Technology Sector – Q3 2021 Update

Corporate and Investment Banking Practice

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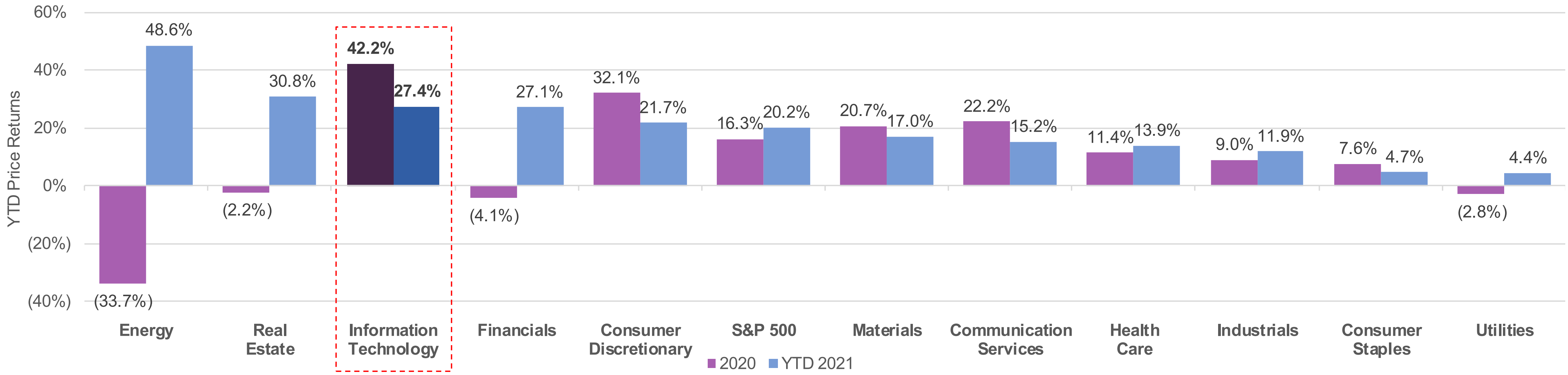
Technology Sector to Remain the Best Bet in the Long Term

Market Performance of S&P 500 Sectors in 2021



- In 2020, the technology sector pushed the Wall Street to get rid of the pandemic-led bear market and form a new bull market. However, investment pattern changed in 2021 and cyclical sectors, such as energy, financials, materials and consumer discretionary, took the center stage
  - Due to nationwide COVID-19 vaccination programs and a faster-than-expected reopening of the global economy, the focus has once again shifted to cyclical stocks that are trading at low prices
  - As a result of its continued high performance, the technology sector became overvalued and investors were concerned that a major correction is in the offing
- However, technology stocks will remain the best bets in the long term because of the following reasons:
  - Breakthroughs in the 5G wireless network, cloud computing, predictive analysis, AI, self-driving vehicles, digital personal assistants, and IoT
  - Low digitization in the emerging markets of Asia, Latin America, Africa and some European countries – the pandemic led to high adoption of technology across these regions

Source: S&P Dow Jones Indices website

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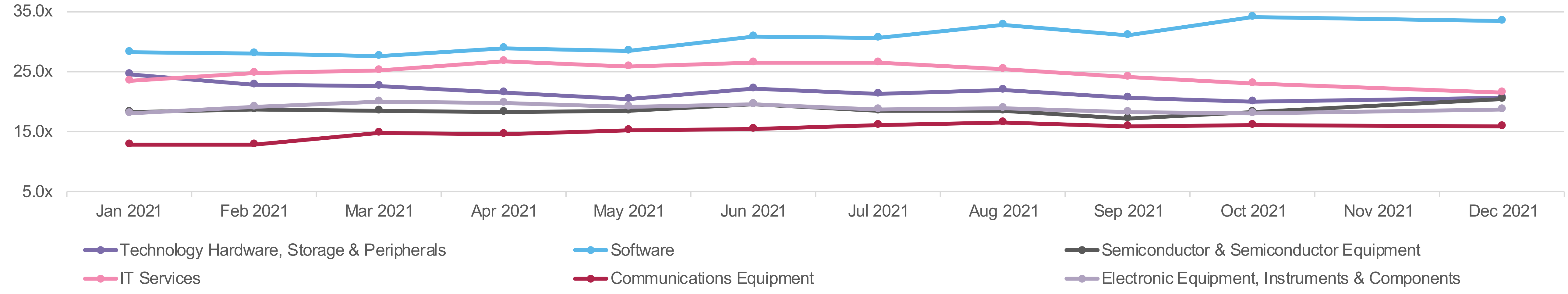
Technology Sub-sector Valuations Witnessed Upward Trend During Q3 2021

