Technology Sector – 2020 Update

Corporate and Investment Banking Practice

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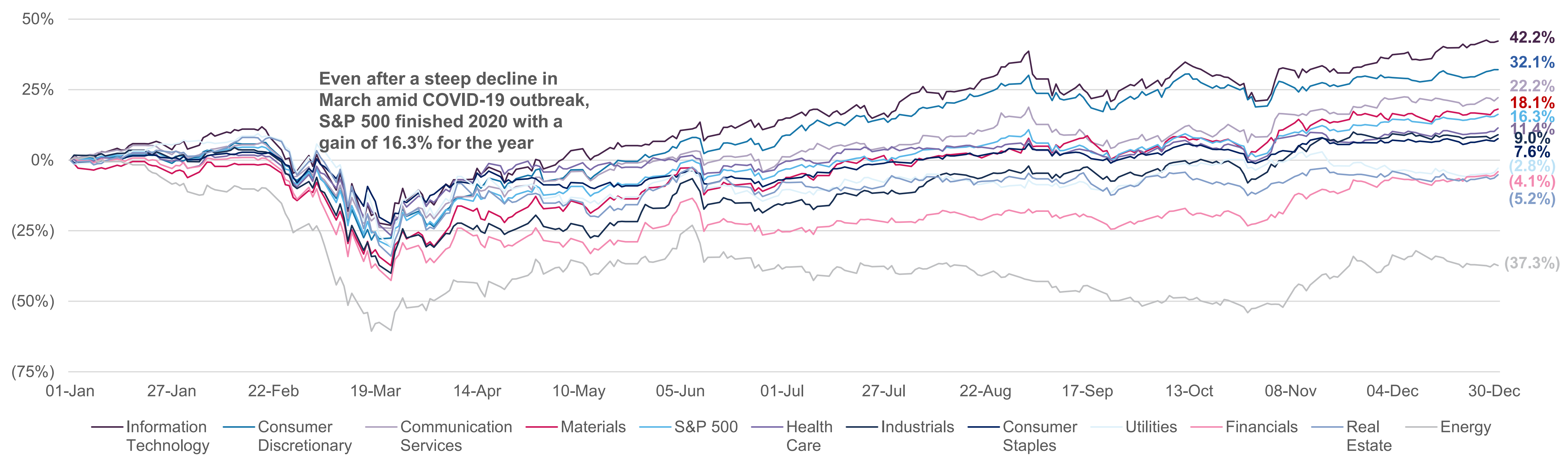
Technology sector has outperformed most sectors

Market Performance of S&P 500 Sectors in 2020



Source: S&P Dow Jones Indices website

- In 2020, the technology sector witnessed the highest growth with more than 42% returns, which were more than double the returns (on average 18.9%) generated over the last decade
  - Tech stocks were unaffected by the current economic downturn and soared to historically high valuations. The upside was driven by global trends toward remote working, cloud computing and more robust telecommunications infrastructure, which were accelerated by the response to COVID-19
- In the long-term, tech sector's performance seems sustainable
  - Economic conditions such as slow economic growth, low inflation, and low interest rates have helped large tech companies to drive the stock-market rally in the years before the COVID-19 pandemic. These conditions are expected to prevail even in a post-pandemic scenario

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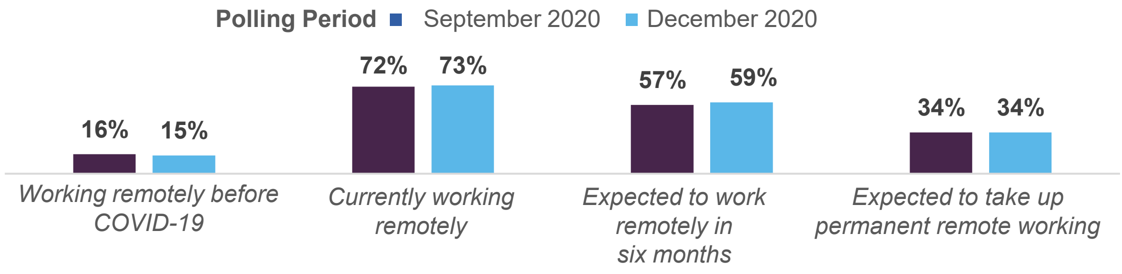
Digitalization through COVID-19 and beyond

Concepts of 'Work From Home' and 'Study From Home' Are Gaining Popularity

Acceleration in Remote Working Trends

- As per ETR's latest COVID-19 survey, remote workers will likely account for 34% of the total workforce by the end of 2021 (almost double of the pre-COVID-19 figure)

