

Future-proofing your tech exposure

A fresh take on the technology megatrends in 2023

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WisdomTree



WISDOMTREE®



The state of the technology megatrend strategies in Europe

Introducing the WisdomTree Thematic Universe

DIVERSIFIED THEMATICS							
TECHNOLOGICAL SHIFTS		DEMOGRAPHIC AND SOCIAL SHIFTS		GEOPOLITICAL SHIFTS		ENVIRONMENTAL PRESSURES	
DISRUPTIVE TECHNOLOGIES	HYPER CONNECTIVITY & DIGITALISATION	DEMOGRAPHIC SHIFTS	SOCIAL SHIFTS	GLOBALISATION	MULTI-POLARITY	CLIMATE CHANGE & SUSTAINABILITY	LIMITED RESOURCES
Artificial Intelligence & Big Data	Cloud Computing	Aging Population	Education	Global Logistics	China's Rise	Decarbonisation	Agriculture
Rise of China Tech		Millennials & Gen Z	Equality, Inclusion & Diversity		Polarisation	Protect Biodiversity	Natural Resources
Blockchain	Cybersecurity		Rise of the Middle Class		Rise of Tension	Sustainable Mobility	
HealthTech	Digital Health		Rise of EM Consumer			Sustainable Energy Production	
Industry 4.0	Digital Infrastructure		Wellness			Sustainable Energy Storage	
Next Gen Communications	Fintech & Digitalisation of Finance					Sustainable Food	
Robotics & Automation	Gaming & Entertainment					Sustainable Cities	
Semiconductors	Internet of Things					Sustainable Resource Management	
Space	Platforms & Digital Markets					Extreme Events	
Smart Materials & Nano Tech	Metaverse						
	Social Media & Media						

Source: WisdomTree. As of 31st December 2022. The list of global ETFs and Europe-domiciled open-ended mutual funds has been compiled by WisdomTree as part of the WisdomTree's own thematic classification.

Technology megatrends in Europe

94

ETFs

152

OE funds

18

themes

\$18Bn

AuM in ETFs

\$67Bn

AuM in OE funds

\$0.8Bn

YTD flows

TECHNOLOGICAL SHIFTS	
DISRUPTIVE TECHNOLOGIES	HYPER CONNECTIVITY & DIGITALISATION
Artificial Intelligence & Big Data	Cloud Computing
Rise of China Tech	
Blockchain	Cybersecurity
HealthTech	Digital Health
Industry 4.0	Digital Infrastructure
Next Gen Communications	Fintech & Digitalisation of Finance
Robotics & Automation	Gaming & Entertainment
Semiconductors	Internet of Things
Space	Platforms & Digital Markets
	Metaverse

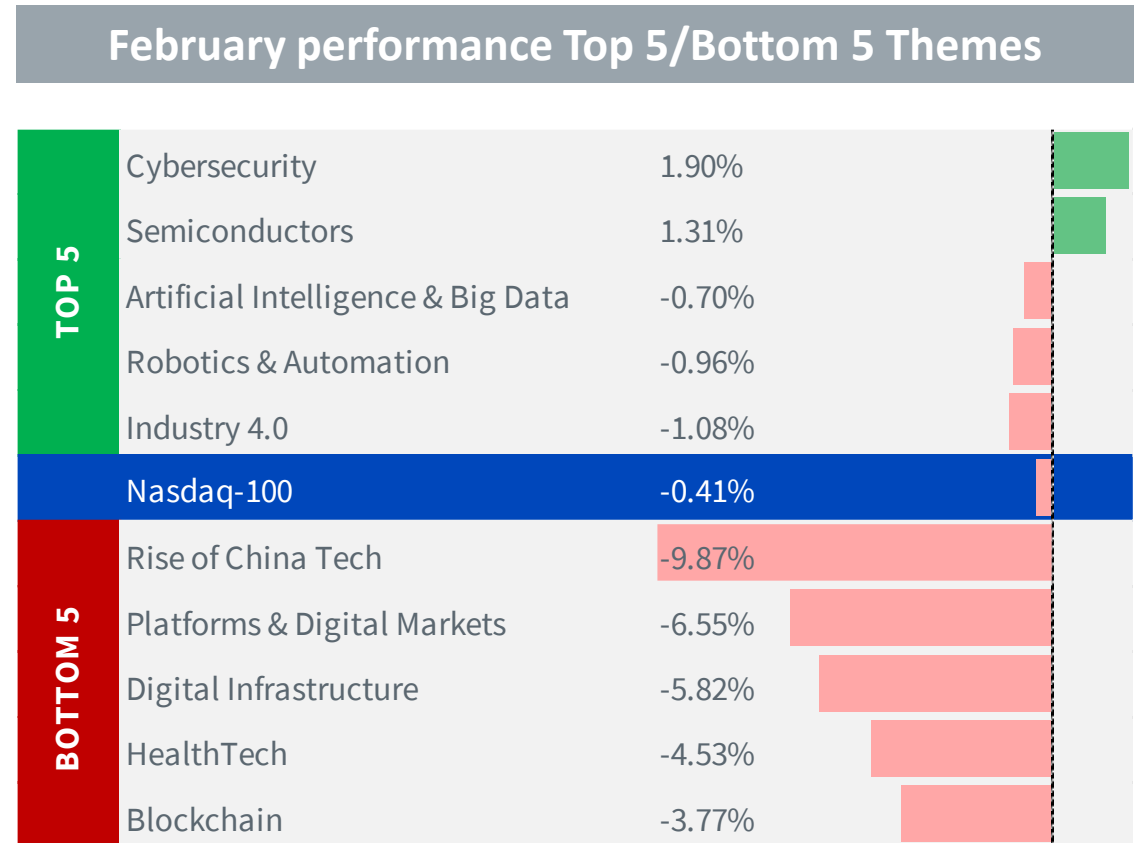
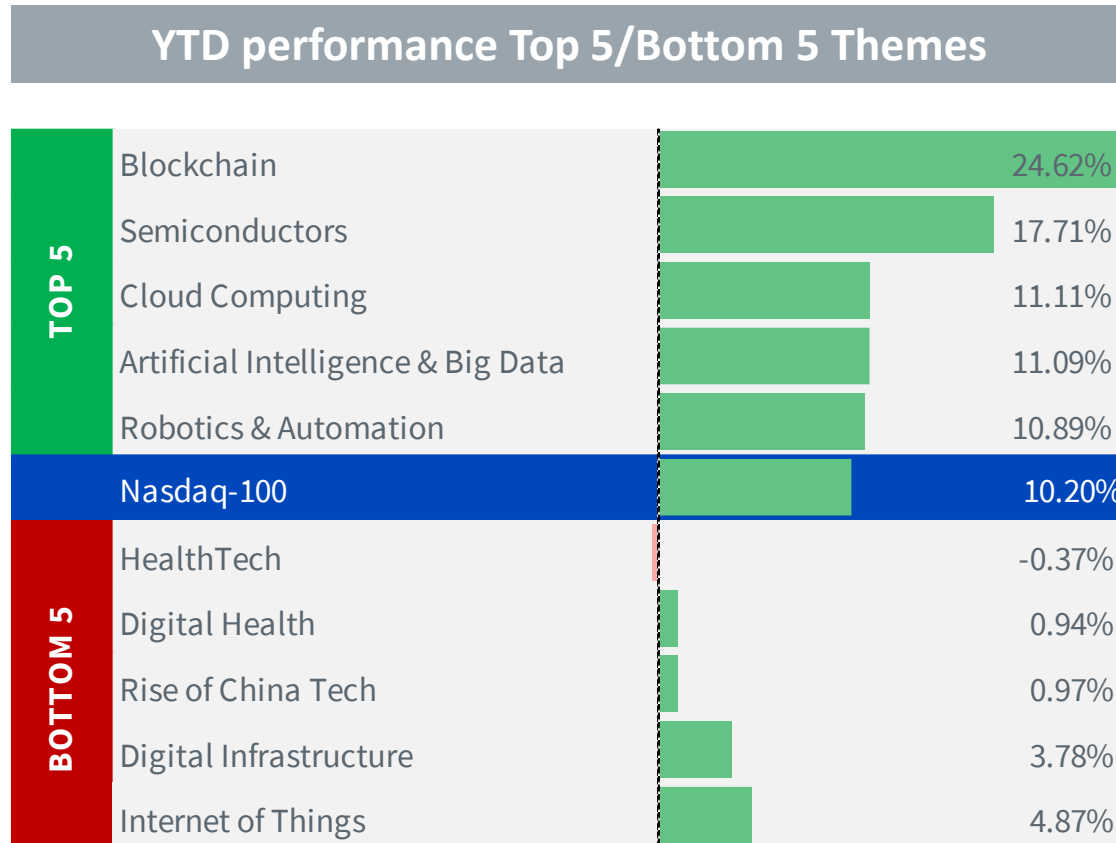
Source: WisdomTree. As of 28th February 2023. The list of ETFs and OE funds is as of 30th December 2022. **Blue shaded cells** represent the top 5 themes by AuM in Europe-domiciled ETFs and open-ended (OE) funds. Assets under management (AuM) are calculated in US Dollars. The list of Europe-Domiciled ETFs and Open-ended mutual funds has been compiled by WisdomTree as part of the WisdomTree's own thematic classification. **Historical performance is not an indication of future performance and any investments may go down in value.**

