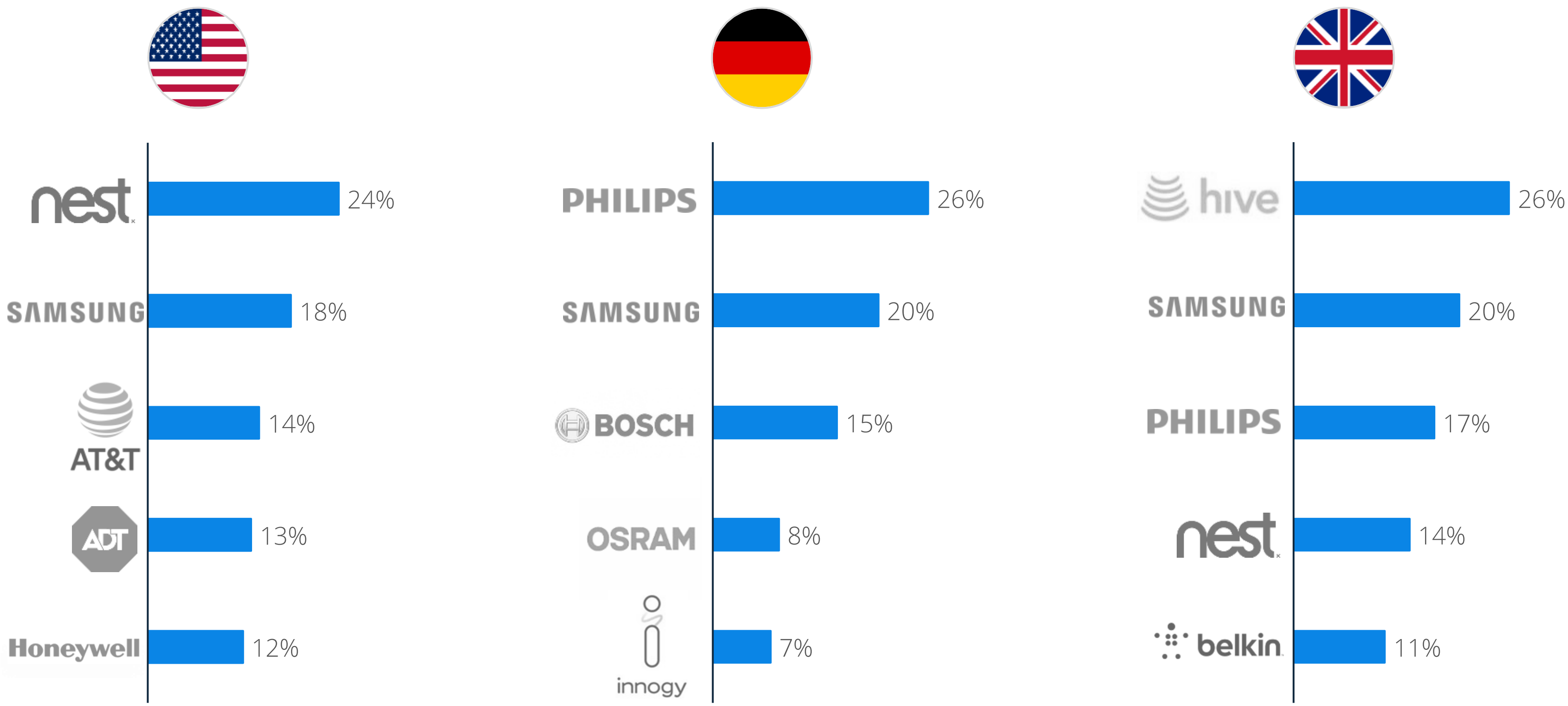
Likelihood of U.S. smart speaker households to use other connected devices vs. non-smart speaker households



Sources: comScore Connected Home, as of 2018

The top Smart Home product brand in the U.S. is Nest, whereas Hive leads in the UK and Philips in Germany

Ownership of selected Smart Home automation devices in 2020



"Which of these providers do you own Smart Home devices from?" Multi Pick; U.S.: n=993; UK: n=445; Germany: n=483 respondents who own smart home devices for comfort and lighting, building safety/security, and/or energy management

Sources: Statista Global Consumer Survey, as of August 2020

eServices

The ubiquitous use of the internet and mobile phones has triggered a flourishing eServices business, which is still on the rise.

In the Statista Digital Market Outlook, eServices is divided into four segments: Online Food Delivery, Event Tickets, Fitness, and Dating Services.

The eServices market reaches a revenue of US$189 billion in 2020. Regionally, China has taken the lead with US$63 billion in revenues compared to the US$43 billion in the U.S. With a revenue of US$32 billion in 2020, the European market is smaller compared to China and the U.S.

Since Pizza Hut launched the first-ever pizza online ordering service back in 1994, the Online food Delivery market has become a billion-dollar business. Food delivery platforms have aggregated menus of hundreds of thousands of restaurants in easy-to-access apps in nearly every city across the world. Today, competition in the market is fierce and industry leaders are constantly changing. In the U.S., DoorDash has managed to overtake the dominant GrubHub. Meanwhile, in China, Meituan Waimai has merged with Dianping to rival the industry leader Ele.me.

Though the COVID-19 pandemic has caused an increase in food delivery sales because of social distancing rules, many food delivery services are still failing to turn a profit. Many companies operated at a loss for years in attempts to establish their brands across regions.

A recurring issue is whether food couriers should be considered employees entitled to certain rights and benefits or freelancers. This is usually settled differently depending on the country. considered Commissions paid by restaurants for deliveries are also a point of contention. There is still no standard business model leaving room for standardization and innovation.

Note: More information in the [Statista Digital Market Outlook]

Event Tickets is the second-largest eService segment, encompassing Cinema, Sports, and Music Events. The cancellation of many live events around the world, social distancing rules, and general public concern has hit this segment the hardest during the COVID-19 pandemic, with revenues more than 50% smaller compared to 2019. The recovery of the online event tickets market is bound to the recovery of spectator activities in general. In the meantime, companies such as Live Nation are testing drive-in concert tours and crowdless shows.

As for the Fitness segment, the crisis has accelerated the development. Many people are compelled to exercise at home rather than the gym, spurring the growth of stay-at-home fitness services such as Peloton. In the future, we might see even more sophisticated services and devices developed for this indoor market, especially with the upcoming 5G introduction.

Dating Services around the world have weathered the crisis quite well, with people seeking connections and companionship in the midst of isolation and uncertainty. In order to respect social distancing rules, companies such as Tinder and Match have introduced video dating. Yet despite more active users, the economic impact of the crisis means that fewer customers are willing to pay for premium subscriptions which are the main source of revenue for online dating services. An innovative solution to invigorate flagging revenues is to combine dating services with the now thriving fitness segment, e.g., where fitness profiles can be combined with dating profiles, and fitness activities can be shared as interactive online dates.

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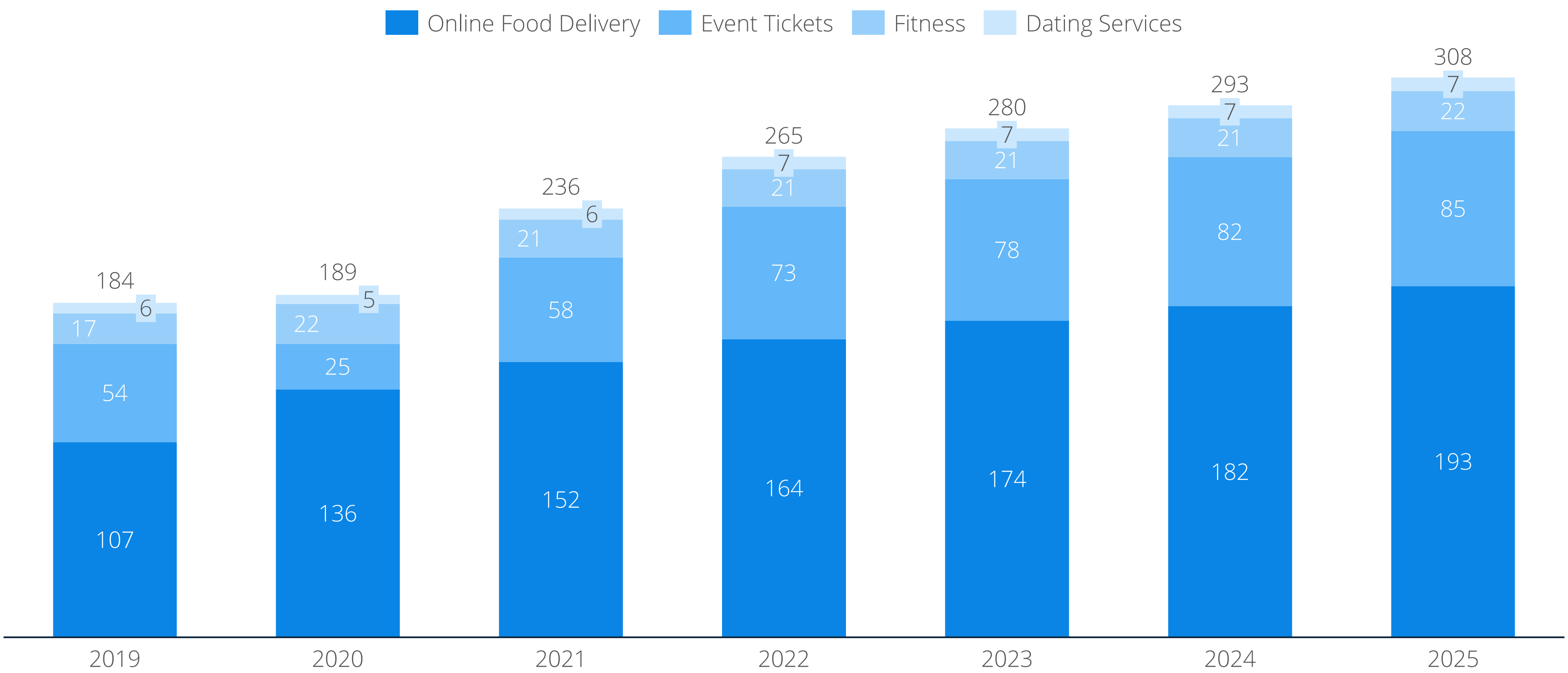
eServices expected to reach US$308 billion in 2025 with Online food Delivery as the largest segment

Global eServices revenue forecast in billion US$



Note: Revenue figures refer to Gross Transactional/Merchandise Value (GTV/GTM)
Sources: Statista Digital Market Outlook, as of October 2020

Online Food Delivery dominates the global eServices market followed by Event Tickets

Global eServices revenue in billion US$ in 2020

Sources: Statista Digital Market Outlook, as of October 2020

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In all eServices segments, the variety of different service and business models is high and changing fast

Selected key players in eServices

	Online Food Delivery	Event Tickets	Fitness	Dating Services
Start-ups[1]	ele.me, Delivery Hero, ticketstreet, deliveroo, Glovo, DOORDASH, foodora, POSTMATES, 美团外卖, UBER eats	Mtime 时光网, getgo, atom, TICKETPRO, eventfactory, damai.cn, SeatGeek	runtastic, Withings, MISFIT, mi, BEAST, moov, WHOOP, fitbit, ATLAS	tinder, zoosk, Darling, LOVOO, coffee meets bagel, whispar, huggle, bumble, jaumo, C-date, Hinge
Established players	Domino's, JUST EAT, Smiley's Pizza Profis, Pizza Hut Delivery, zomato, GRUBHUB, Takeaway.com	ticketmaster, reservix, ADticket, Eventbrite, ZOONGA, ticket online, tickettune, eventim, TICKETWORLD	GARMIN, NIKE, MEDISANA, The HMM Group, Under Armour, JAWBONE, POLAR, adidas	Parship, meetic, badoo, PlentyOfFish, eHarmony, match.com, ElitePartner, baihe.com, okcupid, ASHLEY MADISON

1: Founded in or after 2008
Sources: Statista Digital Market Outlook, as of October 2020

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Most Online Food Delivery players had more than 5 funding rounds

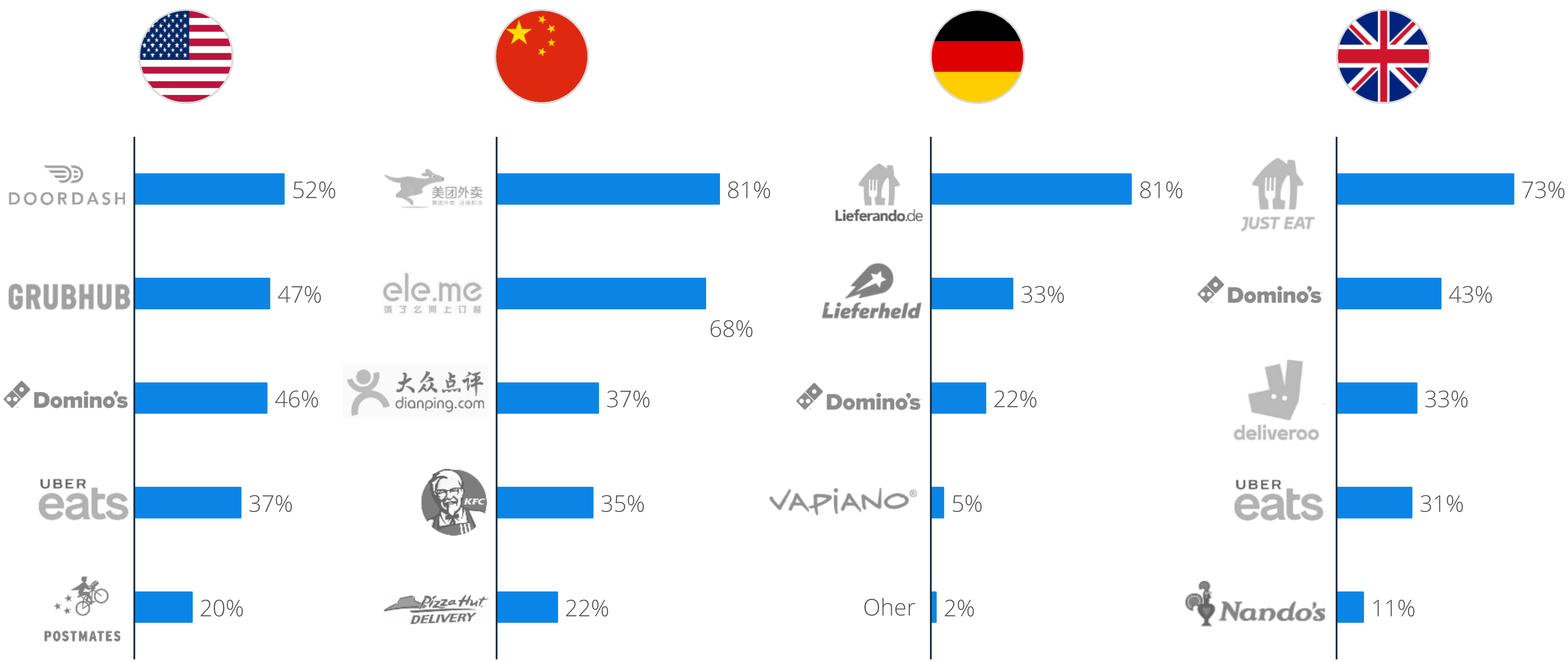
Overview of selected Online Food Delivery players

Company	Segment	Headquarters	Main regions covered	Funding in billion US$	Funding rounds	Revenue in billion US$ 2019
Deliveroo	P2C[7]	United Kingdom	Europe	1.5	10	-
Delivery Hero[1]	R2C[7]	Germany	Europe	5.1	16	1.63[2]
Domino's Pizza	R2C[7]	United States	United States, Europe, China	-	-	3.62
Ele.me[3]	P2C[7]	China	China	3.3	9	-
Postmates	P2C[7]	United States	United States	0.90	12	0.50[4]
Zume Pizza	R2C[7]	United States	United States	0.42	7	-
GrubHub	R2C[7]	United States	United States, Europe	0.28	8	1.31
Just Eat	R2C[7]	United Kingdom	Europe	0.12	5	1.31[5]
Takeaway.com	R2C[7]	Netherlands	Europe	0.77	3	0.48[2]
UberEats	P2C[7]	United States	United States, Europe	25.2[6]	27[6]	2.0[6]
Glovo	P2C[7]	Spain	Europe	0.51[4]	9	-

1: German operations bought by Takeaway.com in 2018 2: €/US$ (2019)=1.11986 3: Ele.me was bought by Alibaba in 2018 4: Estimated
5: GBP/US$ (2017)=1.31160 6: Total funding amount of Uber. 7. P2C - Platform-to-Consumer and R2C - Restaurant-to-Consumer
Sources: Company information, Crunchbase

Lieferando is the clear market leader in Germany whereas DoorDash is the leader in the U.S.

