

Janus Henderson

INVESTORS



TECHNOLOGY EQUITIES

GROUNDHOG DAY

Richard Clode

Portfolio Manager – Global Technology
Janus Henderson Investors

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LEARNING OBJECTIVES

Framework

1

Understand why technology
will continue to dominate in
the 2020s

2

Appreciate why 20 years on
from the dot.com crash
valuation discipline remains
as important as ever

3

Identify key new technology trends
and related investment
opportunities

4

Focus on your client exposure
to technology and innovation
within a portfolio

JANUS HENDERSON GLOBAL TECHNOLOGY FUND



KEY FUND CHARACTERISTICS

KEY DATA

Launch date	8 October 1984
Benchmark	MSCI ACWI IT + Communication Services Index *
Structure	OEIC
Sector	IA Technology and Telecoms



FUND MANAGERS

Richard Clode	> 16 Years of Exp
Graeme Clark	> 20 Years of Exp
Alison Porter	> 24 Years of Exp

£971mn

Source: Janus Henderson Investors
as at 30 September 2019



PERFORMANCE

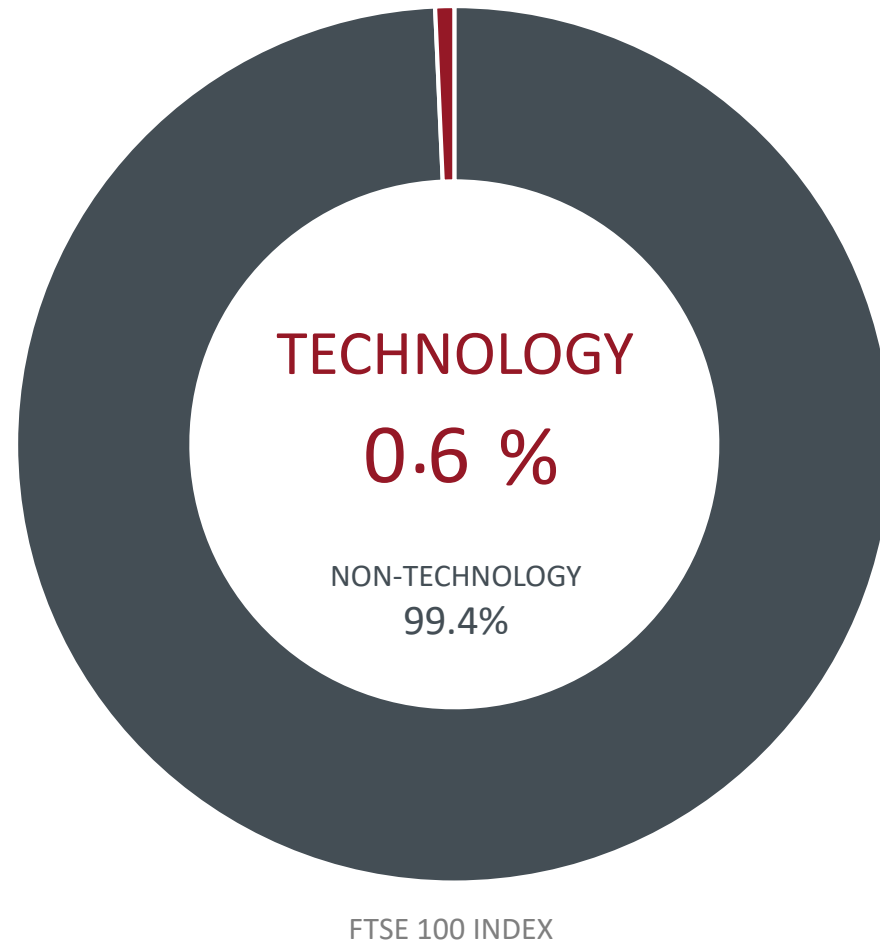
Net of fees as at 31 December 2019

Cumulative performance	1 year	3 years	5 years	10 years
Fund - I Acc share class	36.1	78.7	153.2	367.4
Sector	31.4	64.1	121.8	311.2
Index	33.7	75.6	158.9	388.9
Percentile	34	39	50	50

Source: Janus Henderson Investors, Morningstar: AuM and years of experience as at 30 September 2019, Morningstar fund rating and performance as at 31 December 2019.
Janus Henderson Global Technology Fund, Bid-to-bid, net of fees, I Acc GBP share class
IA Technology and Telecommunications Equity – Peer group benchmark usage: Comparator. Percentiles based on IA Technology & Telecommunications Equity
MSCI All Countries World Information Technology Index + MSCI All Countries World Communication Services Index (the abbreviated form is used throughout the rest of this presentation) – Index usage: Target & Comparator. As of 1 December 2018, the benchmark of the fund changed from MSCI All Countries World Information Technology Index to MSCI All Countries World Information Technology Index + MSCI All Countries World Communication Services Index
For a full description of the peer group benchmark and index usage please refer to slide 27. Past performance is not an indicator of future performance

WHY IS THE UK MARKET SUCH AN UNDERPERFORMER?

