# European Thematic ETFs Report

February 2022

European Thematic UCITS ETFs Flow

- In February, UCITS Thematic ETFs recorded US$496m of net outflows, after experiencing US$166m of net outflows in January
- Fintech themes led the monthly net inflows (US$71m), with most of the inflows going into Blockchain (US$65m)
- Mobility themes also attracted positive net inflows this month (US$15m), following announcements in the Electric Vehicles market, including the final approval by the German government of Tesla's Gigafactory in Berlin, with the official opening scheduled for March 22, 2022
- The Healthcare Innovation theme saw the largest new outflows (US$273) as the focus shifts away from Covid-19
- Climate change themes also saw large net outflows this month (US$127m), with the majority of net monthly outflows coming out of Resource Scarcity themes (US$88) and CleanTech (US$50m), as a result of the Russia/Ukraine conflict

Top Mega Themes by monthly flows (US$bn)

Feb-22   1Y
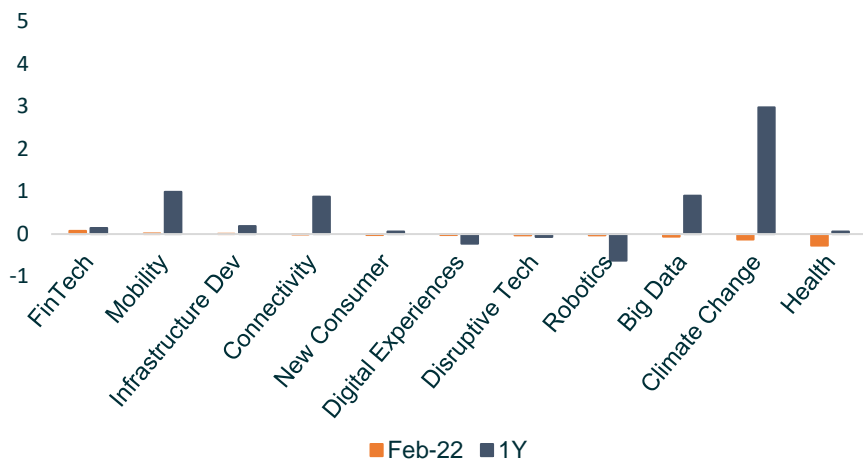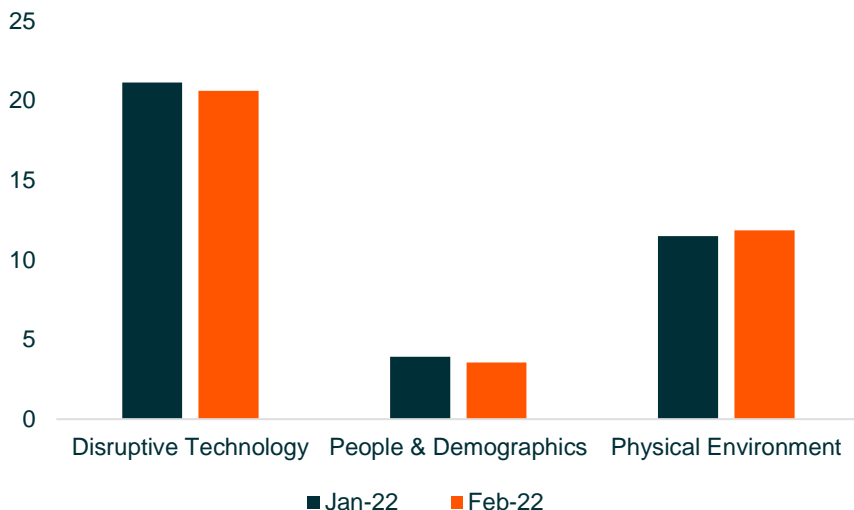
Top/Bottom 5 UCITS Thematic ETFs by monthly flows

