

WisdomTree European thematic monthly update

December 2024

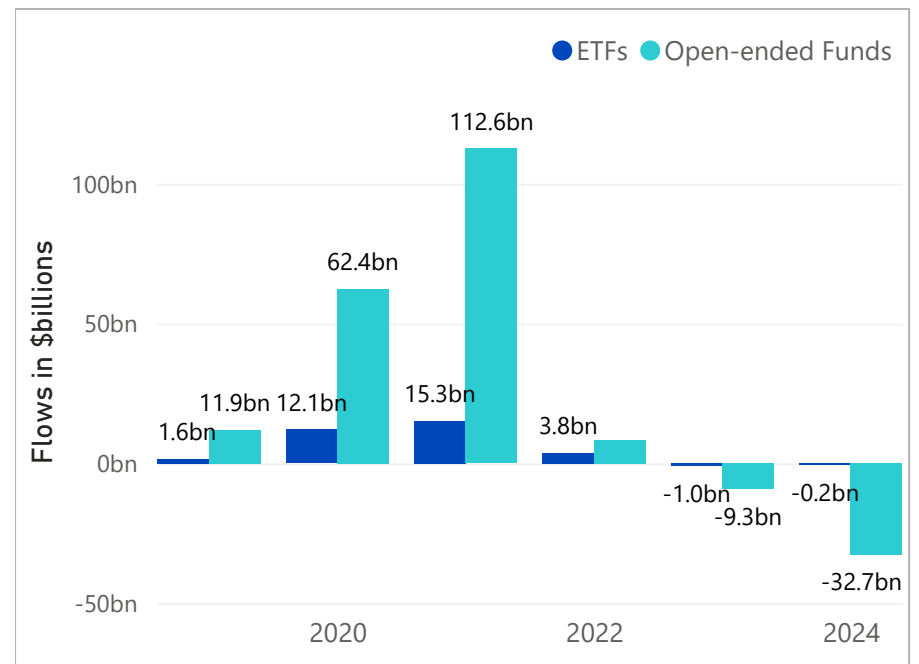
Thematic universe overview

+ The total AUM in European-domiciled thematic ETFs and open-ended funds declined to \$316.3 billion at the end of December 2024, down from \$332.2 billion in November. This decrease was primarily driven by weak market performance, combined with net outflows of \$2.0 billion during the month. YTD, AUM has declined by \$12.7 billion, mainly driven by \$32.9 billion in outflows.

+ Performance in December was mixed after a strong November, with 15 themes outperforming the MSCI ACWI, which returned -2.4%. However, only six themes delivered positive returns for the month. "NextGen Communications" led the pack with a 1.9% return, pushing its YTD performance to 19.1%, slightly ahead of the MSCI ACWI's YTD performance of 17.5%. In contrast, "Nuclear" experienced a sharp decline of -14.0%, making it the worst-performing theme for the month and reversing its YTD performance to -1.0%.

+ Thematic ETFs recorded net outflows of \$102 million in December, slightly less than the outflows seen in November. Meanwhile, thematic open-ended funds experienced more significant outflows of \$1.9 billion, continuing a 12-month trend of consistent outflows. The "Environmental Pressures" cluster saw combined outflows of \$2.6 billion across ETFs and open-ended funds, making it the cluster with the largest outflows in December. In contrast, "Geopolitical Shifts" attracted the most flows, with \$319 million in December, bringing its YTD inflows to \$2.2 billion.

Recent yearly flows in Europe



Europe-domiciled thematic AUM evolution and ETFs' market share



Source: WisdomTree, Morningstar, Bloomberg. All data as of 31/12/2024 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.**

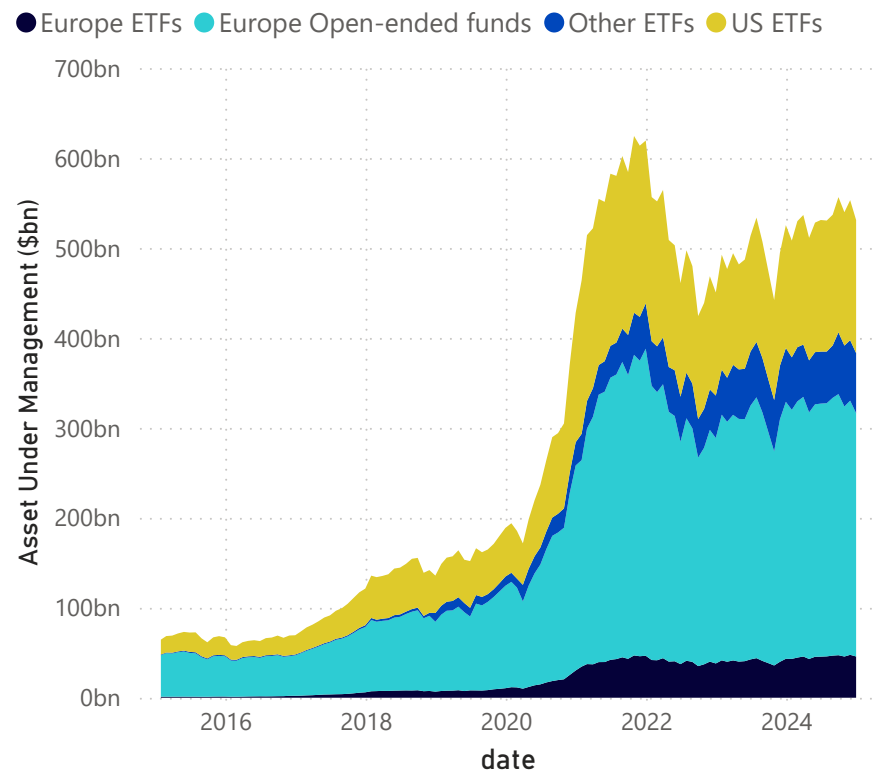
Thematic universe overview (continued)

+ The combined AUM in global thematic ETFs and European thematic open-ended funds decreased to \$531 billion in December from \$554 billion in November. Specifically, the AUM in European thematic ETFs stood at \$45.9 billion, slightly down from its historical high in November, while the AUM in open-ended thematic funds reached \$270.4 billion.