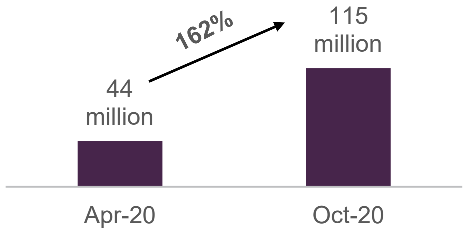
Percentage of Organization's Employees



- The potential for remote working has accelerated the adoption of various technology solutions, including collaboration and videoconferencing apps

Microsoft Teams

Exponential Growth in Users



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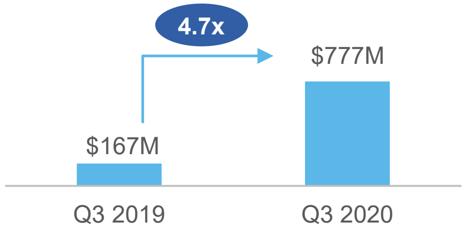
Higher Revenue Growth



Growth in Education Technology

- The sudden adoption of e-learning across educational institutions as well as an increasing need for upskilling courses are driving digitalization

Growth in EdTech, Supported by COVID-19

190+	>1.5 billion	>90%
Country-wide school closures	Student affected	Total enrolled* student affected

	Pre-COVID-19	*Post-COVID-19*
Global EdTech Market (2025)	$342 billion	$404 billion
CAGR (2019-2025)	13.1%	16.3%

- From 2010 to mid-2020, global EdTech venture capital funding stood at $36.8 billion, of which more than 50% has been invested since 2018

BYJU'S

Raised ~$1 billion since January 2020; its valuation increased by 50%, reflecting the surge in investor interest in Indian education technology startups

Udemy

Raised $100 million in funding in October, which raised its valuation from $2 billion in February 2020 to $3.25 billion in November 2020

猿辅导

China-based Yuanfudao became the world's most valuable edtech company after doubling its valuation with in six months to $15.5 billion in October 2020

Source : S&P Dow Jones Indices website, Company Filings

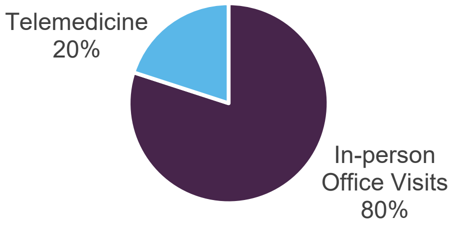
COVID-19 has accelerated technology adoption

Digitalization is Propelling Online Health, ‘At Home’ Commerce and Food Retail Technologies

Rapid Rise in Telemedicine Usage

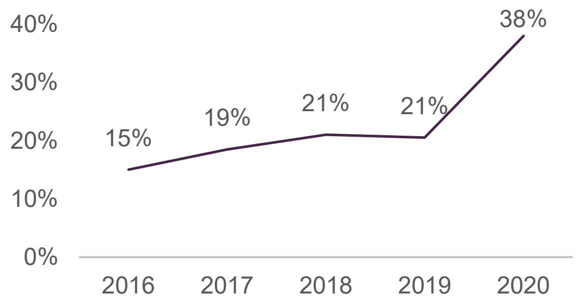
- In 2020, virtual care accounted for more than 20% of all medical visits in the US. It is expected to generate $29 billion of revenue for healthcare services
- Since the coronavirus outbreak the number of Americans trying telehealth at least once has increased to 57% from 14% during the pre-COVID-19 times