Technological themes performed the worst in 2022...

2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
MSCI All Country World -7.3%	Disruptive Technologies 22.9%	Disruptive Technologies 35.3%	Disruptive Technologies 10.2%	HyperConnectivity & Digitalisation 1.3%	Limited Resources 10.9%	Social Shifts 31.3%	HyperConnectivity & Digitalisation 4.6%	HyperConnectivity & Digitalisation 29.2%	HyperConnectivity & Digitalisation 49.5%	MSCI All Country World 18.5%	Limited Resources -14.3%
Demographic Shifts -8.6%	Social Shifts 20.4%	Globalisation 30.7%	HyperConnectivity & Digitalisation 6.7%	Disruptive Technologies 0.9%	MSCI All Country World 7.9%	Disruptive Technologies 29.6%	MSCI All Country World -9.4%	MSCI All Country World 26.6%	Climate Change & Sustainability 42.2%	Limited Resources 18.4%	MSCI All Country World -18.4%
HyperConnectivity & Digitalisation -9.0%	Demographic Shifts 17.6%	Demographic Shifts 28.1%	MSCI All Country World 4.2%	Demographic Shifts 0.1%	Climate Change & Sustainability 3.1%	Demographic Shifts 28.4%	Multipolarity -10.7%	Disruptive Technologies 26.2%	Disruptive Technologies 37.5%	Climate Change & Sustainability 12.6%	Multipolarity -22.0%
Social Shifts -11.3%	MSCI All Country World 16.1%	MSCI All Country World 22.8%	Demographic Shifts 2.1%	MSCI All Country World -2.4%	Social Shifts -0.5%	Climate Change & Sustainability 26.1%	Demographic Shifts -11.5%	Social Shifts 25.2%	Demographic Shifts 22.8%	Demographic Shifts 11.2%	Climate Change & Sustainability -22.5%
Disruptive Technologies -15.2%	HyperConnectivity & Digitalisation 14.3%	Social Shifts 20.5%	Social Shifts 2.1%	Social Shifts -3.5%	Disruptive Technologies -1.8%	MSCI All Country World 24.0%	Disruptive Technologies -12.2%	Demographic Shifts 24.5%	Multipolarity 20.4%	Multipolarity 9.0%	Social Shifts -23.6%
Climate Change & Sustainability -16.8%	Multipolarity 14.1%	HyperConnectivity & Digitalisation 19.3%	Limited Resources -1.9%	Climate Change & Sustainability -4.4%	HyperConnectivity & Digitalisation -2.8%	Limited Resources 23.7%	Social Shifts -12.3%	Limited Resources 20.9%	Social Shifts 19.1%	Disruptive Technologies 7.2%	Demographic Shifts -25.0%
Limited Resources -17.4%	Climate Change & Sustainability 13.5%	Climate Change & Sustainability 19.1%	Climate Change & Sustainability -7.1%	Limited Resources -8.7%	Demographic Shifts -5.0%	HyperConnectivity & Digitalisation 22.8%	Globalisation -13.9%	Climate Change & Sustainability 20.6%	Limited Resources 16.6%	HyperConnectivity & Digitalisation 1.1%	Globalisation -29.8%
Multipolarity -26.7%	Limited Resources 10.6%	Limited Resources 7.6%	Globalisation -18.4%	Globalisation -25.3%	Globalisation -9.7%	Globalisation 3.8%	Limited Resources -16.7%	Multipolarity 14.7%	MSCI All Country World 16.3%	Social Shifts -3.6%	HyperConnectivity & Digitalisation -31.3%
Globalisation -36.5%	Globalisation 8.9%						Climate Change & Sustainability -18.9%				Disruptive Technologies -32.3%

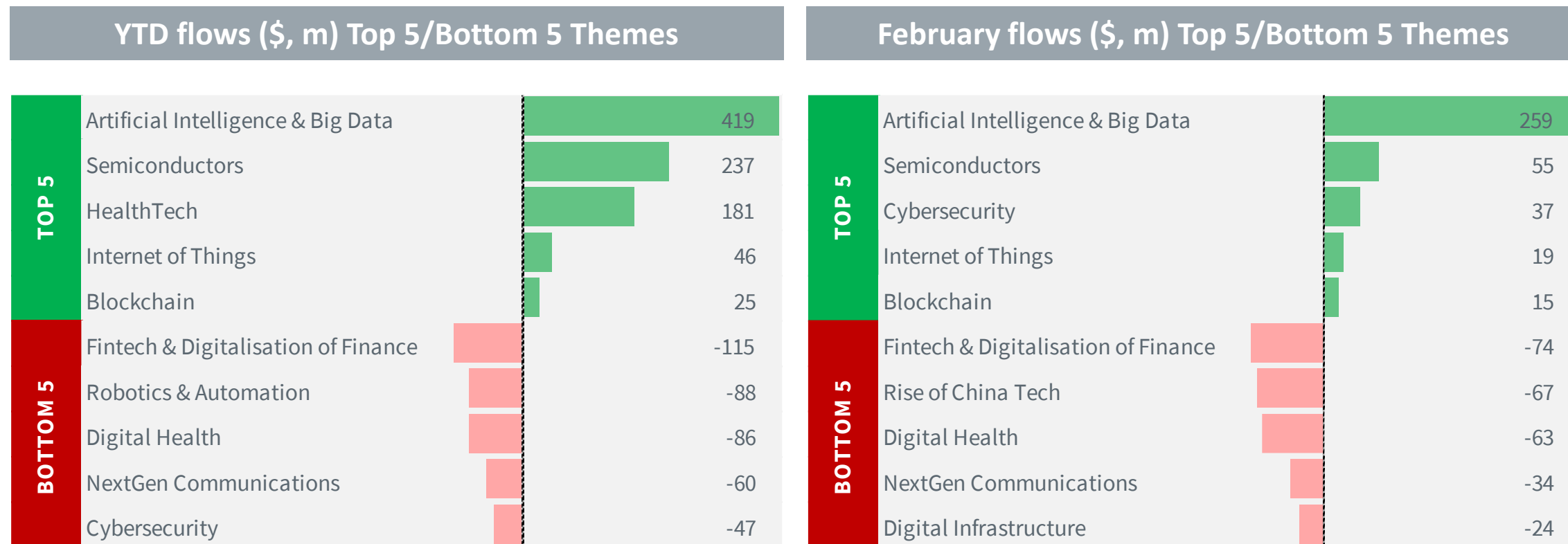
Source: WisdomTree, Morningstar, Bloomberg. As of 31st December 2022. Performance is calculated in US Dollars. The list of Europe-Domiciled ETFs and Open-ended mutual funds has been compiled by WisdomTree as part of the WisdomTree's own thematic classification. Performance for the different groupings is calculated using the methodology explained in the Appendix. MSCI All Country World stands for the MSCI All Country World net TR Index. **Historical performance is not an indication of future performance and any investments may go down in value.**

