

# WisdomTree European thematic monthly update

December 2023

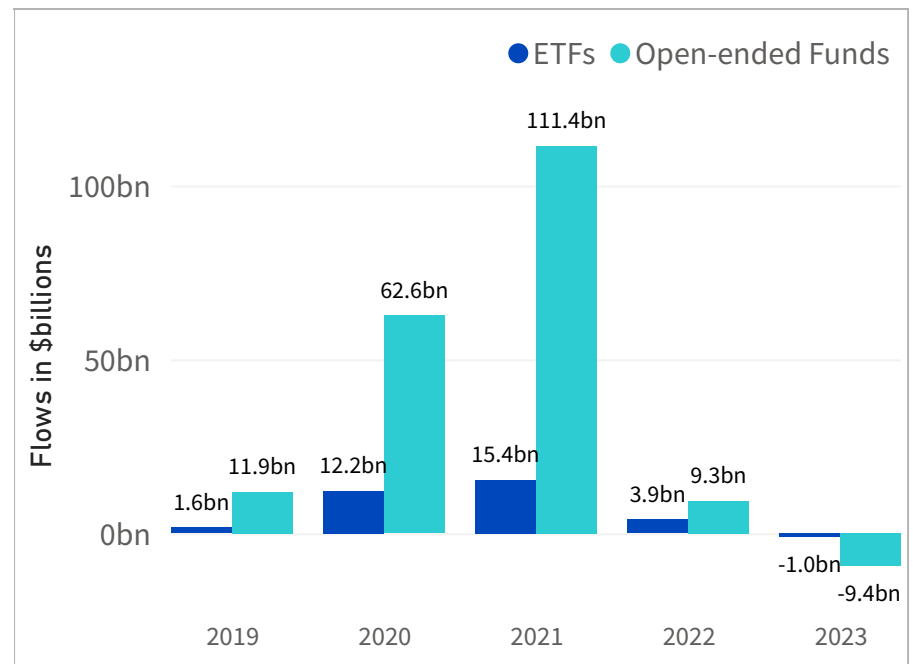
## Thematic universe overview

+ AUM in thematic Exchange Traded Funds (“ETFs”) and open-ended funds increased in Q4 to \$328 billion driven mostly by positive performance. ETFs’ market share remained steady at around 13.2%, with a total AUM of \$43.4 billion. In 2023, AUM increased by \$40 billion, or by 14%. Performance was the key contributor to the AUM increase. It is worth noting that ETFs AUM is only 7% shy from all time high (Dec 2021) when Mutual Funds AUM is still 16% away.

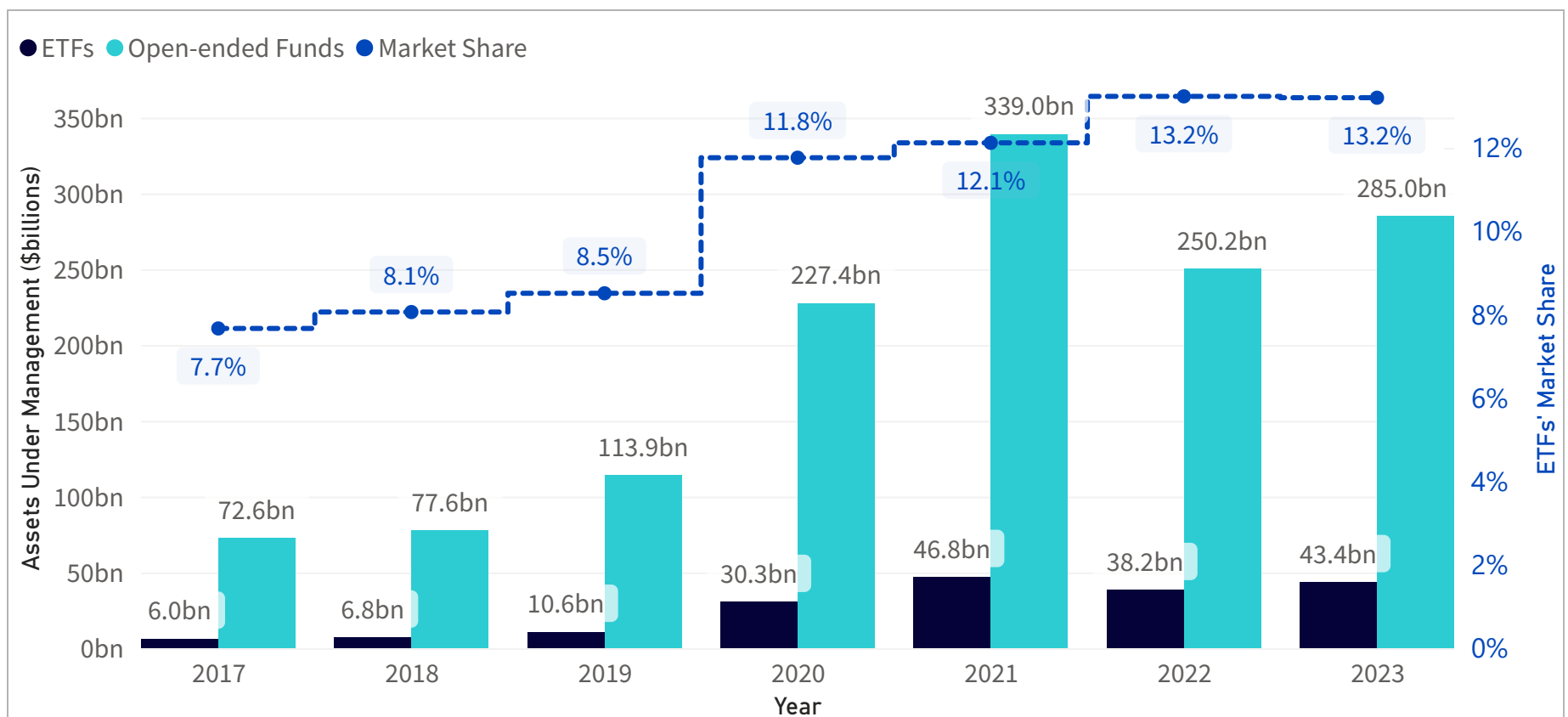
+ Performance in December was mostly positive, with only one theme losing ground (“China Tech”). Year-to-date, 9 themes lost money, 30 increased in value out of which 12 beat the MSCI ACWI. “Blockchain”, “Semiconductors” and “Metaverse” claimed the highest returns.