2020 U.S. Medical Visits

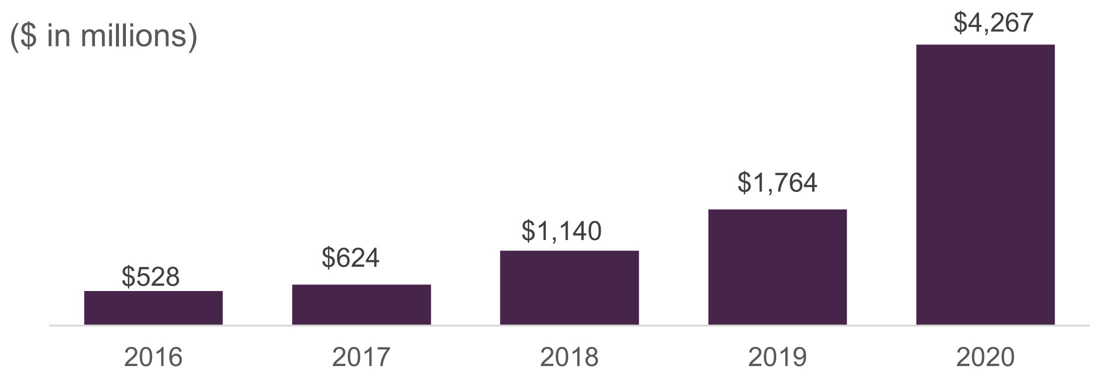


$29B of Medical Services in 2020 → *$106B of Medical Services by 2023*

Growth Rate in Physicians Listing Telemedicine as a Skill

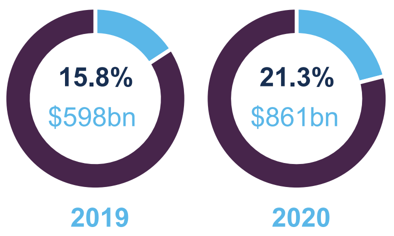


Telemedicine VC Funding



Growth in US Online Retail in 2020

US Online Penetration

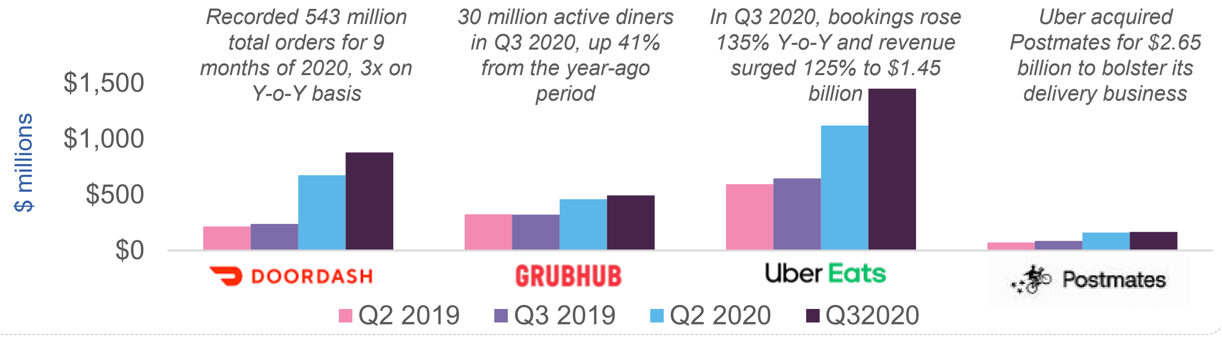


Ecommerce penetration reached 21.3% in 2020, up from 15.8% in 2019 and 14.3% in 2018

- The 44.0% growth registered in 2020 was the highest annual growth in e-commerce in the US over the last two decades
  - The upside is nearly triple the average of 15.2% online retail growth during 2010-19
- The pandemic accelerated e-commerce growth in the US in 2020, with online sales reaching a level that was not expected until 2022
  - COVID-19-related buying shifts added $175 billion to the US online retail in 2020

The COVID-19 Delivery Boom

- The four top US food-delivery business apps generated ~$5.5 billion in combined revenue in Q2 and Q3 2020, which was more than double of their combined $2.5 billion revenue in the same period last year