Usage share of selected Online Food Delivery players in 2020



"Which of these online providers of food delivery have you used in the past 12 months?" Multi Pick; U.S.: n=1,942; China: n=1,200; UK: n=1094; Germany: n=804 respondents who used meal orders online in the past 12 months
Sources: Statista Global Consumer Survey, as of October 2020

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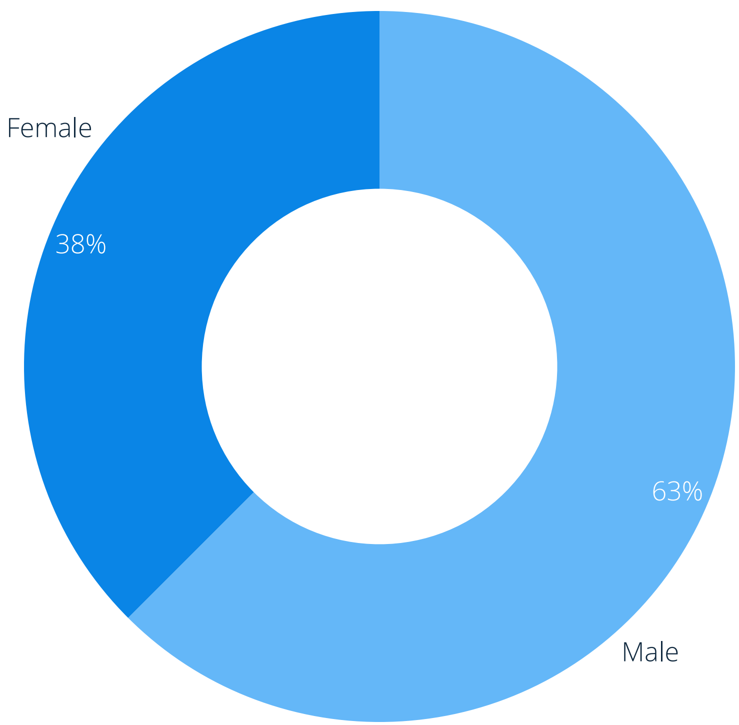
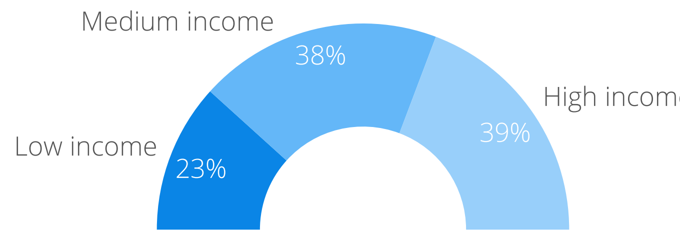
Online Food Delivery users in India are mostly young males with medium to high incomes

Gender



Income



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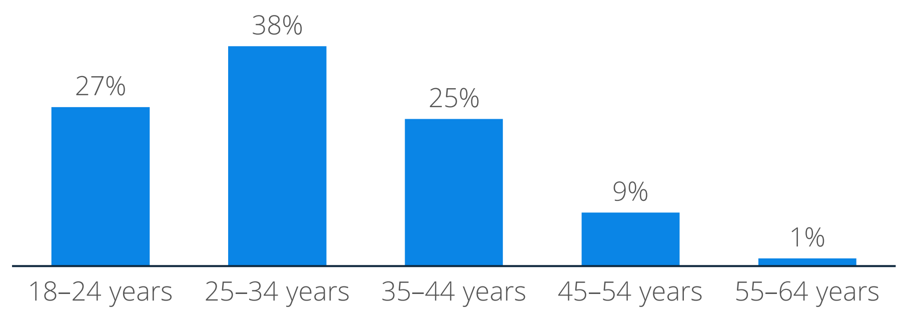
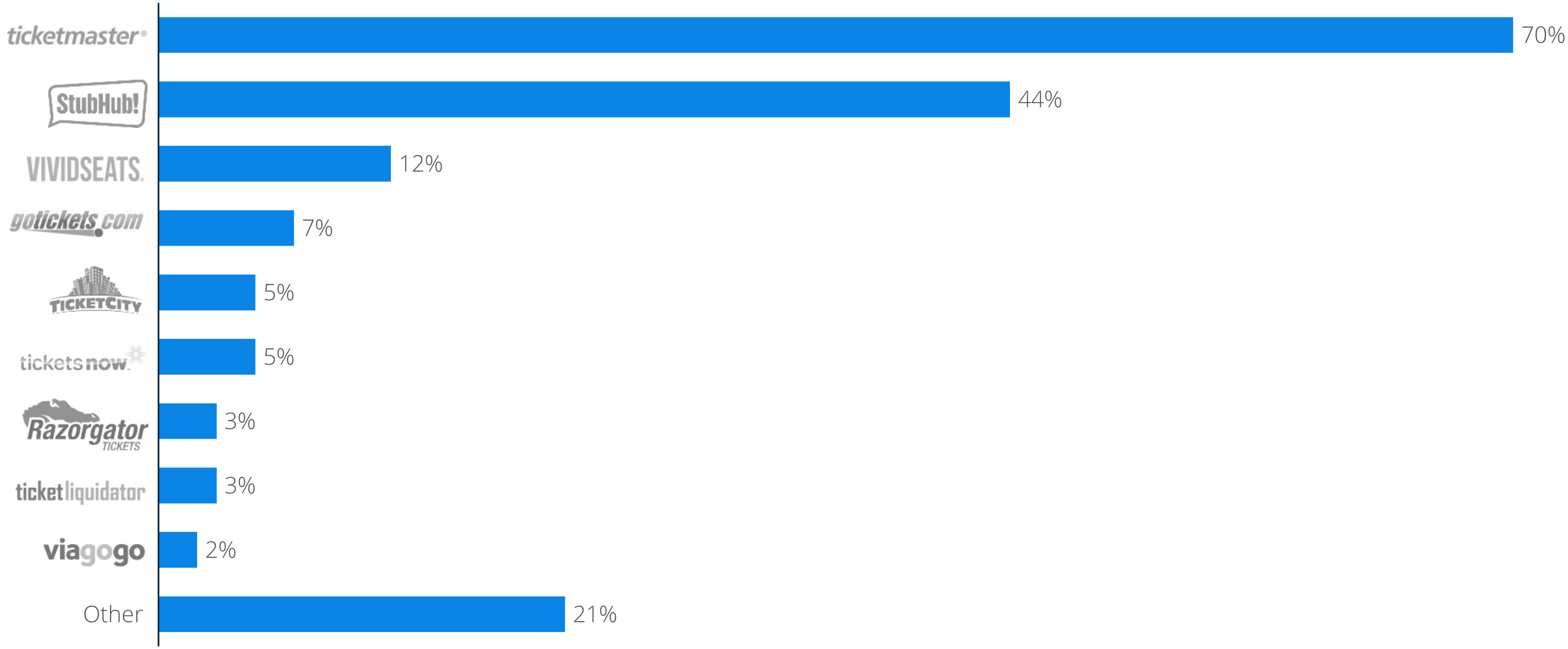


"Which of these online services (website or app) have you used in the past 12 months?"; Multi pick; n=1,349
Sources: Statista Global Consumer Survey, as of October 2020

Ticketmaster dominates U.S. online ticketing followed by StuHub! and VIVIDSEATS.

Share of respondents who use selected websites and apps to purchase event tickets in the U.S. in 2020

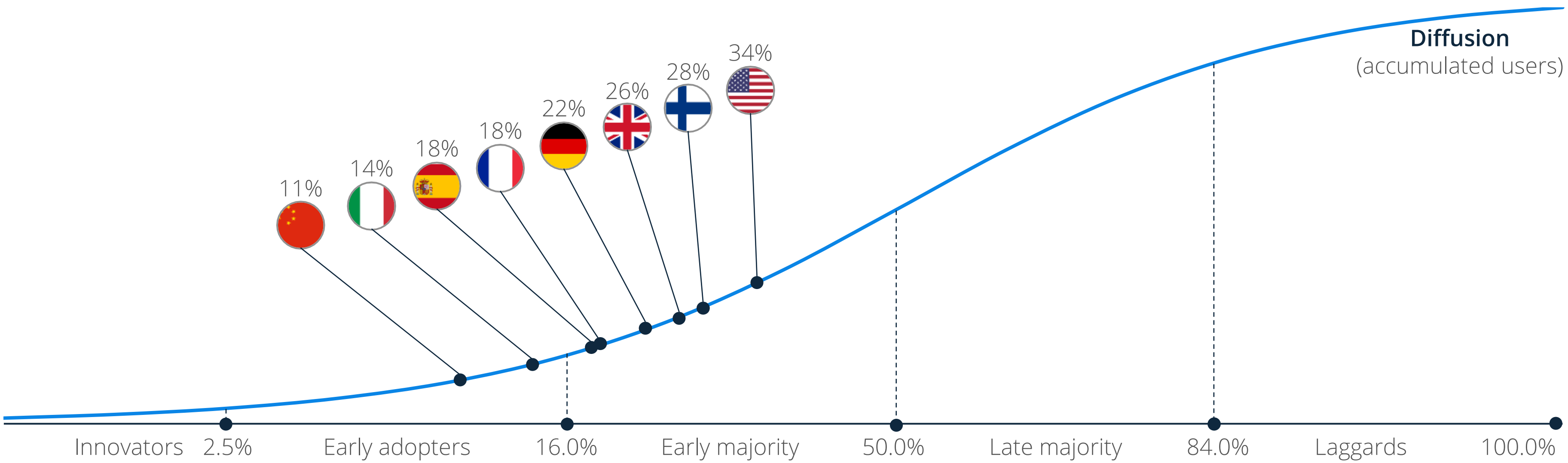


"Which of these online providers have you bought event tickets from (website or app) in the past 12 months?"; Multi pick; n=1287 respondents who bought event tickets online

Sources: Statista Global Consumer Survey, as of September 2020

U.S. consumers have the widest adoption of online event ticket purchasing with 34% penetration rate

Innovation diffusion curve for online event ticket services in 2019

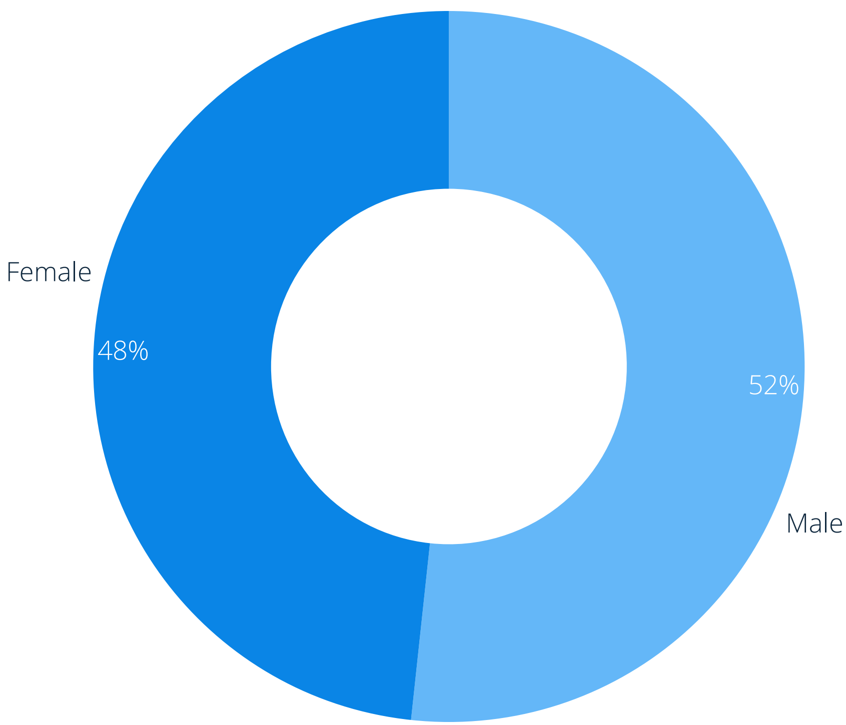


The diffusion of innovations graph shows successive groups of consumers adopting Event Tickets (for this the graph above shows the penetration rate of selected countries). Innovations in general are not adopted by all individuals at the same time but tend to be adopted in a time sequence and can be classified into adopter categories based on how long it takes until they begin using the service. Diffusion is considered to be the rate and volume at which innovations spread among their users (an adoption rate of 100% is theoretically possible but not realistic). Considering the high adoption rates, the Event Tickets segment is likely to grow slower in the coming years, especially in the UK and the U.S. China's big market still holds great potential.

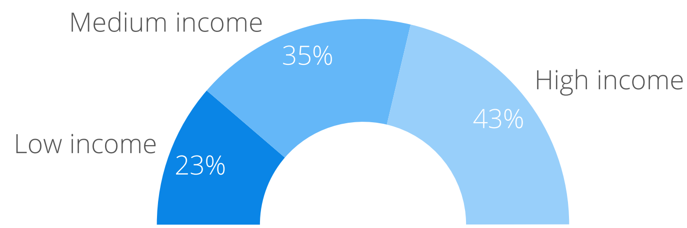
Sources: Statista Digital Market Outlook, as of October 2020

Most event ticket users in the U.S. are between 25-44 years old and have a high income

Gender



Income



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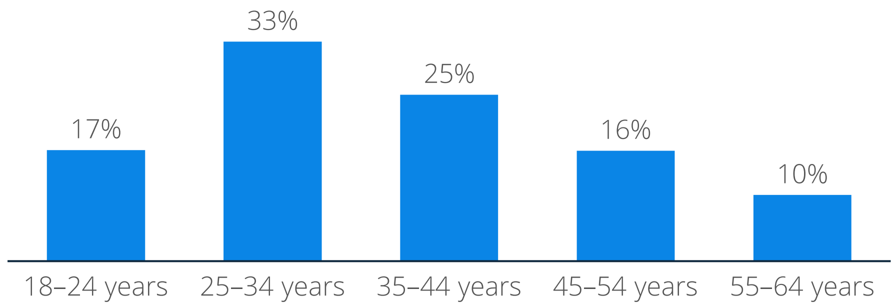


"Which of these online services (website or app) have you used in the past 12 months?"; Multi pick; n=1,287
Sources: Statista Global Consumer Survey, as of October 2020

The Fitness market is shaped by start-ups as well as multinational apparel and tech companies

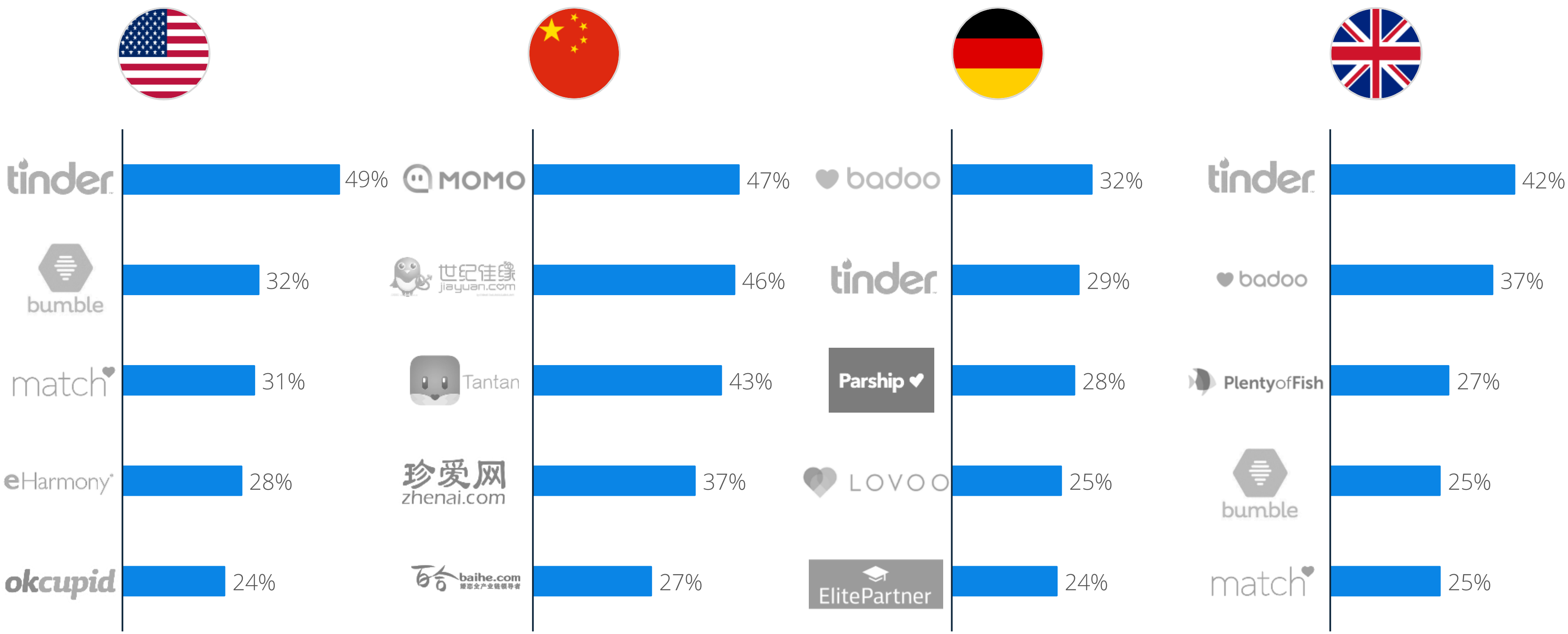
Revenue of selected key players in fitness apps and wearables

Company	Products	Headquarter	Revenue in bnUS$ in 2018	Revenue in bnUS$ in 2019
Adidas	miCoach FIT SMART, Heart Rate Monitor, Runtastic	Europe	24.5[1]	26.5[1]
Fitbit	Fitbit Zip, Fitbit One, Fitbit Flex, Fitbit Charge, Fitbit Alta, Fitbit Charge HR	United States	1.5	1.4
Garmin	Garmin Vivofit 3, Garmin Vivoactive, Garmin Vivosmart, Garmin Forerunner	Europe	3.4	3.8
Huawei	TalkBand B3, TalkBand B3 Lite, Band 2, Color Band A2, Fit, Watch 2	China	103.2	122.9
Misfit Wearables[2]	Misfit Ray, Misfit Shine 2, Misfit Flash, Misfit Speedo Shine	United States	2.5[3]	2.2[3]
Moov	Moov, Moov Now	United States	-	-
Nike	Nike+ FuelBand, Nike+ FuelBand SE, Nike+ Running App	United States	36.4	39.1
Under Armour	Under Armour Band, MapMyFitness, MyFitnessPal, Endomondo	United States	5.2	5.3
Xiaomi	Mi Band, Mi Band Pulse, Mi Fit	China	25.0[4]	29.5[4]

1: US$/€ (2019)=1.11986 2: Acquired by Fossil Group 3: Revenue of Fossil Group 4: US$/CNY (2019)=0.14310
Sources: Company information

In the U.S. Dating Services market, nearly 50% of paying online dating users use Tinder

Paid usage of selected online dating services in 2020



"Which of these online dating providers (website or app) have you used as a paying customer in the past 12 months?" Multi Pick; U.S.: n=148; China: n=70; UK: n=52; Germany: n=75 respondents who used and spend money on online dating in the past 12 months
Sources: Statista Global Consumer Survey, as of October 2020

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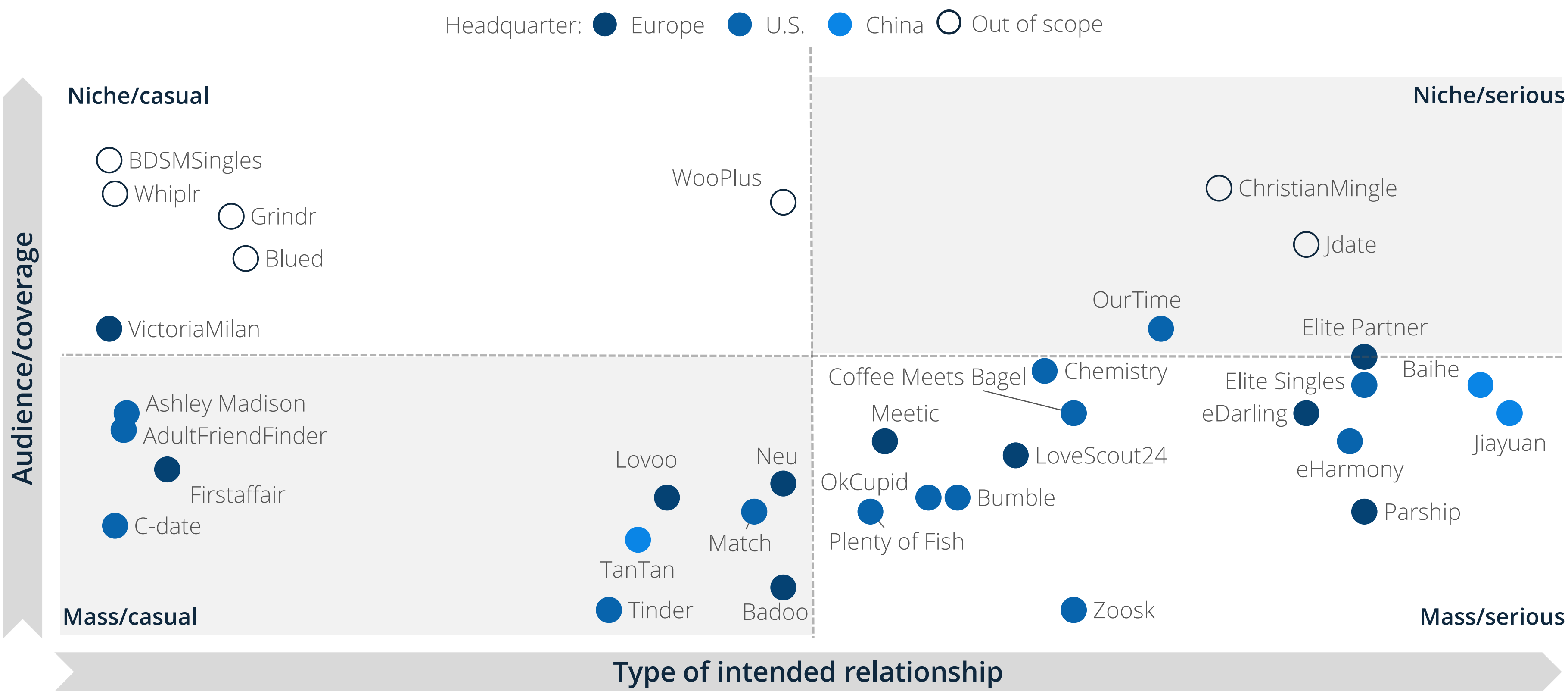
AshleyMadison, C-Date, and Firstaffair are typical casual dating portals for a broader audience

Dating portals and apps segmentation



 Sources: Statista Digital Market Outlook, as of October 2020

Mobility Services

The mobility services market is a lighthouse example for the digitalization of traditional industries. The ability to rent a car or book flight, train, and/or bus tickets through a car-sharing provider has made car-ownership alternatives more enticing. While this trend increases travel options in established markets, more and more consumers in developing countries can afford to travel internationally as well, thereby increasing the total number of passengers traveling the world.