+ Year-to-date flows are negative across both wrappers, driven by negative flows into themes across all clusters. Only “Diversified Thematics” i.e. multi thematic strategies raised assets highlighting investors’ increased preference to delegated the selection of the themes in their investments.

## Recent yearly flows in Europe



## Europe-domiciled thematic AUM evolution and ETFs’ market share



Source: WisdomTree, Morningstar, Bloomberg. All data as of 31/12/2023 and based on WisdomTree's internal classification of thematic funds. Performance is based on monthly returns from Bloomberg and Morningstar More information on the WisdomTree Thematic classification can be found in the Appendix. **Historical performance is not an indication of future performance, and any investments may go down in value.**

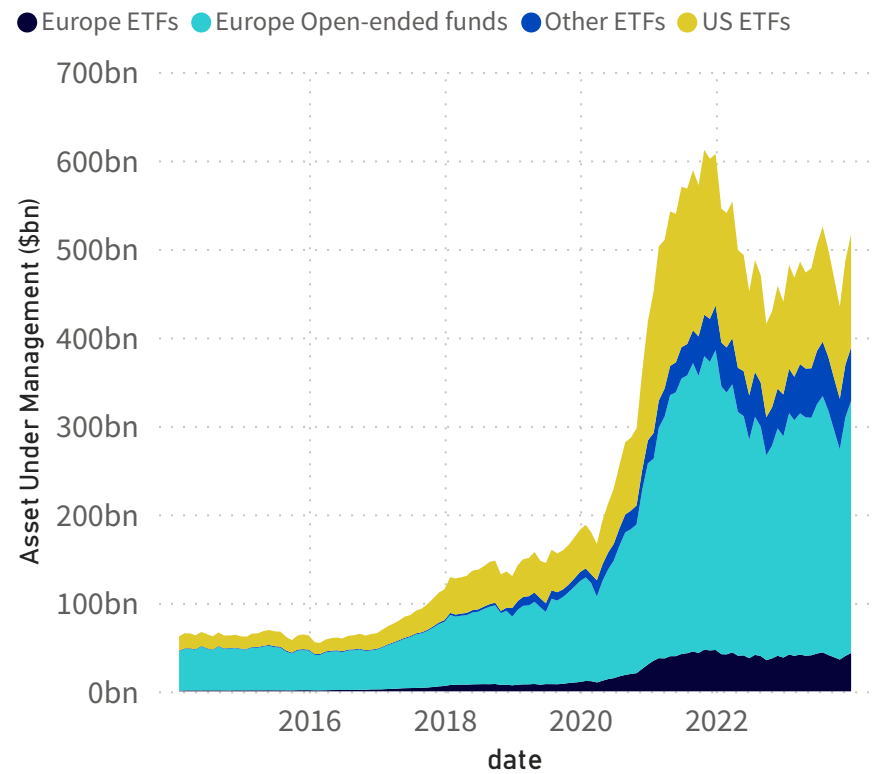
## Thematic universe overview (continued)

+ Joint AUM in global thematic ETFs and open-ended funds in Europe dropped are back up in December to \$516 billion, up 18% from October's bottom. They are also up \$76 billion compared to the end of last year. This increase is driven by the performance of equities generally, in particular in the last 2 months.

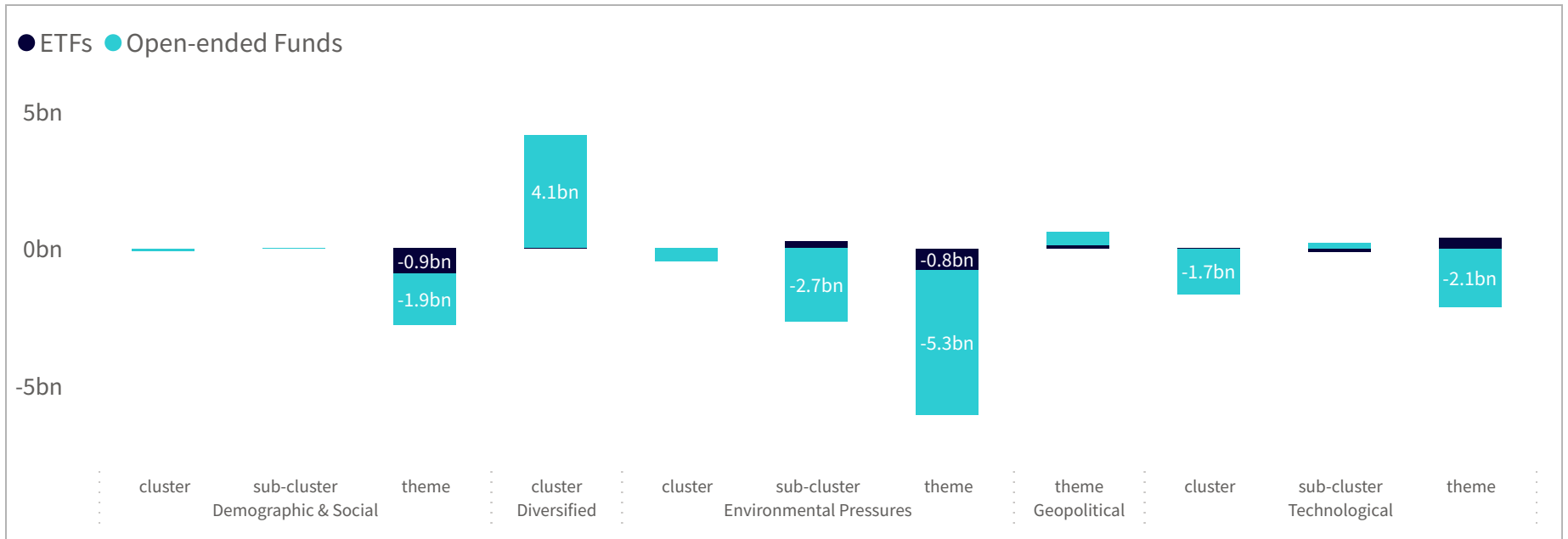
+ Year-to-date, European open-ended funds have gathered the most flows in "Diversified Thematics" followed by the "Geopolitical Shifts" cluster, in particular in the "Rise of Tension" and "Near/Reshoring" themes. Overall, outflows have been strong out of the "Environmental Pressures" cluster and somewhat strong out of the "Technological Shifts" cluster.