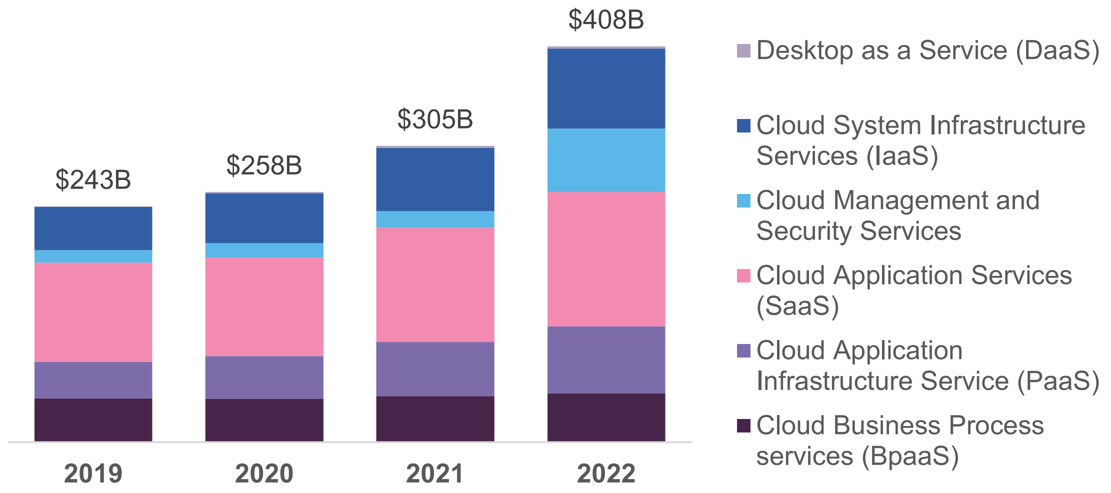


Source : S&P Dow Jones Indices website, Company Filings, Mercom Capital

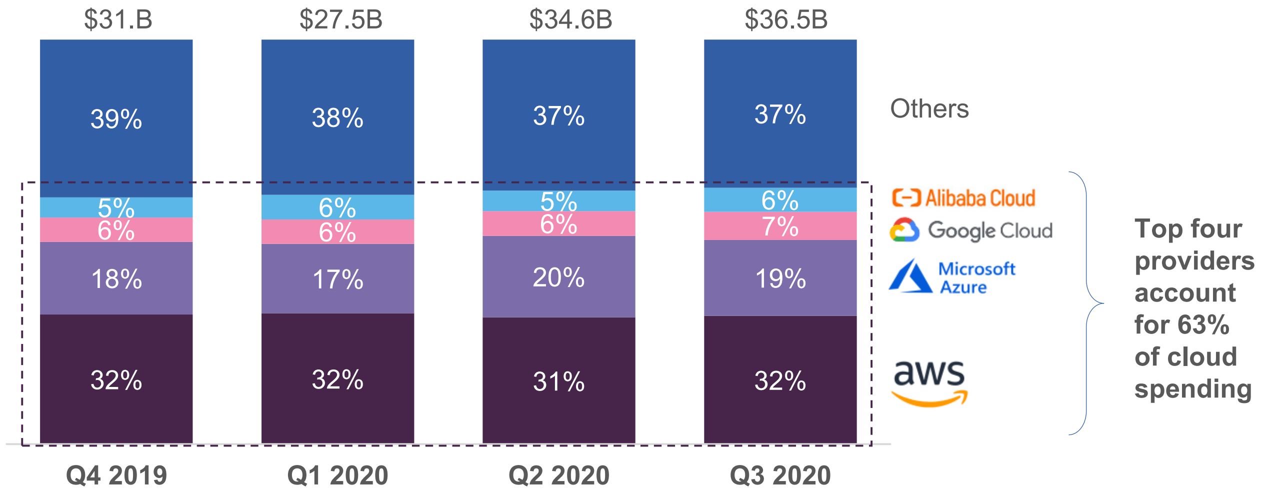
Increasing spending on cloud services due to COVID-19