Within the Statista Mobility Market Outlook, the Mobility Services category contains the following market segments: Flights, Ride-Hailing & Taxi, Car-sharing, Bike-sharing, Car Rentals, Train Tickets, and Bus Tickets.

The global mobility services market reached US$520 billion in 2020. With revenues of US$129 billion in 2020 China takes a leading role within the mobility services market. User penetration and growth rates are lower, in Europe and the U.S. compared to China. The Flights segment generates the majority of global revenue (US$224 billion in 2020), accounting for 43%, followed by Ride-Hailing & Taxi which is expected to have a market size of US$163 billion in the same year.

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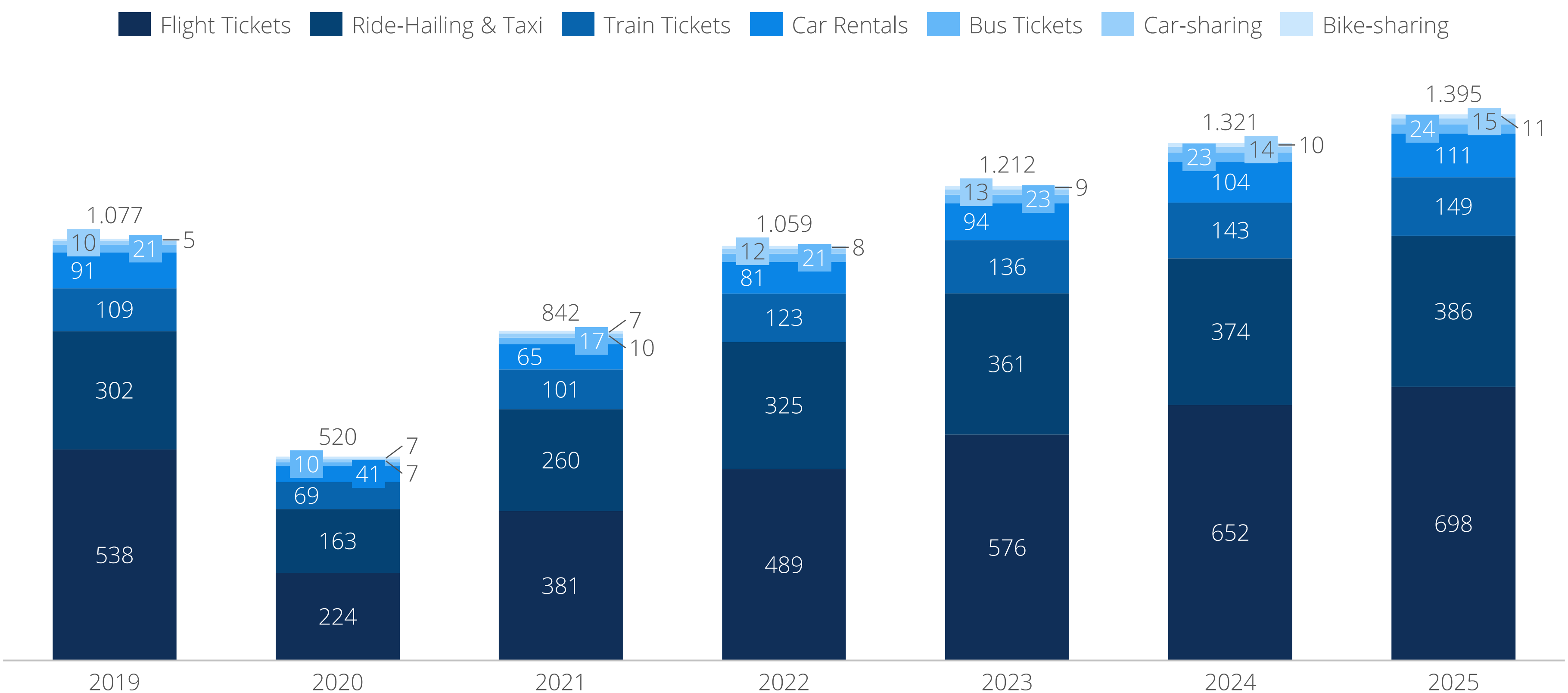
Note: More information in the Statista Mobility Market Outlook

Mobility Services is expected to reach US$1.3 trillion in 2025 with flight Tickets leading the market

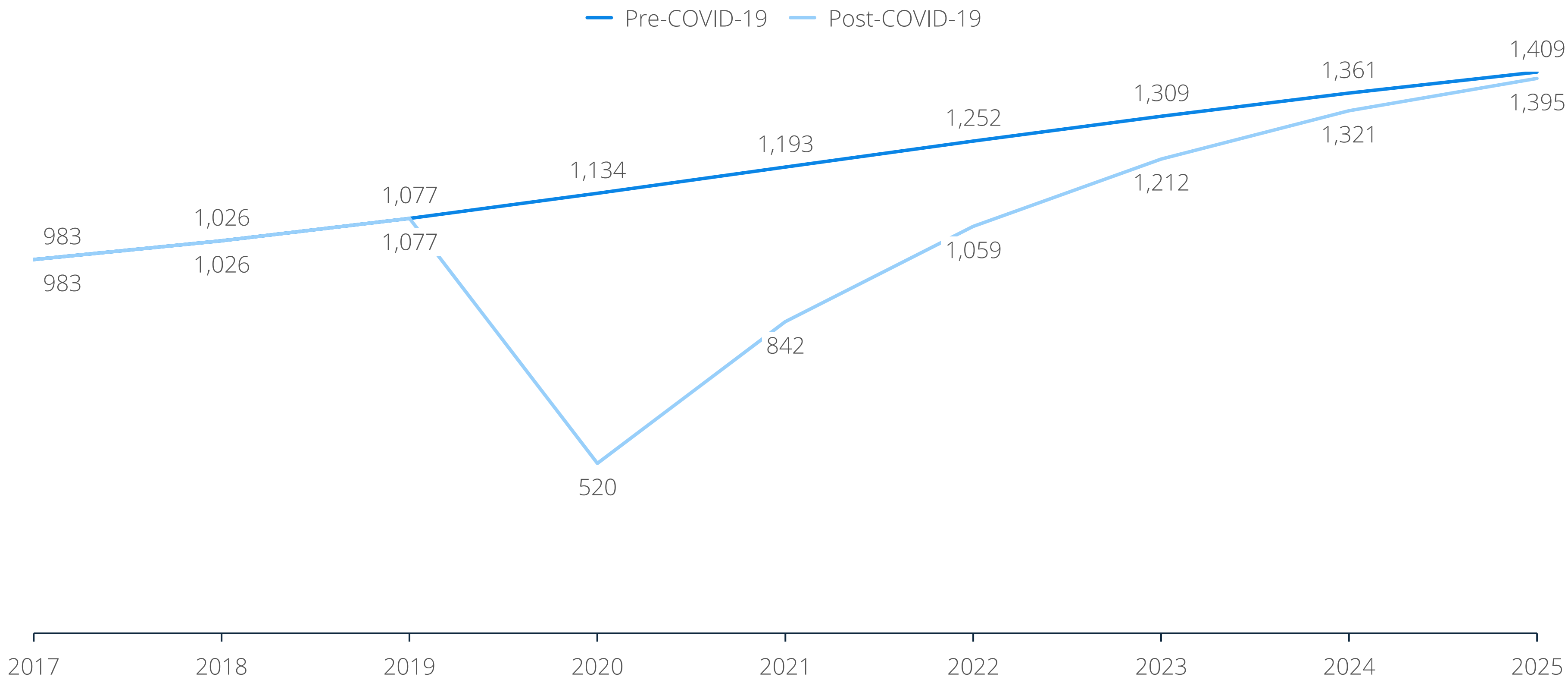
Global mobility services revenue forecast in billion US$



Sources: Statista Mobility Market Outlook, as of October 2020

COVID-19 hit the global Mobility Services market hard and cut revenues to almost half in 2020

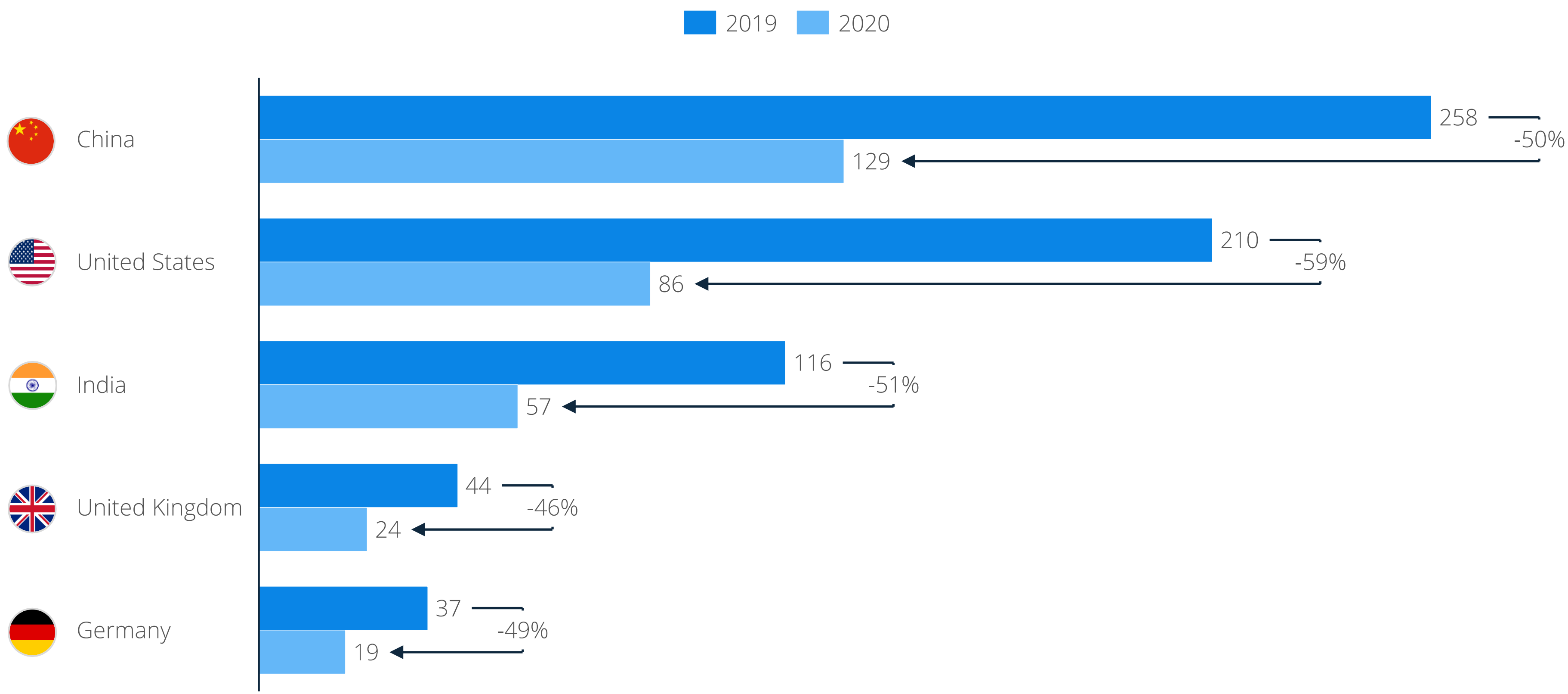
Global Mobility Services revenue in billion US$



Sources: Statista Mobility Market Outlook, as of October 2020

The Mobility Services market in China shrunk by almost 60% from 2019 to 2020

Top 5 Mobility Services countries by market revenue in billion US$



Sources: Statista Mobility Market Outlook, as of October 2020

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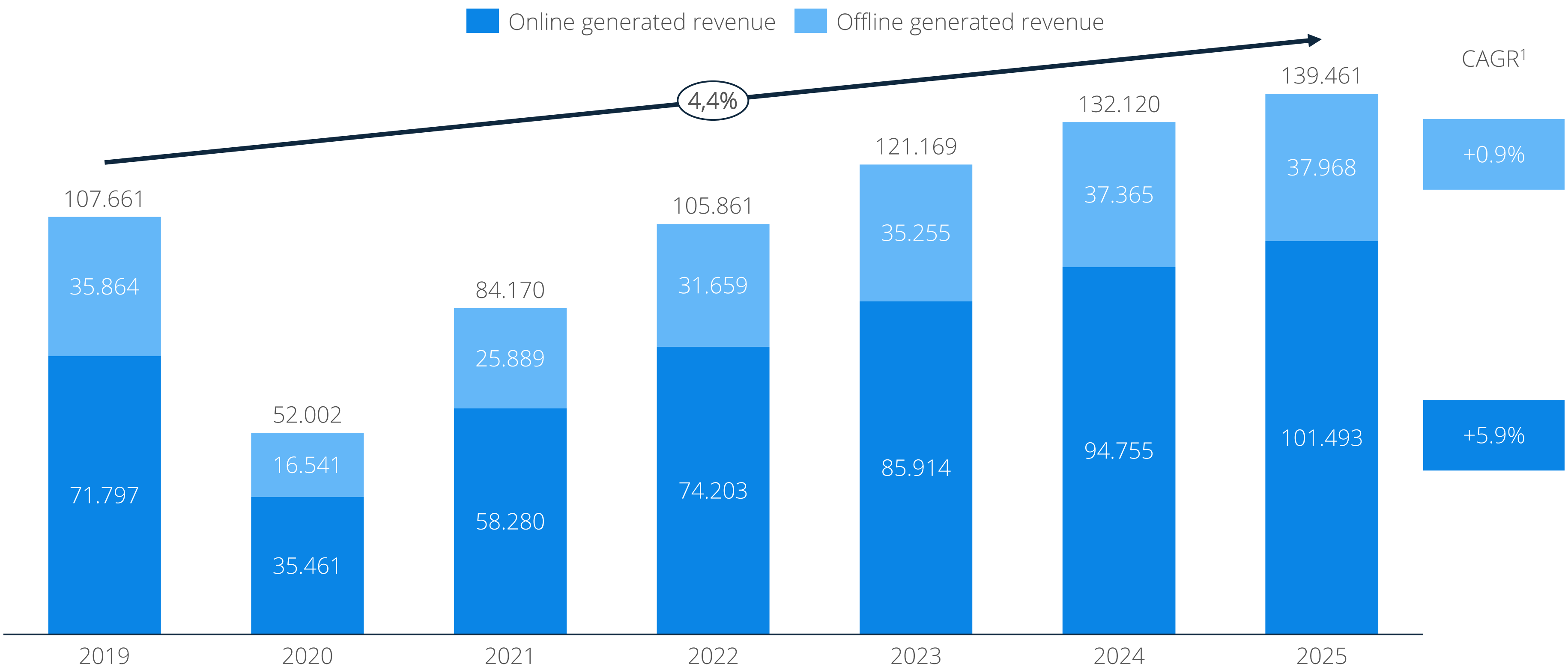
The growth of the online booking share exceeds the growth of the total market

Global online and offline revenue forecast of Mobility Services in billion US$



1: CAGR: Compound Annual Growth Rate/average growth rate per year
Sources: Statista Mobility Market Outlook, as of October 2020

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Mobility service providers face fierce competition in all segments of the market

Selected key players in Mobility Services

Flights	Ride Hailing	Trains	Car Rentals	Buses	Car Sharing	Bike Sharing
Lufthansa	UBER	AMTRAK	SIXT rent a car	FLiXBUS	SHARENOW	DB
United Airlines	lyft	National Rail	AVIS Budget	GREYHOUND	stadtmobil carsharing	StadtRAD
الإتحاد ETIHAD AIRWAYS	Grab	DB BAHN	Europcar	trainline	cambio	mobike
DELTA AIR LINES	FREENOW	SNCF	enterprise	CleverShuttle	DB Flinkster	YoBike
CHINA SOUTHERN AIRLINES	Gett	SJ	National Car Rental	ECOLINES	enjoy	Santander Cycles
Emirates	DiDi More than a journey	JR	Alamo	national express	MILES	nextbike
RYANAIR	taxify	TRENITALIA GRUPPO FERROVIE DELLO STATO	Thrifty	megabus.com	zipcar	BCycle
BRITISH AIRWAYS	via	Russian Railways	一嗨租车 eHi Car Services	BlaBlaBus	enterprise CarShare	citi bike
AIRFRANCE	MOIA	DSB	TOYOTA Rent a Car	Coach USA	EVCARD	M SHARE
中國東方航空 CHINA EASTERN	OLA	ÖBB	GOLDCAR	Bus Éireann		
TURKISH AIRLINES	wingz	INDIAN RAILWAYS	BUCHBINDER Rent-a-Car			
	GO-JEK		GLOBAL Rent-a-Car			

Sources: Statista Mobility Market Outlook, as of October 2020

Shared mobility options range from rentals to shared ride hailing

The distribution of shared mobility services

Degree of shared usage

Shared/less flexible

Ride sharing

Matching of ride hailers

- Individuals are matched in real time to share rides with others on a similar route
- Professional and part-time drivers
- Access via smartphone

MOIA

uberPOOL

Shared/highly flexible

Ride hailing

Professional drivers offer shared rides

- Individuals or predefined groups travel together
- Professional and part-time drivers
- Access via smartphone

lyft

UBER

Grab

Car rentals

Station-based car rentals

- Pickup and return to the same station
- Charged by day/hour

Europcar

SIXT

Individual/less flexible

Car sharing

One-to-many sharing

- Free-floating car sharing – car pickup and return anywhere in a predefined area
- Charged by minute
- Access via smartphone