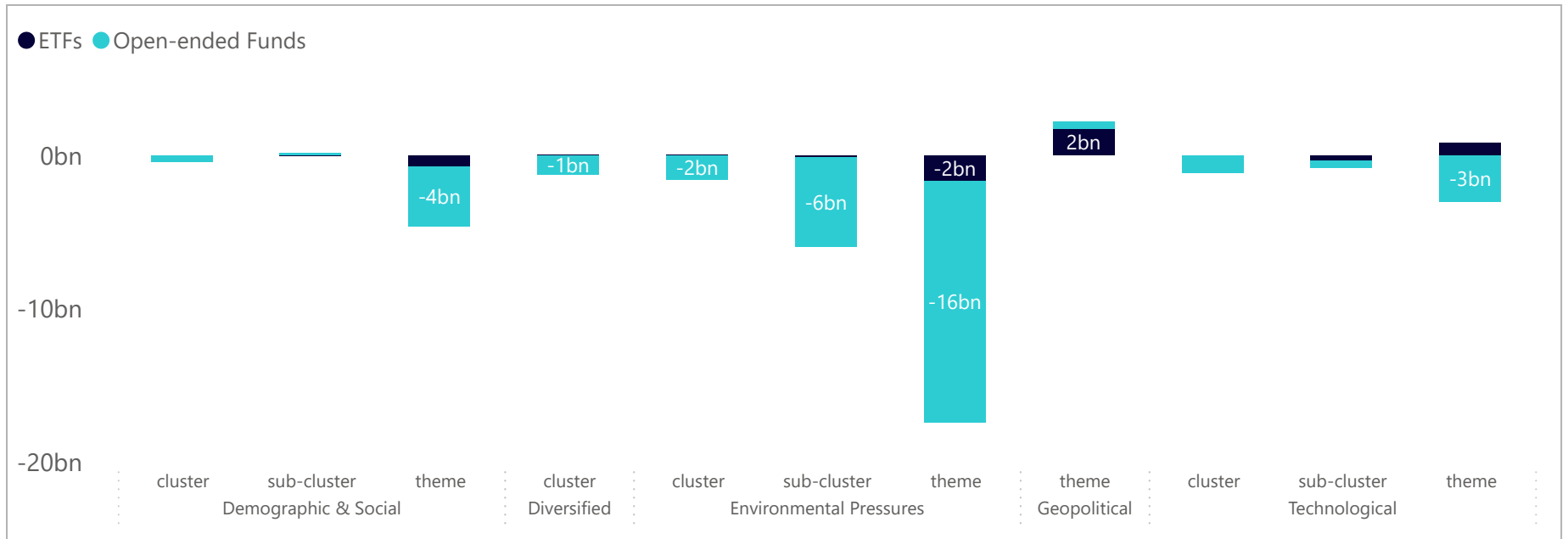
+ "AI & Big Data" recorded \$201 million in inflows across ETFs and open-ended funds in December, bringing its YTD flows to \$1.8 billion. This made it the theme with the highest inflows for the month and among the top performers in terms of YTD inflows. Conversely, "Sustainable Energy Production" saw \$975 million in outflows during December, marking it as the theme with the largest outflows for the month and YTD.

+ As of the end of December, continuous outflows from "Environmental Pressures" allowed "Technological Shifts" to overtake it as the largest cluster, with \$118.0 billion in AUM, representing 37.3% of the total European thematic market. Despite its steady inflows, "Geopolitical Shifts" accounted for only about 1.2% of the total AUM of European thematic ETFs and open-ended funds. At the theme level, "AI & Big Data" held the largest AUM at around \$24 billion, benefiting from strong YTD inflows.