Technology exposure defines performance not geography



WHY TECHNOLOGY WILL CONTINUE TO DOMINATE IN THE 2020s

Convergence accelerating adoption

5 MEGA THEMES



Process
Automation



Internet
Transformation



Artificial
Intelligence



Next Gen
Infrastructure



Payment
Digitisation

MULTIPLE DRIVERS



New Payment
Methods



Cloud
Infrastructure



Transport
Revolution



Platform
Proliferation



Software
as a Service



Machine
Interface



Entertainment
on Demand



Flexible
Displays



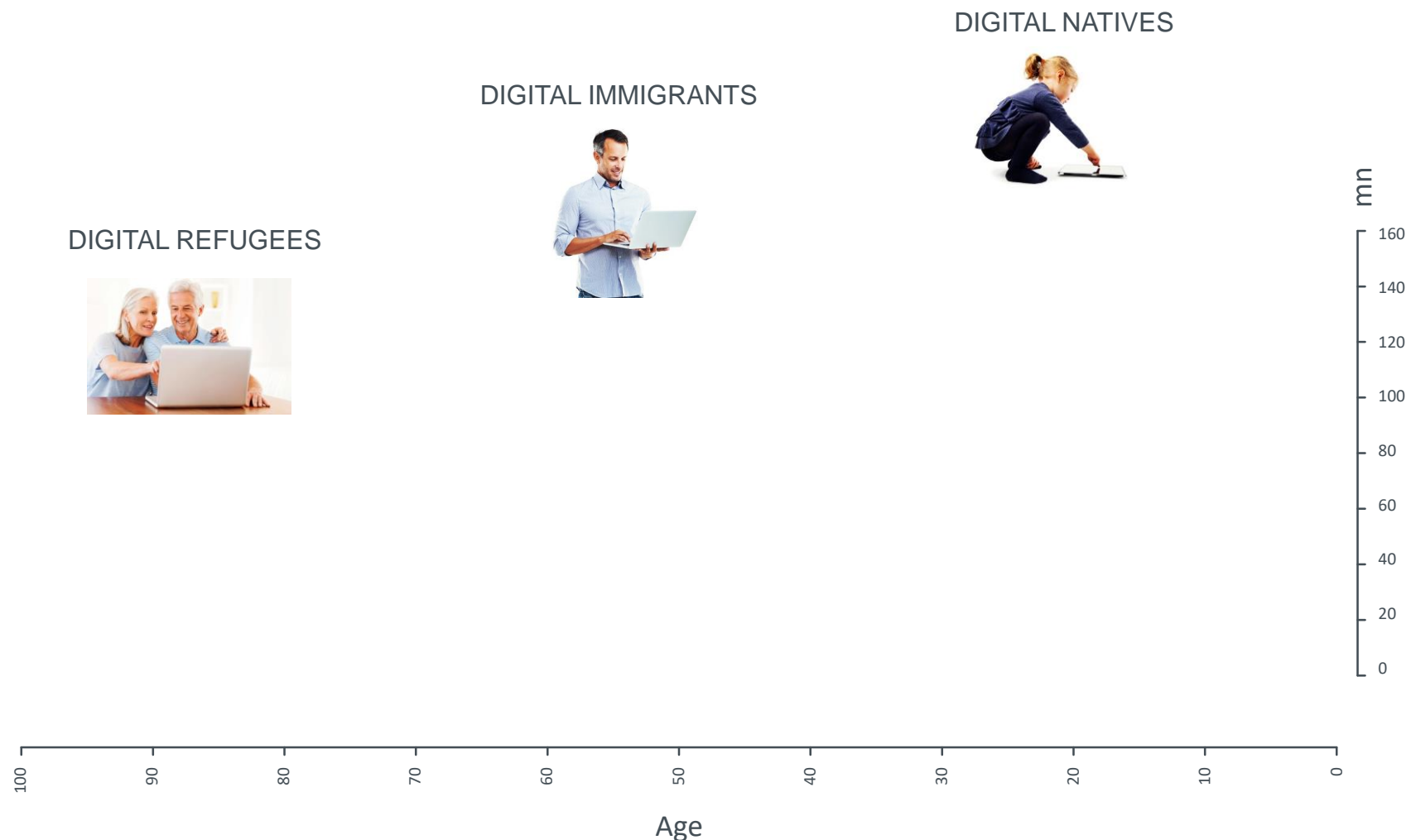
Extending
Moore's Law



5G

DIGITAL NATIVES MAJORITY OF THE GLOBAL WORKFORCE

Spending power now shifting

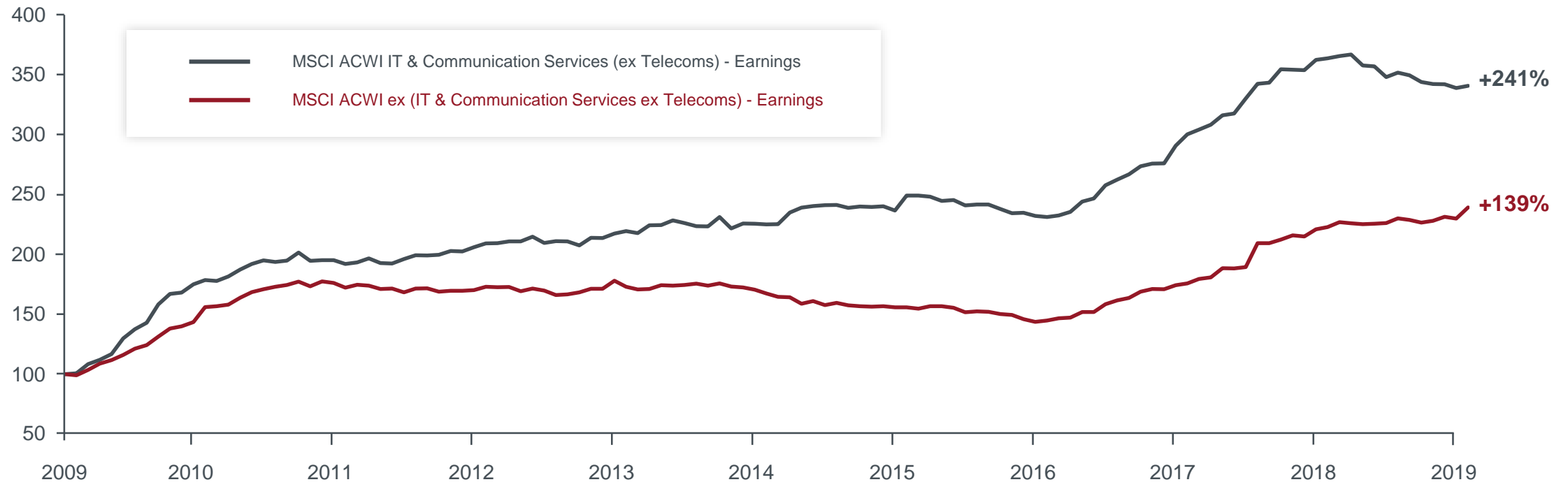


Source: UN, Bank of America Merrill Lynch, 2016

TECHNOLOGY WILL CONTINUE TO TAKE SHARE

“Your margin is my opportunity.” – Jeff Bezos

Technology & communication services sector earnings vs non technology & communication services earnings



Source: Bernstein, as at 31 December 2019

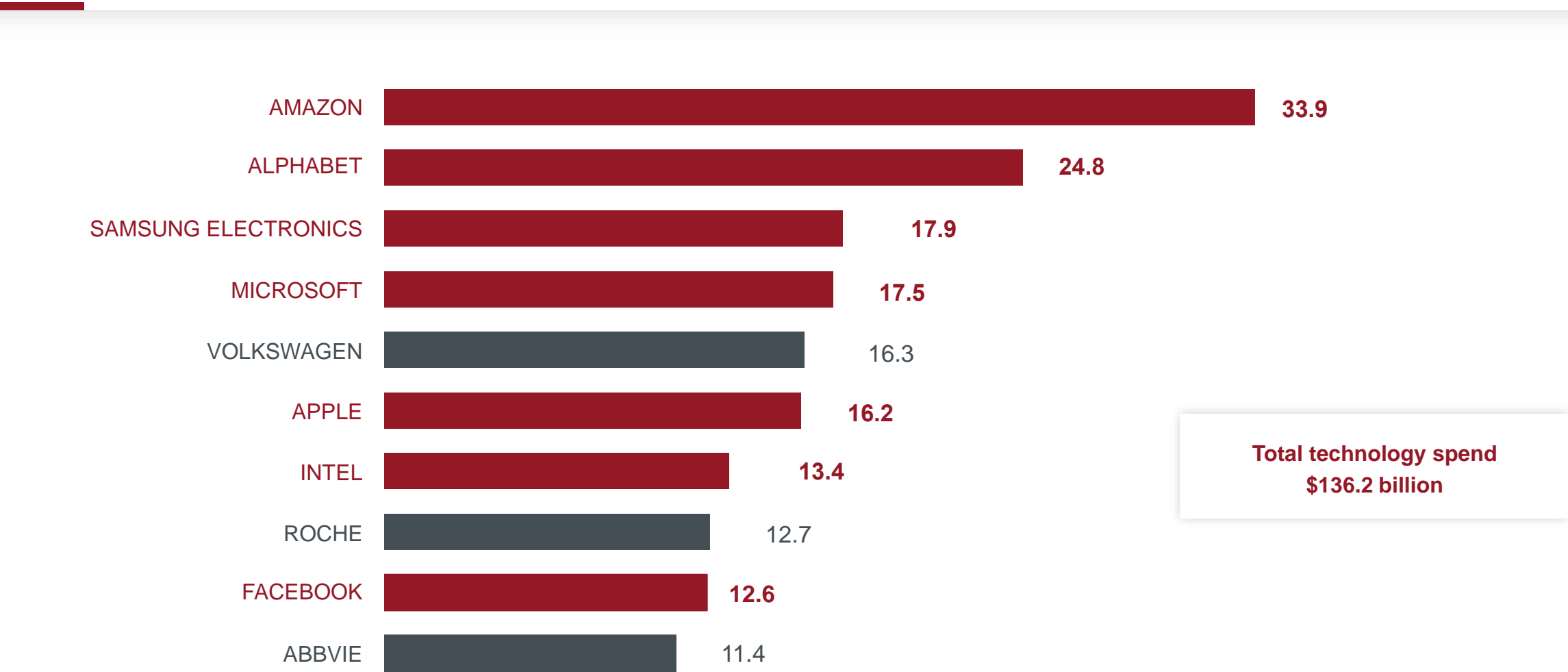
Note: Based on trailing earnings. Rebased to 100 at 31 December 2009

Prior to December 2018, the custom index of MSCI ACWI IT & Communication Services includes companies that were originally in the Technology sector and companies that are currently in the Communication Services sector.