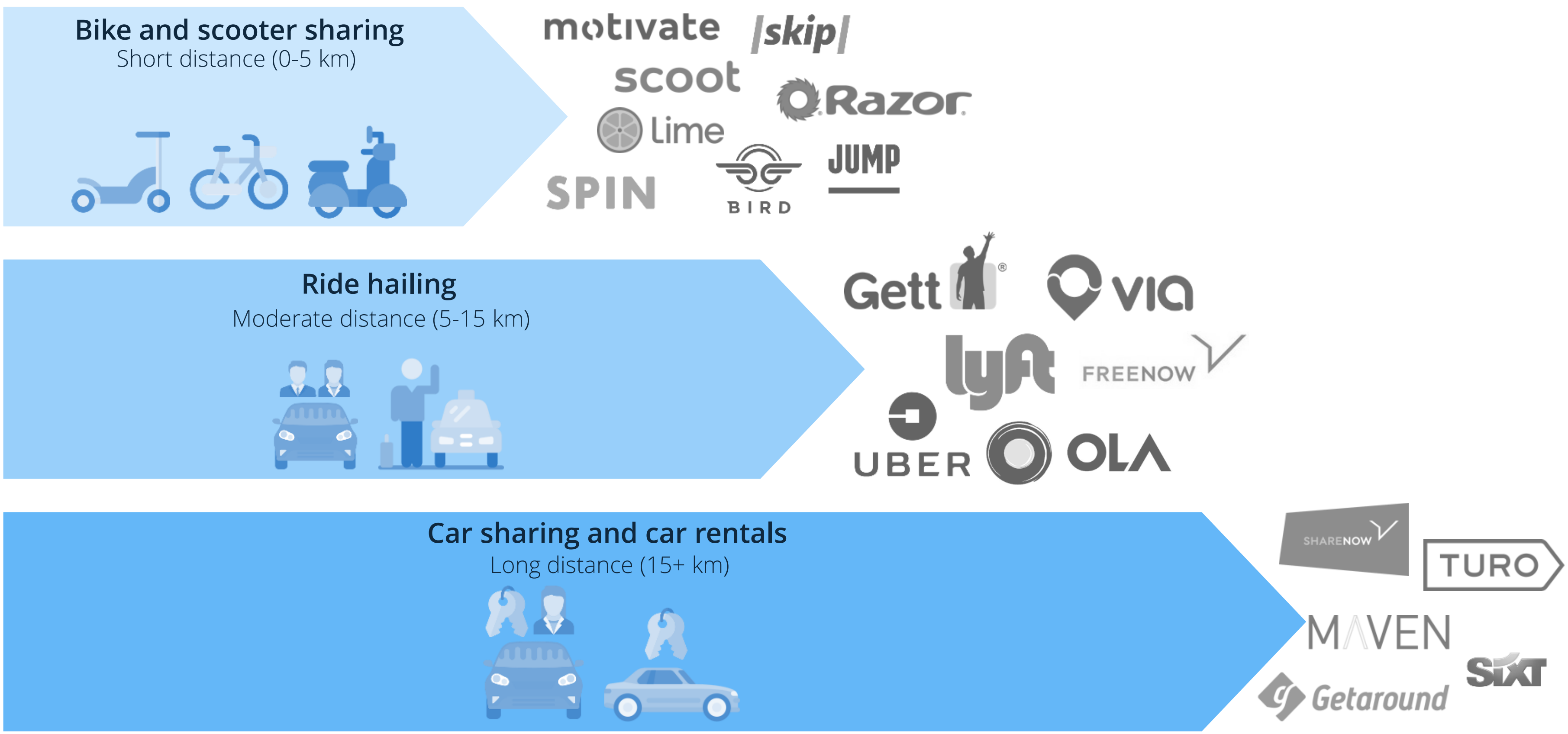
SHARENOW

Individual/highly flexible

Flexibility of usage

Note: Companies are not exhaustive and serve only as examples
Sources: Statista Mobility Market Outlook, as of October 2020

Regardless of the distance that needs to be covered, shared mobility services are available



Note: applications are not exhaustive and serve only as examples
Sources: Statista Mobility Market Outlook 2020

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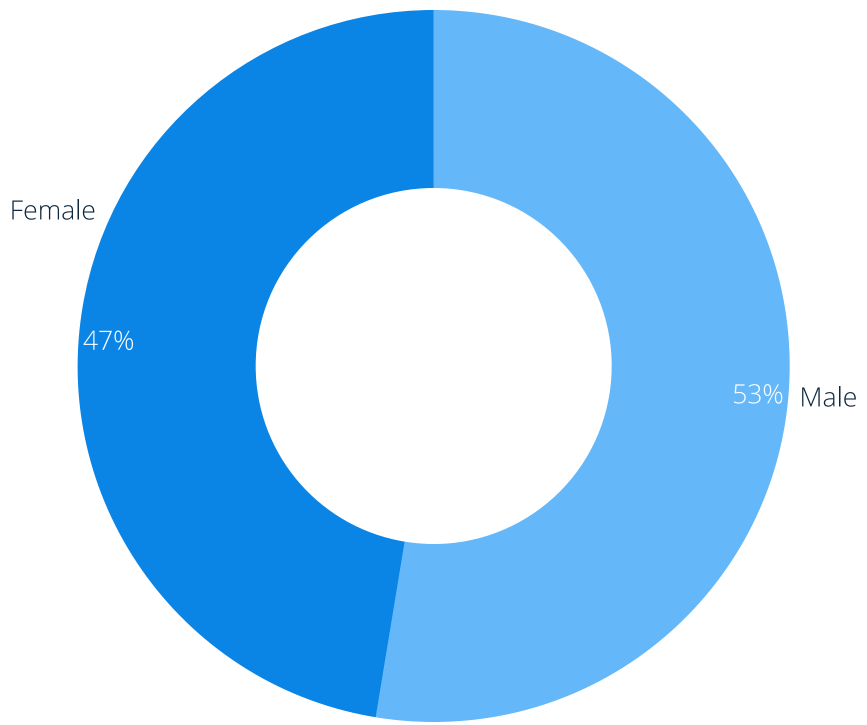
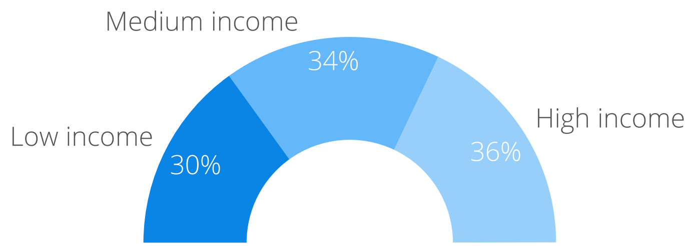
Most of the users of Mobility Services in China are between 25-34 years old

Gender



Income



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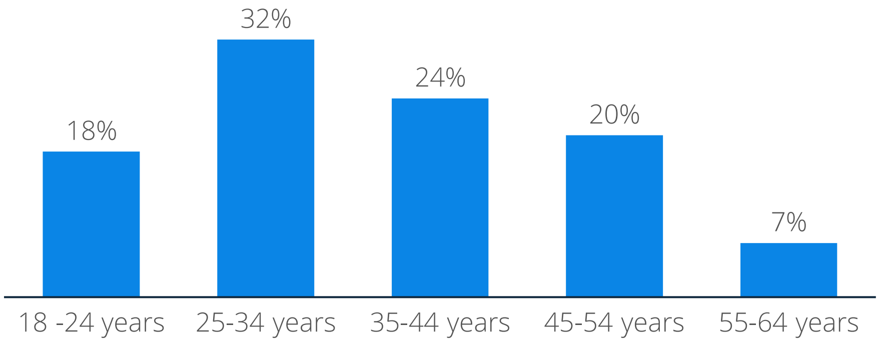

"Which of these services have you used in the past 12 months?"; Multi pick; n=1,955
Sources: Statista Global Consumer Survey, as of June 2020

Hardware

In the Statista Technology Market Outlook, we separate the Hardware market into the segments PC, Server, Storage, Network Infrastructure, and Phones. The Phones segment is especially affected by consumer sales, whereas the Network Infrastructure segment is mainly formed by B2B transactions.

In 2020, the revenue of the Hardware market is projected to reach US$962 billion. The Phones segment is largest, with US$472 billion forecast revenues in 2020. China is the biggest market for hardware with an estimated revenue of US$215 billion in 2020, followed by the U.S. with US$187 billion.

Looking at the competitive landscape of Hardware markets, the largest players in the PCs segment are Lenovo, Hewlett Packard (HP), and Dell. Samsung, Huawei, and Apple are the major smartphone vendors.

The Hardware market is shaped by various trends such as cloud adoption, 5G, and big data, as well as the increasing need for flexibility and mobility. As digitization progresses, hardware devices are constantly adapted to meet up-to-date standards. For this reason and as seen after the financial crisis of 2008, the Hardware market recovers relatively quickly after economic downturns.

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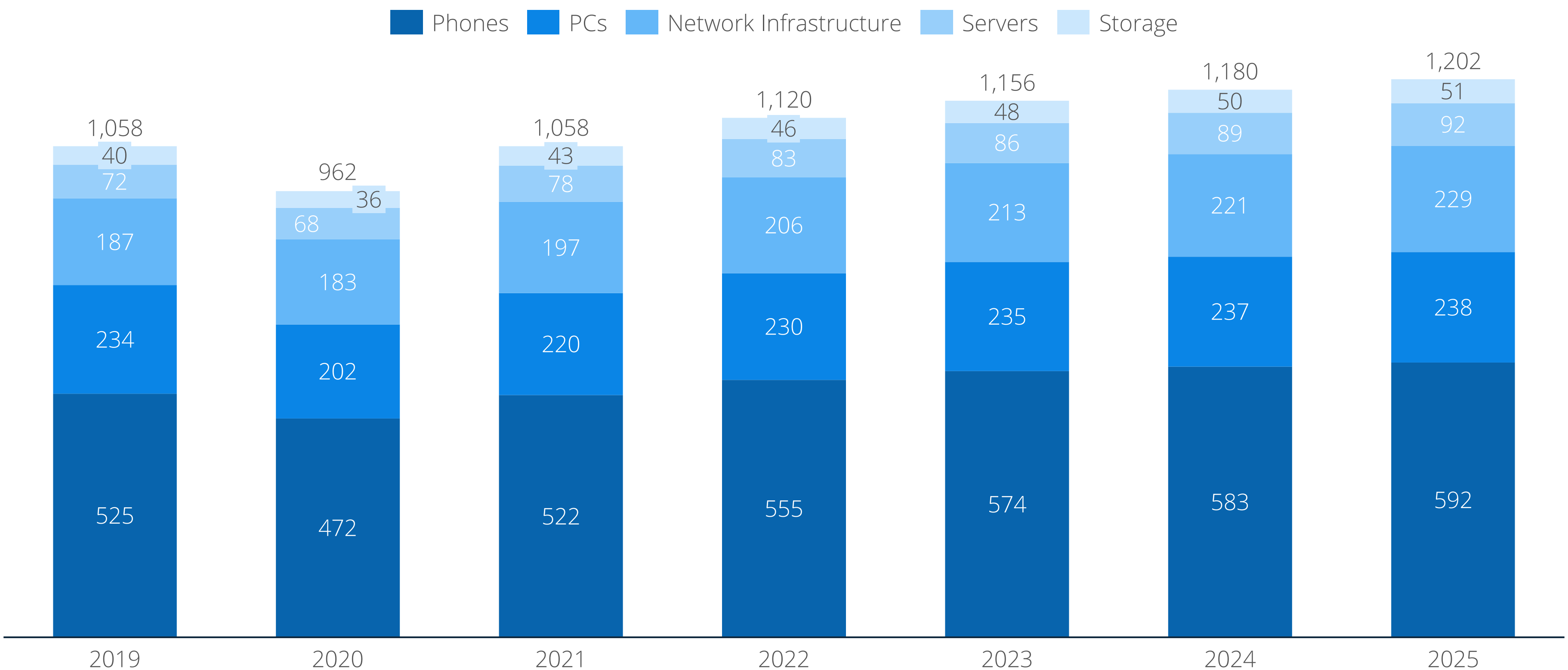
The Hardware market is expected to reach US$1.2 trillion in 2025 with Phones as the largest segment

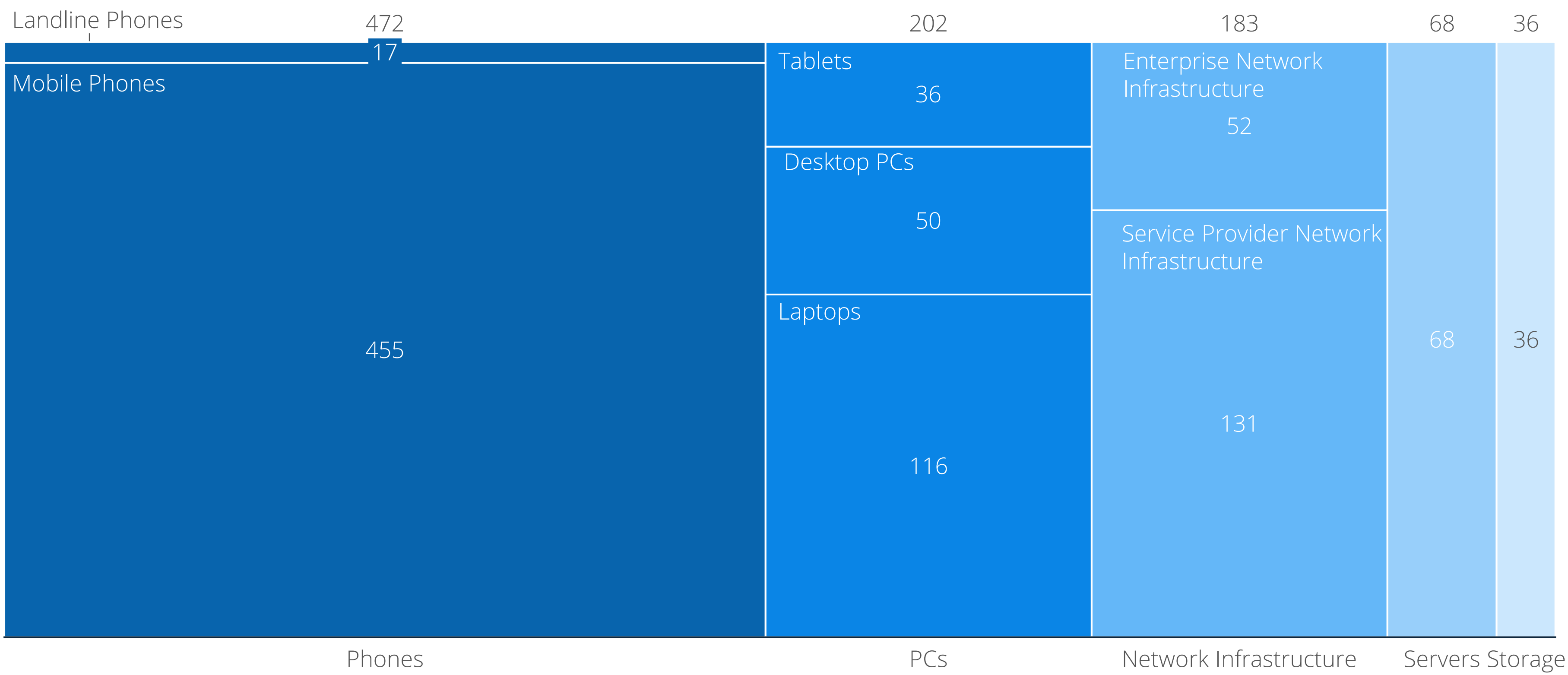
Global Hardware market revenue forecast in billion US$



Note: Revenue figures refer to Gross Transactional/Merchandise Value (GTV/GTM)
Sources: Statista Technology Market Outlook, as of October 2020

The Mobile Phones subsegment dominates the global hardware market

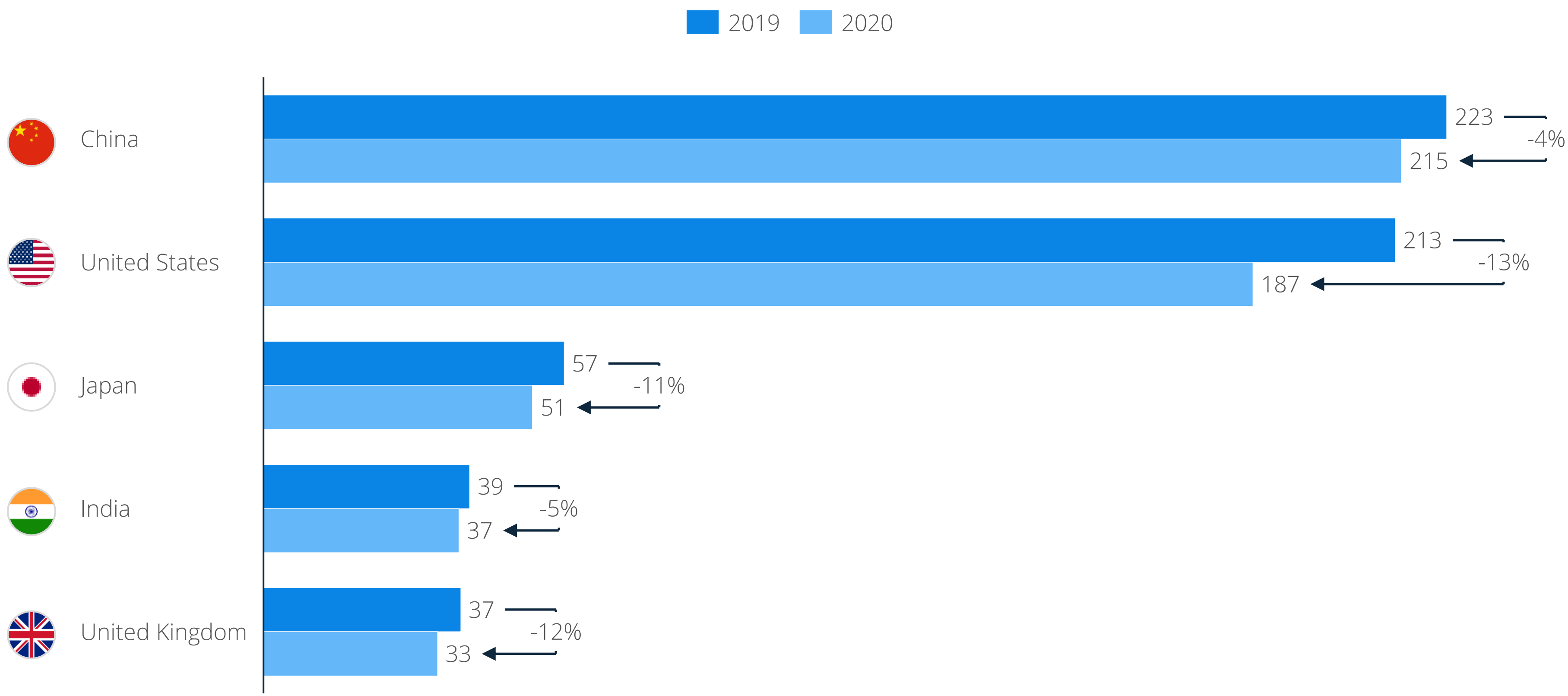
Global Hardware market revenue in billion US$ in 2020