Technology Sub-sector Valuations – EV/LTM EBITDA through Dec 01, 2021



Software

- ✓ According to recent Gartner's analysis, the spending in enterprise software is projected to see the highest growth rate (11.5%) in 2022. It is likely to reach $670 billion in 2022 from $601 billion in 2021
  - The increase in spending would be driven by infrastructure software expenses, which are quickly outpacing application software spending

Semiconductor & Semiconductor Equipment

- ✓ Despite the global pandemic and resulting economic downturn, the semiconductor industry remained resilient, finishing 2020 with a 6.5% growth in revenue
- ✓ The semiconductor industry will continue to grow due to the mainstream adoption of IoT, 5G and the increasing semiconductor needs of the automotive sector

Hardware, Storage & Peripherals

- ✓ With telehealth, remote work, and online learning taking precedence, global spending on devices amounted to over $800 billion in 2021, an increase of almost 15.1%
  - Investment in PCs and tablets is forecast to increase 8% in 2021, higher than the long-term 2% p.a. growth trend
- ✓ In 2022, spending on devices is expected to grow 2.3% driven by enterprises looking to upgrade devices / or invest in multiple devices to facilitate a hybrid work model

IT Services

- ✓ In 2021, spending on IT services is expected to reach c.$1.2 trillion worldwide, up 11.2% from the previous year, potentially due to the economic impact of the pandemic
  - Cloud-based IT services are gaining popularity
  - Increasing penetration of IoT-based devices and large volumes of data generation in enterprises are creating new opportunities for the IT services market

Source: S&P Dow Jones Indices website, Gartner

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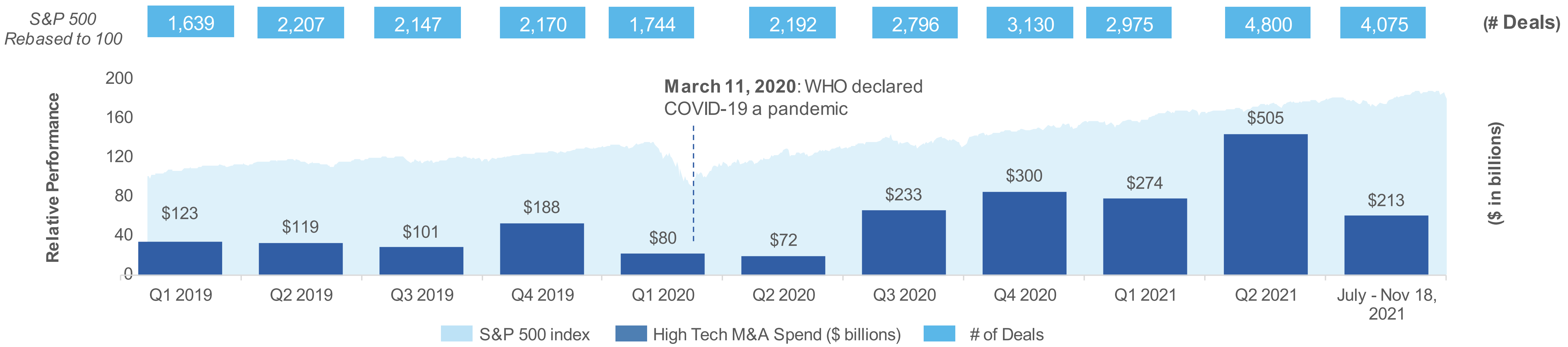
Tech M&A Deals are Thriving in 2021