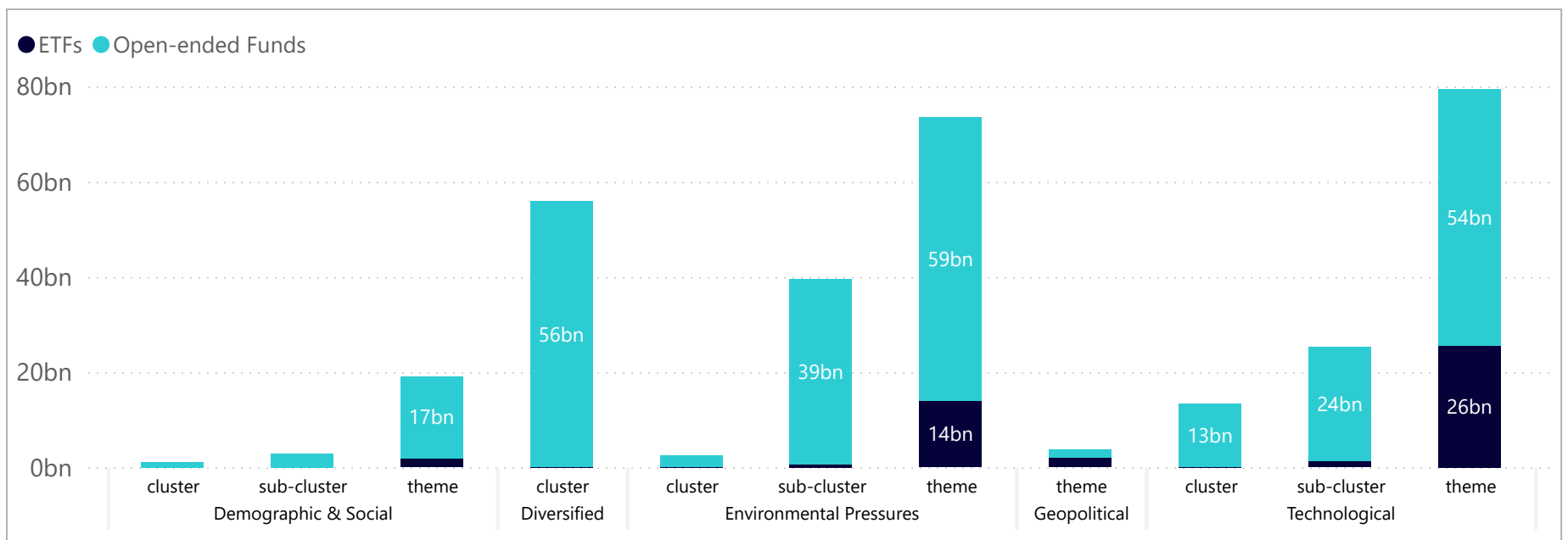
AuM in Thematics by region (Last 10Y)



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 31/12/2024 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.**

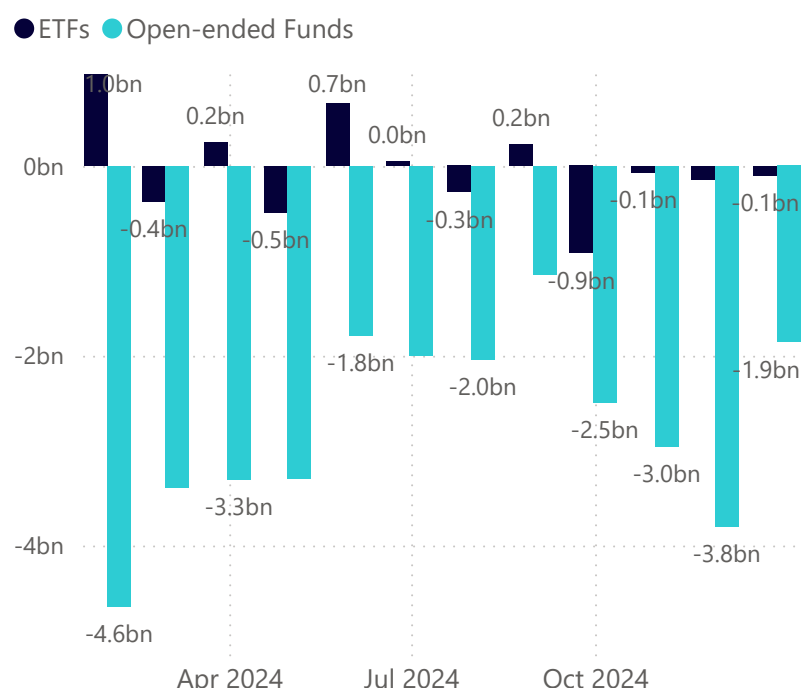
Thematic flows in Europe

+ European thematic ETFs and open-ended funds saw combined net outflows of \$2.0 billion in December, bringing YTD flows to \$32.9 billion. Thematic ETFs showed better resilience, with relatively modest outflows of \$102 million compared to \$1.9 billion in outflows for thematic open-ended funds.

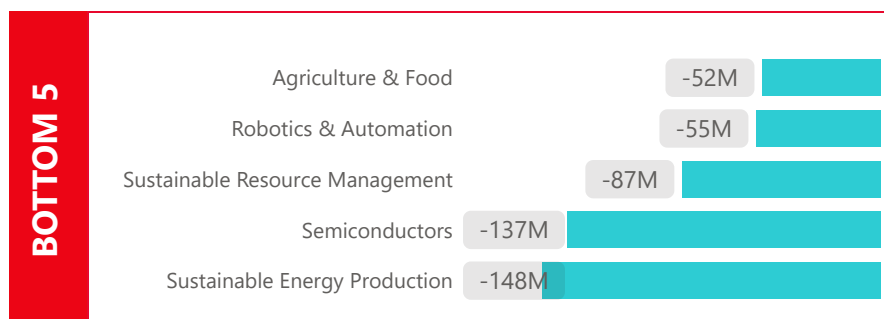
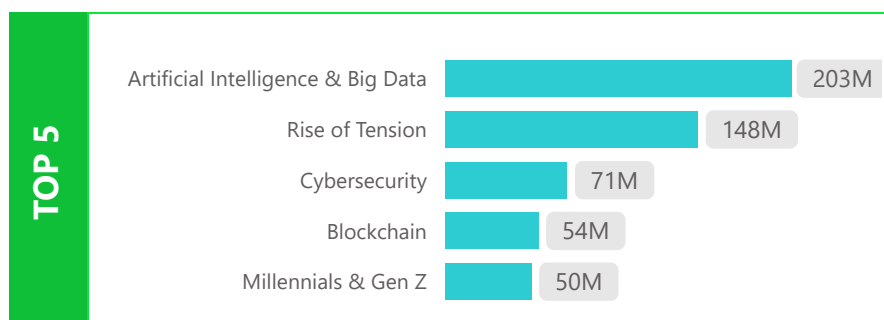
+ "AI & Big Data" maintained its momentum as a leading technology theme, despite the related theme "Semiconductors" experiencing outflows of \$137 million in December. "Rise of Tension" followed, attracting \$148 million, supported by ongoing geopolitical trends and retaining its top position for YTD inflows. "Near/Reshoring" rounded out the top three themes by December inflows, with \$112 million.