Sources: Statista Technology Market Outlook, as of October 2020

In 2020, the Hardware market shrunk in all top 5 countries due to COVID-19

Top 5 Hardware countries by market revenue in billion US$



Sources: Statista Technology Market Outlook, as of October 2020

Hardware segments are dominated by consolidated large-scale key players

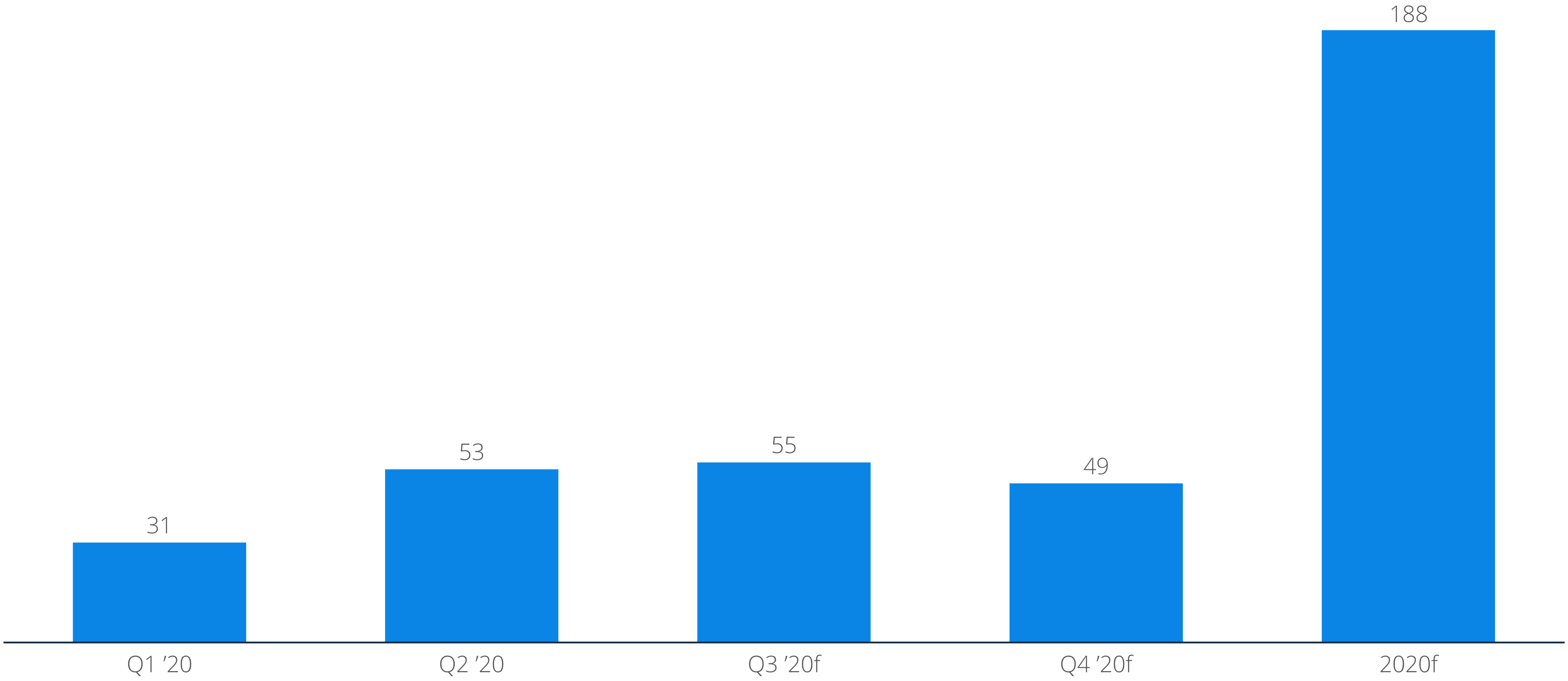
Selected key players in the Hardware market

PCs	Servers	Storage	Network Infrastructure	Phones
acer	CISCO, IBM	Hewlett Packard Enterprise, DELL	HUAWEI, Hewlett Packard Enterprise	SAMSUNG
Microsoft, hp	DELL, hp	IBM, HITACHI	NOKIA, ERICSSON	HUAWEI, SIEMENS
DELL, lenovo	lenovo	NetApp	CISCO	CISCO
ASUS				

Sources: Statista Technology Market Outlook

Notebook shipments are expected to exceed 180 million units in 2020

Notebook unit shipments in millions



Note: f=forecast period
Sources: TrendForce, as of September 2020

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Software

In the Statista Technology Market Outlook, we have divided the Software market into the segments Enterprise Software, System Infrastructure Software, Application Development Software, and Productivity Software. The market focusses on software designed to be used in a professional environment whereas some applications may also be used in a personal environment.

In 2020, the revenue of the Software market is projected to reach US$504 billion. Enterprise Software accounts for almost half of total Software revenues with a projected market volume of US$195 billion in 2020. The United States constitutes the biggest market for Software with a projected revenue of US$251 billion in 2020.

Key players are Microsoft, Salesforce, IBM, Oracle, SAP, and Adobe.

Companies' needs for data insights and customer analyses have strongly increased due to digitization and the amount of data collected online. This development particularly drives the demand for enterprise software, especially business intelligence (BI) software.

Due to market speed and volatility, software investments are shifted to the cloud to be more flexible and independent. The shift from on-site software deployment to software-as-a-service is increasingly relevant and will have to be tackled by a lot of companies in the coming years.

J. Farber

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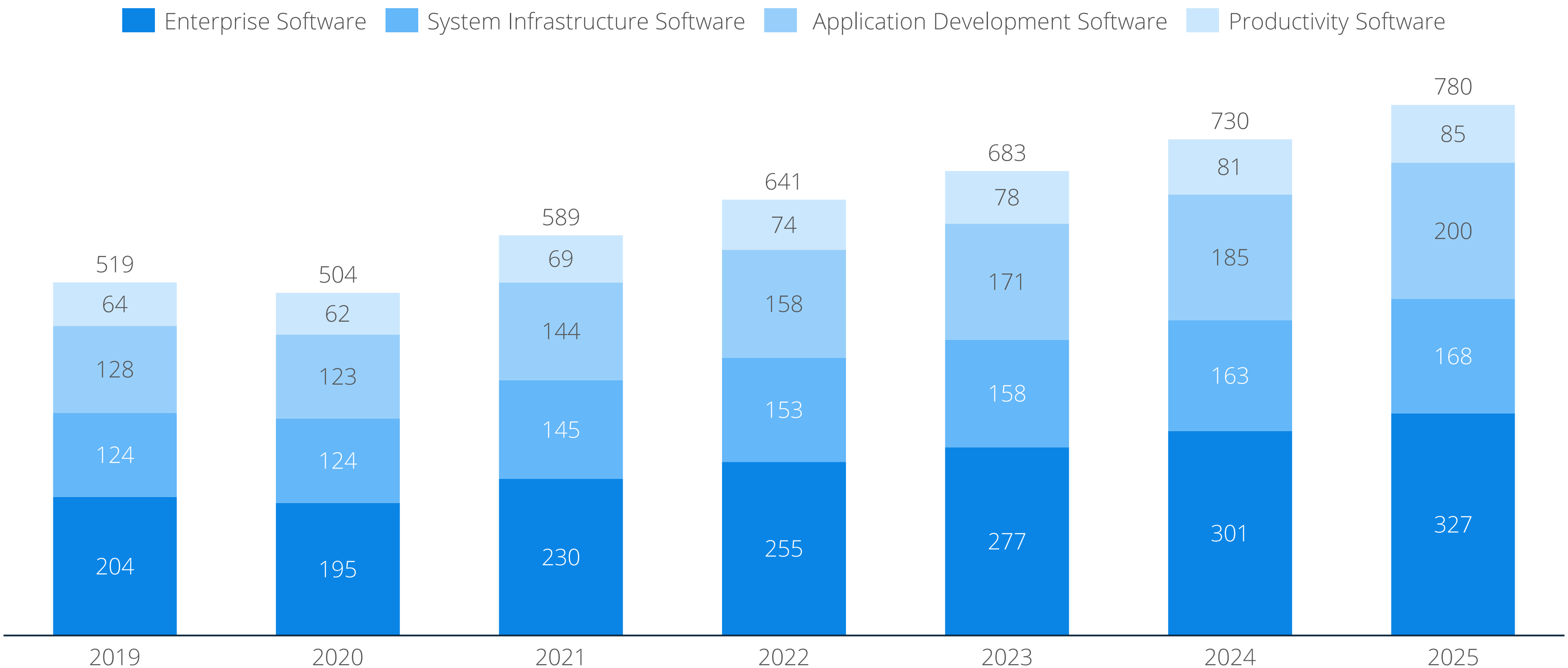
The Software market is projected to reach US$780 billion in 2025 and is led by Enterprise Software

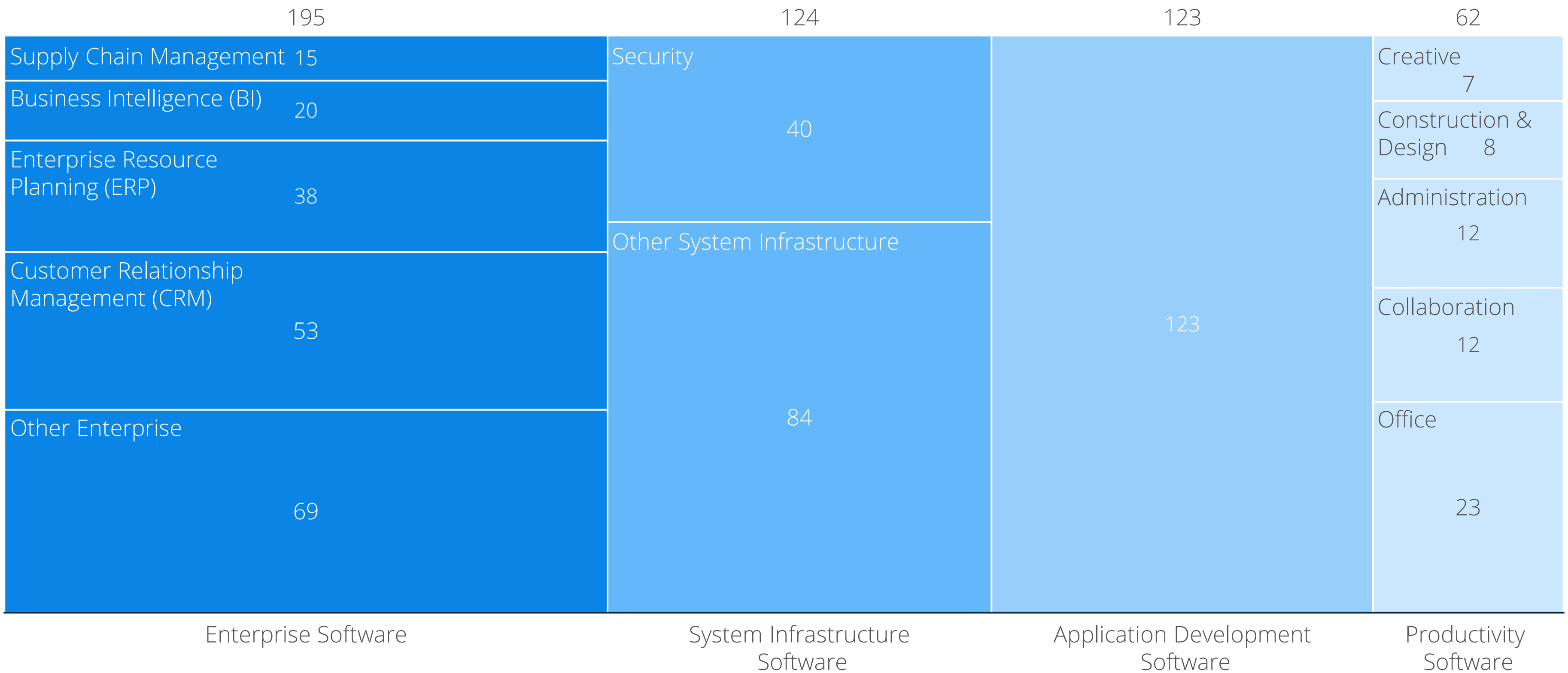
Global Software market revenue forecast in billion US$



Sources: Statista Technology Market Outlook, as of October 2020

Enterprise Software dominates the Software market with CRM as the largest subsegment

Global Software market revenue in billion US$ in 2020

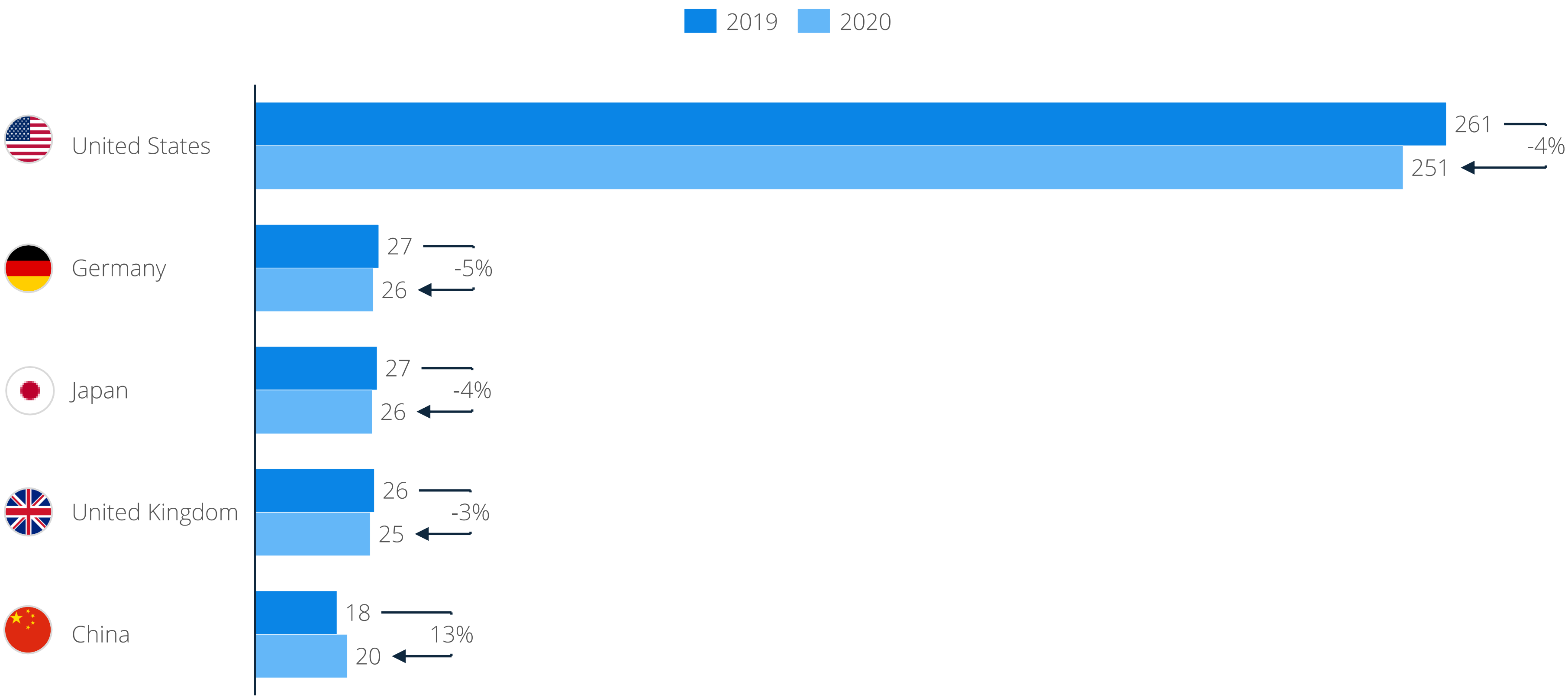


 Sources: Statista Technology Market Outlook, as of October 2020

statista

In 2020, the Software market is expected todecrease by 4% in revenues in the U.S.

Top 5 Software countries by market revenue in billion US$



Sources: Statista Technology Market Outlook, as of October 2020

Software segments are dominated by consolidated large-scale key players

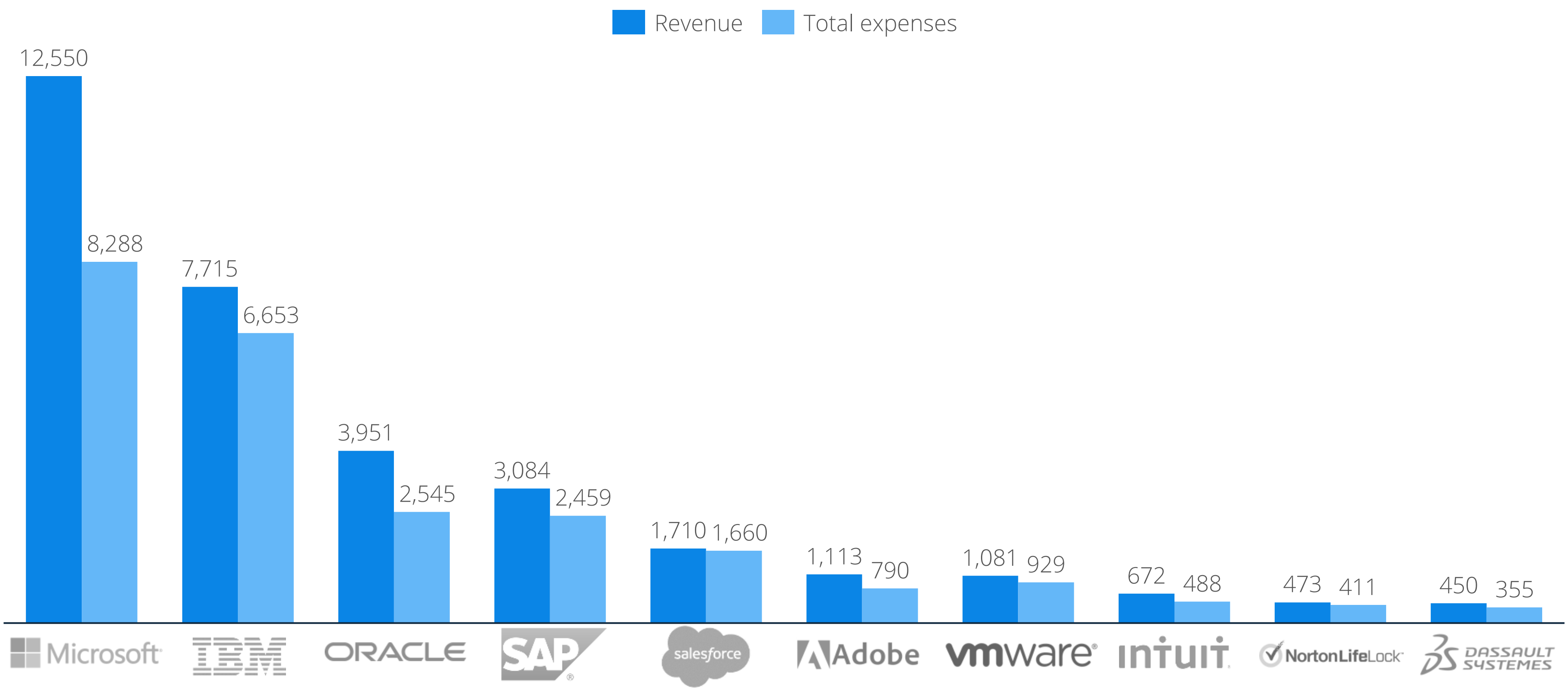
Selected key players in the Software market

Productivity Software	Enterprise Software	Application Development Software	System Infrastructure Software
intuit	salesforce	ORACLE	ca technologies, NortonLifeLock
Microsoft	tableau	IBM	Microsoft
CiTRIX	Microsoft	Microsoft	vmware, DELL EMC
Adobe	SAP	DASSAULT SYSTEMES	Symantec

Sources: Statista Technology Market Outlook

The largest Software companies also differ widely in terms of revenue and expenses

Revenue and total expenses in billion US$ in 2019



Sources: Annual reports, Statista

IT Services

With the ongoing digital transformation and automation of business processes, the IT services market has become more important in the global IT industry.