Cloud Computing Set to Become More Relevant

Worldwide Public Cloud Service Revenue Forecast



Worldwide Cloud Infrastructure Services Spend

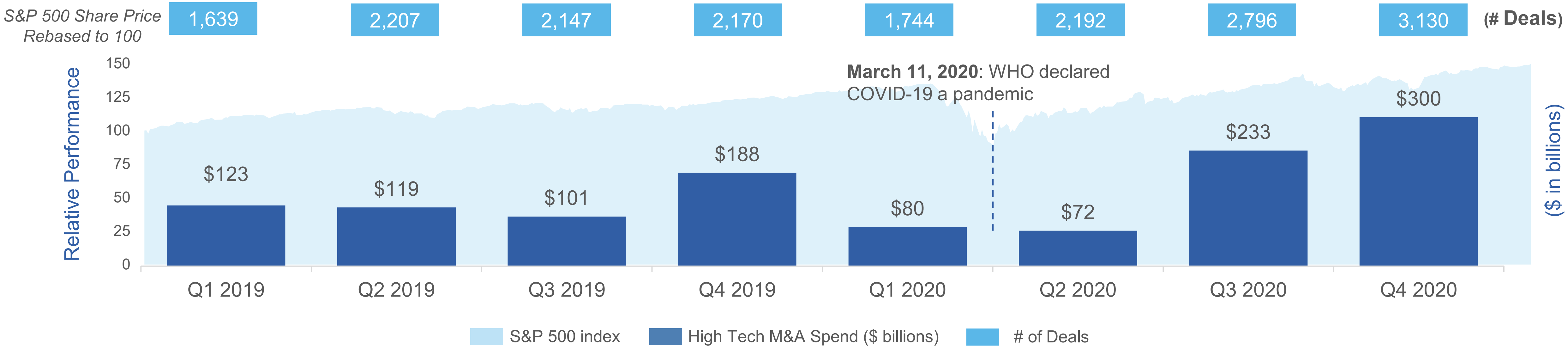


- Lockdowns around the globe have boosted the adoption of cloud services and the importance of cloud computing will only increase in the coming year.
  - According to Gartner, with an 18.4% increase, the global public cloud market will be worth $304.9 billion in 2021, up from $257.5 billion in 2020
  - Cloud spending is projected to account for 14.2% of the total global enterprise IT spending market in 2024, up 9.1% in 2020
  - Almost 70% of the organizations using cloud services plan to increase cloud spending after the COVID-19 pandemic is over
  - With enterprises seeking to support remote work, Desktop as a Service (DaaS) is projected to post the highest growth of 95.4% Y-o-Y to reach $1.2 billion from $616 million. In 2021, DaaS revenue is anticipated to reach $1.95 billion and $2.5 billion in 2022
  - Software as a Service (SaaS) will retain its position as the largest segment, growing to $104.7 billion in 2020 from $120.1 billion in 2019. Going forward, SaaS revenue is projected to grow to $120.99 billion in 2021 and $140.6 billion in 2022
- According to Canalys data, the global cloud market surged by 33% to reach $36.5 billion. This was $9 billion higher than the value recorded in Q3 2019. the top four cloud infrastructure service providers (Amazon Web Services, Microsoft Azure, Google Cloud and Alibaba Cloud) collectively registered a 40% growth in Q3 2020

Source: Gartner, Canalys estimates

Tech M&A deals rebounded after a COVID-19-induced slowdown

M&A In Technology Sector Surged From Lowest (H1) to Highest (Q4) in 2020



- The first half of 2020 saw only $150 billion in high-tech M&A deals, barely more than half of $240 billion reported in same period during 2019. However, tech M&As accelerated in H2'2020 with $530 billion and 5,800 deals, c.1.5x compared to H1'2019, as adoption of technology due to COVID-19 hit a top record in 2020 with c.$700 billion in total value
  - The sector is expected to witness consolidation as interest rates stay low, end markets and technologies change frequently, and stock prices remain high
- The SaaS sub-sector continues to witness highest growth as the shift to cloud infrastructure accelerates
  - Many companies are choosing long-term remote working and need to pivot to SaaS-based offerings. This makes making tech companies attractive M&A targets
- Consolidation in the semiconductor sub-sector continues as companies try to build scale to stay competitive
  - In the face of increasing R&D costs, speed of technology turnover, and diverse customer needs, semiconductors are finding organic growth increasingly difficult. As a result, most leading companies are relying more on M&A
  - The key trends driving consolidation are strategic diversification (e.g., 5G, infrastructure, etc.), growth focused on verticals such as automotive and portfolio pruning (diversification of non-core assets (Intel's NAND sale)). Nvidia, Marvell and Analog Devices have emerged as the main consolidators in the sector

Source: S&P Dow Jones Indices website, Refinitiv

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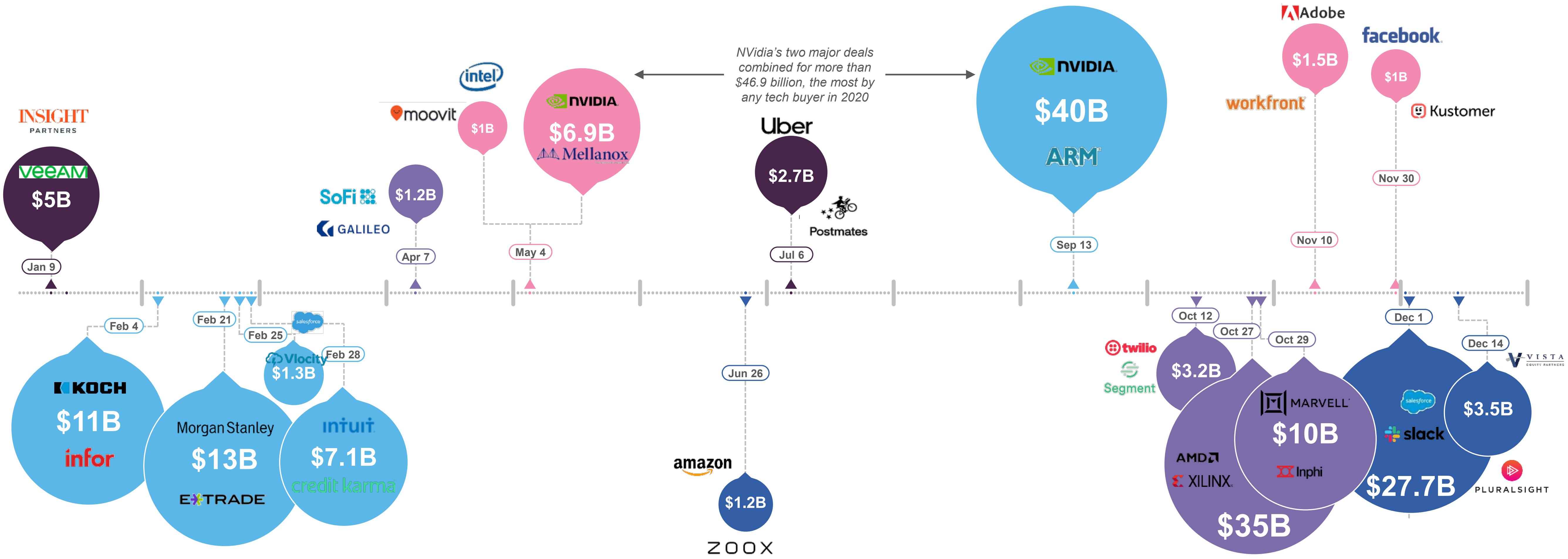
Increase in mega deals