+ Conversely, significant outflows totalling the ETFs and the open-ended funds were recorded in "Sustainable Energy Production," which saw \$975 million in December outflows and \$9.9 billion YTD, solidifying its position as the theme with the highest YTD outflows. "HealthTech" experienced \$225 million in outflows for the month. "Sustainable Resource Management" also faced outflows of \$217 million. These three themes were also the largest contributors to YTD outflows.

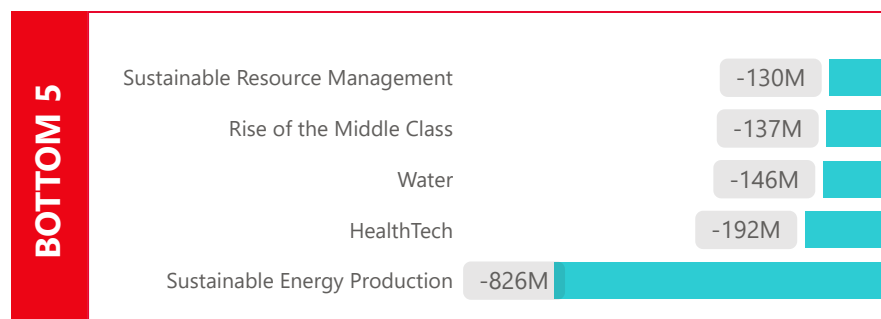
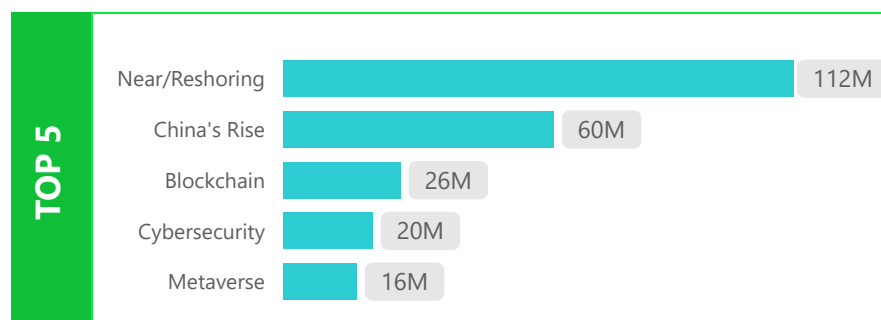
Month-on-month thematic flows



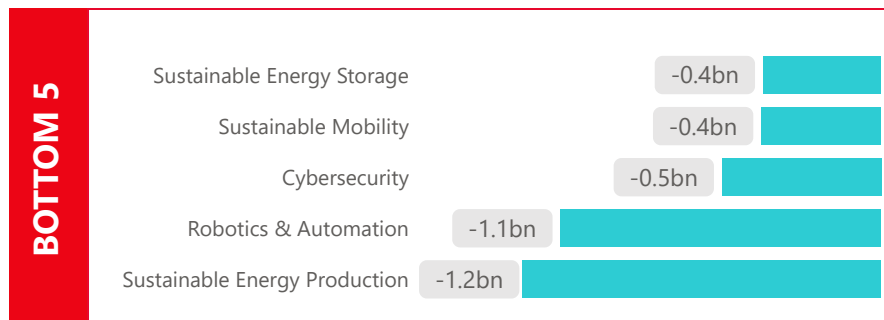
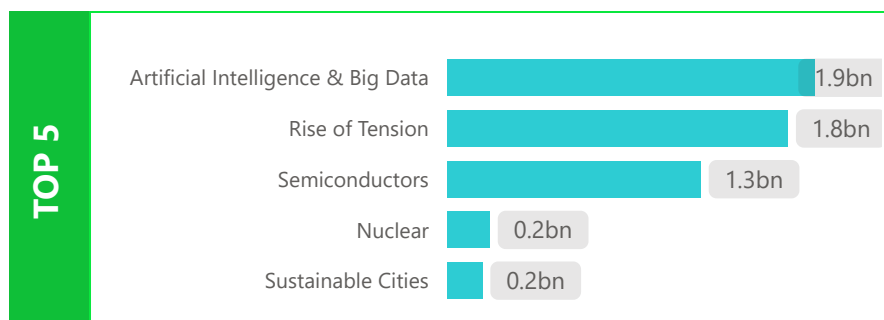
December Top/Bottom flows in Europe ETFs