Past performance is not a guide to future performance.

R&D INVESTMENT TODAY DRIVES PROFITS TOMORROW

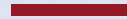
Top 10 global spenders on R&D (in billions of US dollars)



Source: Bloomberg, as at 31 December 2019
Note: Grey bars indicate non-technology securities using GICS sector classifications. If you are investing in a different currency than shown, this may cause figures to differ from those shown. References made to individual securities should not constitute or form part of any offer or solicitation to issue, sell, subscribe or purchase the security

5G IN ACTION

The difference 19 milliseconds make



Today you are going to feel the difference between 4G and 5G.

Source: Ericsson

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INTERNET TRANSFORMATION

Entertainment on demand



Source: Activision Blizzard, as at November 2018

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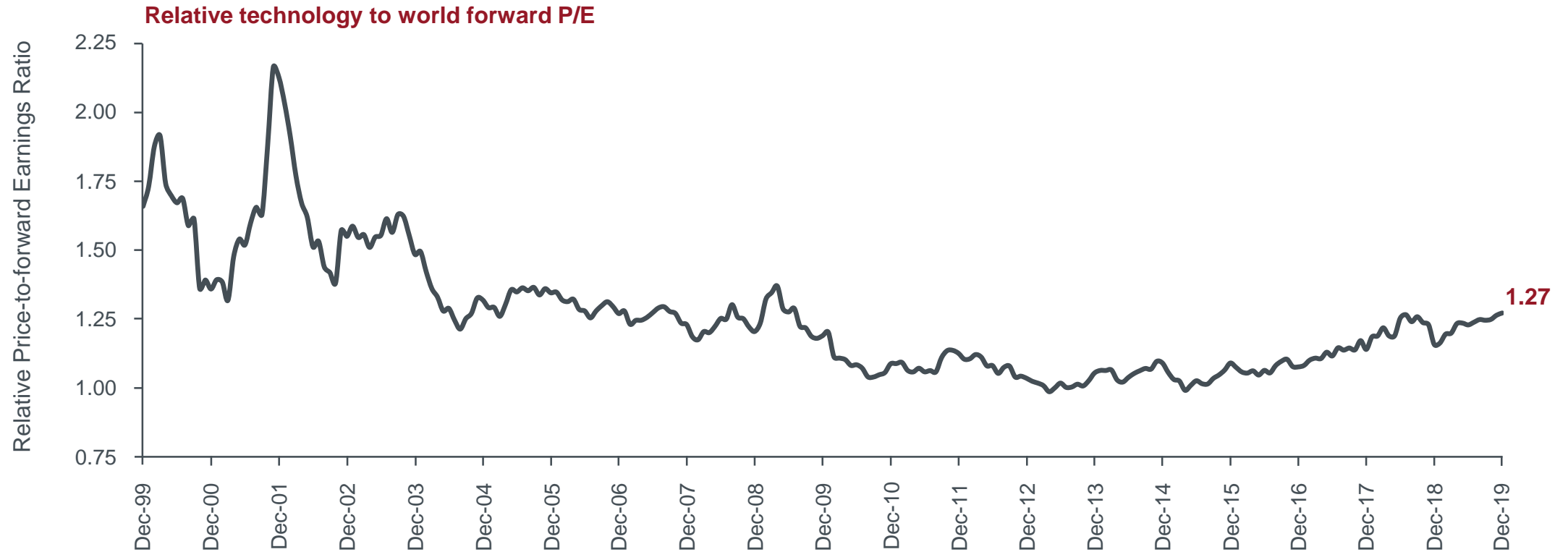
PROCESS AUTOMATION

Business investment in digital transformation



CONCERN #1: VALUATION

In line with long-term average



Source: Bernstein, as at 31 December 2019

Note: Forward P/E = Price to forward earnings




(Grey line) MSCI ACWI Information Technology sector, price-to-forward earnings relative to MSCI ACWI Index from December 1999 to November 2018 pre GICS sector changes, then (Red line) Custom index of MSCI ACWI Information Technology + ACWI Communication Services relative to MSCI ACWI Index to 31 December 2019 post GICS sector changes.

Past performance is not a guide to future performance.

RELATIVE VALUATION REFLECTS CONCERNS

US Large cap tech... growth at a discount

	CY20 P/E	CY20 Growth
	24x	7%
	24x	8%
	24x*	4%*
Average	24x	6%
NET DEBT	>\$95bn	

	CY20 P/E	CY20 Growth
	19x	12%
	24x	7%
	26x	17%
Average	23x	12%
NET CASH	>\$245bn	

Source: Bloomberg consensus estimates and Bloomberg Net debt and Net cash, as at 8 January 2020

Note: Please note the above is based on forecasts, not real data (excluding Net debt and Net cash). P/E and Growth calculated using GAAP market convention. *

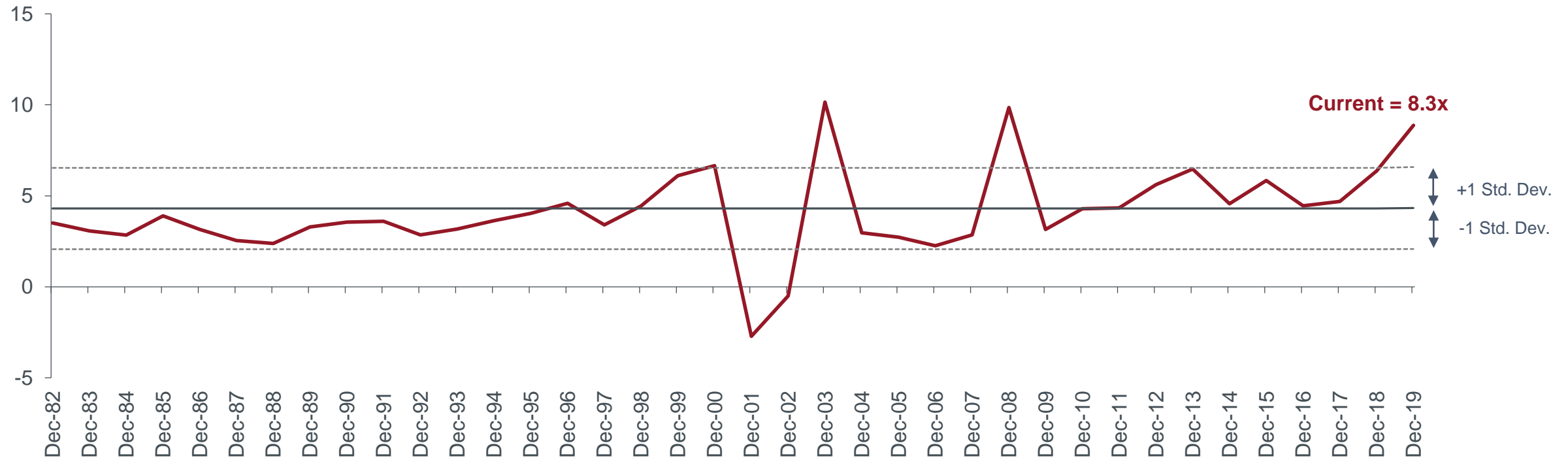
Calculated using non-GAAP EPS market convention.