...but have had a strong start in 2023



Source: WisdomTree, Morningstar, Bloomberg. From 30th December 2022 to 28th February 2023. Performance is calculated in US Dollars. The list of Europe-Domiciled ETFs and Open-ended mutual funds has been compiled by WisdomTree as part of the WisdomTree's own thematic classification. Performance for the different groupings is calculated using the methodology explained in the Appendix. **Nasdaq-100** is the NASDAQ-100 Notional Net Total Return Index. **You cannot invest directly in an index. Historical performance is not an indication of future performance and any investments may go down in value.**

After the strong performance of tech in January, aggregate flows were muted in February but continued to be positive

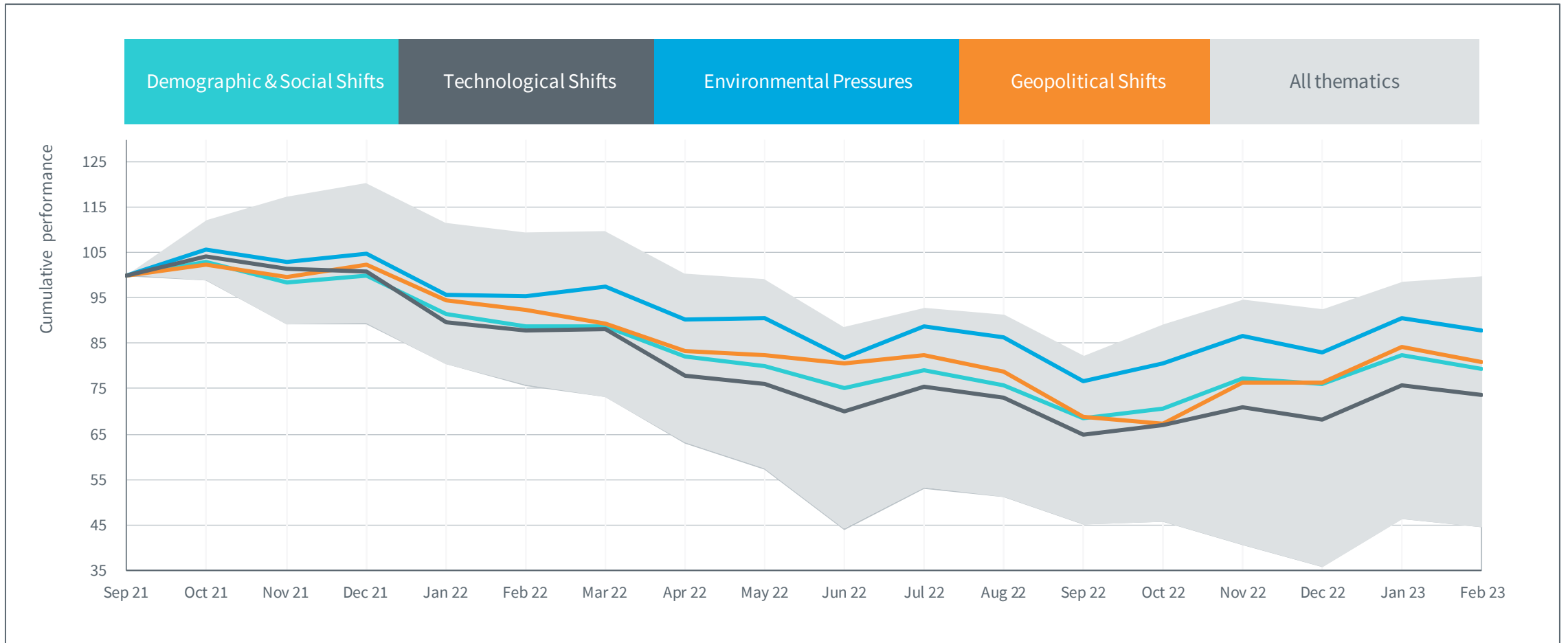


Source: WisdomTree, Morningstar, Bloomberg. From 30th December 2022 to 28th February 2023. The list of Europe-Domiciled ETFs and Open-ended mutual funds has been compiled by WisdomTree as part of the WisdomTree's own thematic classification. **Historical performance is not an indication of future performance and any investments may go down in value.**



How technology megatrends can enhance your tech allocation?

Technology megatrends as the new face of growth took the brunt of the global value rotation



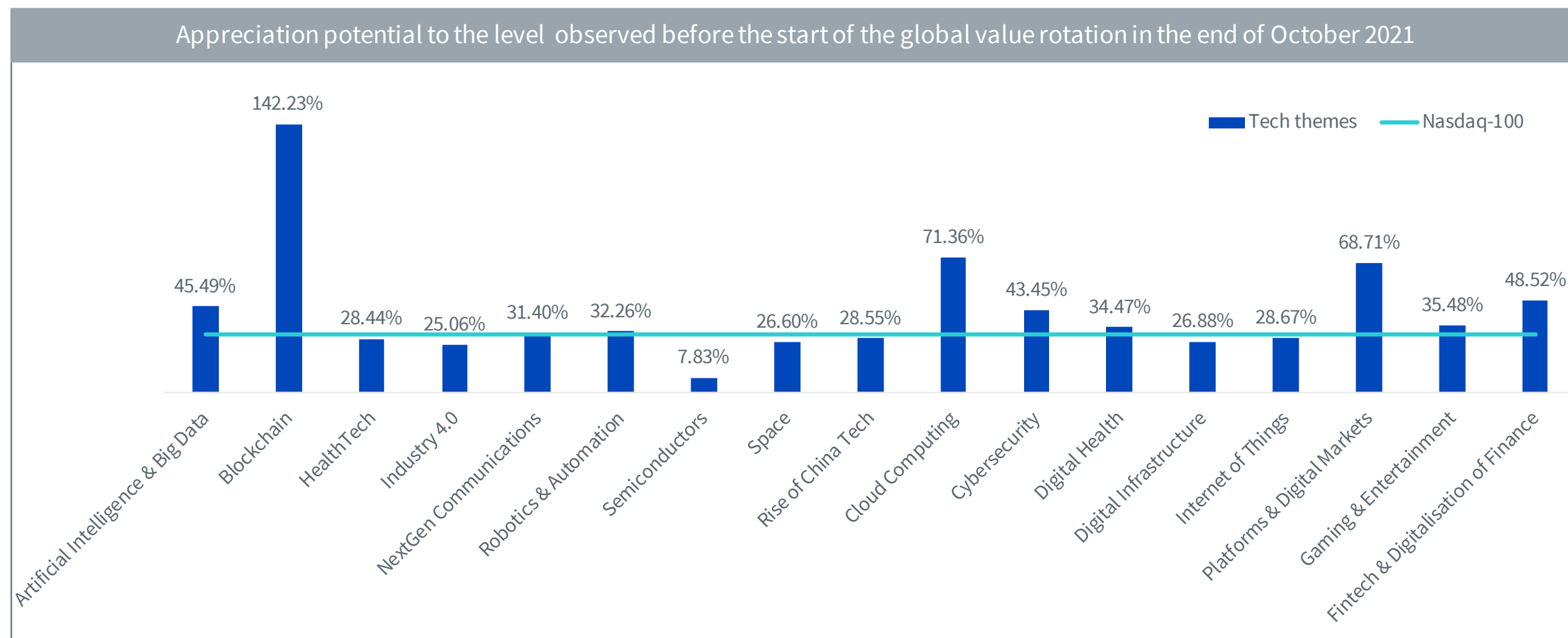
Source: WisdomTree, Bloomberg. Period from 30th September 2021 to 28th February 2023. Performance based on monthly returns. The list of Europe-Domiciled thematic ETFs and open-ended mutual funds has been compiled by WisdomTree as part of the WisdomTree's own thematic classification. Performance for the different groupings is calculated using the methodology explained in the Appendix.
You cannot invest directly in an index. Historical performance is not an indication of future performance and any investments may go down in value.