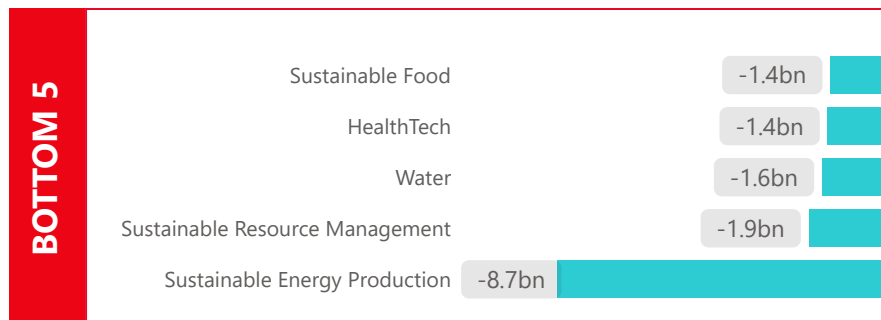
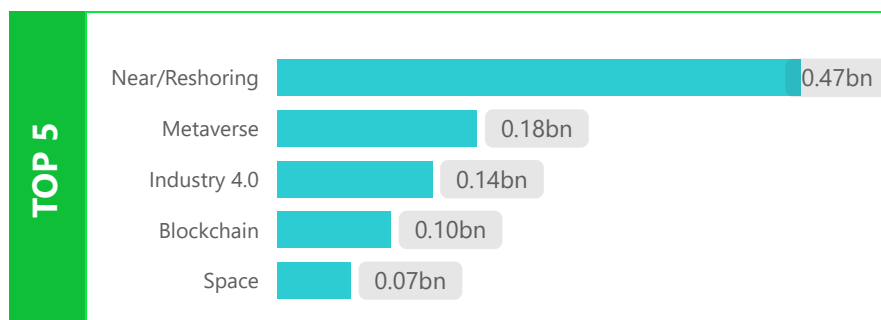
December Top/Bottom flows in Mutual Funds



YTD Top/Bottom flows in Europe ETFs



YTD Top/Bottom flows in Mutual Funds

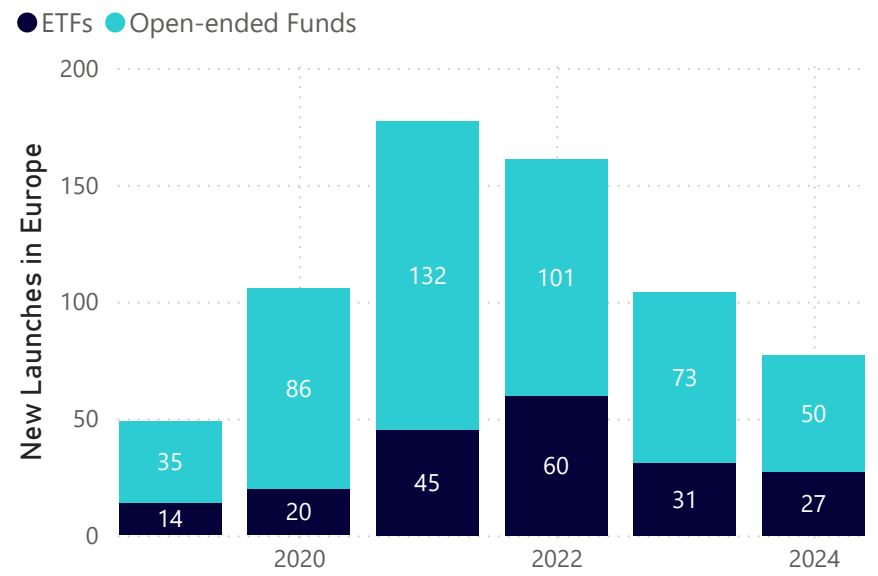


Source: WisdomTree, Morningstar, Bloomberg. All data as of 31/12/2024 and based on WisdomTree's internal classification of thematic funds. Performance is based on monthly returns from Bloomberg and Morningstar. More information on the WisdomTree Thematic classification can be found in the Appendix. **Historical performance is not an indication of future performance, and any investments may go down in value.**

Thematic performance and launches in Europe

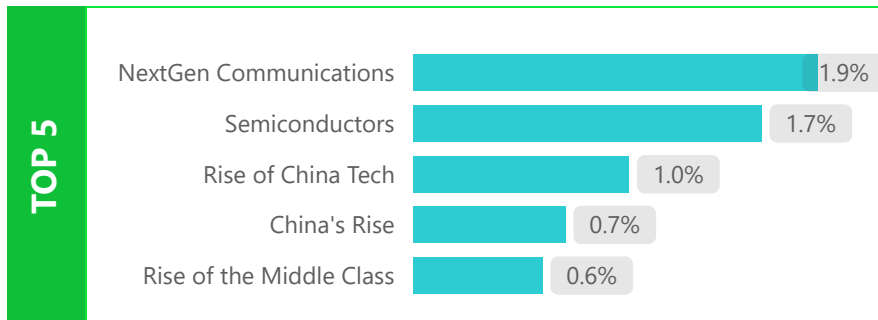
+ December saw generally weak performances among thematic ETF and open-ended fund themes. "NextGen Communications" delivered the highest return for the month at +1.9%, benefiting from resilient performance in telecom hardware and semiconductor sectors. "Semiconductors" followed closely with a +1.7% return, rebounding slightly from its November decline despite net outflows during the month. "China Tech," which has experienced volatility since September, gained +1.0%, rounding out the top three performers for December and pushing its YTD performance to 9.1%.
 + On the other hand, "Nuclear" recorded the weakest performance in December, declining by 14.0%, reversing its YTD performance to -1.0%. "Blockchain" followed with a -9.7% return for December. Although the theme was the second-best performer on a YTD basis. "Energy Transition Materials" posted a -8.7% return, completing the trio of December's weakest performers. Despite its strong YTD performance, "Rise of Tension" declined by -4.2% in December but remains the best-performing theme YTD.
 + The number of thematic launches was at the lowest level since 2019 but the launches of thematic ETFs were more resilient compared to the open-ended funds.