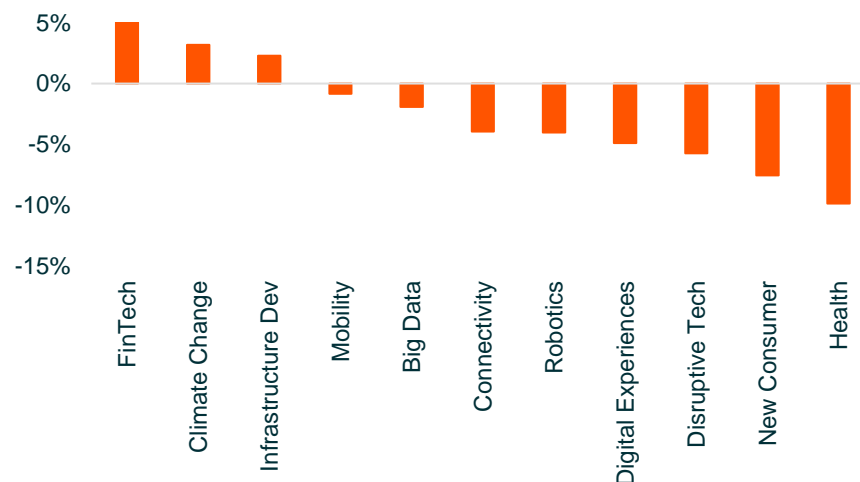| Funds	Feb-2022 (US$m)
Invesco Elwood Global Blockchain UCITS ETF	61.5
iShares Digital Security UCITS ETF	34.8
First Trust Nasdaq Cybersecurity UCITS ETF	30.8
L&G Battery Value-Chain UCITS ETF	17.2
L&G Hydrogen Economy UCITS ETF	15.5
iShares Healthcare Innovation UCITS ETF	-271.1
iShares Global Water UCITS ETF	-114.3
Xtrackers Artificial Intelligence & Big Data UCITS ETF	-69.8
iShares Global Clean Energy UC	-48.6
First Trust Cloud Computing UCITS ETF	-45.2

Source: Bloomberg. As of February 28, 2022.

European Thematic UCITS ETFs AUM

Categories (AUM, US$bn)

Legend: ■ Jan-22 ■ Feb-22

X-axis: Disruptive Technology, People & Demographics, Physical Environment

Mega Themes by AUM growth (monthly % chg.)

X-axis: FinTech, Climate Change, Infrastructure Dev, Mobility, Big Data, Connectivity, Robotics, Digital Experiences, Disruptive Tech, New Consumer, Health

Top 5 UCITS Thematic ETFs by AUM growth

| Funds	AUM (monthly % chg.)
L&G Pharma Breakthrough UCITS ETF	18%
First Trust Nasdaq Cybersecurity UCITS ETF	16%
VanEck Vectors Rare Earth and Strat Metals UCITS ETF	12%
Rize Education Tech & Digital Learning UCITS ETF	12%
iShares Global Clean Energy UC	10%

Bottom 5 UCITS Thematic ETFs by AUM growth

Funds	AUM (monthly % chg.)
Global X Cloud Computing UCITS	-26%
Amundi Smart City UCITS ETF	-21%
Amundi Smart Factory UCITS ETF	-17%
First Trust Cloud Computing UCITS ETF	-16%
iShares Healthcare Innovation UCITS ETF	-15%

Source: Bloomberg. As of February 28, 2022. UCITS Thematic ETFs with minimal AUM of US$10m as of the beginning of the previous month and excludes fund closures.

European Thematic UCITS ETFs AUM

At the end of February 2022, there were 98 thematic UCITS ETFs totalling US$36bn in assets under management (AUM). Themes related to Physical Environment saw an increase of 7.7% in AUMs, while People & Demographics themes saw a decrease of 6.8% and Disruptive Technology themes saw a fall in AUMs of 2.4%.