Tech themes are associated with higher downside risk but also with higher upside potential than Nasdaq-100

Best and worst tech themes vs. Nasdaq-100 in the last five years and YTD						
	2018	2019	2020	2021	2022	YTD
Best	Cybersecurity, 12.9%	Fintech & Digitalisation of Finance, 38.6%	Platforms & Digital Markets, 64.1%	Semiconductors, 42.2%	Space, -20.2%	Blockchain, 24.6%
Nasdaq-100	-0.29%	38.99%	48.48%	27.24%	-32.56%	10.2%
Worst	NextGen Communications, -17.7%	NextGen Communications, 8.6%	NextGen Communications, 12.3%	Rise of China Tech, -24.2%	Blockchain, -62.3%	HealthTech, -0.4%

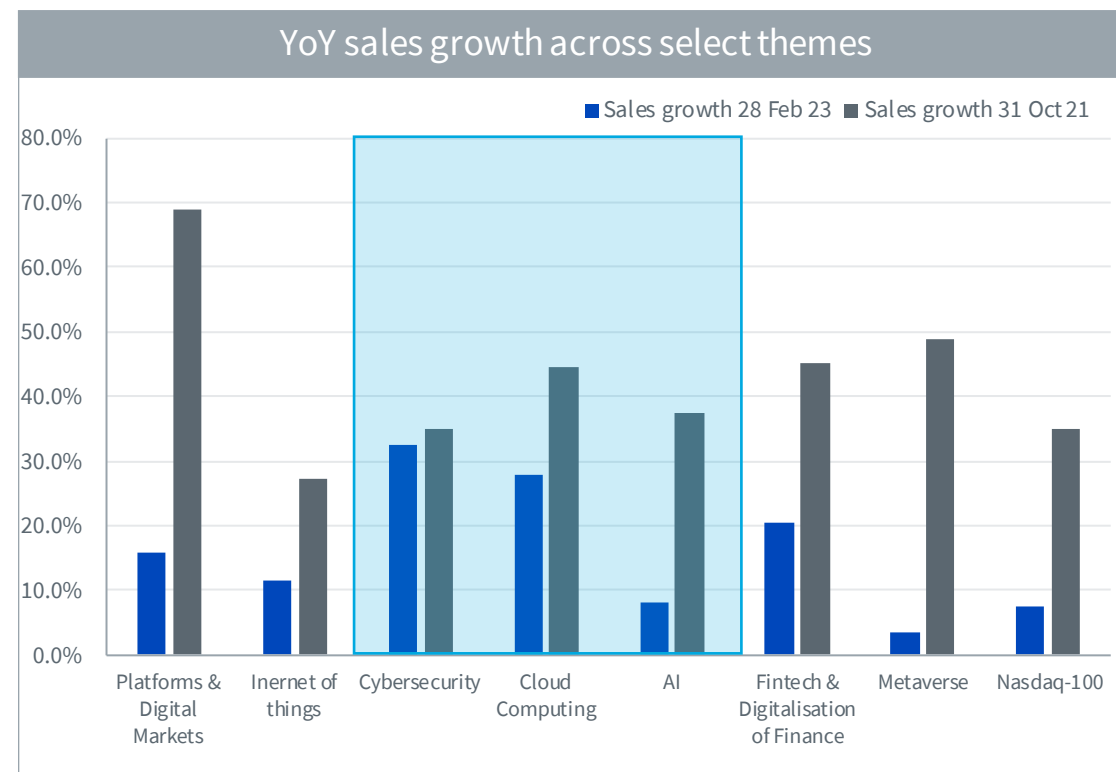
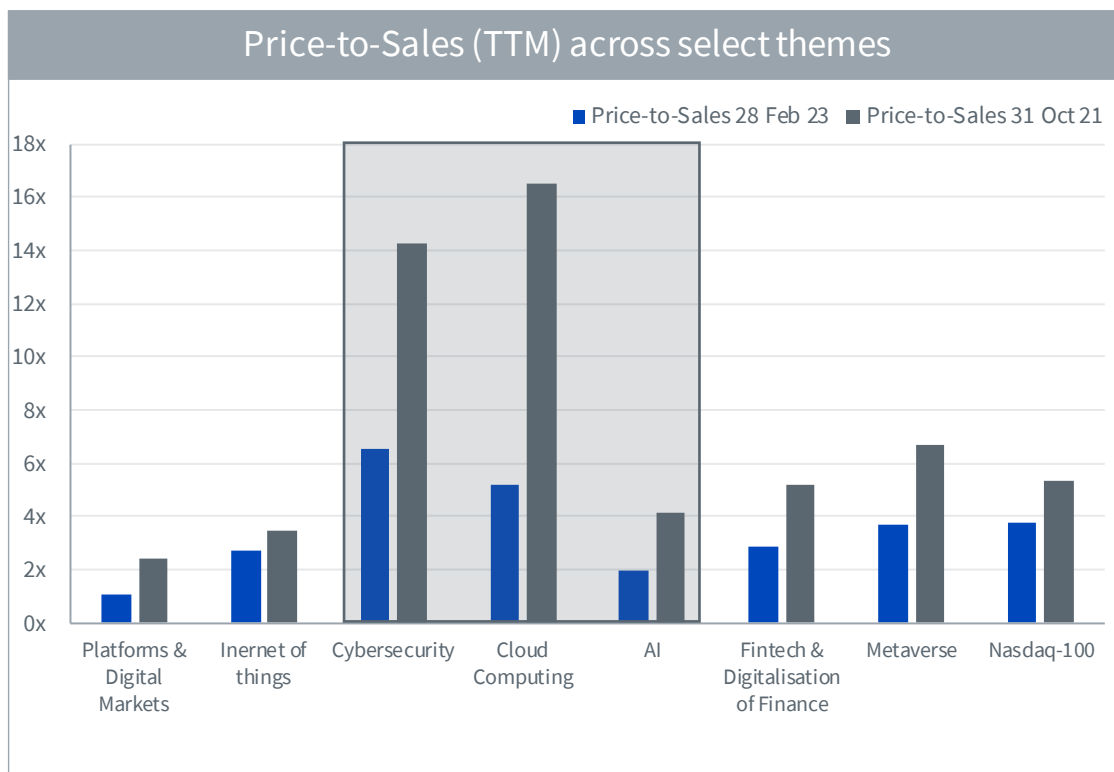
Source: WisdomTree, Bloomberg. Period from 29th December 2017 to 28th February 2023. Based on monthly returns for tech themes in the WisdomTree's Thematic Universe. Performance of a theme is based on the Europe-domiciled thematic ETFs and open-ended mutual funds compiled by WisdomTree as part of the WisdomTree's own thematic classification. Performance for the different groupings is calculated using the methodology explained in the Appendix. **Nasdaq-100** is the NASDAQ-100 Notional Net Total Return Index. **You cannot invest directly in an index. Historical performance is not an indication of future performance and any investments may go down in value.**

Despite a strong start of thematics in 2023, in some themes there is still much room left until the levels observed in October 2021