Yearly thematic launches in Europe*

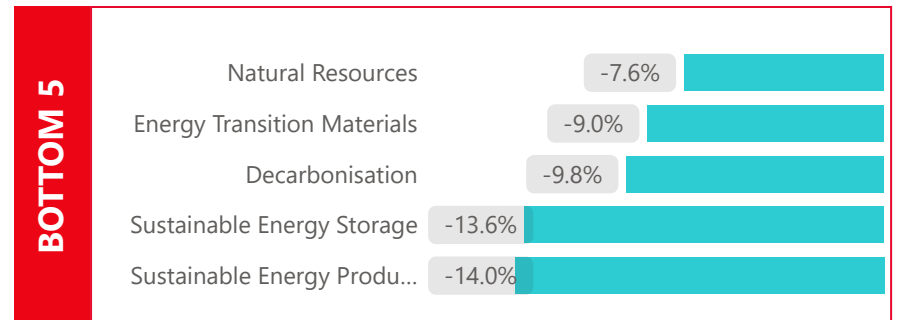
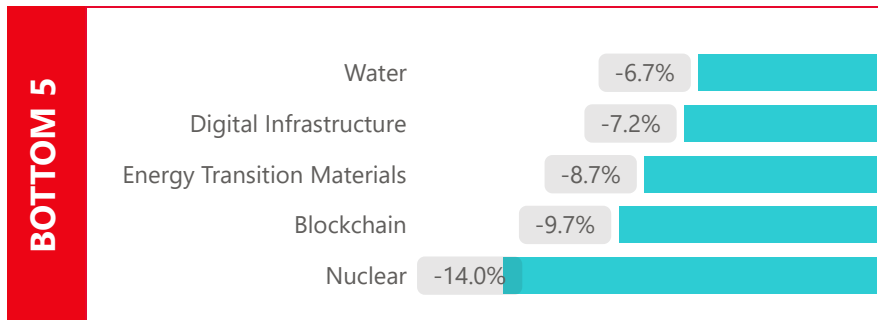
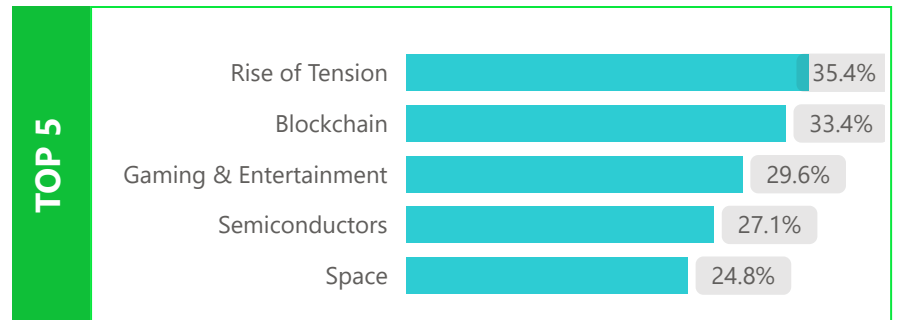


* New launches are updated quarterly

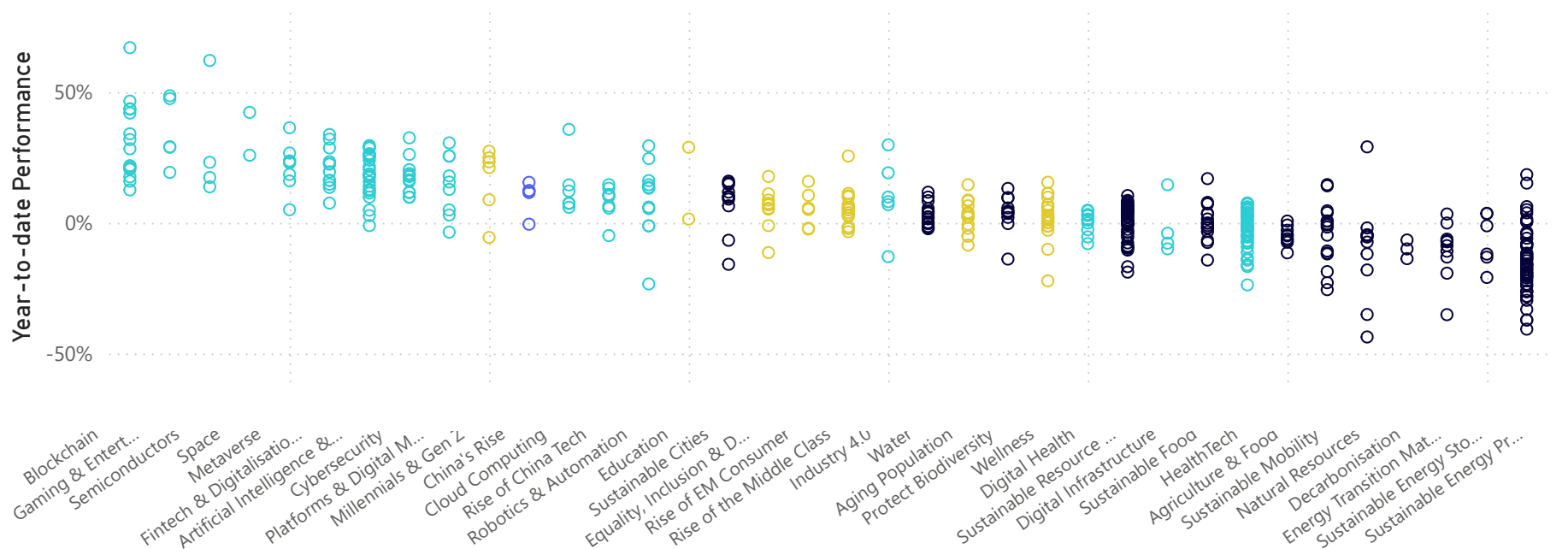
Top 5/Bottom 5 by performance in December