References made to individual securities should not constitute or form part of any offer or solicitation to issue, sell, subscribe or purchase the security

...BUT GROWTH / VALUE EXTREMES

Most expensive vs least expensive tech is stretched

Relative valuation of most vs least expensive technology stocks on P/E



Source: Bernstein Quant Team (Larson), as at 2 January 2020

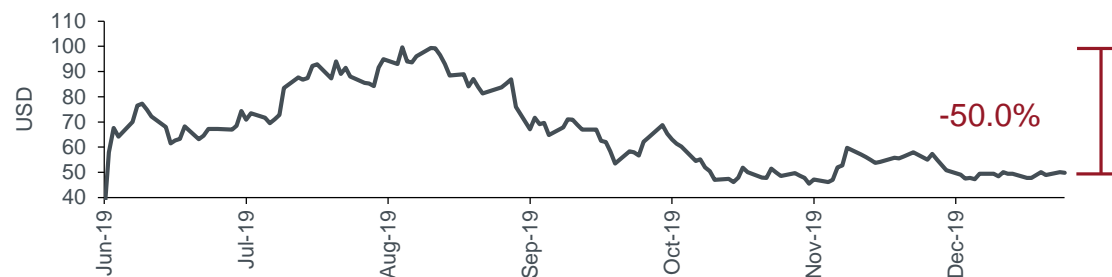
Note: Chart uses year-end datapoints to 2019 and current datapoint as at 2 January 2020

Past performance is not a guide to future performance

NAVIGATING THE HYPE CYCLE: BEWARE OF MOMENTUM

Valuation does not matter...until it does

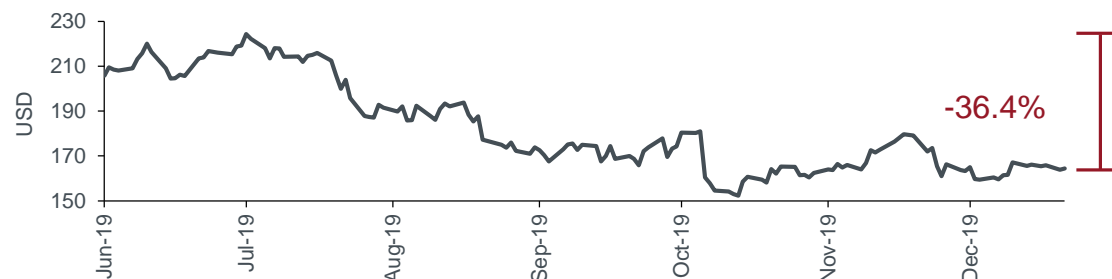
Crowdstrike



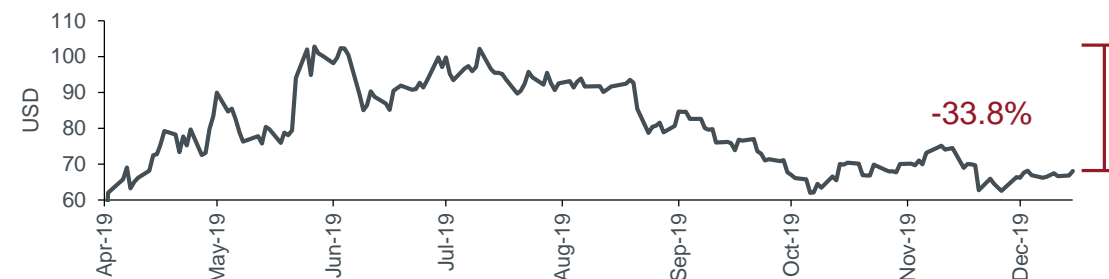
Zscaler



Workday



Zoom Video Communications



Source: Bloomberg, as at 31 December 2019

Note: Price performance of CrowdStrike, Zscaler, Workday and Zoom Video Communications are shown in USD

References made to individual securities should not constitute or form part of any offer or solicitation to issue, sell, subscribe or purchase the security

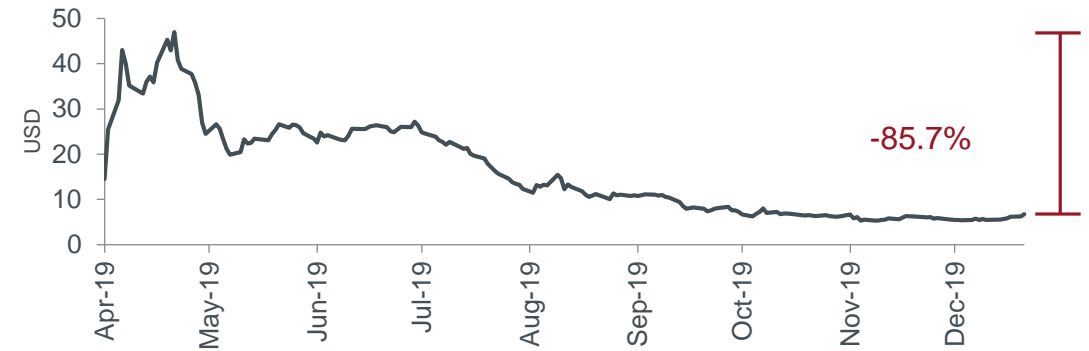
NAVIGATING THE HYPE CYCLE: THEMATICS IGNORING FUNDAMENTALS

You cannot pay your bills with a theme

Nio: the 'Tesla of China'



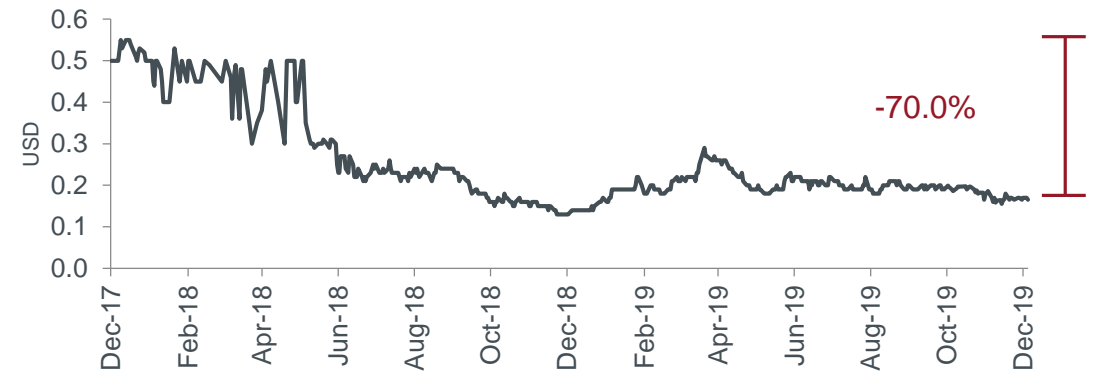
Jumia: the 'Amazon of Africa'