+ Year to Date outflows in "Environmental Pressures" cluster have been mostly driven by redemptions in open-ended funds at the cluster and sub-cluster level as well as "Sustainable Food", "Sustainable Resource Management" and "Sustainable Energy Production" themes. Outflows in "Technological Shifts" have also been mostly driven by redemptions in open-ended funds at the cluster level even if "HealthTech" saw \$1551m of outflows across wrappers. Those outflows more than offset the \$2.27 billion that entered into the "Artificial intelligence" space.

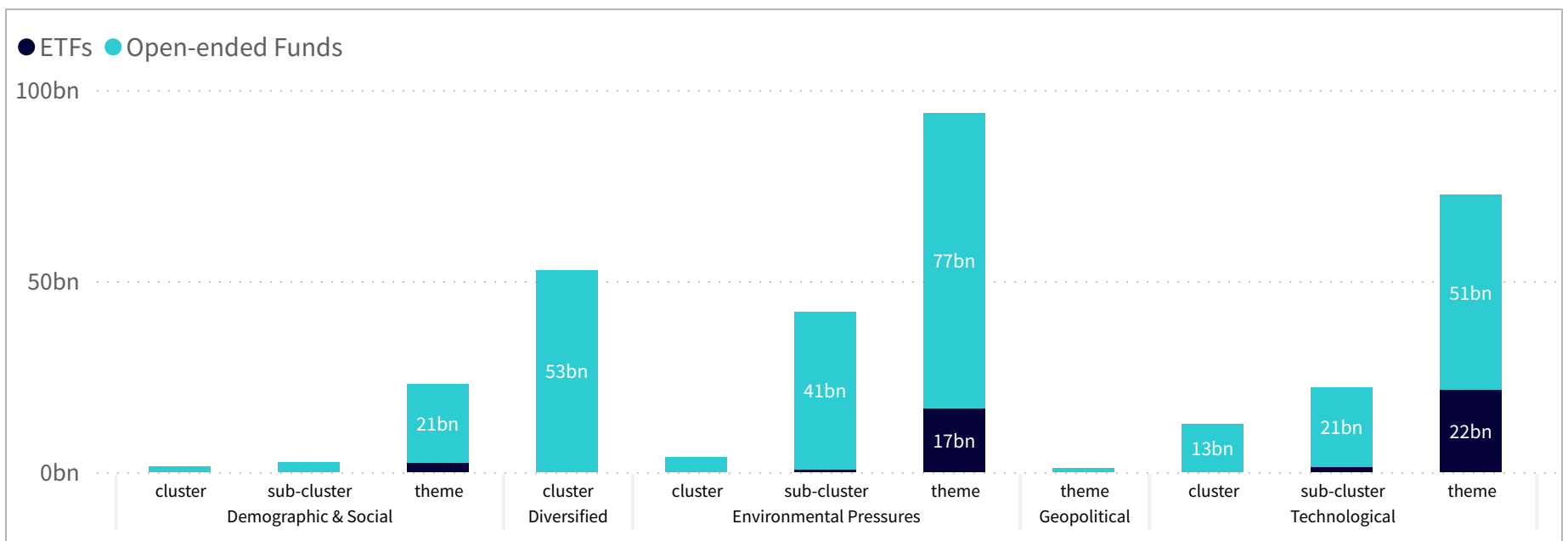
## AuM in Thematics by region (Last 10Y)



## YTD flows in Europe by wrapper in cluster, sub-cluster and focused themes



## AuM in Europe by wrapper in cluster, sub-cluster and focused themes



Source: WisdomTree, Morningstar, Bloomberg. All data as of 31/12/2023 and based on WisdomTree's internal classification of thematic funds. Performance is based on monthly returns from Bloomberg and Morningstar More information on the WisdomTree Thematic classification can be found in the Appendix. **Historical performance is not an indication of future performance, and any investments may go down in value.**

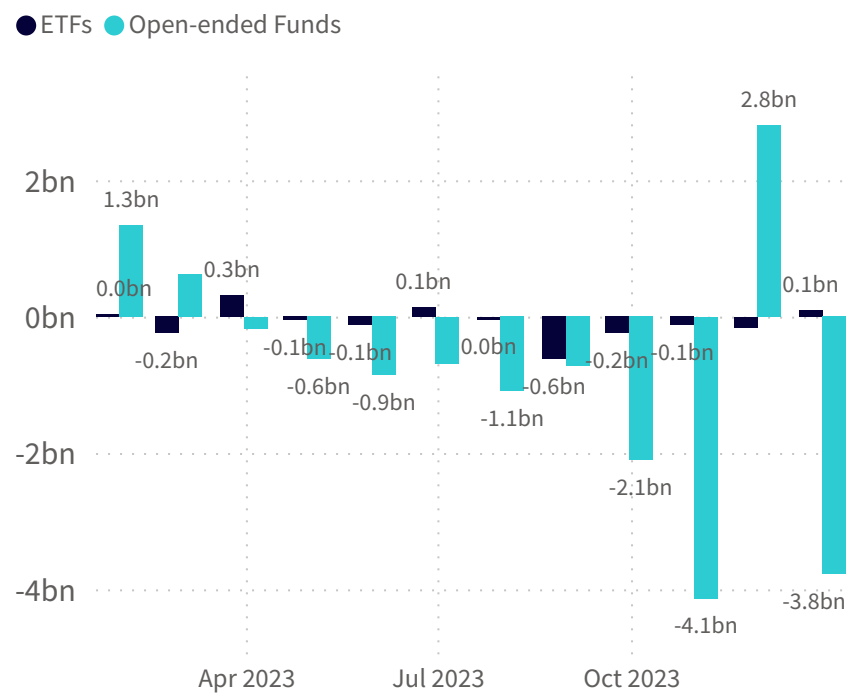
## Thematic flows in Europe

+ Flows in December were slightly positive for ETFs (+\$98 millions) but quite negative for Open-ended Funds with \$3.77 billion outflows. This is the almost perfect mirror image of November. Year-to-date, ETFs have suffered \$1 billion of outflows vs. 9.4 billion of outflows in open-ended funds.