GLOBAL X
by Mirae Asset
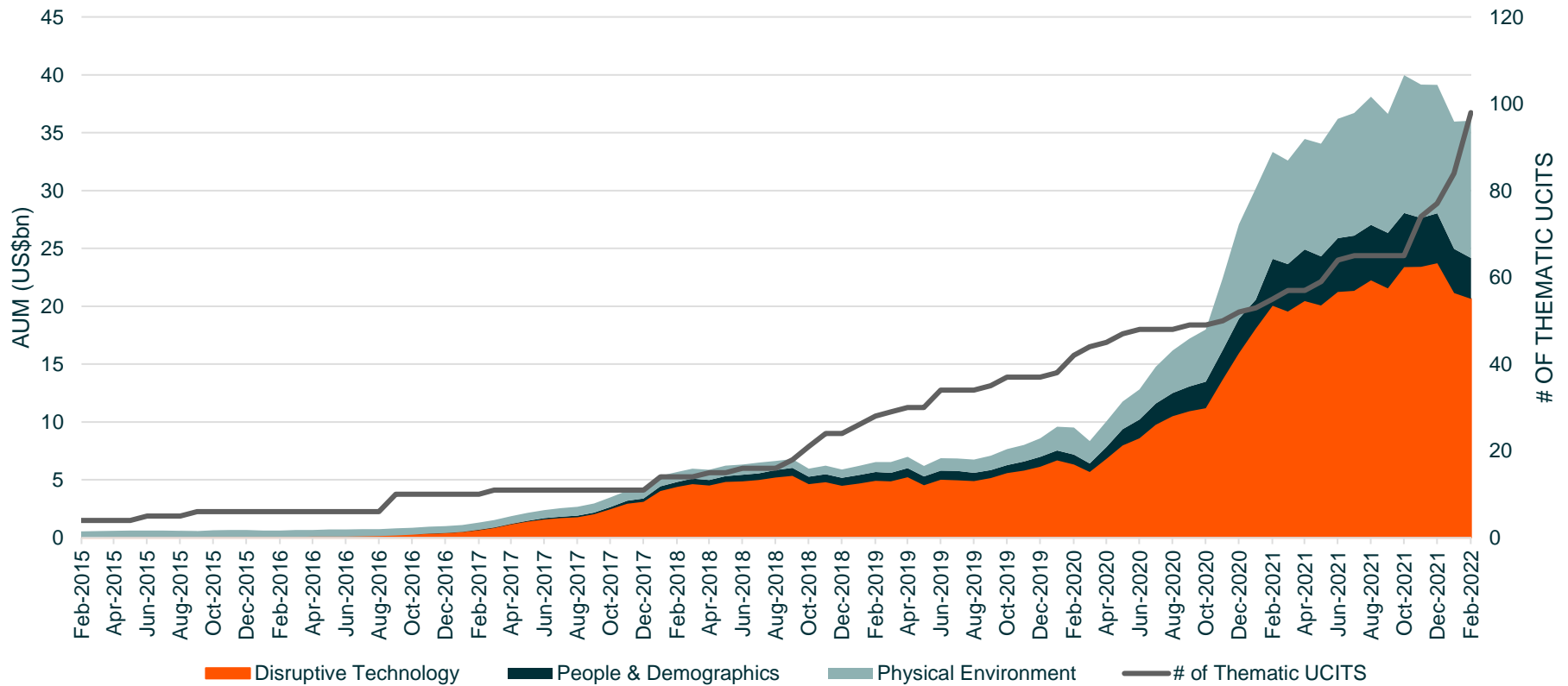
US Thematic ETFs Flow

- In February, US Thematic ETFs recorded US$346mn of net inflows, led by general Disruptive Technology Themes (US$759m)
- Big Data themes (US$454m) and Climate Change-related themes (US$332m)
- Big Data themes also recorded large net inflows this month (US$401m) as a result of net inflows in Cybersecurity (US$236m) and Cloud Computing themes (US$165m), following recent announcements of cybersecurity breaches such as those of Invidia and Samsung. The remaining themes such as Machine/Deep Learning and Quantum Computing saw no net change in monthly flows
- FinTech themes also saw large net inflows (US$241m) as investors continue to favour cyclical sector exposures like Financials amid the rising yields backdrop

Top Mega Themes by monthly flows (US$bn)

Legend: Feb-22, 1Y
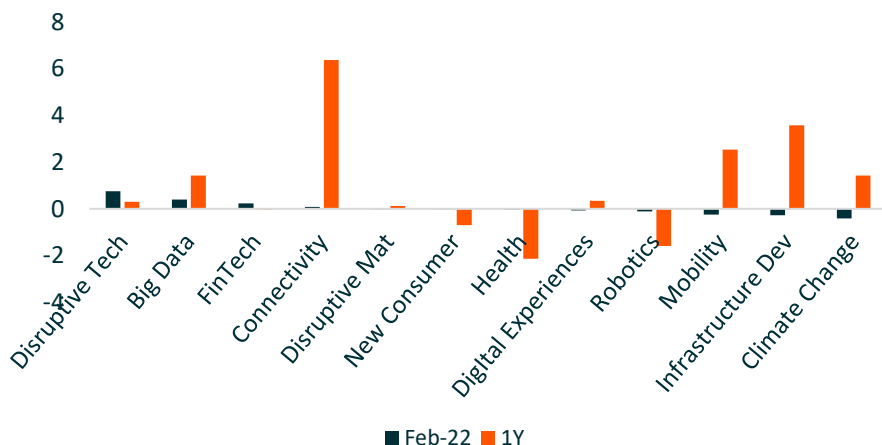
Top/Bottom 5 Thematic ETFs by monthly flows