Funding Circle: fintech



Razer: eSports



Source: Bloomberg, as at 31 December 2019

Note: Price performance of Nio, Jumia, Funding Circle and Razer are shown in USD

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CONCERN #2: REGULATION

Bill Gates was Mark Zuckerberg 20 years ago

SCALE

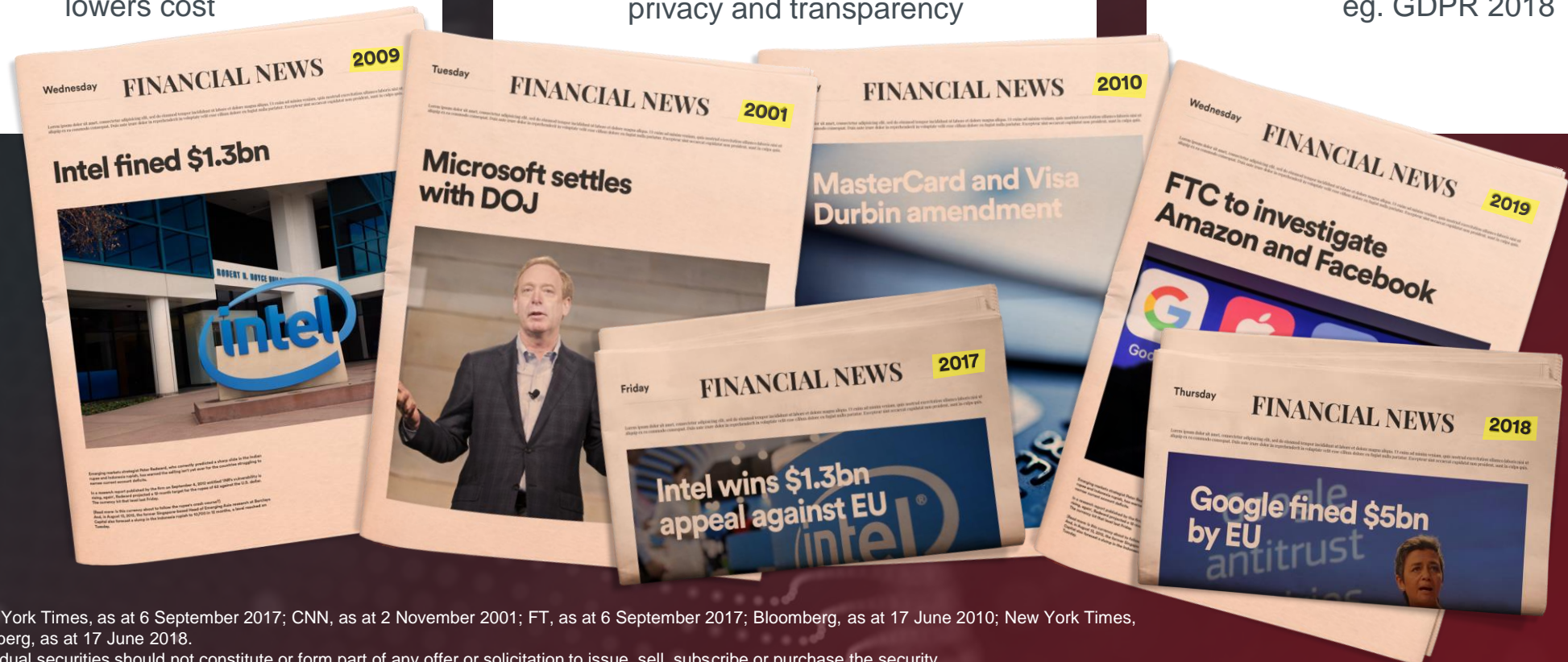
Drives accuracy and lowers cost

INTERNET USERS

Value relevant content but also privacy and transparency

REGULATORS

Protect consumer interest
eg. GDPR 2018



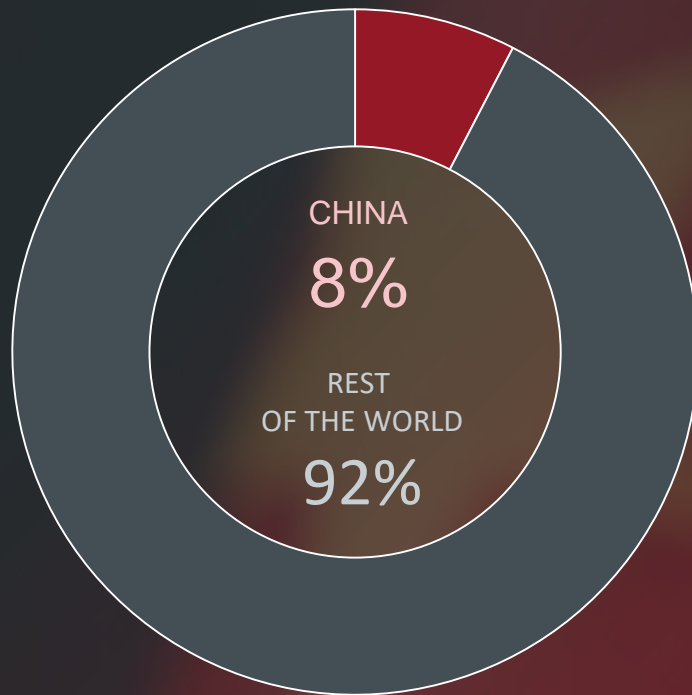
Newspaper sources: New York Times, as at 6 September 2017; CNN, as at 2 November 2001; FT, as at 6 September 2017; Bloomberg, as at 17 June 2010; New York Times, as at 3 June 2019; Bloomberg, as at 17 June 2018.

References made to individual securities should not constitute or form part of any offer or solicitation to issue, sell, subscribe or purchase the security

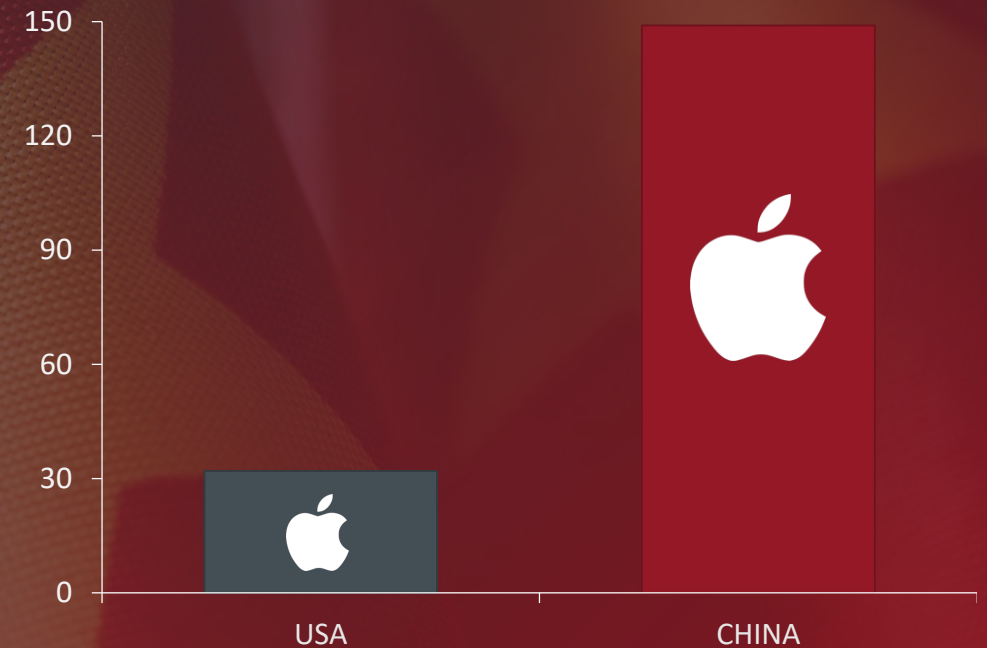
CONCERN #3: GLOBAL TRADE DISPUTE

“Designed by Apple in California. Assembled in China”

Technology market spending (in billion \$ US)