In the Statista Technology Market Outlook, we divided the IT Services market into the following segments: IT Outsourcing, Business Process Outsourcing, IT Consulting & Implementation, and Other IT Services. We focus exclusively on the professional business environment.

Today, the global IT Services market is estimated at a revenue of US$927 billion in 2020 and is expected to reach approximately US$1.2 trillion in 2025. In recent decades, historical key success factors for gaining market shares have changed in this ever-evolving industry. Driven by the growth of software and hardware across the globe, IT Outsourcing is the biggest segment with projected revenues of US$323 billion in 2020. Players in this market provide resources and specialists, helping companies to reduce their IT budget and staff as well as bypass the high costs of managing enterprise applications. The leading economies in the IT Services market are the United States with a revenue of US$342 billion in 2020, followed by Japan with a revenue of US$286bn in 2020.

Major players are IBM and Accenture.

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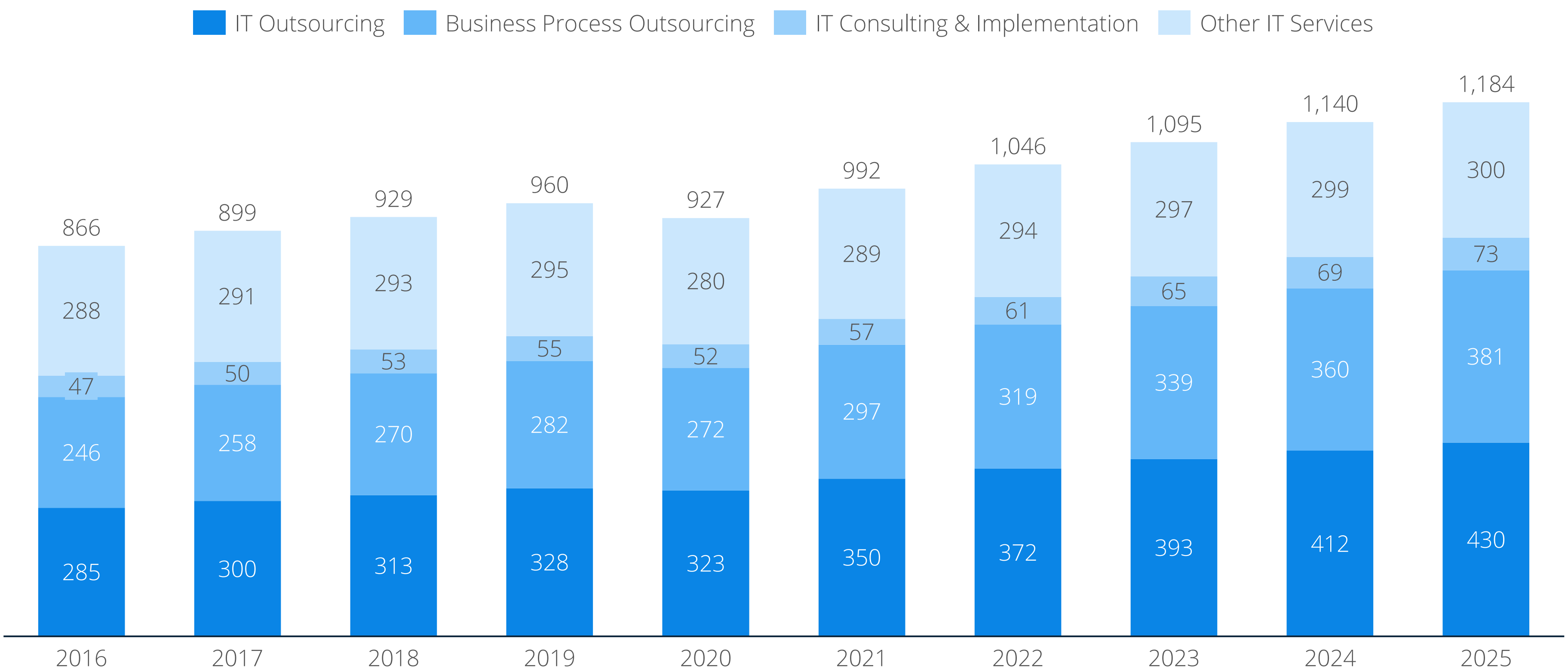
The IT Services market is expected to reach US$1.2trn in 2025 with IT Outsourcing as the largest segment

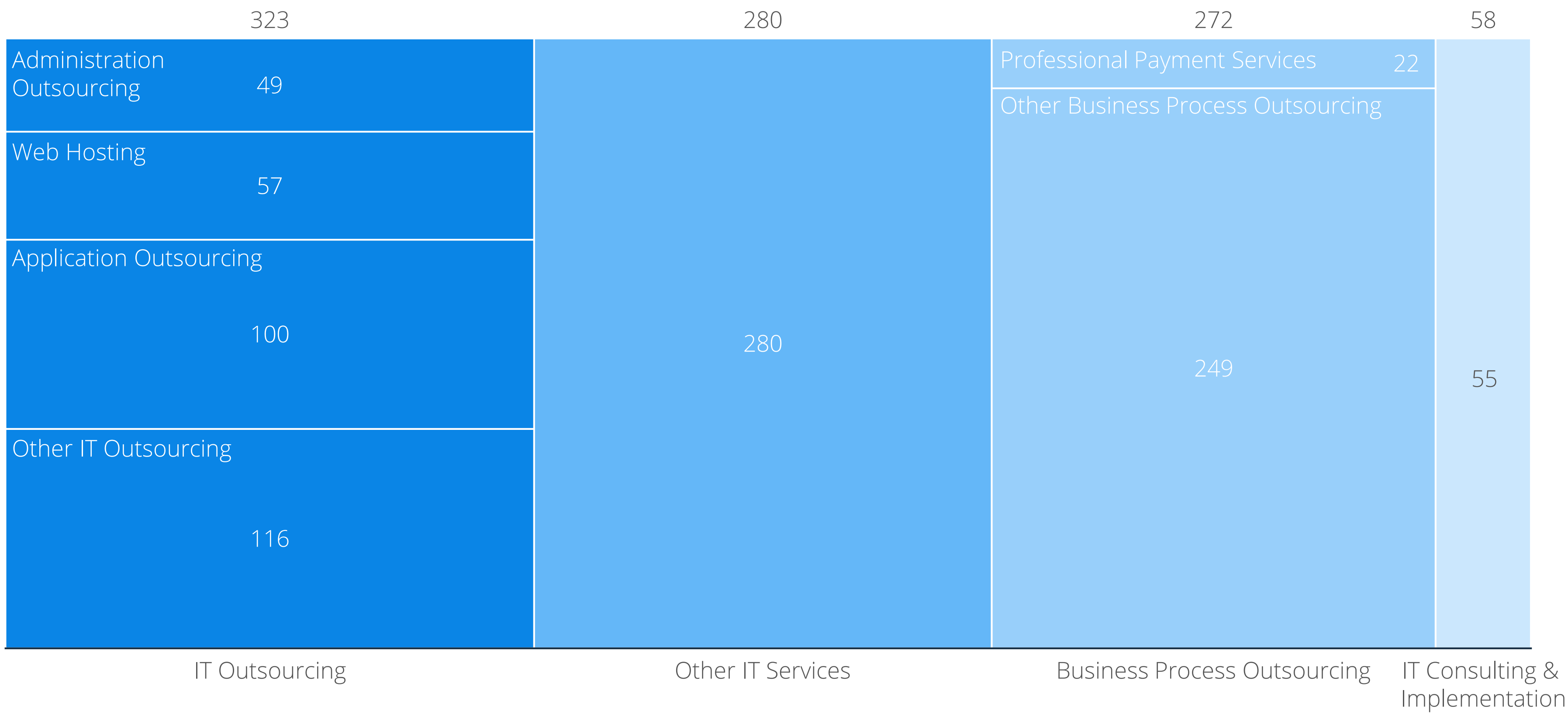
Global IT Services market revenue forecast in billion US$



Sources: Statista Technology Market Outlook, as of October 2020

IT Outsourcing is the biggest subsegment in the global IT Services market

Global IT Services market revenue in billion US$ in 2020

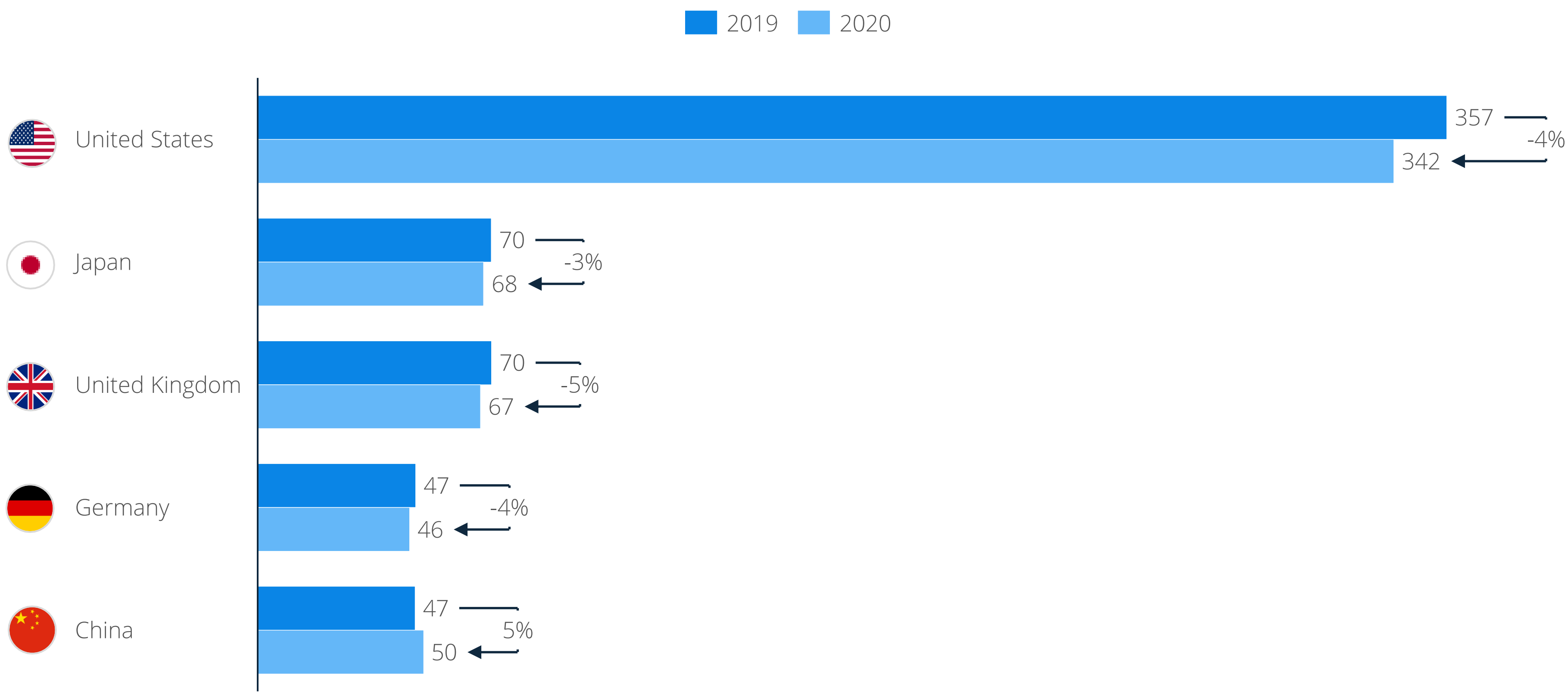


Sources: Statista Technology Market Outlook, as of October 2020

statista

In 2020, the IT Services market shrunk in all top 5 countries except China

Top 5 IT Services countries by market revenue in billion US$



Sources: Statista Technology Market Outlook, as of October 2020

IT services segments are dominated by consolidated large-scale key players

Selected key players in the IT Services market

IT Consulting & Implementation	Business Process Outsourcing	IT Outsourcing

Sources: Statista Technology Market Outlook, as of October 2020

Cloud Hosting

The market for Public Cloud represents third-party cloud service providers that deliver computing resources such as servers, applications, and storage capabilities to customers via the internet. These services are remotely managed, enabled, and distributed by large-scale data center service providers. In comparison to a private cloud setting, a public cloud offer is targeted not only to individual organizations, but to many other users and allows for scalability and resource sharing.

In the Statista Technology Market Outlook, the Public Cloud market is segmented into Software as a Service (SaaS), Infrastructure as a Service (IaaS), and Platform as a Service (PaaS) — three service models that build on each other.

In 2020, the revenue of the Public Cloud market is projected to reach US$95 billion. SaaS is the biggest segment in terms of revenue, followed by IaaS. IaaS and PaaS are included in the following data sets, whereas SaaS revenues are not yet considered.

The development in the Public Cloud market is driven by the leading American players Amazon Web Services, Microsoft Azure, and Google, followed by the Chinese player Alibaba Cloud. The U.S. are first movers in terms of cloud adoption, with China and the United Kingdom following suit.

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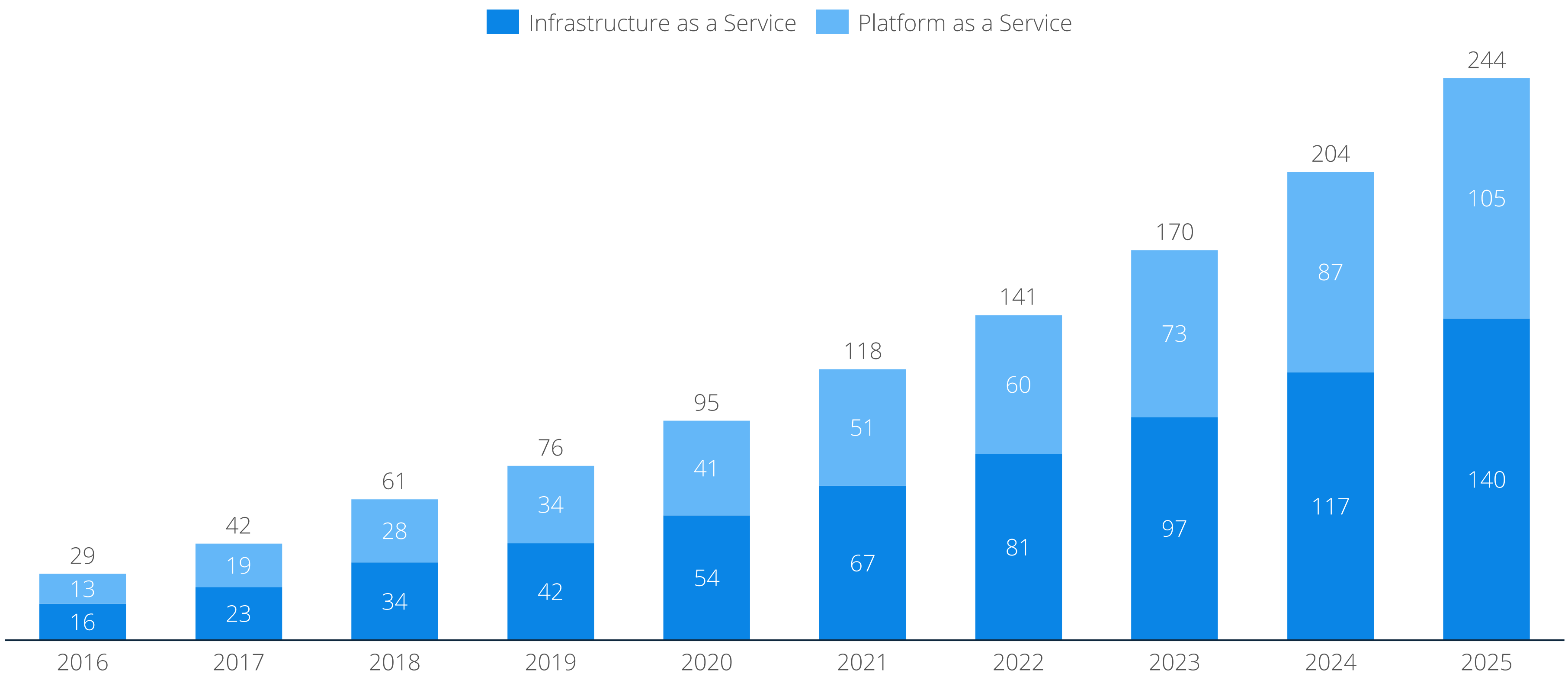
Note: More information in the [Statista Technology Market Outlook]

The global Public Cloud market is expected to reach US$244 billion in 2025

Public Cloud market revenue forecast in billion US$



Sources: Statista Technology Market Outlook, as of October 2020

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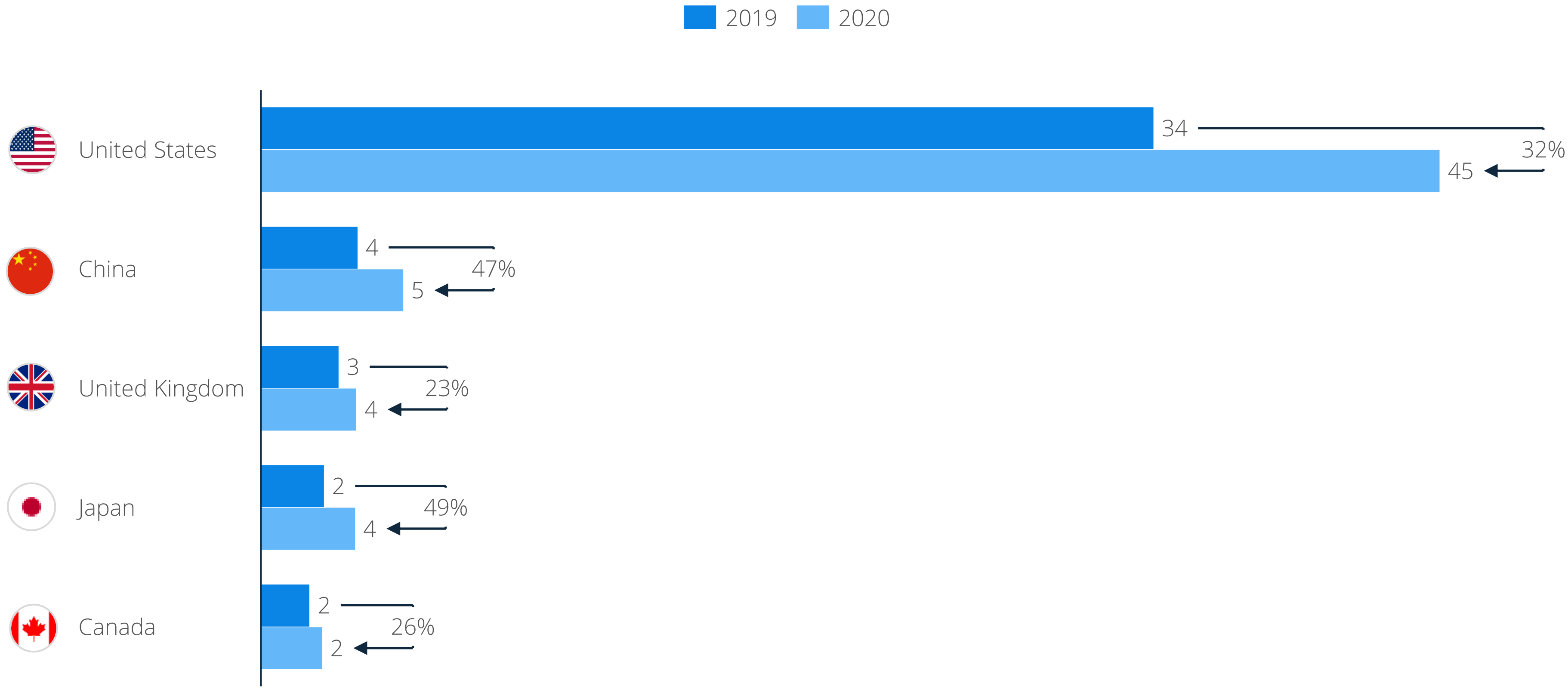
The U.S. has by far the biggest Public Cloud market with US$45 billion in 2020

Top 5 Public Cloud countries by market revenue in billion US$



Note: Reported revenues include Infrastructure as a Service and Platform as a Service, Software as a Service revenues are not considered
Sources: Statista Technology Market Outlook, as of October 2020

The Public Cloud market is dominated by consolidated large-scale key players

Selected key players in the Public Cloud market

Public Cloud (IaaS & PaaS)

Note: Reported revenues include Infrastructure as a Service and Platform as a Service, Software as a Service revenues are not considered
Sources: Statista Technology Market Outlook

Consumer Electronics

The Consumer Electronics market is subject to constant challenges, innovations, and transformations. Yet the exceptional growth it experienced in the past decade has come to an end.