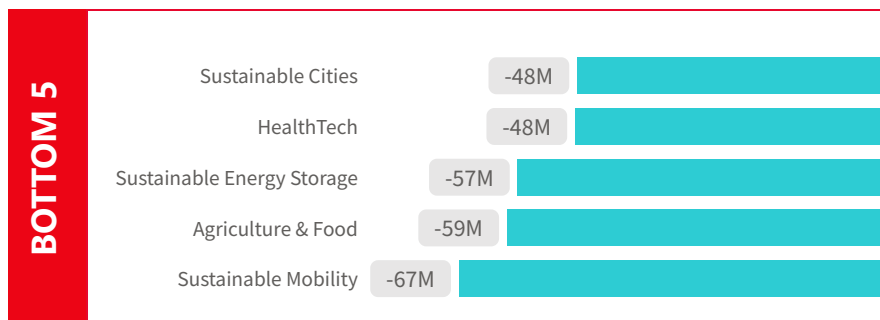
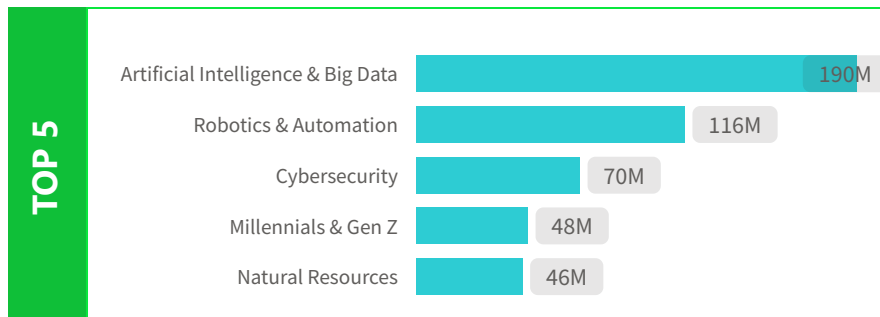
+ In December, "AI & Big Data" gathered the most assets with \$209 million across both wrappers showing that the theme is not stopping after more than a year at the top. "Cybersecurity" is second with \$72million. This shows that our thesis around the positive impact of the AI run on "adjacent" themes is starting to come to fruition. "Millennials & Gen Z", "Nuclear" and "Metaverse" are closing the Top 5. "Sustainable Energy Production" saw the highest combined outflows with -\$628m. "HealthTech" is just behind losing ~\$600 million during the month as well.

+ Year-to-date, "AI & Big Data" has gathered by far the most assets with \$2.2bn of inflows. Only "Near/Reshoring" and "Rise of the Middle Class" managed to breach \$300m of inflows. Nuclear ETFs managed to gather \$260 million. "Sustainable Food", "HealthTech", "Sustainable Resource Management", "Equality & Diversity" and "Sustainable Energy Production" all lost more than a billion

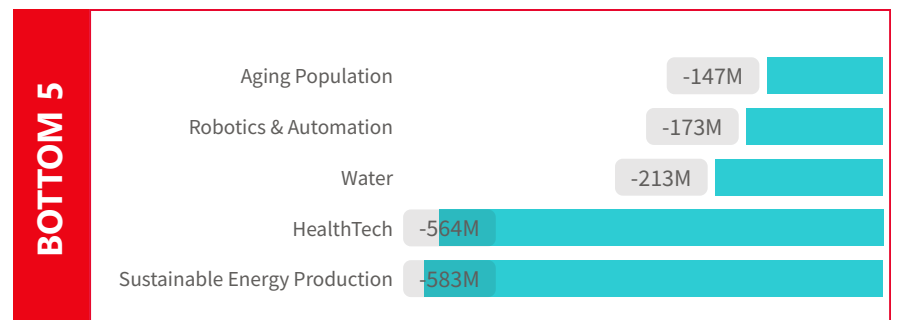
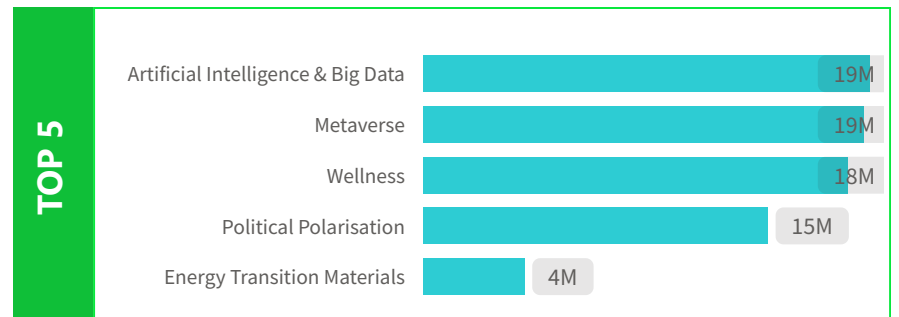
## Month-on-month thematic flows



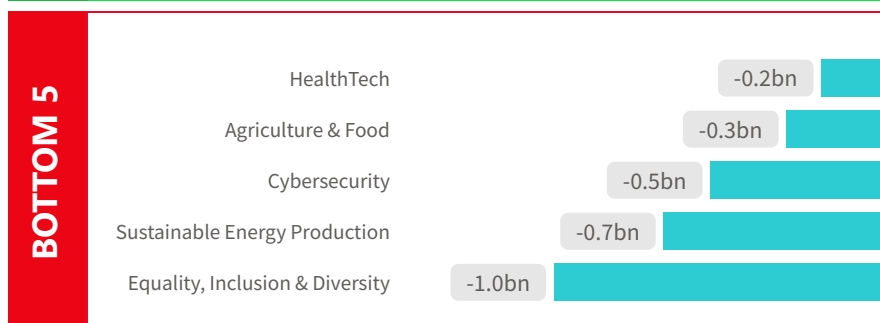
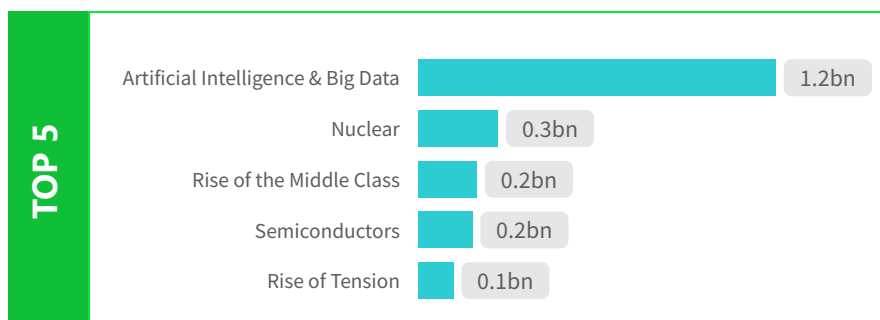
## December Top/Bottom flows in Europe ETFs