Number of operating Apple suppliers



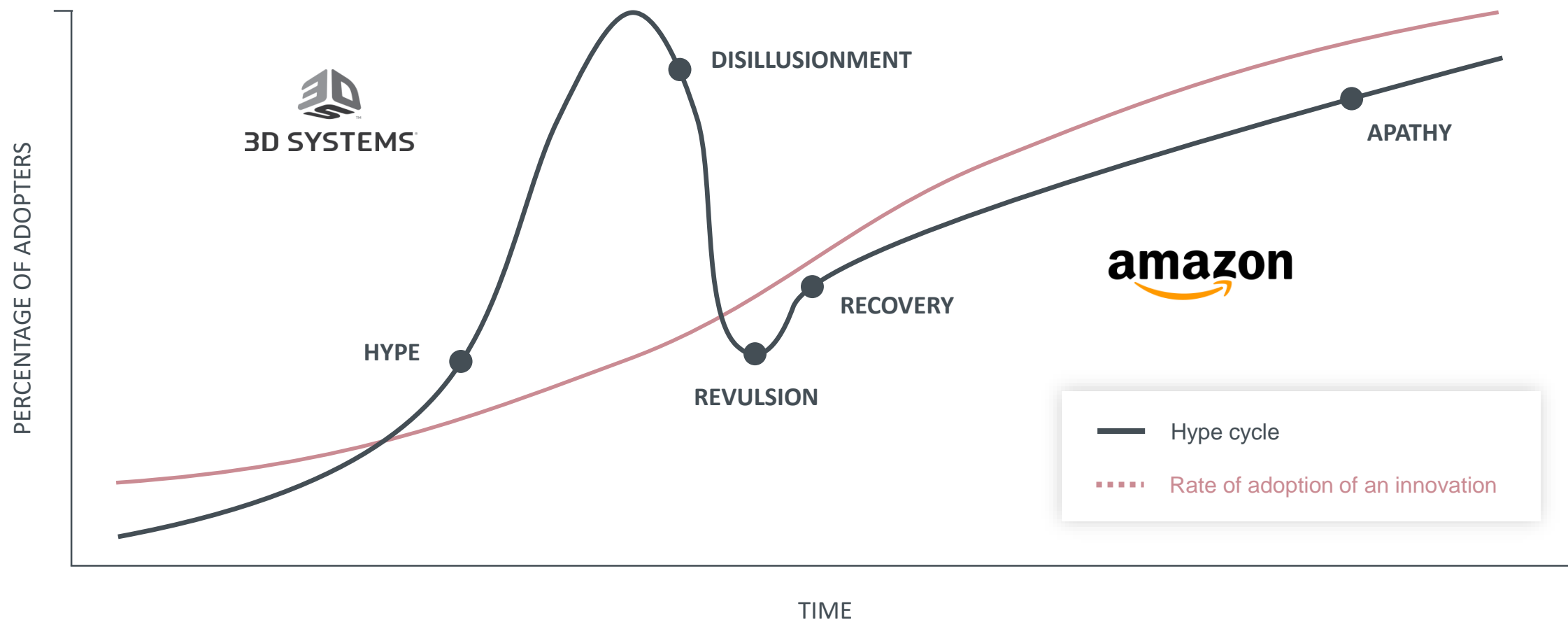
Source (LHS): Global technology marketing spending, \$3,360 billion (Statista, as at 20 May 2019), China technology marketing spending \$256 billion (Forrester, as at 24 Jan 2019)

Source (RHS): Nikkei Asian Review, as at 1 Feb 2019.

References made to individual securities should not constitute or form part of any offer or solicitation to issue, sell, subscribe or purchase the security. If you are investing in a different currency than shown, this may cause figures to differ from those shown.

NAVIGATE THE HYPE CYCLE

Experience and Active management required



Note: This graph is for illustrative purposes only.
References made to individual securities should not constitute or form part of any offer or solicitation to issue, sell, subscribe or purchase the security

ACTIVE MANAGEMENT

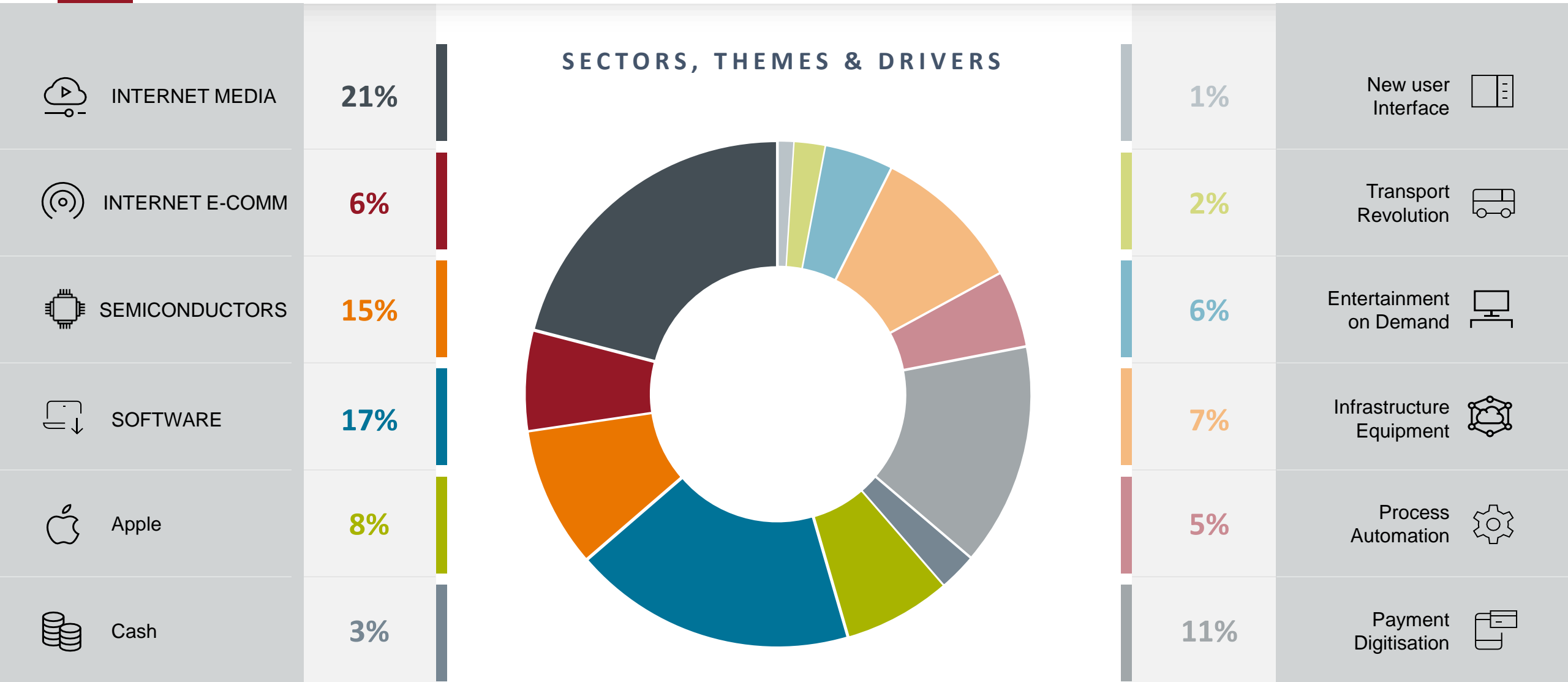
Focused portfolio with valuation discipline

	FUND	INDEX
NUMBER OF SECURITIES	50	493
EST SALES GROWTH 1 YEAR *	13.6%	9.3%
EST EPS GROWTH 1 YEAR *	16.8%	12.9%
FORWARD P/E RATIO **	23.5x	19.3x
PEG RATIO **	1.40x	1.50x

Source: Janus Henderson Investors, Factset, as at 31 December 2019
Fund: Janus Henderson Global Technology Fund
Index: Custom index of MSCI ACWI IT + Communication Services
Note: * Weighted median using FY2 estimate. ** Weighted Harmonic Average forward P/E using FY2 Estimate
Past performance is not a guide to future performance

BOTTOM UP WITH A THEMATIC OVERLAY

Exposure to multiple themes, sectors & drivers



Source: Janus Henderson Investors, as at 31 December 2019

Fund: Janus Henderson Global Technology Fund. Note: References made to individual securities should not constitute or form part of any offer or solicitation to issue, sell, subscribe or purchase the security