In the Statista Consumer Market Outlook the market is divided into the following five segments: Telephony, Computing, TV, Radio & Multimedia, TV Peripheral Devices, and Drones.

Overall, Consumer Electronics generated US$1 trillion revenues in 2019. Various market drivers influence the Consumer Electronics market. First and foremost, smartphone penetration and smart home penetration have a crucial impact. Smartphones generate the highest revenues in the market and are pioneers for new technologies such as virtual reality and smart home. The trend towards a smart and connected home is constantly pushing new devices into the market and as a result also driving otherwise stagnating sales.

Key players such as Apple and Samsung have an important role in the Consumer Electronics market as they shape the market through constant innovation. Yet competition in the stagnating market is getting fiercer with fast growing Chinese manufacturers entering the market.

The following trends currently shape the market and are the industry’s answer to declining growth rates: digital ecosystems, virtual and augmented reality, shy technology, and OLED displays.

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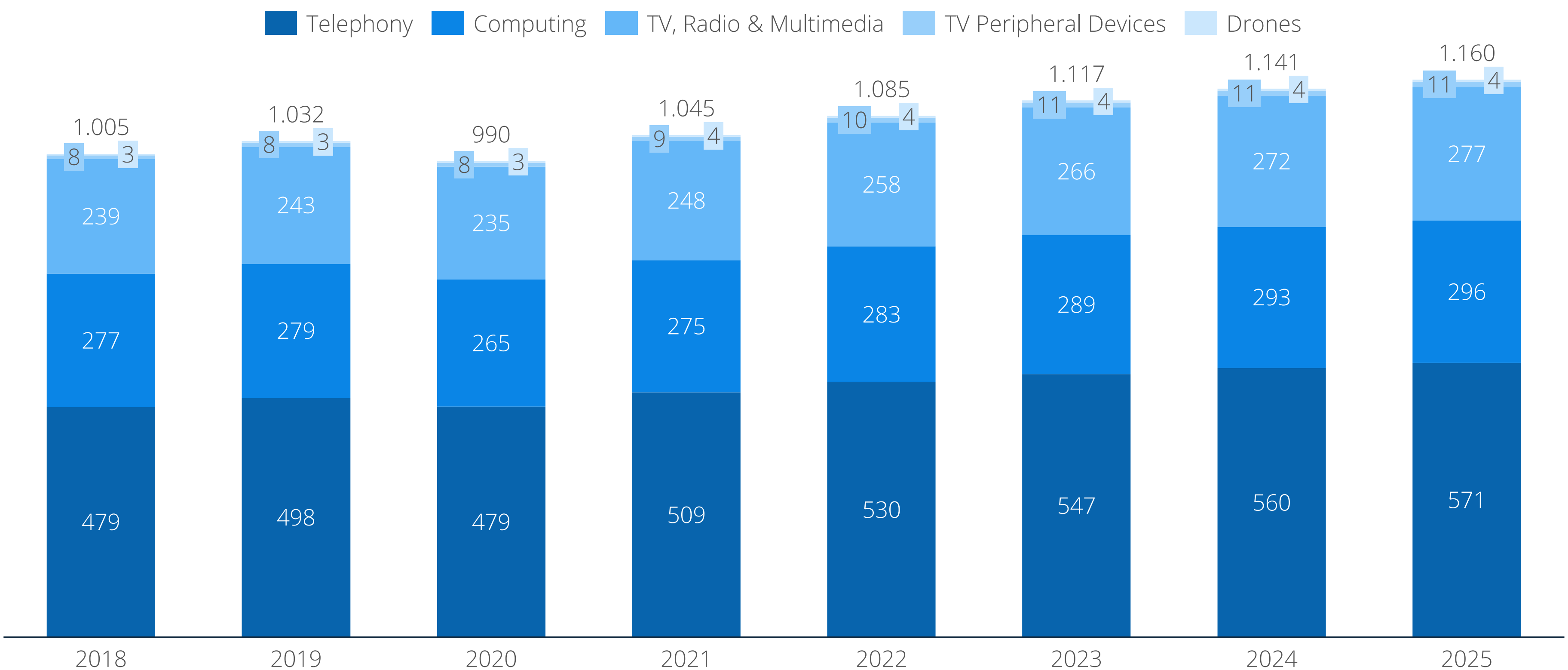
Consumer Electronics market to reach US$1.2 trillion in 2025 with Telephony as the largest segment

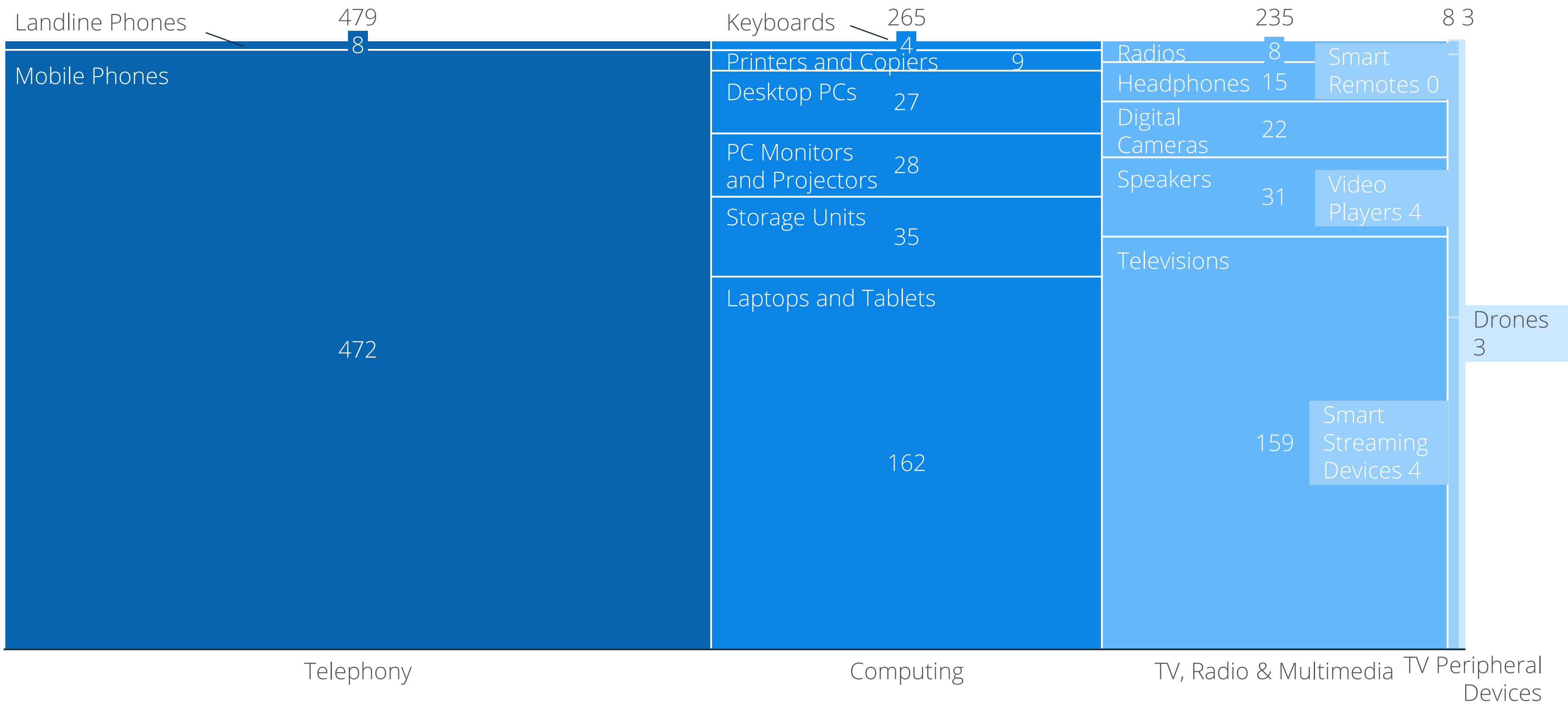
Global Consumer Electronics revenue forecast in billion US$



Sources: Statista Consumer Market Outlook, as of October 2020

The Telephony segment dominates the global Consumer Electronics market

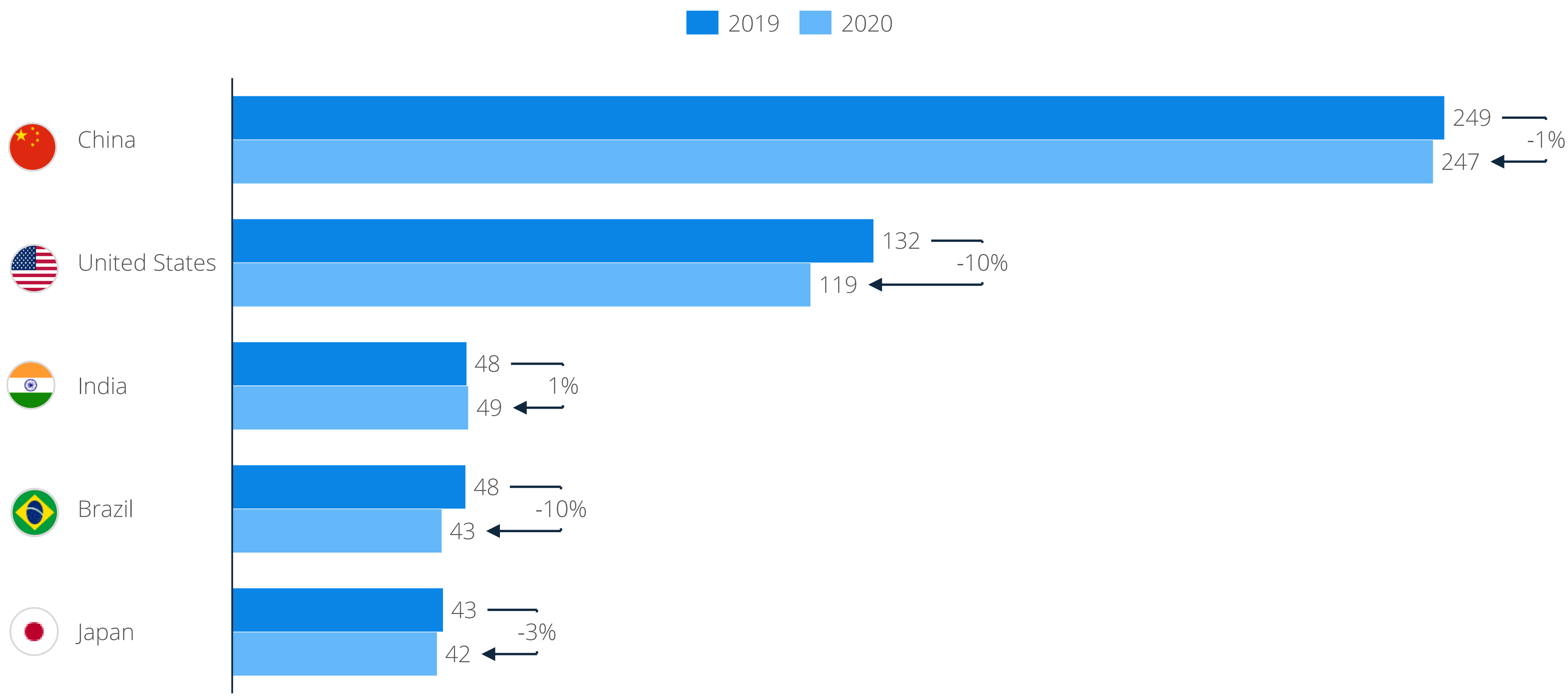
Global Consumer Electronics market revenue in billion US$ in 2020



Sources: Statista Consumer Market Outlook, as of October 2020

Consumer Electronics in the U.S. will witness a COVID-19 related revenue loss of 10%

Top 5 Consumer Electronics countries by market revenue in billion US$



Sources: Statista Consumer Market Outlook, as of October 2020

With US$65bn in the last quarter, Apple has the highest sales among Consumer Electronics companies

Company	Apple	SAMSUNG	SONY	Panasonic
Sales, latest quarter	US$64.7bn[1]	US$59.1bn[2]	US$16.5bn[3]	US$16.0bn[4]
Key brands	iPhone, MacBook, iPad, iMac, WATCH	Samsung GALAXY	KONICA MINOLTA, AIWA	LUMIX, Technics

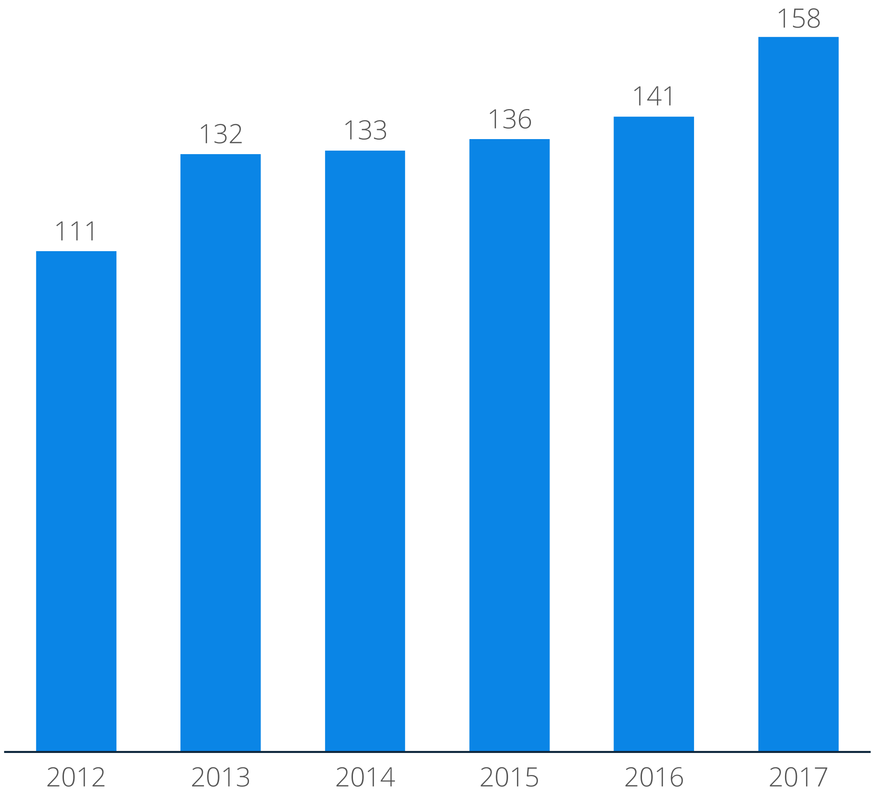
1: Q3 '20, as of September 26, 2020 2: Q3 '20, as of September 30, 2020; Converted from KRW to US$ exchange rate: KRW-US$ 0.00088, as of October 30, 2020 (Oanda) 3: Q3 '20, as of September 30, 2020; Converted from JPY to US$ exchange rate: JPY-US$ 0.0096, as of October 30, 2020 (Oanda) 4: Q2 '20, as of October 29, 2020-fiscal year ends March 31; Converted from JPY to US$ exchange rate: JPY-US$ 0.0096, as of October 29, 2020 (Oanda)

Sources: Statista Consumer Market Outlook, Apple, Samsung, Sony, Panasonic

Foxconn is the world's largest contract electronics manufacturer, producing for all major tech companies

FOXCONN

Foxconn global revenue in billion US$



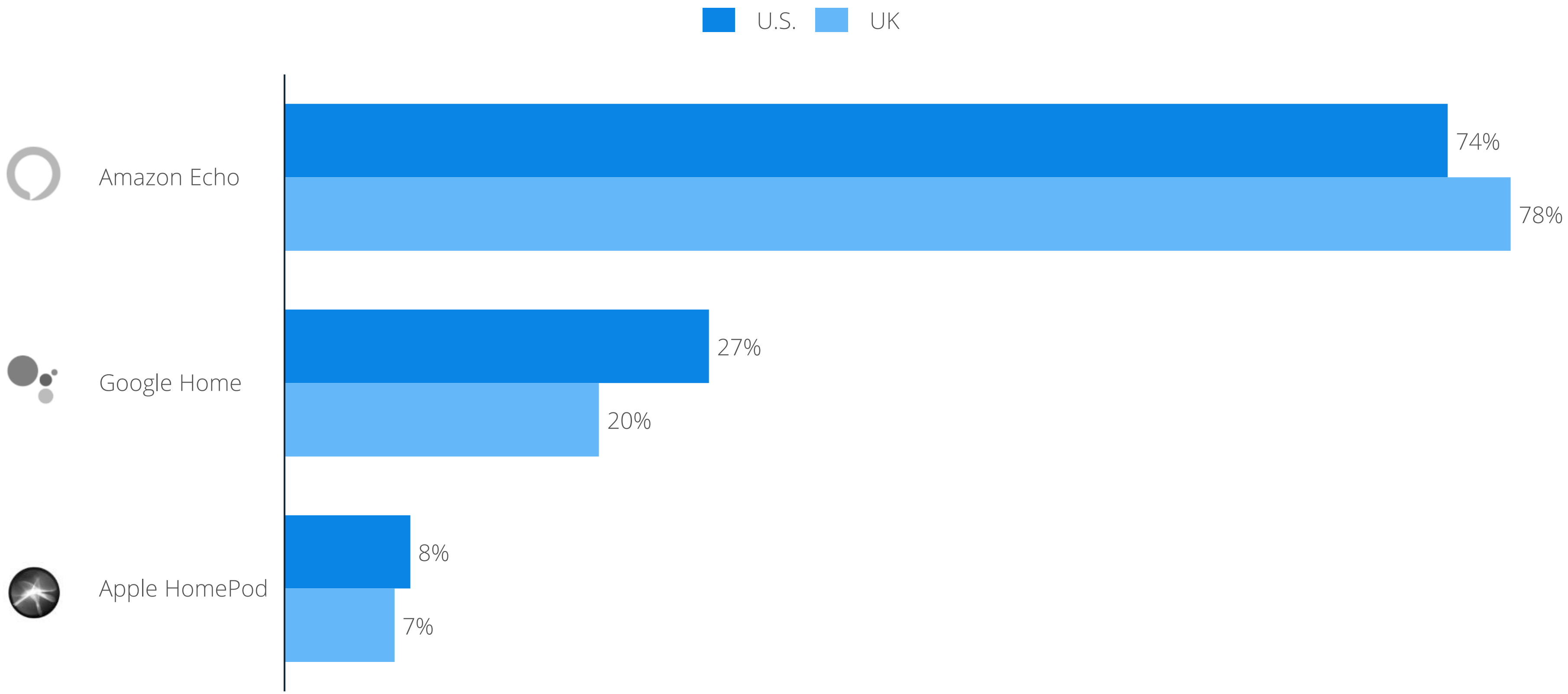
Foxconn clients

acer
DELL
SAMSUNG
TOSHIBA
intel
amazon
Nintendo
CISCO
NOKIA
Microsoft
SONY
hp

Sources: Forbes, Hon Hai Precision Industry Co. Ltd.