Top 5/Bottom 5 by YTD performance

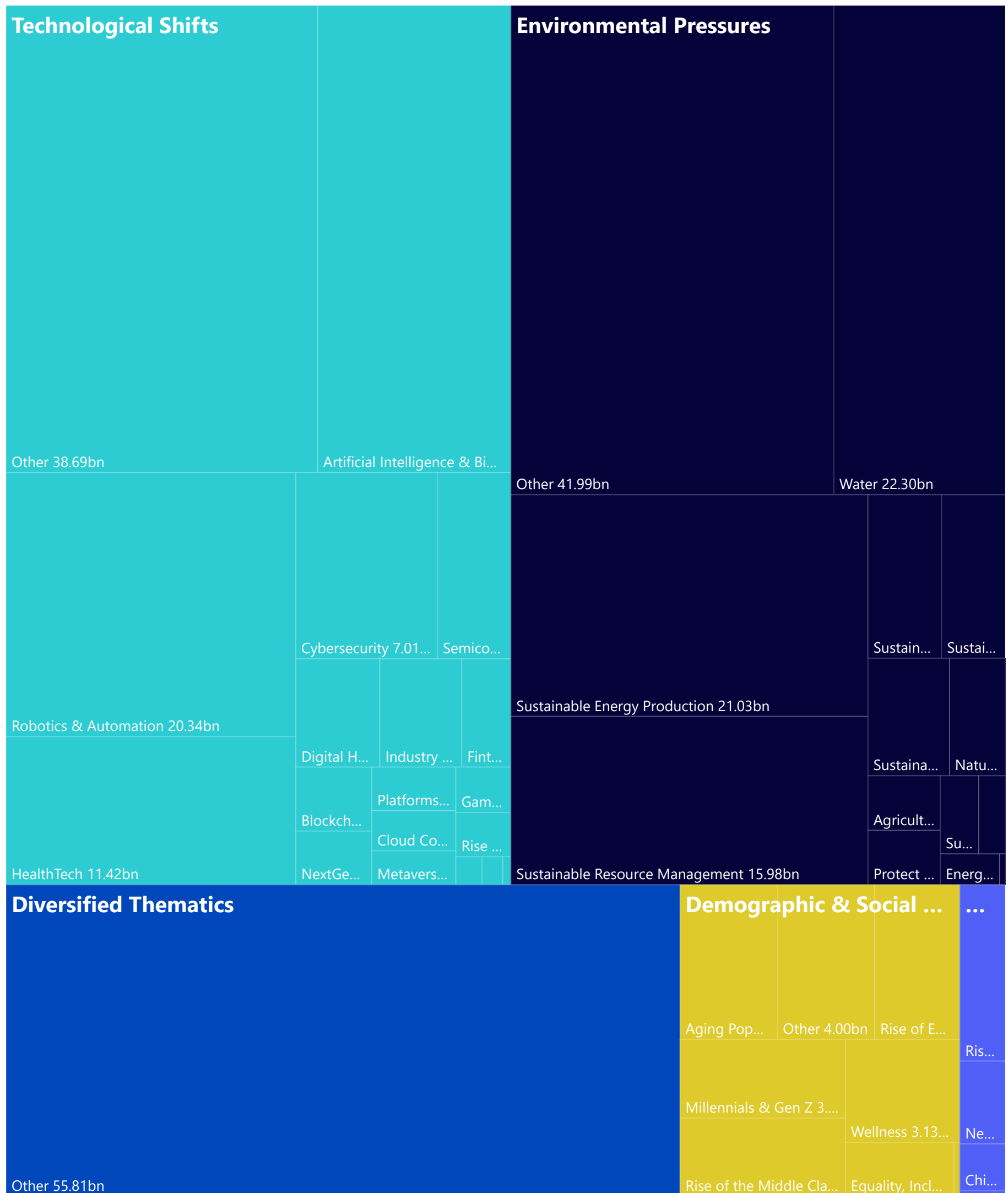


Dispersion of YTD performance of all ETFs and mutual funds by themes in Europe



Source: WisdomTree, Morningstar, Bloomberg. All data as of 31/12/2024 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)



Source: WisdomTree, Morningstar, Bloomberg. All data as of 31/12/2024 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 - Multi themes & diversified thematic ETFs and Open-ended funds