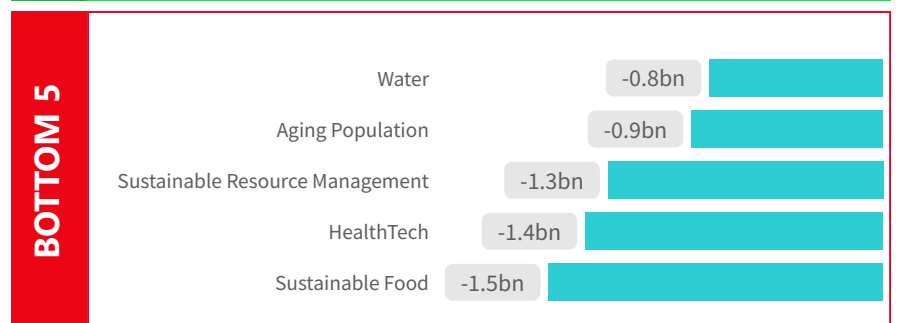
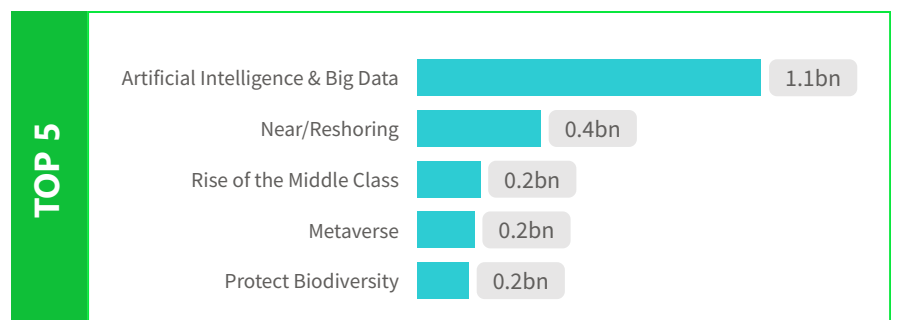
## December Top/Bottom flows in Mutual Funds



## YTD Top/Bottom flows in Europe ETFs



## YTD Top/Bottom flows in Mutual Funds



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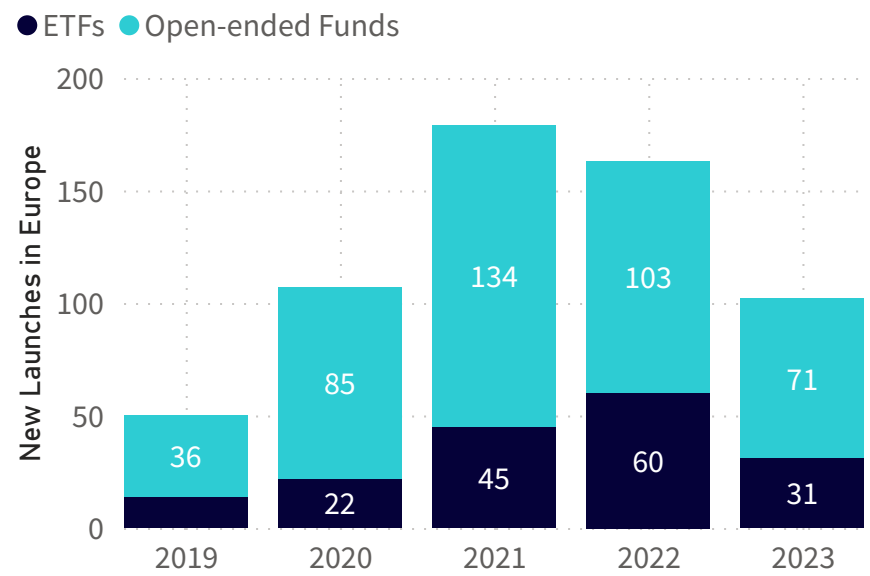
## Thematic performance and launches in Europe

+ Year-to-date, technology-focused thematic strategies are leading the pack performance-wise. "Blockchain" close the year on top with +96%, benefitting from the run up to the approval of the first spot Bitcoin ETFs in the US. "Semiconductors", "AI & Big Data" and "Cybersecurity" are completing the Top 5 best-performing themes in 2023. They all benefitted from the AI run during the full year. Chinese equities have suffered this year and green themes also retreated on a bit of ESG fatigue. This led to underperformance for "China Tech", "Sustainable Energy Production", "Sustainable Energy Storage" and "Energy Transition Materials".

+ December was quite similar to 2023 as a whole. With "Blockchain" winning and "China Tech" losing. However, "HealthTech" and "Digital Health" performed quite strongly this month in what could be a positive signal for these themes in 2024. Interestingly, only "China Tech" had negative return in the last month of the year.

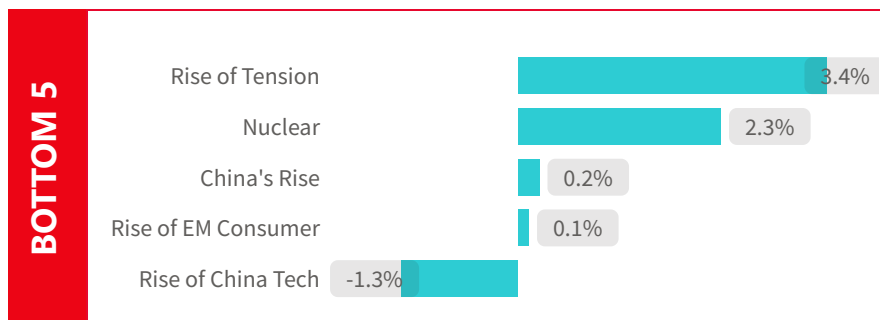
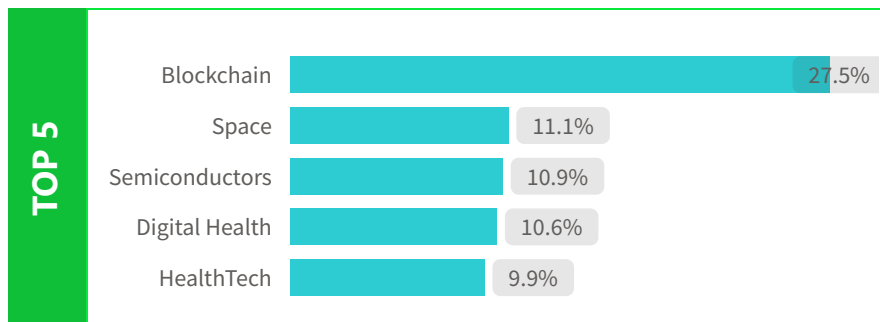
+ With a full year behind us, we can count 102 launches of thematic strategies in 2023. This marks a retreat compared to record number of launches in 2022 and 2021 but remains on par with 2020.