Technology Mega Deal Activity in 2020



The biggest deals of 2020 were back-loaded for the end of the year, as most billion-dollar tech M&As took place in H2 2020

Source: *Computerworld, Visual Capitalist*

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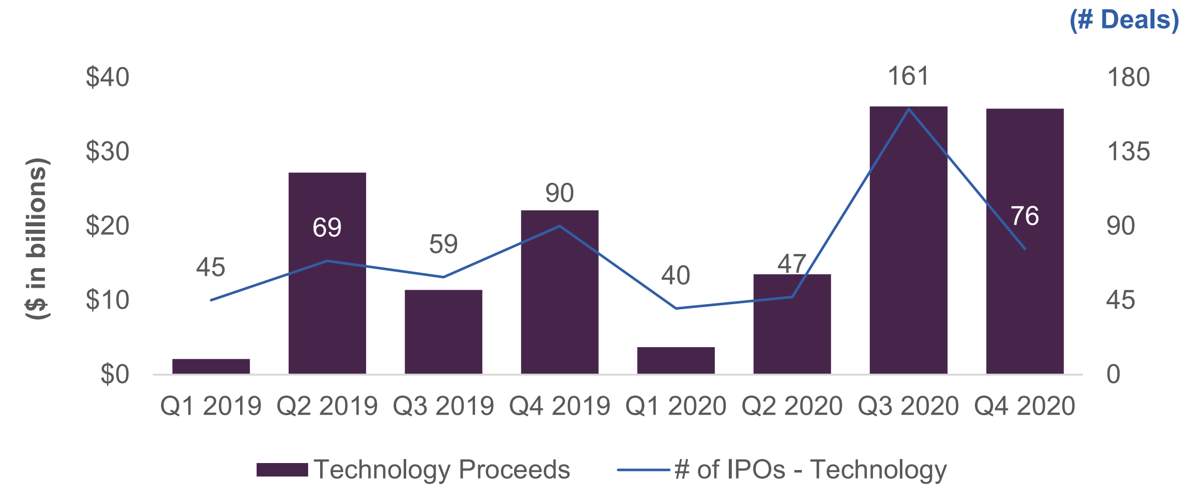
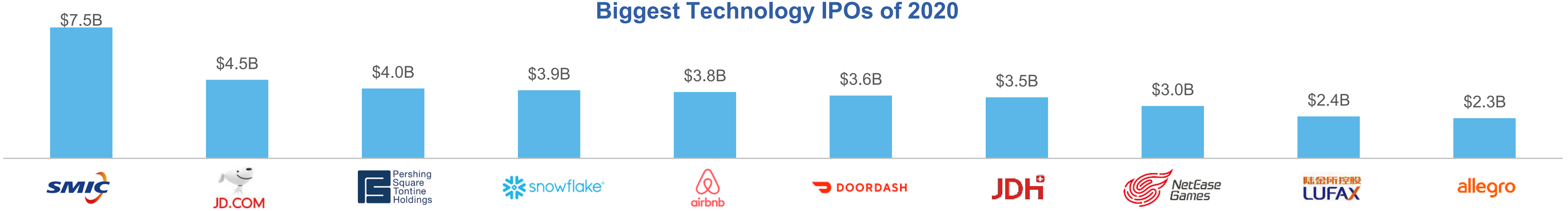
Surge in Tech IPO activity in 2020