Source: WisdomTree, Bloomberg. Period from 31st October 2021 to 28th February 2023. Based on monthly returns for tech themes in the WisdomTree's Thematic Universe. Performance of a theme is based on the Europe-domiciled thematic ETFs and open-ended mutual funds compiled by WisdomTree as part of the WisdomTree's own thematic classification. Performance for the different groupings is calculated using the methodology explained in the Appendix. **Nasdaq-100** is the NASDAQ-100 Notional Net Total Return Index
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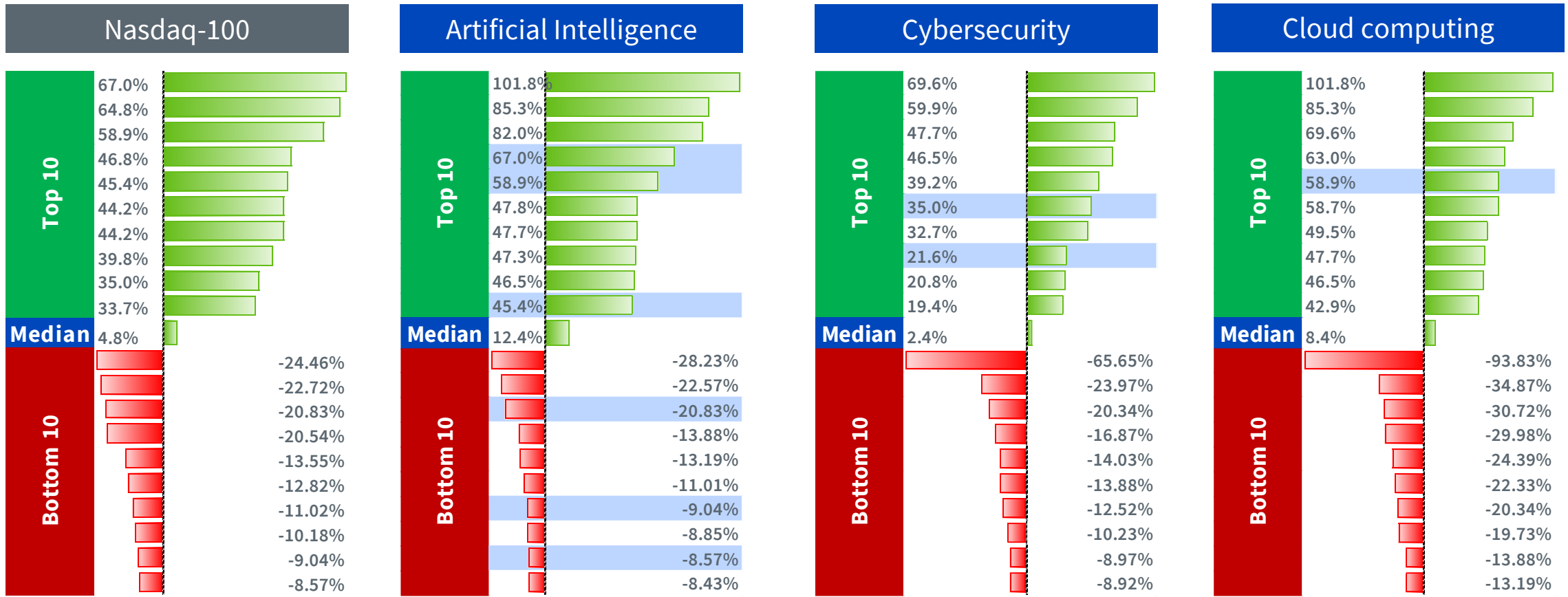
The global value rotation resulted in the compression of multiples across a range of tech-focused thematics creating compelling growth/valuation opportunities in some themes



Source: WisdomTree, Bloomberg. All fundamentals data is from Bloomberg. Each theme is represented by one thematic index. **Please see Appendix for the theme mapping to respective indices.** Underlying index constituents and weights are fixed as of 28th February 2023. **Nasdaq-100** is the NASDAQ-100 Notional Net Total Return Index with constituents and weights fixed as of 28th February 2023. **Sales growth** is represented by a weighted average sales growth of the index constituents. Sales growth for the underlying constituents is computed year-over-year from either quarterly, semi-annual or annual data, based on whichever is available in Bloomberg starting from quarterly data. Constituents' sales growth values above 500% and below -500% are capped at 500% and -500% respectively. **Price-to-Sales** is represented by a weighted harmonic mean of the Price-to-Sales for the index constituents. In the aggregation of presented metrics at the index level the weight of the constituents with missing data was distributed proportionately between the constituents that have the data for the indicated period. **You cannot invest directly in an index. Historical performance is not an indication of future performance and any investments may go down in value.**

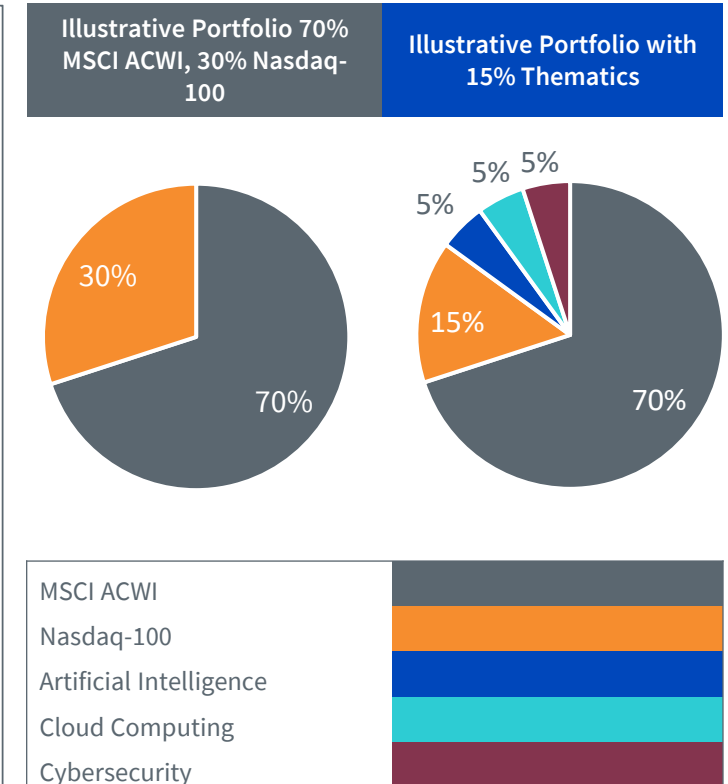
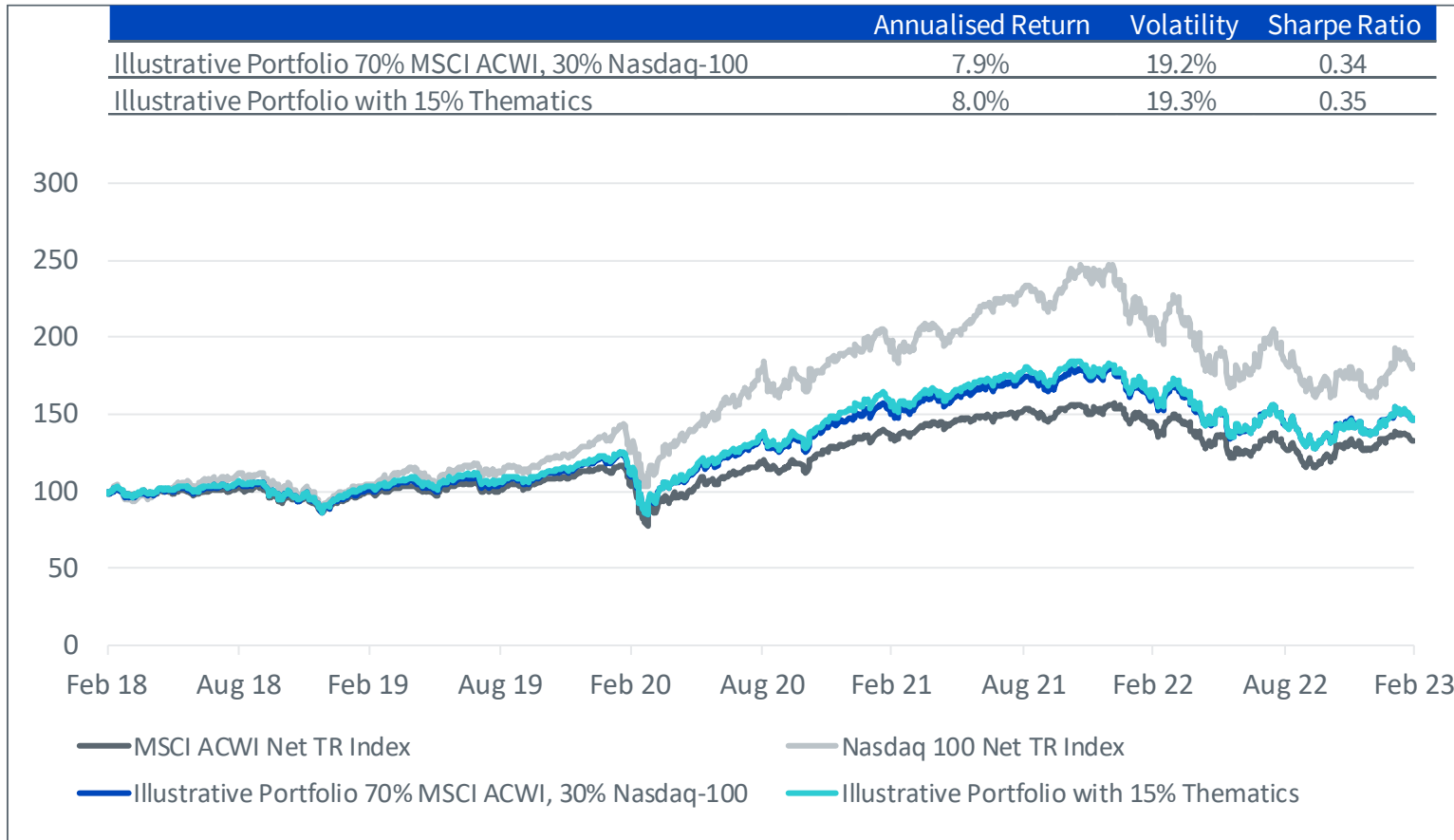
Tech thematic overlay might offer a differentiated upside potential with a reasonable trade-off of downside risk