Global High-technology M&A Deals



- The technology sector has been the clear winner throughout the pandemic. The sustained demand for technology products and services was the key reason behind the strong growth of the sector, which in turn encouraged higher valuations and M&A activity
- The volume and value of technology deals surged through the three quarters in 2021, with tech value climbing c.135% y-o-y to $922 billion
- M&A continues to be driven by strong investment by private equity (directly and through portfolio companies) and large strategic corporates making sizeable, transformational acquisitions aimed at enriching their portfolios
- As a result, valuations in the sector have soared. However, dealmakers appear to be reserving high prices for tech companies of the highest quality
- In recent quarters, many deals were focused on software or software-enabled technologies, often powered by the latest advances in AI, analytics, and deep tech
- Mega deals have slowed down due to apprehensions around government intervention
  - A key concern is the trend toward increased regulatory scrutiny and protectionism of technology assets in major markets. Many dealmakers have already faced some regulatory and geopolitical headwinds
  - New laws as well as greater regulatory scrutiny have reduced M&A activity and held back Big Tech from closing deals in 2021

Source: S&P Dow Jones Indices website, Refinitiv

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Software Deal Activity – Robust Momentum Continued in Q3 2021

Software is the Prime Driver of M&A deals within Technology

- In Q3, M&A activity in the software segment broke records, driven by broad-based buyer participation, ample liquidity, and continued growth in software spending
- Despite increasing regulatory scrutiny, there was a twofold increase in the number of tech companies acquired by special purpose acquisition companies in Q3 as compared to that in Q3 2021
- PE firms executed some of the largest software deals in Q3 and increasingly dominated the mid-market M&A scenario
- Valuations have increased to never-before-seen levels, with average revenue multiples exceeding 2020 figures by over 50%

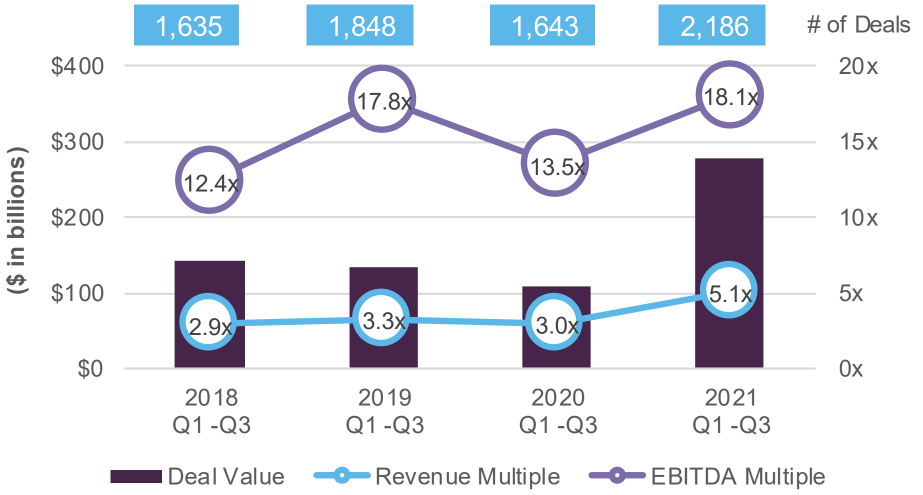
Top 10 Tech Deals

5/10
Software deals
Q3 2020

8/10
Software deals
Q3 2021

Publicly traded companies, including non-tech, are on track to announce the highest number of software deals in over a decade, as they rely on M&A to drive "digital transformation"

Software M&A Dynamics



Recent Notable Transactions

HEXAGON	NORDIC CAPITAL / INSIGHT PARTNERS	NortonLifeLock	CLEARLAKE	intuit	THOMABRAVO
acquired	*acquired*	*acquired*	*acquired*	*acquired*	*acquired*
infor EAM	inovalon	Avast	cornerstone	mailchimp	MEDALLIA
EAM business of Infor	*Cloud-based, data-driven healthcare platforms*	*Provider of AI-based PC firewall SaaS and software*	*Provider of workforce management SaaS*	*Global customer engagement and marketing platform*	*A global leader in customer and employee experience*
US$2.8billion	***US$7.3 billion***	***US$8.6 billion***	***US$5.2 billion***	***US$12 billion***	***US$6.4 billion***
July 2021	***August 2021***	***August 2021***	***August 2021***	***September 2021***	***October 2021***