## Yearly thematic launches in Europe\*

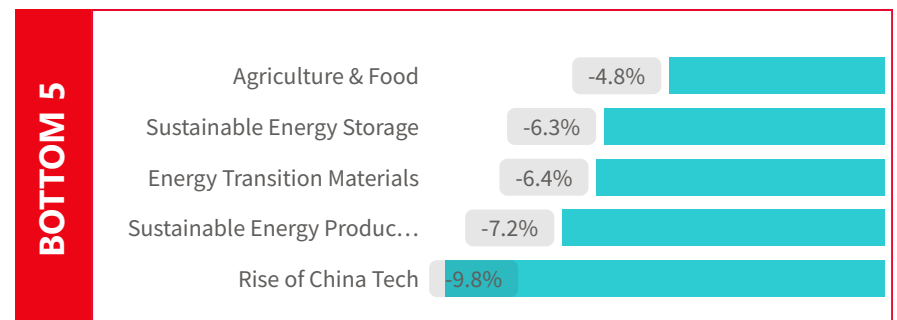
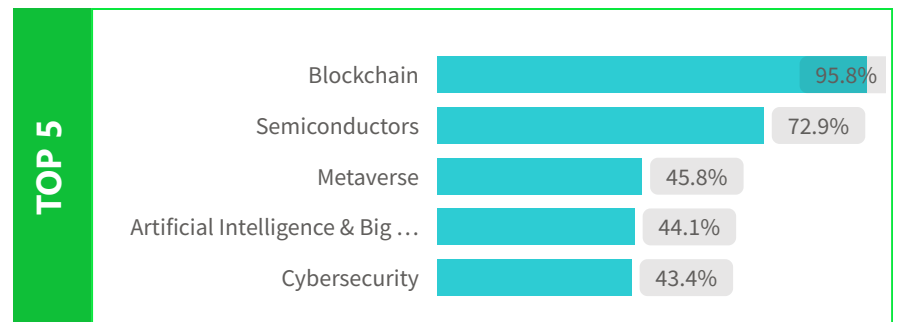


\* New launches are updated quarterly

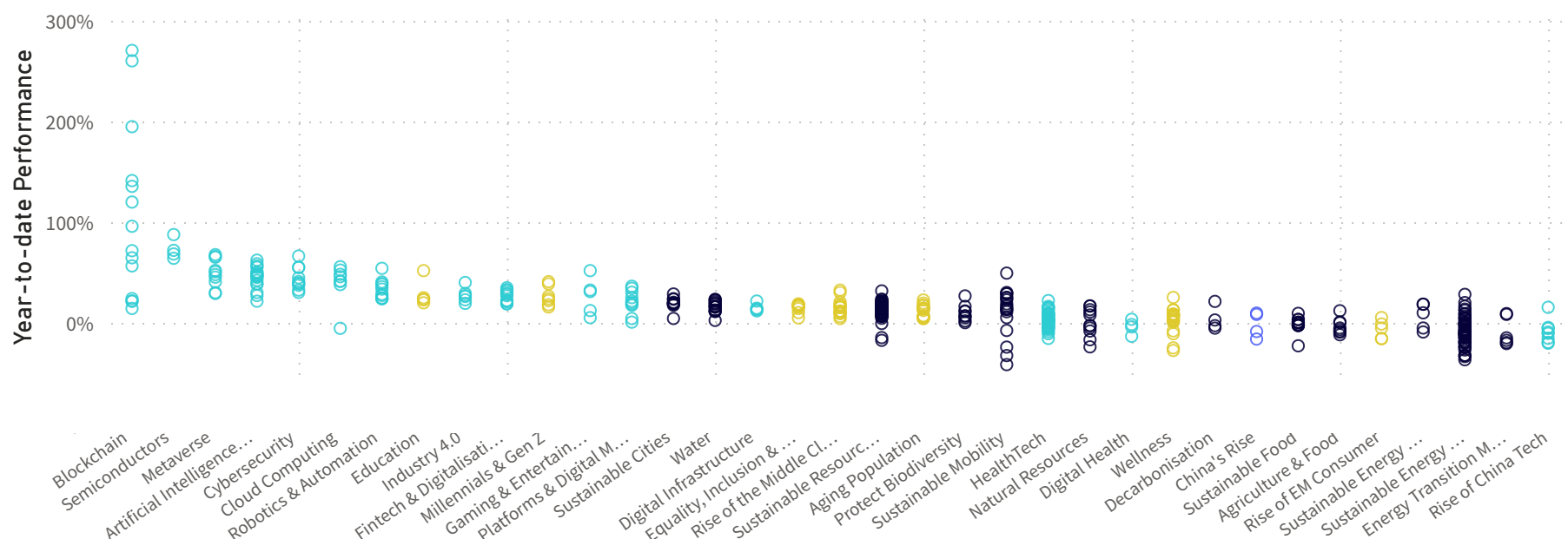
## Top 5/Bottom 5 by performance in December