Best and worst YTD stock returns in Nasdaq-100 and across select tech themes



Source: WisdomTree, Bloomberg. Returns are presented in USD terms and for the period from 31st December 2022 to 28th February 2023. **Nasdaq-100** is the NASDAQ-100 Notional Net Total Return Index. **Each theme's universe of stocks** is based on the holdings of select ETFs in Europe. **Blue shaded cells** represent common holdings with the Nasdaq-100. **You cannot invest directly in an index. Historical performance is not an indication of future performance and any investments may go down in value.**

Tech thematic overlay has the potential to improve an equity portfolio's Sharpe ratio



Source: WisdomTree, Bloomberg. Period from 28th February 2018 to 28th February 2023. **Includes backtested/backcast data.** Performance is based on net returns in USD. **Each illustrative portfolio** rebalances on a monthly basis back to the target weights. **Each theme** in the Illustrative portfolio with 15% in thematic is represented by one index. **Artificial Intelligence** is represented by the Nasdaq CTA Artificial Intelligence NTR Index. **Cloud Computing** is represented by the BVP Nasdaq Emerging Cloud NTR Index. **Cybersecurity** is represented by the Nasdaq CTA Cybersecurity Net Total Return Index. **Please see appendix for the live calculation dates of the underlying indices. You cannot invest directly in an index. Historical performance is not an indication of future performance and any investments may go down in value.**



Technology megatrends you should consider for your tech allocation in 2023

WisdomTree technology megatrends outlook: On our way to a more connected future – the digital transition



Source: WisdomTree.
AI: Artificial Intelligence

The future will be highly connected – the accelerating digital transition

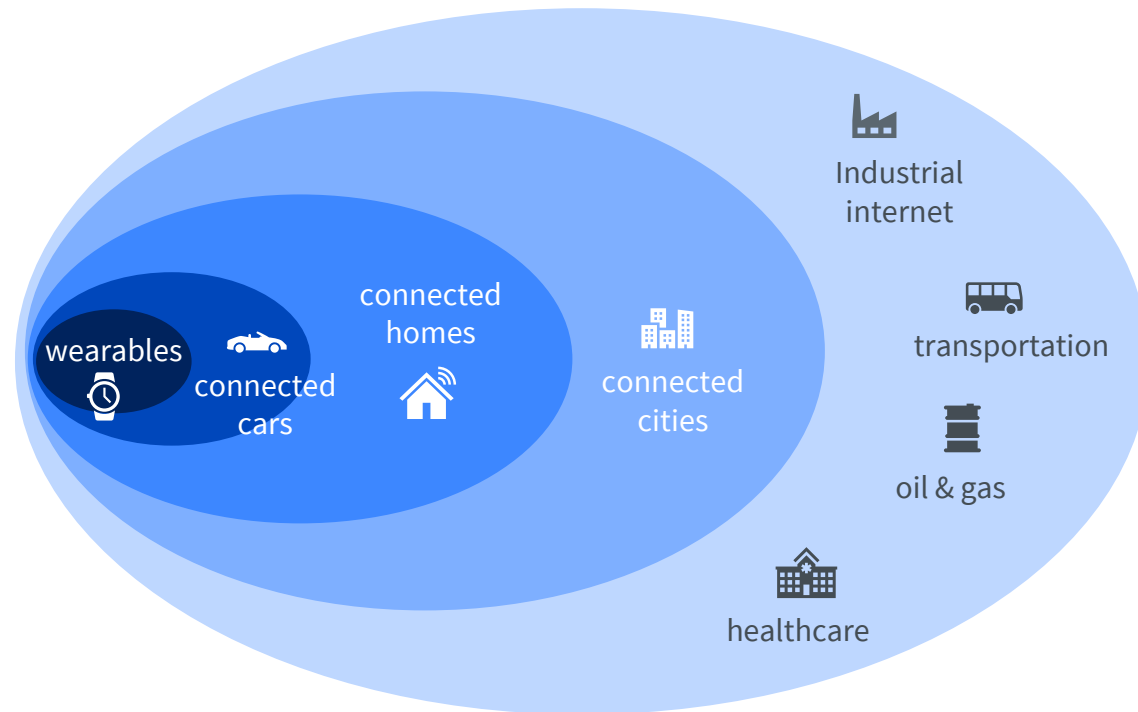
Worldwide IoT devices

8.6bn in 2019

11.3bn in 2021

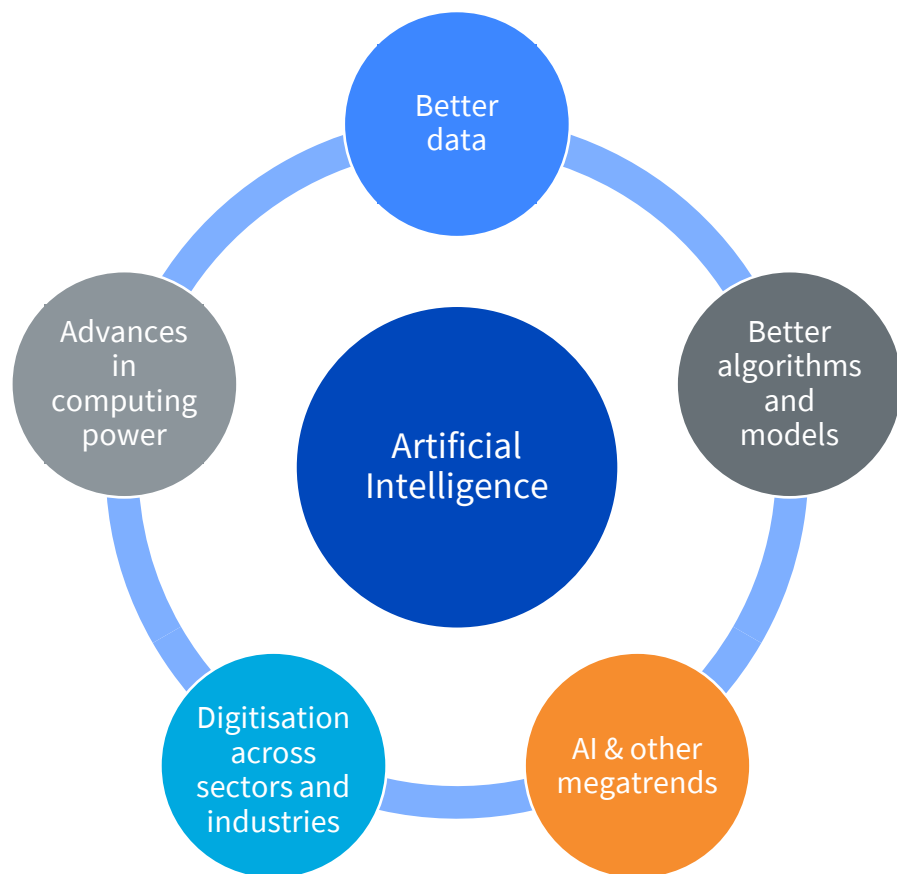
29.4bn in 2030

The number of Internet-of-Things (IoT) connected devices worldwide rose from 8.6 billion in 2019 to 11.3 billion in 2021 and will likely reach 29.4 billion by 2030



Source: Statista in cooperation with Transforma Insights May 2022. IoT infographics source: Goldman Sachs Global Investment Research, HBR.org.
Forecasts are not an indicator of future performance and any investments are subject to risks and uncertainties.