Source: Duff & Phelps' Global Software Sector Update – Q3 2021, Allen & Overy M&A Insights – Q3 2021, S&P Global Research Insights

Cybersecurity M&A Surges

Cybersecurity has Become a Top Prioritization for Enterprises

The Cybersecurity Industry Continues to Outperform the Broader Market

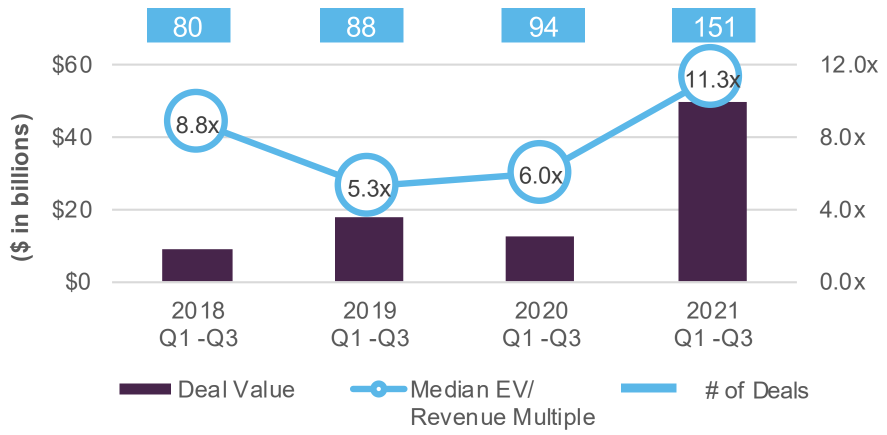
Cloudflare	163% ↑
Fortinet	120% ↑
BlackBerry	49% ↑
Secureworks	27% ↑
NortonLifeLock	20% ↑
CrowdStrike	10% ↑

$150B

Projected Spend on Global Information Security and Risk Management in 2021, an increase of 12.4% y-o-y

With Recent Executive Order, **US Government's Cybersecurity Spend Increased by over 7% to $18.8 billion In 2021**

Cybersecurity M&A, Q1 – Q3



- In 2021, M&A activity has been high in the cybersecurity segment, driven by:
  - Digital transformation triggered by the pandemic
  - Increasing number of cyberattacks – ransomware attacks have increased by nearly 500% since the onset of the pandemic
- Vendors are buying competitors to strengthen their position in the market or acquiring other firms to expand their product capabilities
- Cybersecurity valuations are indeed high, given the potential demand curve
  - Historically, considering cybersecurity as a cost center, enterprises are inclined to pay less for it

Prominent M&A Transactions

Target	Acquirer	EV ($millions)
proofpoint	THOMABRAVO	$12,300
auth0	okta	$6,400
McAfee	STG	$4,000
appgate	NEWTOWN LANE MARKETING	$1,600
CAPCO	wipro	$1,500
thycotic	Centrify	$1,400
QOMPLX:	TAILWIND ACQUISITION	$1,400

Most Active Buyers 2021

Big accounting firms that provide IT consulting services have been acquiring cybersecurity companies to acquire market share and expertise in this high-growth space

accenture *Acquired*: Edenhouse, NOVETTA, realprotect, OPEN MINDED, LINK BYNET

Source: Momentum Cyber's Cybersecurity Market Review, S&P Global Research Insights