## Top 5/Bottom 5 by YTD performance

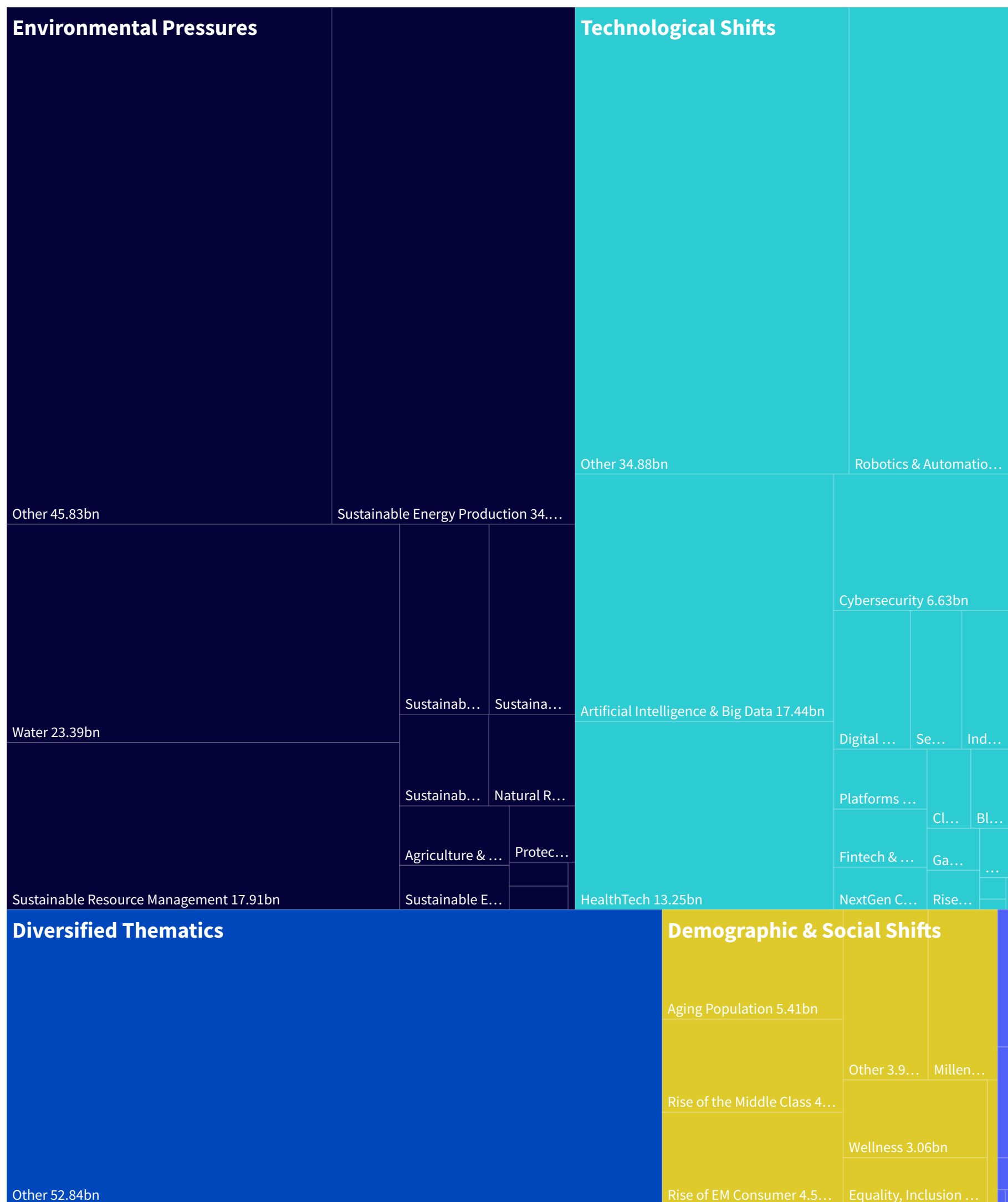


## Dispersion of YTD performance of all ETFs and mutual funds by themes in Europe



Source: WisdomTree, Morningstar, Bloomberg. All data as of 31/12/2023 and based on WisdomTree's internal classification of thematic funds. Performance is based on monthly returns from Bloomberg and Morningstar More information on the WisdomTree Thematic classification can be found in the Appendix. **Historical performance is not an indication of future performance, and any investments may go down in value.**

## AUM per theme in ETFs and open-ended funds domiciled in Europe (\$billions)



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## Appendix - Multi themes & diversified thematic ETFs and Open-ended funds

Cluster	Sub-Cluster	AuM (\$)	Flows Last Month (\$)	Flows YTD (\$)
Technological Shifts		12,692.32M	-108.28M	-1,663.91M
Technological Shifts	Disruptive Technologies	15,425.91M	-127.92M	174.92M
Technological Shifts	HyperConnectivity & Digitalisation	6,761.18M	-32.34M	-101.74M
Environmental Pressures		3,893.94M	102.34M	-467.20M
Environmental Pressures	Climate Change & Sustainability	41,927.14M	-571.63M	-2,414.93M
Environmental Pressures	Limited Resources	10.60M	-0.13M	-2.26M
Diversified Thematics		52,835.04M	-414.27M	4,132.05M
Demographic & Social Shifts		1,476.46M	-15.91M	-89.00M
Demographic & Social Shifts	Demographic Shifts	2,453.96M	10.03M	44.93M
Demographic & Social Shifts	Social Shifts	14.71M	-0.32M	-14.41M