Growing generation of data is one of the factors driving AI adoption and expanding its uses cases to new areas



Source: WisdomTree.

Healthcare

Business services

Industrial automation

Autonomous vehicles

E-commerce

Space Exploration

Agriculture

Banking/Finance

Arts & Entertainment

Construction

Large Language Models can impact the speed of innovations in the AI space and accelerate AI adoption across many industries

ChatGPT is growing its user base at breakneck speed (Months until 100M users)



2



9



30



41



55



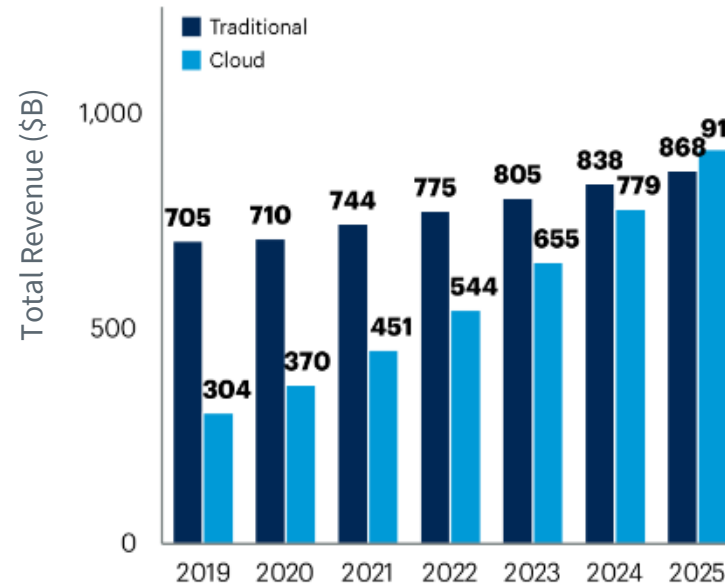
70

Source: USB/Yahoo Finance, dailyinvestor.com. **Logos** from left to right – ChatGPT, TikTok, Instagram, Pinterest, Spotify, Uber.

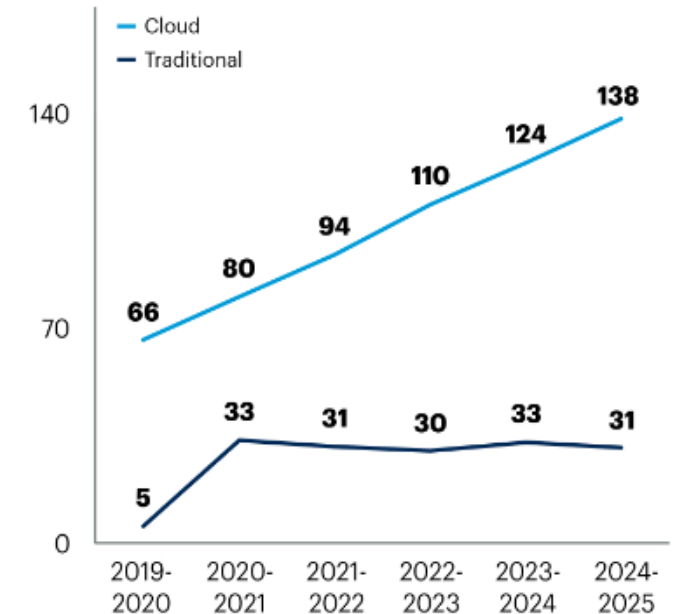
Large enterprises aspire to have around 60% of their environment in cloud by 2025¹

- In 2022, more than \$1.3 trillion in enterprise IT spending is at stake from the shift to cloud, growing to almost \$1.8 trillion in 2025.²
- Ongoing disruption to IT markets by cloud will be amplified by the introduction of new technologies. Many will further blur the lines between traditional and cloud offerings.²

Total revenue



Growth in Revenue
(YoY absolute change)



Sources: 1. McKinsey & Company, “Projecting the global value of cloud: \$3 trillion is up for grabs for companies that go beyond adoption” published 28th November 2022.

2. Gartner, February 2022. Gartner’s ‘cloud shift’ research includes only those enterprise IT categories that can transition to cloud, within the application software, infrastructure software, business process services and system infrastructure markets.

Forecasts are not an indicator of future performance and any investments are subject to risks and uncertainties.

Increasing digitalisation creates new vulnerabilities and surfaces for attacks



Increasing speed and sophistication of attacks

84 minutes

the average eCrime breakout

71%

of attacks were malware-free



Increasing importance of identity threat protection

112%

increase in the number of ads posted by access brokers compared to 2021



Increasing Cloud exploitation

95%

growth in Cloud exploitation in 2022

288%

increase in "cloud-conscious" threat actors in 2022

Source: All data sourced from the CrowdStrike 2023 Global Threat Report. CrowdStrike defines **access brokers** as threat actors who acquire credentials and access to organizations then provide or sell this access to other actors, including ransomware operators.

Costs of a data breach continue to climb with cybersecurity solutions being key to their mitigation

The **average cost of a data breach** has **climbed 12.7% from USD 3.86 million in 2020 to USD 4.35 million in 2022.**

Organizations deploying **zero-trust** incurred an average **USD 1 million less in breach costs.**

Security artificial intelligence (AI), when fully deployed, resulted in **the biggest data breach cost savings** (up to USD 3.05 million less).

The 50 largest data breaches by amount of user records stolen from 2004–2021






Rank	Entity	Sector	Records Compromised	Year
1	Yahoo	Web	3.0B	2013
2	River City Media	Web	1.4B	2017
3	Aadhaar	Government	1.1B	2018
4	First American Corporation	Finance	885M	2019
5	Spambot	Web	711M	2017
6	LinkedIn	Web	700M	2021
7	Facebook	Tech	533M	2021
8	Yahoo	Web	500M	2014
9	Marriott International	Retail	500M	2018
10	Syniverse	Telecoms	500M	2021

Source: IBM, “Cost of a Data Breach 2022 Report”; Visual Capitalist, “Visualizing The 50 Biggest Data Breaches From 2004–2021” published 1st June 2022.