NAVIGATING THE HYPE CYCLE TO CONTROL RISK

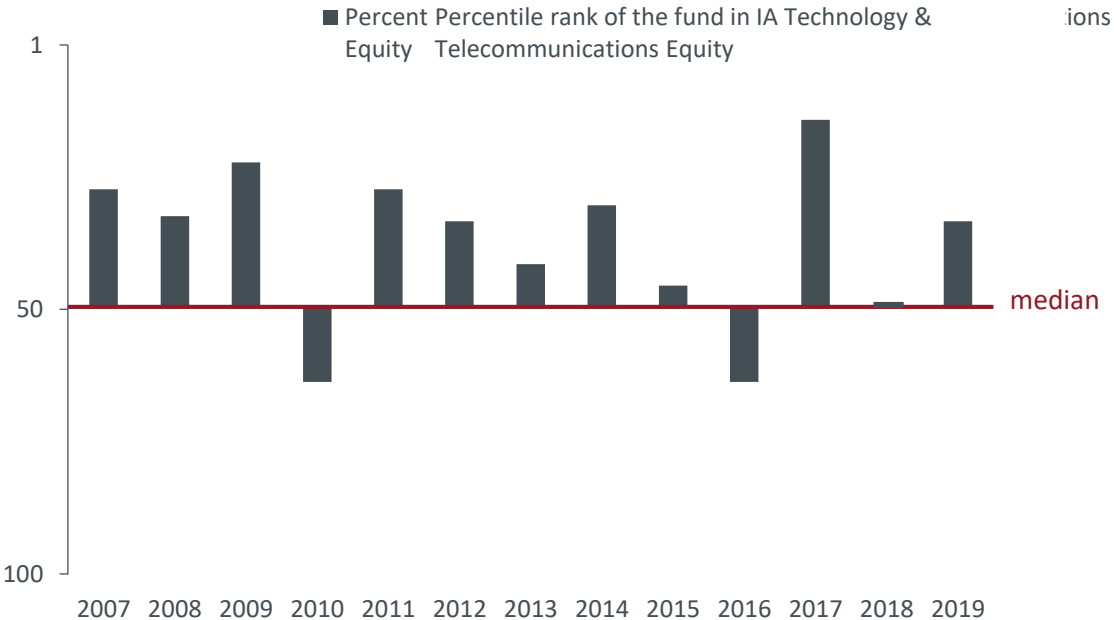
Focused portfolio with valuation discipline – consistent outperformance

Focused portfolio with valuation discipline

OVER 10 YEARS	FUND	PERCENTILE	PEER GROUP AVERAGE *
MAX DRAWDOWN	-16.2%	50	-16.3%
SHARPE RATIO **	1.1x	62	1.1x

Source: Janus Henderson Investors, Factset, as at 31 December 2019
Fund: Janus Henderson Global Technology Fund I Acc
Peer Group: IA Technology & Telecommunications Equity
Index: MSCI ACWI Information Technology + Communication Services Index – Index usage: Target & Comparator
Note: Percentile and peer group average based on primary share class, I2, within the IA Technology & Telecommunications Equity category
* For a full description of the peer group benchmark and index usage please refer to slide 27. ** Based on annualised data
Past performance is not a guide to future performance

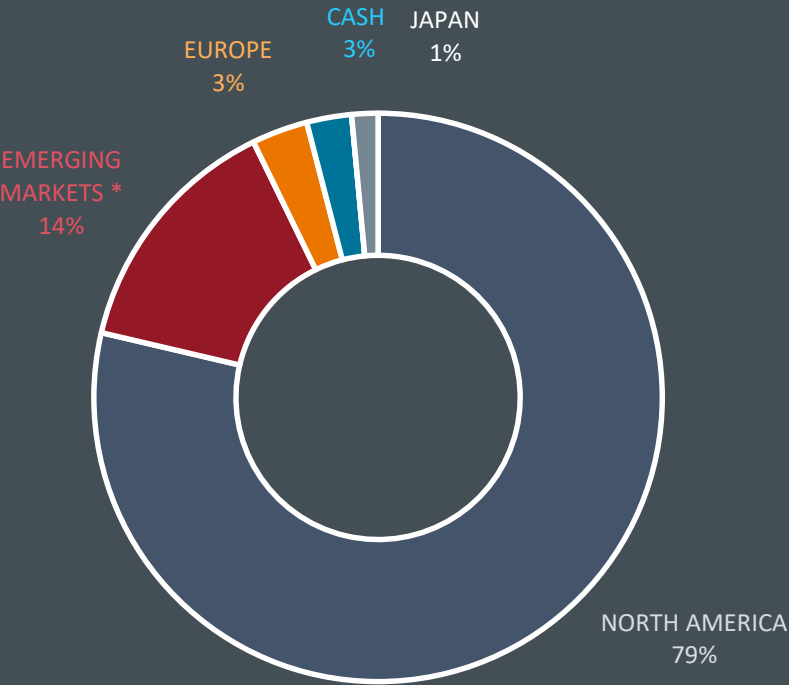
Consistency of performance by calendar year



POSITIONING DRIVEN BY BOTTOM UP STOCK SELECTION

Janus Henderson Horizon Global Technology Fund

Regional exposure



Top 10 holdings

Security	% of fund
Microsoft	9.7
Alphabet **	8.4
Apple	7.8
Facebook	6.0
Tencent	4.1
Visa	3.7
Samsung Electronics ***	3.3
Taiwan Semiconductor Manufacturing ****	3.1
Mastercard	3.0
Alibaba Group	3.0

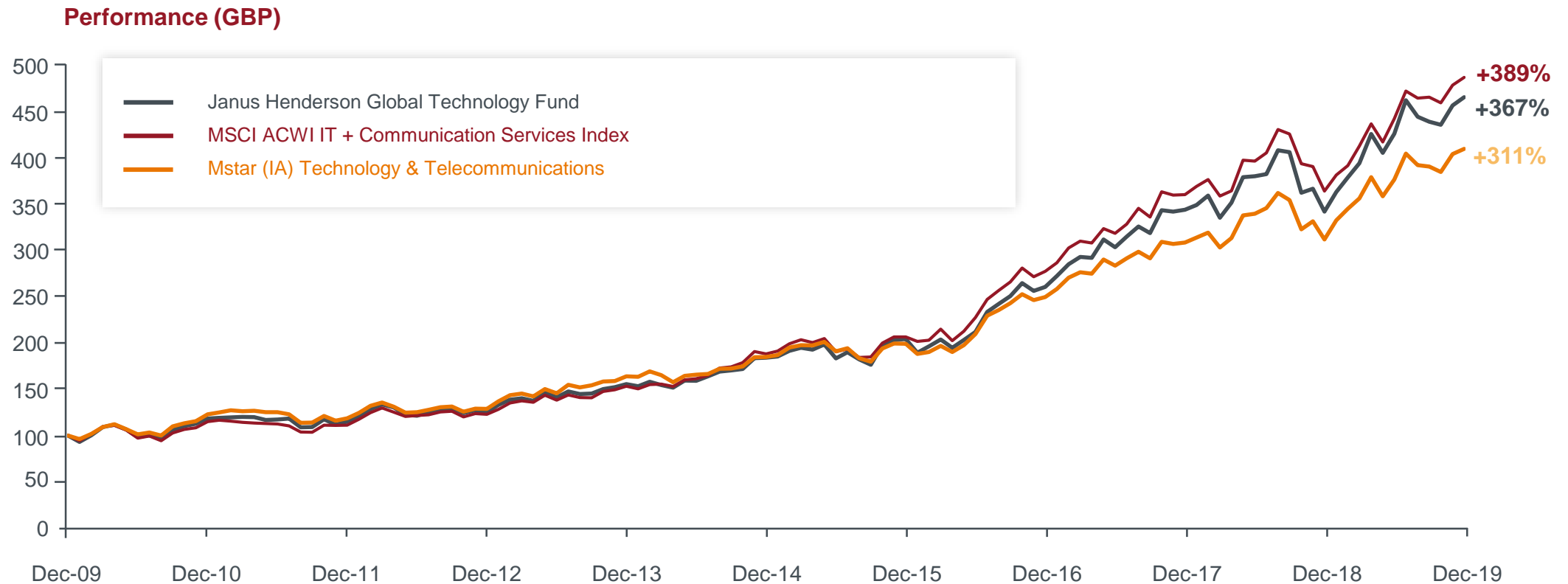
Source: Janus Henderson Investors, as at 31 December 2019

Note: * Emerging Markets includes South Korea and Pacific Region. ** Total exposure to issuer includes A and C share classes. *** Total exposure to issuer includes Ordinary and Preference share classes. **** Total exposure to issuer includes Ordinary and ADR share classes.