## Appendix - Theme focused ETFs and Open-ended funds

Theme Name	AuM (\$)	Flows Last Month (\$)	Flows YTD (\$)	Performance Last Month	Performance YTD
Aging Population	5,413.87M	-167.96M	-986.56M	6.0%	11.5%
Agriculture & Food	1,774.71M	-153.85M	-870.66M	4.3%	-4.8%
Artificial Intelligence & Big Data	17,440.82M	209.37M	2,268.67M	6.0%	44.1%
Blockchain	883.50M	-10.02M	-39.60M	27.5%	95.8%
China's Rise	535.43M	-36.82M	34.51M	0.2%	-3.1%
Cloud Computing	945.50M	-32.90M	-11.65M	7.4%	39.3%
Cybersecurity	6,634.98M	72.32M	-549.23M	8.1%	43.4%
Decarbonisation	89.37M	-5.23M	-17.57M	7.9%	-0.7%
Digital Health	2,907.76M	-41.92M	-591.01M	10.6%	2.5%
Digital Infrastructure	75.18M	-1.07M	-58.43M	7.3%	15.5%
Education	349.68M	-46.07M	-158.06M	4.9%	28.6%
Energy Transition Materials	376.21M	8.27M	133.60M	8.1%	-6.4%
Equality, Inclusion & Diversity	1,866.23M	14.34M	-1,205.83M	5.7%	14.8%
Fintech & Digitalisation of Finance	1,484.87M	-32.35M	-477.45M	9.1%	26.9%
Gaming & Entertainment	602.46M	-1.94M	-33.97M	4.2%	22.6%
Global Logistics	27.65M	0.56M	9.05M	8.1%	16.0%
HealthTech	13,247.23M	-612.81M	-1,551.45M	9.9%	4.0%
Industry 4.0	1,894.90M	-11.38M	86.18M	8.2%	21.8%
Internet of Things	154.64M	3.33M	-202.75M	7.6%	20.2%
Metaverse	433.40M	26.68M	210.73M	7.0%	45.8%
Millennials & Gen Z	3,217.87M	36.60M	-41.01M	4.9%	26.2%
Natural Resources	2,162.22M	-7.66M	-457.02M	6.1%	2.8%
Near/Reshoring	431.98M	1.82M	397.78M	5.7%	7.3%
NextGen Communications	1,076.35M	-26.19M	-280.36M	4.9%	32.7%
Nuclear	382.65M	33.28M	259.56M	2.3%	42.5%
Platforms & Digital Markets	1,531.91M	-79.68M	-236.89M	5.3%	22.1%
Political Polarisation	32.60M	14.98M	31.36M	5.2%	5.2%
Protect Biodiversity	1,014.45M	-9.96M	170.94M	6.4%	10.0%
Rise of China Tech	562.56M	-9.27M	20.13M	-1.3%	-9.8%
Rise of EM Consumer	4,591.26M	-126.61M	-383.07M	0.1%	-4.4%
Rise of Tension	124.82M	11.63M	114.48M	3.4%	29.3%
Rise of the Middle Class	4,592.82M	-78.13M	394.24M	6.3%	14.6%
Robotics & Automation	20,723.17M	-57.66M	-490.59M	7.9%	31.1%
Semiconductors	1,931.92M	-12.25M	176.07M	10.9%	72.9%
Space	51.95M	1.98M	20.23M	11.1%	4.8%
Sustainable Cities	2,226.93M	-72.05M	-392.18M	8.2%	19.0%
Sustainable Energy Production	34,305.98M	-627.71M	-1,026.04M	8.9%	-7.2%
Sustainable Energy Storage	1,324.14M	-60.59M	-73.84M	8.6%	-6.3%
Sustainable Food	4,639.87M	-139.17M	-1,599.75M	6.5%	-2.2%
Sustainable Mobility	4,456.87M	-123.14M	-218.49M	7.0%	9.2%
Sustainable Resource Management	17,913.56M	-154.60M	-1,216.91M	7.3%	12.6%
Water	23,389.44M	-219.35M	-776.61M	6.6%	15.8%
Wellness	3,060.68M	3.24M	-408.31M	5.8%	1.7%

Source: WisdomTree, Morningstar, Bloomberg. All data as of 31/12/2023 and based on WisdomTree's internal classification of thematic funds. Performance is based on monthly returns from Bloomberg and Morningstar. More information on the WisdomTree Thematic classification can be found in the Appendix. **Historical performance is not an indication of future performance, and any investments may go down in value.**

## Appendix - Definitions

The WisdomTree Thematic classification is built around 4 main thematic clusters

### Technological Shifts

This cluster focuses on the different themes that originate from the introduction of new technologies and innovation. It incorporates disruptive and emerging technologies as well as their impact on societies and economies, such as the increasing digitalisation and connectivity of the world.

### Demographic and Social Shifts

This cluster focuses on the themes that originate from changes in population and societies alike. For example, it incorporates changes in the world's pyramid of age, the impact of the growing, younger, wealthier populations in emerging markets, as well as changes to societal values and lifestyles.

### Environmental Pressures

Focusing on the environment and, more importantly, on the impact of human activities on the planet, this cluster incorporates changes driven by sustainability issues, the increasing scarcity of resources and the need to address global warming and climate change.

### Geopolitical Shifts

This cluster focuses on the themes driven by the globalisation and the changes in the global geopolitical order with the rise of new geopolitical powers like China. It also taps into the increasing polarisation of modern societies as a counterforce to globalisation.

All thematic ETFs and open-ended funds in the WisdomTree Thematic classification are classified into

- **Diversified thematics**, if they try to harness a large number of megatrends in one go. Those funds tend to have a very diluted focus, which could mean that it might be harder to find sources of potential differentiation against a broad market benchmark.
- **A specific cluster**, if they try to harness multiple themes across sub-clusters but within one particular cluster. For example, a fund investing in Artificial Intelligence, Robotics, Cloud, and Cybersecurity would be classified as a 'Technological Shifts' fund.
- **A particular sub cluster**, if a strategy aims to invest in most of the themes within that sub-cluster. For example, a fund investing in Cloud Computing, Platforms, Cybersecurity, and Fintech would be classified as a 'Hyperconnectivity & Digitalisation' fund.
- **A theme**, if the investment strategy is focused on a specific, clear theme.

**YTD** stands for Year to Date

**MTD** stands for Month to Date

For all of our calculations, we use the WisdomTree Thematic Classification that we have previously introduced here and can be found in the next page.

**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 calculate the average of 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 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 future survival or success. Investments that try to focus on multiple themes and, therefore, classified either at Cluster or Sub-Cluster Level are not included.

# The WisdomTree Thematic Classification

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 & Food
Blockchain	Rise of China Tech	Millennials & Gen Z	Equality, Inclusion & Diversity		Political Polarisation	Protect Biodiversity	Natural Resources
HealthTech	Cybersecurity		Rise of the Middle Class		Rise of Tension	Sustainable Mobility	Water
Industry 4.0	Digital Health		Rise of EM Consumer		Near/Reshoring	Sustainable Energy Production	Nuclear
Next Gen Communications	Digital Infrastructure		Wellness			Sustainable Energy Storage	
Robotics & Automation	Fintech & Digitalisation of Finance					Sustainable Food	
Semiconductors	Gaming & Entertainment					Sustainable Cities	
Smart Materials & Nano Tech	Internet of Things					Sustainable Resource Management	
Space	Metaverse					Extreme Events	
	Platforms & Digital Markets					Energy Transition Materials	
	Social Media & Media						

Source: WisdomTree, as of 30/06/2023

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