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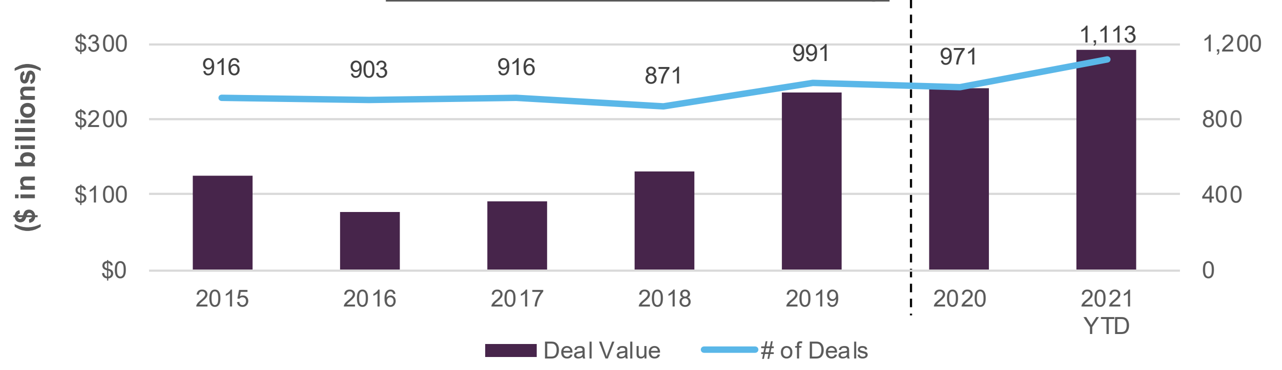
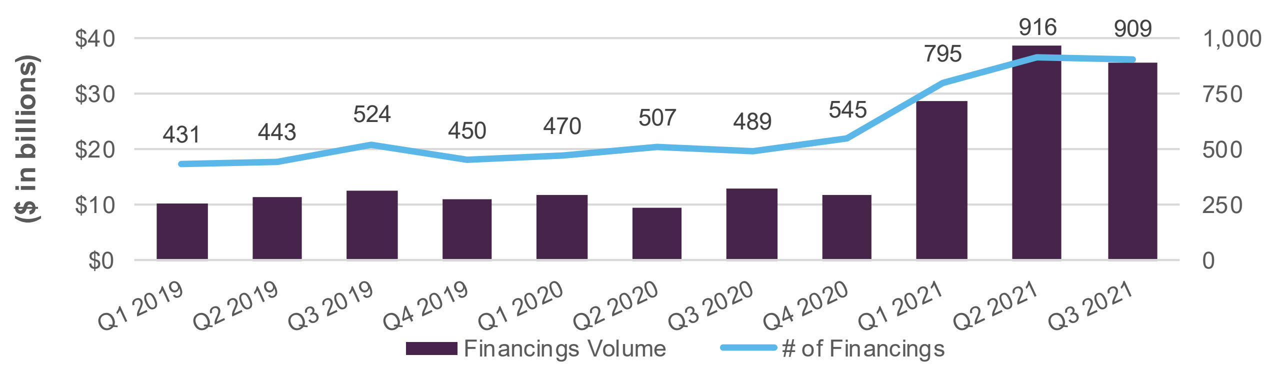
Global Fintech Private Market Deal Activity Remained Elevated in Q3 2021

Fintech Saw Another Strong Quarter, With Record Deal and Funding Activity Across the Globe in 2021 YTD

Global Fintech M&A Activity



Global Fintech Financings



- Q3 2021 was the largest quarter ever for fintech M&A at $154 billion in announced volume across 381 deals
- The buy-now-pay later space was a major target for finance giants
  - Banks and fintech incumbents are willing to pay up for exposure to point-of-sale lending, which has grown rapidly during the coronavirus pandemic

- So far, there have been 2,620 fintech capital raises in 2021 compared with 2,011 in all of 2020
- At the end of Q3 2021, YTD total volume reached $103.3 billion
  - Buoyed by significant number of $100 million+ financing rounds – 296 in 2021 YTD compared with full-year totals of just over 100 in the last two years

"Buy Now Pay Later" Platform M&As

Square
acquired
afterpay
Australian buy-now-pay-later giant
US$26.9 billion
August 2021

PayPal
acquired
paidy
A Japanese BNPL platform
US$2.73 billion
September 2021

Goldman Sachs
acquired
GreenSky
Home improvement lending platform
US$2.23 billion
September 2021

Recent Fintech Financing Deals

insightsoftware
Financial reporting software company
raised
US$1 billion
July 2021

chime
A developer of mobile banking and finance platform
raised
US$750 million
August 2021