Appendix

WisdomTree Thematic Range: Expert-Driven, Differentiated & Targeted Exposures










	WisdomTree Artificial Intelligence Strategy	WisdomTree Cloud Computing Strategy	WisdomTree Cybersecurity Strategy	WisdomTree Battery Solutions Strategy	WisdomTree BioRevolution Strategy	WisdomTree New Economy Real Estate Strategy	WisdomTree Recycling Decarbonisation Strategy	WisdomTree Blockchain Strategy	WisdomTree Global Automotive Innovators Strategy	
	Focused Theme	Artificial Intelligence	Cloud Computing	Cybersecurity	Sustainable Energy Storage	HealthTech & Sustainable Food	New Economy Infrastructure	Decarbonisation & Sustainable Resource Management	Blockchain	Sustainable Mobility
	Underlying index	NASDAQ CTA Artificial Intelligence Index	BVP Nasdaq Emerging Cloud Index	WisdomTree Team8 Cybersecurity Index	WisdomTree Battery Solutions Index	WisdomTree BioRevolution ESG Screened Index	CenterSquare New Economy Real Estate UCITS Index	Tortoise Recycling Decarbonisation UCITS Index	WisdomTree Blockchain UCITS Index	WisdomTree Berylls LeanVal Global Automotive Innovators Index
	Rebalance	March, September	February, August	March, September	May, November	April, October	March, September	March, September	February, May, August, November	March, September
	Expert Partner	Consumer Technology Association	Bessemer Venture Partners	Team8	Wood Mackenzie	Jamie Metz1	CenterSquare	TortoiseEcofin	WisdomTree	Berylls, LeanVal
	Number of Holdings	68	75	25	117	98	50	47	20	98
	% of Small Caps	21.3%	22.4%	15.0%	22.1%	20.9%	4.4%	36.1%	40.7%	3.1%
	% of Mid Caps	24.3%	49.2%	41.2%	40.6%	14.9%	35.5%	31.1%	42.8%	27.1%
	Overlap with Nasdaq-100	8.58%	3.26%	1.29%	0.96%	5.55%	0.31%	0.00%	0.00%	2.38%
	Overlap with MSCI World	4.78%	1.60%	0.37%	3.00%	6.64%	1.06%	0.35%	0.09%	2.45%
	Inception date	30 th November 2018	3 rd September 2019	25 th January 2021	26 th February 2020	3 rd December 2021	7 th February 2022	22 nd April 2022	7 th September 2022	22 nd September 2022
	AuM (\$, mln)	272.6	294.2	70.5	314.6	3.0	1.1	3.2	0.3	1.5
	SFDR disclosure	Article 8	Article 8	Article 8	Article 8	Article 8	Article 8	Article 9	Article 8	Article 8

Source: WisdomTree, Bloomberg, MSCI, FactSet. The holdings data is as of 30 December 2022 and for the respective underlying indices. Asset under management (AuM) data is from Bloomberg.

1. Jamie Metz1 acts as a third-party consultant for the WisdomTree BioRevolution ESG Screened Index.

You cannot invest directly in an index. Historical performance is not an indication of future performance and any investments may go down in value.

Listing information

	WisdomTree Artificial Intelligence	WisdomTree Cloud Computing	WisdomTree Battery Solutions	WisdomTree Cybersecurity	WisdomTree BioRevolution	WisdomTree New Economy Real Estate	WisdomTree Recycling Decarbonisation	WisdomTree Blockchain	WisdomTree Global Automotive Innovators
									
UCITS	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Replication	Physical, Full	Physical, Full	Physical, Full	Physical, Full	Physical, Full	Physical, Full	Physical, Full	Physical, Full	Physical, optimised
Use of Income	Accumulating	Accumulating	Accumulating	Accumulating	Accumulating	Accumulating, Distributing	Accumulating	Accumulating	Accumulating
Ticker	WTAI	WCLD	VOLT	WCBR	WDNA	WTRE, WNER	WRCY	WBLK	WCAR
ISIN	IE00BDVPNG13	IE00BJGWQN72	IE00BKLF1R75	IE00BLPK3577	IE000O8KMPM1	IE000MO2MB07, IE000X9TLGN8	IE000LG4J7E7	IE000940RNE6	IE000TB3YTV4
TER	0.40%	0.40%	0.40%	0.45%	0.45%	0.45%	0.45%	0.45%	0.45%
Base currency	USD	USD	USD	USD	USD	USD	USD	USD	USD
Available exchanges	LSE, Borsa Italiana, Xetra, SIX, BMV	LSE, Borsa Italiana, Xetra, SIX, BMV	LSE, Borsa Italiana, Xetra, SIX, BMV	LSE, Borsa Italiana, Xetra, SIX, BMV	LSE, Borsa Italiana, Xetra, SIX, BMV	LSE, Borsa Italiana, Xetra, SIX, BMV	LSE, Borsa Italiana, Xetra, SIX, BMV	LSE, Borsa Italiana, Xetra, SIX, BMV	LSE, Borsa Italiana, Xetra, SIX, BMV

Source: WisdomTree. As of January 2023.

Indices mapping to themes

Theme	Index	Ticker
Platforms & Digital Markets	Solactive E-commerce Index	SOLEBIZ Index
Internet of things	Indxx Global Internet of Things Thematic v2 Index	ISNSRN2 Index
Cybersecurity	WisdomTree Team8 Cybersecurity Index	WTCBRN Index
Cloud Computing	BVP Nasdaq Emerging Cloud Index	EMCLOUDN Index
AI	Nasdaq CTA Artificial Intelligence Index	NQINTELN Index
Fintech & Digitalisation of Finance	Solactive Digital Payments Index	SOLDPAY Index
Metaverse	The Ball Metaverse Index	BALLMETA Index

Source: WisdomTree, Bloomberg. **You cannot invest directly in an index. Historical performance is not an indication of future performance and any investments may go down in value.**

Indices live calculation dates

Index	Start of live calculation
BVP Nasdaq Emerging Cloud Index	2 October 2018
Nasdaq CTA Artificial Intelligence Index	29 October 2018
Nasdaq CTA Cybersecurity Index	23 June 2015

Source: WisdomTree, Nasdaq. **You cannot invest directly in an index. Historical performance is not an indication of future performance and any investments may go down in value.**

How to calculate the Performance of the different Themes ?

Please note that all performance of Themes, Sub-Clusters or Clusters are calculated directly from the net asset value of funds and ETFs. Performance is, therefore, net of fees.

Performance of a Theme

- + For any given Theme, we consider each month all the ETFs and open-ended funds classified in that specific Theme that have published a monthly return for that month in Morningstar. We then average all those monthly returns to compute the average monthly return for that Theme. So the monthly return for January 2020 for the Theme may include 19 funds, while the February 2020 return may comprise 21 funds (if two funds classified in that Theme have been launched in the meantime). By collating monthly returns for the Theme, we get the Theme's average historical performance. Therefore, the Theme's average historical performance incorporates every ETF and open-ended fund that focused on this Theme. The Theme's average historical performance is not biased towards surviving funds or successful funds. Every fund alive in a given month is included irrespective of its survival in the future or its success. Investments that try to focus on multiple Themes and, therefore, classified either at Cluster or Sub-Cluster Level are not included.

Performance of a Sub-Cluster

- + For any given Sub-Cluster, we consider each month all the Themes that belong to this Sub-Cluster and calculate the average of the monthly returns of all those Themes in Morningstar (assuming that at least one fund in the Theme is live and therefore that the Theme has a monthly return). By collating monthly returns for the Sub-Cluster, we get the Sub-Cluster's average historical performance. It is important to note that every fund included here focuses only on one Theme. Investments that try to focus on multiple Themes and, therefore, classified at Sub-Cluster Level are omitted.

Performance of a Cluster

- + For any given Cluster, we consider each month all the Themes that belong to this Cluster and calculate the average of the monthly returns of all those Themes in Morningstar (assuming that at least one fund in the Theme is live and, therefore, that the Theme has a monthly return). By collating monthly returns for the Cluster, we get the Cluster's average historical performance. It is important to note that every fund included here focuses only on one Theme. Investments that try to focus on multiple Themes and, therefore, classified either at Cluster or Sub-Cluster Level are not included.

Performance of Diversified Thematics

- + We consider each month all the ETFs and Open-Ended Funds that belong to the Diversified Thematic Group that have published a monthly return for that month in Morningstar. We then average all those monthly returns to compute the average monthly return of the Diversified Thematic Group. By collating monthly returns for the Diversified Thematic Group, we get the Diversified Thematic Group's average historical performance. Therefore, the Diversified Thematic Group average historical performance incorporates every ETF and open-ended fund that belongs to Diversified Thematic Group. Only investments that try to focus on multiple Clusters across the classification are therefore included here.

Source: WisdomTree. April 2021. This methodology was established in April 2021 - **Historical performance is not an indication of future performance and any investments may go down in value.**

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