| Funds	Feb-2022 (US$m)
ARK Innovation ETF	712.9
First Trust Cloud Computing ETF	271.4
KraneShares CSI China Internet ETF	230.2
First Trust NASDAQ Cybersecurity ETF	228.8
AdvisorShares Pure US Cannabis ETF	118.4
Global X U.S. Infrastructure Development ETF	- 263.2
Global X Autonomous & Electric Vehicles ETF	- 180.8
First Trust Nasdaq Clean Edge Green Energy ETF	- 112.3
iShares Global Clean Energy ETF	- 101.5
WisdomTree Cloud Computing ETF	- 101.4

Source: Bloomberg. As of February 28, 2022.

US Thematic ETFs AUM

Categories (AUM, US$bn)

Jan-22 ■ Feb-22
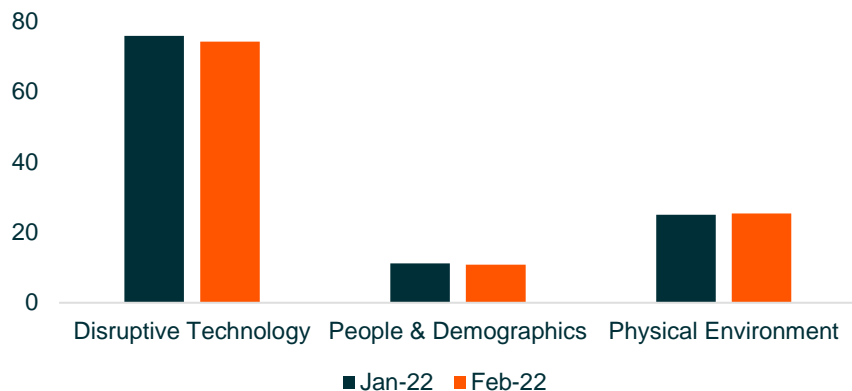
Mega Themes by AUM growth (monthly % chg.)
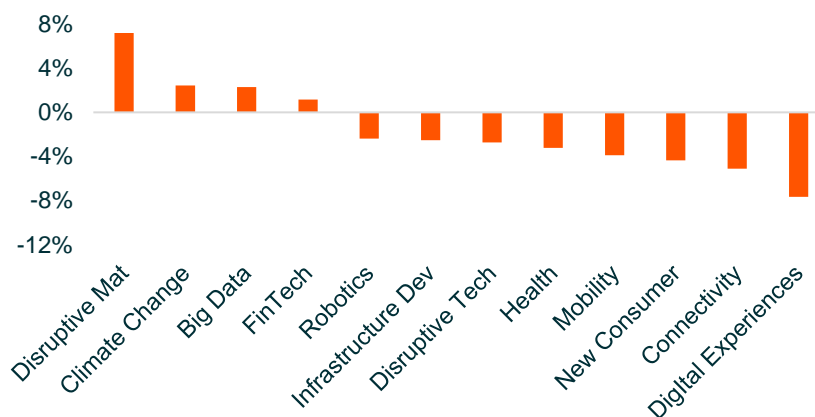
Top 5 Thematic ETFs by AUM growth

Funds	AUM (monthly % chg.)
VanEck Green Metals ETF	28%
Direxion Hydrogen ETF	20%
VanEck Vectors Digital Transformation ETF	19%
Bitwise Crypto Industry Innovators ETF	18%
Global X Blockchain ETF	16%

Bottom 5 Thematic ETFs by AUM growth

Funds	AUM (monthly % chg.)
Principal Millennials Index ETF	-35%
Amplify Online Retail ETF	-16%
BlackRock Future Innovators ETF	-15%
ALPS Disruptive Technologies ETF	-14%
Franklin Disruptive Commerce ETF	-14%

Source: Bloomberg. As of February 28, 2022. US Thematic ETFs with minimal AUM of US$10m as of the beginning of the previous month and excludes fund closures.