Tech IPO Activity



- The technology sector witnessed 324 IPOs raising $89.1 billion globally in 2020. Technology was the most dominant sector in Q4 2020, both by numbers (23%) and proceeds (35%)
- Several technology companies also announced their IPO plans through mergers with special public acquisition companies (SPACs)
  - In September 2020, Skillz, a mobile gaming company, announced its merger with Flying Eagle Acquisition Corp (a blank check company)
  - Similarly, property technology startup, Opendoor announced a merger with Social Capital Hedosophia Holdings
- In addition, Palantir Technologies and Asana went public via direct listing (September 2020)
- With strong momentum building in Q3 and Q4 2020, there is a strong pipeline of companies looking to go public in 2021
  - Tech unicorns, cloud computing and consumer tech companies are expected to remain attractive to IPO investors

Biggest Technology IPOs of 2020



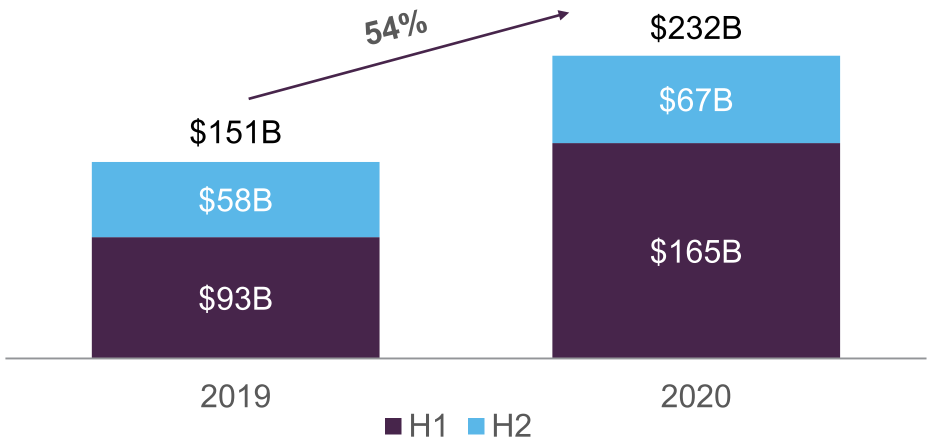
China's biggest semiconductor maker raised over $7.5 billion on Shanghai's Star market in July 2020	Chinese e-commerce giant went public in Hong Kong in June 2020	On July 22, 2020, Pershing Square Tontine, a SPAC sponsored by hedge fund billionaire Bill Ackman began trading on the NYSE	A cloud data warehouse vendor made its debut on the NYSE in September 2020, at a valuation of $77 billion	Airbnb, a popular online marketplace for vacation rentals, got listed on NASDAQ in December 2020
A US food delivery start-up went public in December 2020, which boosted its valuation by 4x to $71 billion	Chinese online healthcare platform raised $3.5 billion in December 2020 through its Hong Kong IPO	A Chinese gaming company sought nearly $3 billion in its secondary listing in the Hong Kong market in June 2020	Chinese fintech firm raised $2.4 billion in US IPO in October 2020	Polish e-commerce group raised about $2.3 billion in Warsaw's largest IPO in October 2020

Source: EY Global IPO Trends Report

Rising debt issuances in the tech sector

Tech Companies Availing Debt to Expand Business

Global Debt Issuances in Tech Sector



- In 2020, the tech sector posted strong margins and recurring revenues, and resorted to easily scalable operations, which can grow exponentially with low investments
  - Venture debt lenders continue to invest in the sector, particularly SaaS companies that provide predictable revenue streams at monthly or quarterly intervals
- Tech businesses generally have lower debt on their balance sheet. It makes them more agile in an unpredictable economic environment
- Historically, tech businesses have been perceived to be riskier than traditional businesses; however, since the COVID-19 pandemic, these businesses represent lower risks to lenders

Major Debt Issuances of Tech Companies in 2020

airbnb: On April 14, 2020, Airbnb raised $1 billion in debt from Fidelity, T Rowe Price and Blackrock, to strengthen its balance sheet during the COVID-19 crisis

NETFLIX: On April 22, 2020, Netflix issued $1 billion USD denominated and EUR high-yield bonds, for corporate investment purposes

Apple: On May 5, 2020, Apple raised $8.5 billion by selling four different types of bonds

Tencent: On May 28, 2020, Tencent raised ~$6 billion in debt, which was the largest deal by an Asian corporate in 2020

amazon: On June 3, 2020, Amazon raised $10 billion from six tranches of notes worth $1–$2.5 billion, at record low interest rates