Amazon Echo is by far the most used smart speaker in the U.S. and the UK

Most frequently used smart speaker models



"Do you own Smart Home devices i.e. devices that you can control via a smartphone/an internet connection?" Multi Pick; n=64,358 "Which smart speaker with an integrated virtual assistant do you own?"; Multi Pick; n=64,358
Sources: Statista Global Consumer Survey, as of April 2020

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Digital Health Market is coming soon as part of the Statista Digital Market Outlook

Digital Health

The Digital Health market covers a broad scope of technologies from mobile health apps to connected wearable devices to telemedicine. These technologies provide users with the tools necessary for making more thoughtful and data-driven decisions concerning their health and well-being. Products and services emerging in this market enable millions of people globally to monitor and record their health conditions in a more efficient and user-friendly manner. They can track physical activities, identify early signs of developing diseases, and even help to cope with psychological issues.

The ubiquitous use of the internet and smartphones along with the shifting tendency towards a healthier lifestyle and well-being have sparked the growth of this market. The COVID-19 pandemic considerably contributed to this trend.

In the Statista Digital Market Outlook, the market Digital Health will cover two broad segments: Digital Fitness & Well-being and eHealth. Fitness & Well-being covers devices including Fitness Wearables and Smart Scales, as well as Apps. eHealth encompasses eHealth Devices, eHealth Apps, Online Pharmacy, and Online Doctor Consultations. We focus solely on the consumer perspective.

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 Note: More information soon in the Statista Digital Market Outlook

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Our new market Digital Health with its six sub-segments will be launched in Q1 ‘21

Digital Health Market is coming soon as part of the Statista Digital Market Outlook

Segments and sub-segments of the upcoming market Digital Health

Digital Fitness & Well-being

- Digital Fitness & Well-being Devices
  - Smartwatches
  - Fitness/Activity Tracking Wristwear
  - Smart Scales
- Digital Fitness & Well-being Apps
  - Fitness Apps
  - Nutrition Apps
  - Meditation Apps

eHealth

- eHealth Devices
  - Blood Pressure Meters
  - Fever Meters
  - Glucose Meters
  - Social Alarms
- eHealth Apps
  - Contraception & Fertility Apps
  - Medication Checkers Apps
- Online Pharmacy
- Online Doctor Consultations

Note: More information soon in the Statista Digital Market Outlook

Digital Health is becoming highly competitive with many new players entering the scene

Digital Health Market is coming soon as part of the Statista Digital Market Outlook

Selected key players in Digital Health

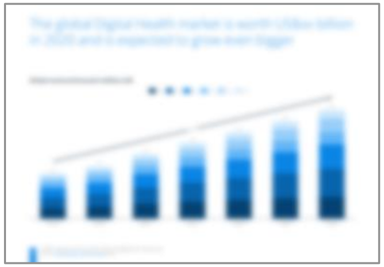
Fitness & Workout	eHealth	Online Doctor Consultations	Ambient Assisted Living	Online Pharmacy
Samsung Galaxy	headspace	teleclinic	Daytech	Pill Pack by amazon pharmacy
Garmin	Calm	sherpaa	CallToU	apohem
fitbit	Clue	TopDoctors	SingCall	chemist4u the online pharmacy
WHOOP	Lose It!	Яндекс Здоровье	SMART	Chemist Direct
Xiaomi	Flo	Доктор рядом Телемед	ALEENFOON	MetroMedi e-Pharmacy & Health Store
adidas Runtastic	BetterMe	LiveHealth Online		DIGI-PREX
NTC	iHealth	dr. on demand		
myfitnesspal	withings	docdoc		
pear	LifeSmart	KRY		
Strava	Medisana made for Life	MDLIVE		
Misfit	Medisafe	first opinion		
		Teladoc Health		
		SmartMed		

Note: More information soon in the Statista Digital Market Outlook
Sources: Statista Digital Market Outlook, as of October 2020

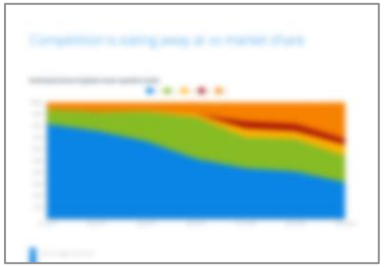
Our Digital Health market will provide current information on key metrics and trend topics

Digital Health Market is coming soon as part of the Statista Digital Market Outlook

Market size & growth



Competitive density



Key players

User demographics

App segmentation

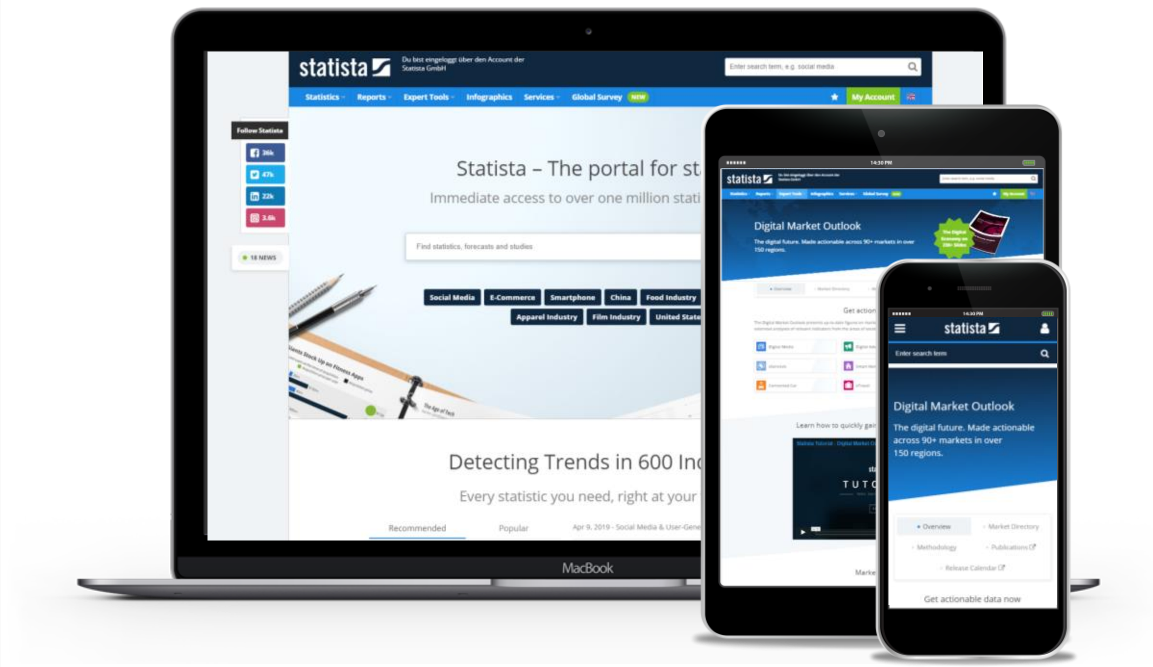
Innovation

Market by segment

Consumer behavior

Note: More information soon in the Statista Digital Market Outlook
Sources: Statista Digital Market Outlook, as of October 2020

Our products



About the Statista Digital Market Outlook

Included in the Corporate Account

80+	150+	7	30,000+
markets	countries & regions	years (2017–2025)	interactive statistics

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.

What is the size of the eCommerce Fashion market in Spain?
How much is spent on Social Media Advertising in India?

The answers to these and many more questions can be found in the Statista Digital Market Outlook. It provides forecasts, detailed market insights, and key indicators for the digital economy.

- Seven digital verticals: eCommerce, Smart Home, Digital Media, eServices, FinTech, Digital Advertising, eHealth
- Direct access & downloads, fully integrated into the Statista database
- Market insights, forecasts, and key performance indicators
- Outlook reports with segment-specific topics (top companies, trends, deep dives)

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

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About the Statista Advertising & Media Market Outlook

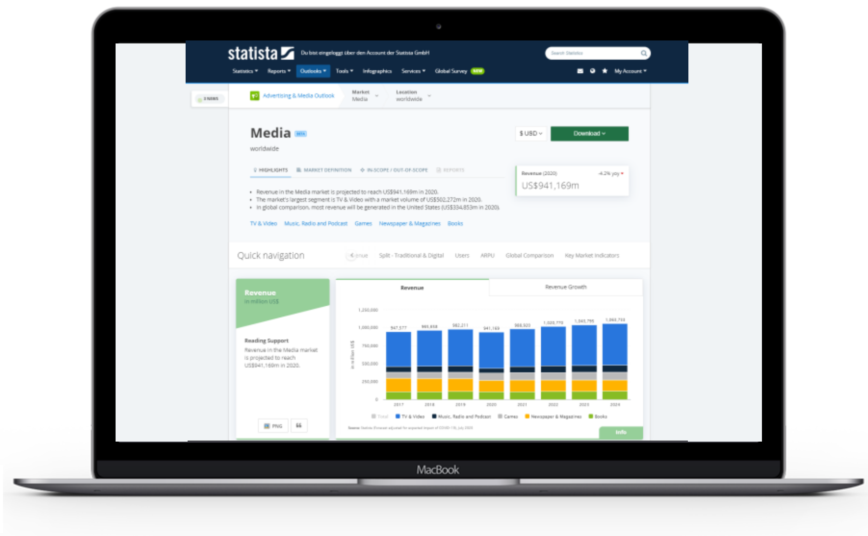
Included in the Corporate Account

13+	46+	8	15,000+
markets	countries & regions	years (2017–2025)	interactive statistics

The **Advertising & Media Outlook** presents up-to-date figures on digital and traditional advertising & media markets. The comparable key figures are based on analyses of indicators from the society, economy, and technology.

What is the size of the Traditional TV Advertising Market in Europe?
How much is spent on Digital Music in China?

The outlook answers these and many more questions with detailed forecasts, market insights, and key indicators.



- Eight advertising segments: TV & Video Advertising, Search, Social Media, Out-of-Home, Digital Banner, Print, Audio, Digital Classifieds
- Five media segments: TV & Video, Music, Radio and Podcast, Games, Newspaper & Magazines, Books
- Direct access & downloads, fully integrated into the Statista database
- Market insights, forecasts, and key performance indicators

Advertising

Media

Find out more at: www.statista.com/outlook/advertising-media

statista

About the Statista Mobility Market Outlook

Included in the Corporate Account

Everything you need to know about the future of mobility!

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

Passenger Cars:

- Over 140 relevant car makes (brands)
- 12 international car classes

Motorcycles:

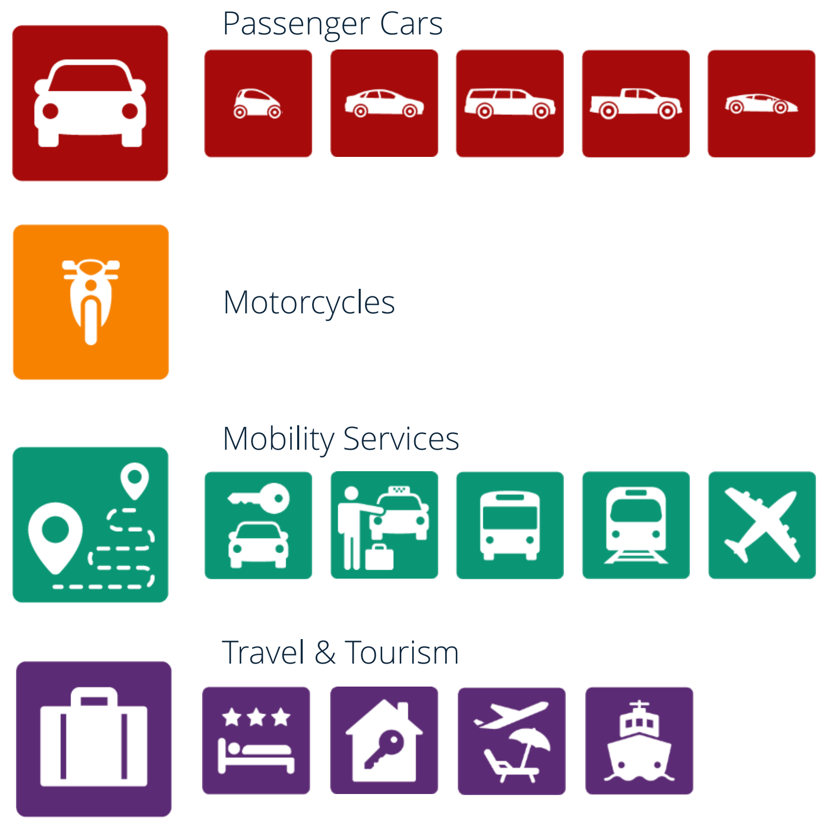
- Over 30 leading motorcycle makes (brands)

Mobility Services:

- Car Rentals, ride hailing & taxi, car- and bike-sharing,
- Bus, train, and plane tickets

Travel & Tourism:

- Hotels and vacation rentals
- Cruises and package holidays



Find out more at: https://www.statista.com/outlook/mobility-markets

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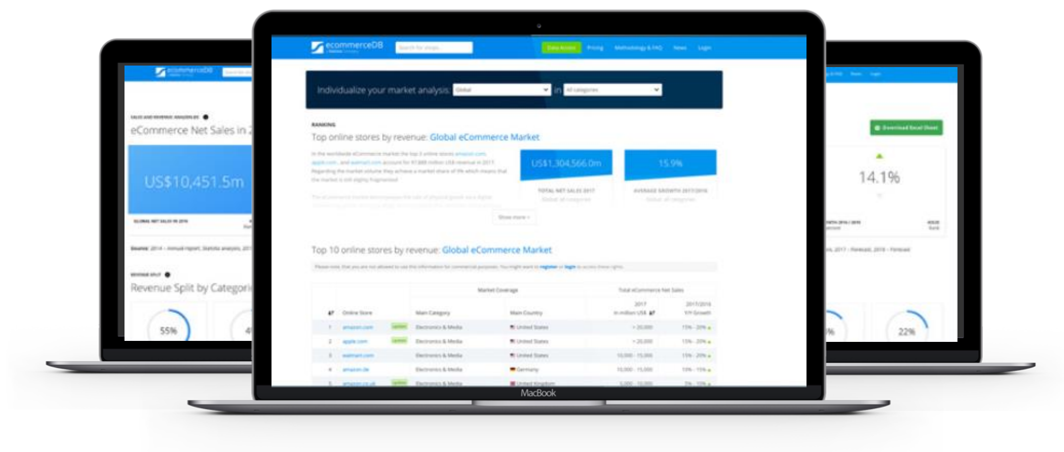
About the ecommerceDB

The toolbox for all eCommerce-relevant questions

ecommerceDB.com offers direct access to URL-related revenue information together with forecasts, customizable top, country, region and category rankings, KPI analyses, and extensive eCommerce-relevant contact information to over 20,000 online stores.



- In-depth analysis for over 20,000 online store URLs
- Adjustable top, category, country & region rankings
- Download shop profiles for seamless processing
- Direct contact to our eCommerce analysts

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Find out more at: ecommerceDB

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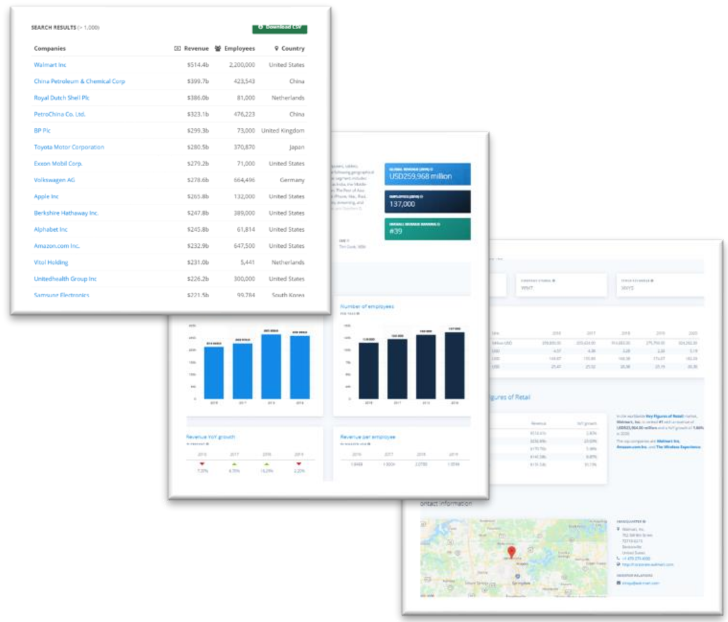
About the Statista CompanyDB

The Company Analytics Platform

The Company Database provides information on more than 1.5 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. Use the Company Database as a starting point for your further market assessment. It is also the perfect tool for a quick research on basic data and provides valuable insights into foreign markets



- More than 180 countries & regions covered
- Adjustable industry, country & region rankings
- In-depth information on over 1.5 million private companies and more than 40,000 listed companies
- Analyze your competitors and your industry

Find out more at: https://www.statista.com/search/?companies

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About Statista Research and Analysis

More than just statistics – Your individualized solutions

Statista Research & Analysis offers market research as well as research and analysis services for your individual needs and exclusively for you and your success.

We are one of the leading partners for answering data-related questions on the basis of high methodical competence and deep expertise. Thereby we are producing individualized solutions that help you to better understand your markets, customers, and data by:

- Market Research - For you we find firsthand answers to your questions about people, brands, products and prices.
- Market-/ and Competitor Analyses - For you, we take a closer look to the drivers of your market as well as the relevant competitors and their strengths and weaknesses.
- Forecasts & Predictions - For you we build meaningful and reliable market models on the basis of which we can identify trends and predict market developments and market potential.
- Data Analytics - For you, we collect, structure and analyze large data in order to create a valid base for your decisions.

Find out more at: https://www.statista-research.com/en/

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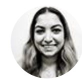
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