FTX
A Bahamian cryptocurrency exchange
raised
US$900 million
July 2021

Source: FT Partners' Proprietary Transaction Database, CB Insights

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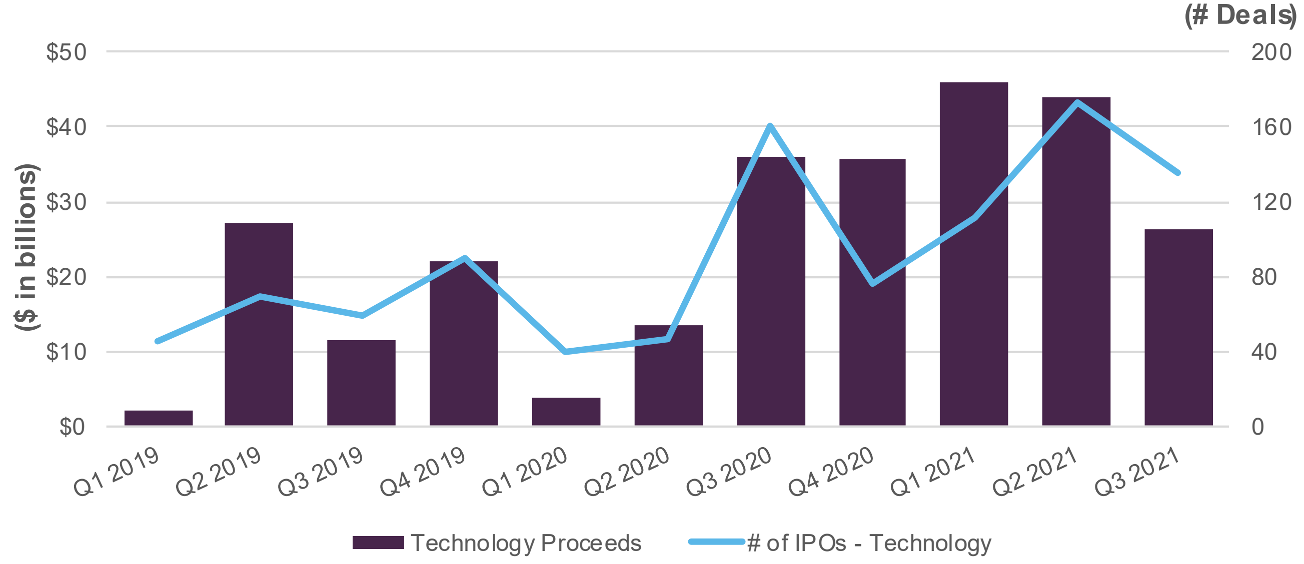
Surge in Tech Listing Activity in 2021

Tech IPO Activity



- More than 1,635 IPOs together raised a record high of $331 billion globally by the end of September 2021, as private companies rushed to attain the soaring valuations of their publicly listed peers
  - Technology sector accounted for one fourth of the total IPOs raised in last three quarters
  - For the fifth consecutive quarter since Q3 2020, technology generated the highest year-to-date number of deals (419), raising the highest amount in proceeds ($116.4 billion)
- However, globally, IPOs declined significantly in Q3 2021 compared with the first two quarters due to:
  - A generally quieter summer
  - China's crackdown on tech companies halted the rush of Chinese listings in the US and casted a shadow over Hong Kong's IPO market
- SPACs will continue to impact M&A, particularly in the technology sector
  - Despite increasing regulatory scrutiny, the number of tech companies acquired by special purpose acquisition companies in third quarter doubled from Q3 2020

Biggest Technology IPOs of Q3 2021

RIVIAN

On November 10, Rivian, an electric vehicle maker, went public on the NASDAQ , raising c.$12 billion and valuing itself at $127.3 billion

toast

In September 2021, Toast, a restaurant technology platform, priced its US IPO well above the target range to raise ~$870 million, valuing the company at $20 billion

thoughtworks

On September 14, Thoughworks, a tech consulting firm backed by Siemens AG and funds advised by Apax Partners, raised $773 million in its IPO on the NASDAQ

freshworks

On September 22, Freshworks, an Indian SaaS company, made its trading debut on the NASDAQ, raising $1 billion in proceeds. Its valuation touched $12 billion