Alphabet: On August 4, 2020, Alphabet raised $10 billion in an investment-grade corporate debt, at its lowest-ever cost of financing

Source: Refinitiv

Antitrust in the digital economy

Increasing Political and Regulatory Pressure on Big Tech Companies

- With the high adoption of technology and digitalization, large tech companies are influencing multiple socio-economic domains. Thus, regulators are increasingly focusing on laws that can prevent corporate abuse of power

US Lawmakers Called for Greater Antitrust Crackdowns against Big Tech Companies

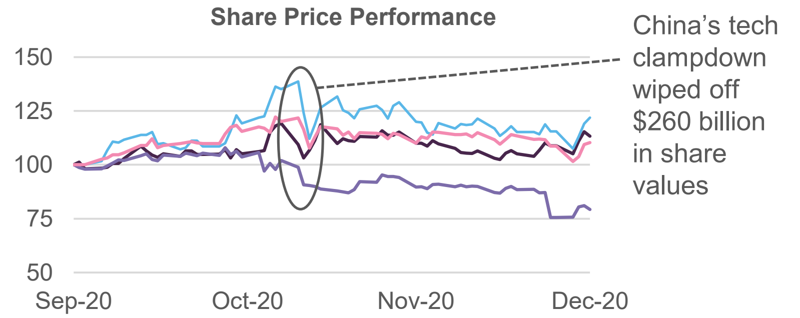
- Recently, the US House of Representatives' Antitrust Subcommittee released its investigative findings on major tech players. The report
  - Called out Amazon's dominance in e-commerce, Google's in search and advertising, Facebook's in social networking, and Apple's in both mobile content and apps
  - Cited big tech companies for anti-competitive practices such as acquiring potential competitors and using their platforms to limit competition, controlling access, and favoring their own products
- To address these concerns, the subcommittee recommended updating antitrust laws
  - It also called for an additional FTC oversight over Big Tech M&As
- Legislators are advocating the breakdown of Big Tech companies or the divestment of their key assets to encourage competition

EU to Impose Tougher Rules on Big Tech

- At the end of December 2020, the EU presented two legislative proposals – Digital Services Act and Digital Markets Act. These acts
  - Propose a set of rules for all digital services, including social media, online market places and other online platforms
  - Can boost competition across the bloc and keep users safe from various harms they can potentially encounter online
  - Can levy fines of up to 10% of the global revenue of Big Tech companies if they violate rules
- The Digital Markets Act ensures that tech giants operating in Europe do not prevent news services, tools and companies from entering the market
  - For instance, Google's giving preference to its own shopping services in its search engine – has led to significant antitrust investigations and fines in Europe

China's Big Tech Clampdown

- In November 2020, Ant Group's IPO was halted after China introduced stricter regulations for financial services providers
- Recently, Beijing proposed new regulations aimed at curbing the power of its homegrown tech giants – Alibaba, JD.com, Tencent and Meituan
  - The draft covers a range of monopolistic practices such as abusing dominant market positions, predatory pricing, and restricting merchants from working with rivals' platforms



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Predictions for 2021

Factors Affecting Tech Sector

Acceleration in Tech Adoption

- 2020 was positive for the sector as increasing tech adoption had a corresponding effect on revenues and business models of tech companies
  - The sector will ride on the revenue windfall and momentum into 2021, increasing the probability that the broad sector strength will continue
  - Tech companies are increasing digital transformation efforts, with focus on improving cloud infrastructure, data and analytics capabilities, cybersecurity, and business model transformation

Slowing Pace of Tech Stocks in 2021

- The rally in tech stocks may dampen at least for a while in 2021, as the sector's earning growth is expected to lag behind less-expensive sectors such as industrials
  - According to data complied by Bloomberg Intelligence, the profit of value stocks in the S&P500 will likely increase by 46%, while profit of companies in the benchmark's technology group are expected to rise by 16% in 2021
- As recovery accelerates in 2021, investors are likely to abandon the biggest winners of 2020 in favor of cheaper stocks with greater upside potential
  - Although first part of 2021 is likely to be dominated by the reopening trade, technology stocks are likely to regain market leadership as economic recovery matures

Big Tech Will Cement Their Dominance in Global Economy

- Tech giants represent about 25% of the S&P 500's value. During 2020, they represented a major portion of the gains seen in the S&P 500
- Big Tech companies thrived during the pandemic and many of these stocks will continue to outperform the rest of the market
- Through regulatory scrutiny is set to intensify on Big Tech in 2021, these companies have track record of managing regulatory pressure well

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