Cluster	Sub-Cluster	AuM (\$)	Flows Last Month (\$)	Flows YTD (\$)
Technological Shifts		13,438.54M	-12.13M	-1,131.44M
Technological Shifts	Disruptive Technologies	16,421.79M	-159.10M	-998.08M
Technological Shifts	HyperConnectivity & Digitalisation	8,830.99M	-14.34M	182.97M
Environmental Pressures		2,540.49M	-133.46M	-1,517.74M
Environmental Pressures	Climate Change & Sustainability	39,362.30M	-760.86M	-6,055.31M
Environmental Pressures	Limited Resources	87.55M	0.89M	83.05M
Diversified Thematics		55,808.25M	973.52M	-1,197.38M
Demographic & Social Shifts		1,116.55M	-31.54M	-416.54M
Demographic & Social Shifts	Demographic Shifts	2,883.50M	38.45M	167.86M
Demographic & Social Shifts	Social Shifts			-9.40M

Appendix - Theme focused ETFs and Open-ended funds

Theme Name	AuM (\$)	Flows Last Month (\$)	Flows YTD (\$)	Performance Last Month	Performance YTD
Artificial Intelligence & Big Data	23,987.52M	200.82M	1,765.47M	-0.6%	20.8%
Rise of Tension	2,128.73M	147.90M	1,766.23M	-4.2%	35.4%
Near/Reshoring	1,000.09M	112.23M	469.61M	-5.4%	19.8%
Cybersecurity	7,010.53M	91.07M	-552.81M	-1.9%	17.1%
Blockchain	1,297.00M	80.32M	153.23M	-9.7%	33.4%
China's Rise	563.43M	58.12M	-31.93M	0.7%	10.8%
Space	154.78M	31.95M	91.22M	-2.5%	24.8%
Metaverse	760.51M	25.50M	326.00M	-0.1%	23.6%
Nuclear	550.65M	12.69M	222.99M	-14.0%	-1.0%
Gaming & Entertainment	663.80M	9.31M	-171.48M	-0.9%	29.6%
Protect Biodiversity	1,046.54M	7.62M	3.62M	-5.4%	2.9%
Education	82.12M	4.23M	-252.58M	-1.8%	8.5%
Digital Infrastructure	60.23M	2.85M	9.04M	-7.2%	-2.1%
Fintech & Digitalisation of Finance	1,414.67M	1.65M	-265.19M	-4.9%	21.2%
Global Logistics	16.44M	0.38M	-10.88M	-6.1%	-1.4%
Political Polarisation	51.76M	0.00M	15.61M	-1.9%	1.5%
Decarbonisation	45.94M	-1.15M	-11.00M	-5.9%	-9.8%
Internet of Things	196.97M	-3.42M	39.09M	-2.5%	7.7%
Millennials & Gen Z	3,457.65M	-12.39M	-508.87M	-1.1%	16.0%
Energy Transition Materials	487.29M	-14.96M	189.87M	-8.7%	-9.0%
Rise of EM Consumer	3,495.47M	-17.09M	-1,057.24M	0.3%	5.8%
Platforms & Digital Markets	971.76M	-23.36M	-642.91M	-3.1%	16.8%
Industry 4.0	2,354.26M	-26.69M	126.46M	-4.1%	5.0%
Rise of China Tech	646.58M	-27.05M	-84.55M	1.0%	9.1%
NextGen Communications	1,081.18M	-28.70M	-307.96M	1.9%	19.1%
Sustainable Cities	2,546.39M	-29.41M	74.96M	-5.0%	7.1%
Cloud Computing	894.27M	-31.08M	-199.57M	-4.0%	10.1%
Sustainable Energy Storage	799.75M	-32.47M	-465.20M	-3.0%	-13.6%
Natural Resources	1,739.39M	-43.85M	-274.17M	-5.8%	-7.6%
Robotics & Automation	20,338.98M	-47.96M	-1,570.47M	-2.0%	12.4%
Aging Population	4,007.19M	-49.35M	-1,176.15M	-3.4%	2.5%
Wellness	3,133.14M	-52.50M	60.80M	-4.9%	0.4%
Digital Health	2,416.91M	-63.26M	-492.05M	-6.2%	0.5%
Equality, Inclusion & Diversity	1,556.10M	-70.43M	-447.23M	-3.4%	6.4%
Agriculture & Food	1,051.16M	-75.34M	-643.92M	-5.1%	-4.8%
Sustainable Food	3,198.16M	-78.74M	-1,427.69M	-5.7%	-1.7%
Sustainable Mobility	2,770.45M	-94.74M	-1,546.43M	-1.4%	-5.7%
Rise of the Middle Class	3,439.35M	-133.67M	-1,237.69M	0.6%	5.2%
Water	22,298.79M	-136.70M	-1,495.26M	-6.7%	2.8%
Semiconductors	3,642.15M	-137.09M	1,314.35M	1.7%	27.1%
Sustainable Resource Management	15,976.20M	-216.82M	-2,173.87M	-6.1%	0.2%
HealthTech	11,421.31M	-224.82M	-1,742.31M	-6.2%	-2.1%
Sustainable Energy Production	21,030.61M	-974.50M	-9,879.20M	-6.1%	-14.0%

Source: WisdomTree, Morningstar, Bloomberg. All data as of 31/12/2024 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
Rise of China Tech		Millennials & Gen Z	Equality, Inclusion & Diversity		Political Polarisation	Protect Biodiversity	Natural Resources
Blockchain	Cybersecurity		Rise of the Middle Class		Rise of Tension	Sustainable Mobility	Water
HealthTech	Digital Health		Rise of EM Consumer		Near/Reshoring	Sustainable Energy Production	Nuclear
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	
Smart Materials & Nano Tech	Metaverse					Extreme Events	
Space	Platforms & Digital Markets					Energy Transition Materials	
Quantum Computing	Social Media & Media						

Source: WisdomTree, as of 31/12/2024

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