Source: EY Global IPO Trends Report

Major Challenges Faced by Technology Industry

Challenges Faced by Technology Sector

Increase in Regulation of Technology Firms

- Technological developments are rapidly increasing the supply of products and services, thereby disrupting economic and financial systems
- China, the EU and the US have undertaken a number of policy initiatives to cope with the risks presented by the “Big Tech”

- **China** – From late 2020, Beijing’s regulatory authorities have come heavy on Alibaba and other Chinese firms over the past year
  - In August 2021, Communist Party issued a five-year blueprint to change China’s tech industry; the changes will continue till 2022
  - In November 2021, the State Administration for Market Regulation, China’s competition watchdog, fined tech giants (Alibaba, Baidu, and JD.com) for failing to report 43 old deals
  - Alibaba, the world’s biggest e-commerce company, was fined $2.8 billion for practices that suppressed competition in April 2021

- **United States** – US President Joe Biden has stacked his administration with crusaders who have spent their careers challenging corporate consolidation
  - In June 2021, five antitrust laws were proposed to aggressively rein in the market power. The extensive proposals include
  - Breaking up different businesses run by big tech,
  - Effectively preventing “killer acquisitions”, in which companies acquire rivals to stamp out threats to their market power
  - Barring tech giants, such as Apple and Amazon, from favoring their own products over those of competitors’

The US-China Technology Conflict

- In recent years, China has invested heavily in artificial intelligence, robotics, 5G and 6G, microchips and surveillance technology. It is fast catching up with the US, which has had an edge in technology
- The US has been trying to contain China's rise as a tech power by:
  - Banning Huawei's 5G network in the US
  - Effectively barring US companies from supplying software and components to Chinese tech companies
  - Planning a $330 billion package to accelerate the US's investment in R&D
- The world is splitting into two competing, mutually exclusive technology ecosystems, each with its own Internet, hardware, communications and financial platforms
  - A Deutsche Bank report estimates the cost of the tech war at over $3.5 trillion over the next five years

Growth in Global Demand for Microchips

- Semiconductor supply shortage emerged as a significant challenge for tech companies in 2021 and the problem is likely to persist
- Besides this, there is a growing demand for microchips
  - According to the Semiconductor Industry Association, the global chip sales grew by over 29% y-o-y to $44.5 billion in June 2021
- Supply chain disruptions, in part aggravated by political tensions between the US and China, have led to delays in getting products from manufacturers to the market

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Predictions for 2022

Factors Affecting Tech Sector

Technology to fuel growth across all sectors

- According to JPMorgan Asset Management, stock investors will keep technology in mind – not just as a growth play, but as an engine for better profit margins across the whole market
  - Although the technology sector is quite profitable alone, it enhances profitability in other sectors where it begins to show up
  - Investors are willing to pay for earnings that technology, whether as a sector or an investment, is able to drive

Dealmakers are bullish on Tech M&A in 2022

- In an increasingly competitive environment, tech companies continue to rely on M&A as a powerful means for differentiation
  - The fear of missing out is forcing companies to evaluate deals to future-proof their businesses. According to a new survey by Merger market, this attitude is spurring tech M&A deal volumes and values. This trend is expected to continue in 2022
- Antitrust has also come in the radar for tech deals, with the Biden Administration’s appointment of Lina Khan, a prominent critic of Big Tech, as chair of the Federal Trade Commission
  - Any potential changes to antitrust will take time to come into effect and are not expected to affect deal appetite in the short to medium term

Technology budgets experience stealth growth

- According to Gartner's analysis, worldwide IT spending will reach $4.2 trillion in 2021 (up 8.6% vs 2020) and $4.4 trillion in 2022 (up 5.3% vs 2021)
  - IT budgets are entering the new “build” phase, where organizations are focusing on building technologies and services that do not exist yet to further differentiate themselves
  - By 2024, 25% of traditional large enterprise CIOs will be held accountable for digital business operational results
  - Earlier, IT was viewed as a cost center, where companies wanted to either maintain their existing capabilities with lower budgets or improve their capabilities while keeping the budget flat

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