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STRONG, CONSISTENT LONG-TERM TRACK RECORD

Janus Henderson Global Technology Fund



Source: Morningstar, as at 31 December 2019, rebased to 100 as at 31 December 2009

Fund: Janus Henderson Global Technology Fund, GBP, I Acc share class, net of fees, midday pricing

Category: MSCI ACWI IT + Communication Services Index – Index usage: Target & Comparator *

Mstar (IA) Technology & Telecommunication Peer group benchmark – Peer group benchmark usage: Comparator.

* For a full description of the peer group benchmark and index usage please refer to slide 27. Past performance is not a guide to future performance.

LEARNING OUTCOMES

Framework

1

Understand why technology
will continue to dominate in
the 2020s

2

Appreciate why 20 years on
from the dot.com crash
valuation discipline remains
as important as ever

3

Identify key new technology trends
and related investment
opportunities

4

Focus on your client exposure
to technology and innovation
within a portfolio

The background of the slide is a stylized financial chart. It features a grid of horizontal and vertical lines. Overlaid on this grid are several candlestick charts, which are used in technical analysis to represent price movements over time. A prominent red line, likely representing a moving average or a trend line, runs diagonally across the chart. There are also some faint, semi-transparent text elements like '8088' and '878' visible on the chart. The overall color scheme is a gradient from dark blue on the left to dark red on the right.

APPENDIX

DISCRETE PERFORMANCE

Janus Henderson Global Technology Fund

Discrete returns (GBP)					
	Dec 2018 – Dec 2019	Dec 2017 – Dec 2018	Dec 2016 – Dec 2017	Dec 2015 – Dec 2016	Dec 2014 – Dec 2015
Fund (%)	36.1	-0.6	32.0	27.7	11.0
Benchmark (%)	31.4	1.1	23.6	25.4	7.8
Index (%)	33.7	1.0	30.0	34.4	9.7

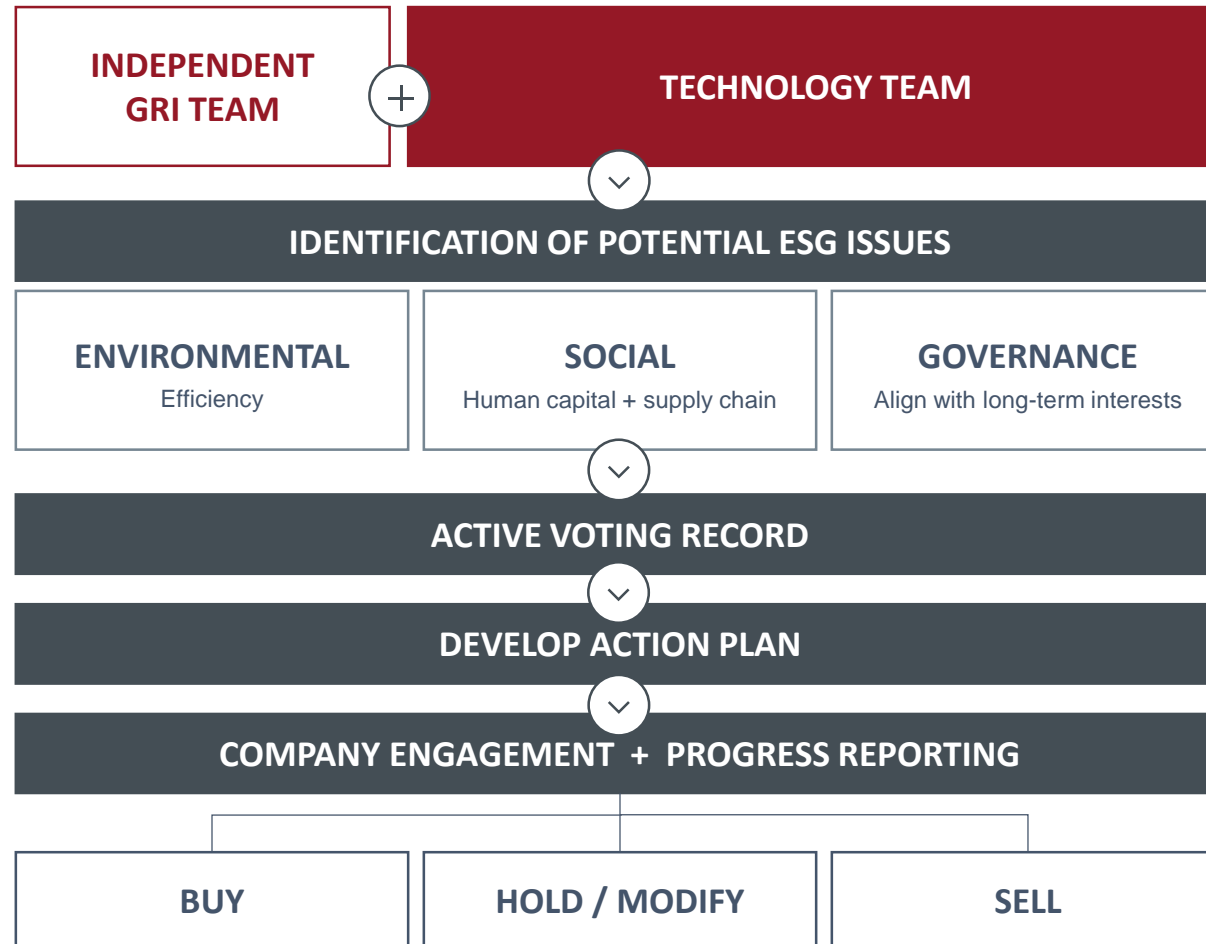
Peer group benchmark
IA Technology and Telecommunications Equity
Peer group benchmark usage: Comparator
The Investment Association (IA) groups funds with similar geographic and/or investment remit into sectors. The fund's ranking within the sector (as calculated by a number of data providers) can be a useful performance comparison against other funds with similar aims.

Index
MSCI All Countries World Information Technology Index + MSCI All Countries World Communication Services Index
Index usage: target and comparator
The MSCI All Countries World Information Technology Index + MSCI All Countries World Communication Services Index is a measure of the combined performance of large and medium sized information technology and communication services companies from developed and emerging stock markets around the world. It is the performance target for the Fund and provides a useful comparison against which the Fund's performance can be assessed over time.

Source: Janus Henderson Investors, as at 31 December 2019
Note: MSCI ACWI Information Technology Index to 30 November 2018 and then a custom index of MSCI All Countries World Information Technology Index + MSCI All Countries World Communication Services Index since. Returns are shown gross of fees in GBP. Past performance is not a guide to future performance.

MAKING ACTIVE MANAGEMENT PRO-ACTIVE

Action orientated model for sustainable growth



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