GLOBAL X
by Mirae Asset

Disruptive Trends

Category	Description
Disruptive Technology	• Connectivity (IoT) drives the digitisation of the economy and enables new disruptive technologies that are profoundly changing the way we live and work • Digitisation is changing business models and empowers companies to modernise in order to meet the new demand • The Digital Economy generated almost half of value added and half of the new employment in G20 economies between 2006 and 2017, according to OECD estimates
People & Demographics	• Millennials' increased wealth from peak working years and inheritance makes them targeted consumer demographic • Rising middle-class consumers in Emerging Markets • Urbanisation and on-demand purchasing favour E-commerce retail channels and next generation products and services • Heightened focus on longevity and quality of life, coupled with rising health care costs are driving people to engage in physical activity, healthy eating, and embrace health technologies • Desire for personalised medicine is giving rise to genomics, while efforts to improve convenience, patient outcomes, cost efficiency are driving towards telemedicine and digital health
Physical Environment	• 2020 was one of the hottest years on record • Over 75% of warming comes from carbon dioxide emissions (CO_2) and humans are responsible for a 47% increase of such emissions since the start of the industrial revolution • Since 2020, most of advanced and developing nations have renewed their commitments to transition to a carbon neutral global economy by 2030-2050 • Clean technologies are essential to making carbon neutrality a reality • Falling costs and rising production of lithium-ion batteries catalyses shift to renewable energy and electric vehicles

Risk Information

The Global X Thematic Classification System is based on the expertise, views, and opinions of the Global X Thematic Classification Committee and are subject to change.

Global X defines thematic investing as the process of identifying powerful disruptive macro-level trends and the underlying investments that stand to benefit from the materialisation of those trends. By nature, thematic investing is a long term, growth-oriented strategy, that is typically unconstrained geographically or by traditional sector/industry classifications, has low correlation to other growth strategies, and invests in relatable concepts.

The process of identifying themes consists of three inexorable principles:

1) There must be high conviction that the theme will materialise and have a meaningful impact on segments of the economy or markets. Often this is due to observable structural changes in technology, demographics, consumer behavior, or the physical environment, but can also be influenced by other factors.
2) A theme must be investable, meaning there are publicly traded companies that provide exposure to the concept. Ideally, the group of companies is broad, have high liquidity, and attribute a substantial portion of their business operations (revenues, assets, research & development) to the theme.
3) A theme must be expected to express itself over a medium to long-term time horizon, generally considered to be five years or longer. A longer-term time horizon makes market timing less of a factor in the success of identifying a theme.

Notably, and taking into consideration the principles above, thematic investing does not consist of ESG, values-based, or policy-driven strategies, unless they otherwise represent a disruptive structural trend (e.g. climate change). Further, funds that adhere to traditional sector or industry classifications, or that are used primarily to gain exposure to cyclical trends (e.g. currencies, valuations, inflation) are not considered thematic. Finally, alternative asset classes, such as listed infrastructure, MLPs, and ubiquitous commodities are not considered thematic. We recognise that these exclusions may differ from other third-party definitions of thematic investing, but it is consistent with, and core to, Global X's thematic classification system and process.

Based on the definition and principles of thematic investing above, Global X has established a thematic classification system that seeks to identify powerful themes and organise them by common traits and drivers. The system consists of four layers of classifications: 1) Categories; 2) Mega-Themes; 3) Themes; and 4) Sub-Themes, with each layer becoming sequentially narrower in its focus.

'Categories' is the broadest layer and represents three fundamental drivers of disruption: exponential advancements in technology (Disruptive Technology), changing consumer habits and demographics (People & Demographics), and the evolving physical landscape (Physical Environment). One layer down are 'Mega-Themes,' which serve as a foundation to multiple transformative forces that are causing substantial changes in a common area. Conceptually, Mega-Themes are a collection of more narrowly targeted Themes. For example, Big Data is a Mega-Theme that consists of Machine/Deep Learning, Cybersecurity, Quantum Computing, and Cloud/Edge Computing. Further down, we identify 'Themes' as the specific areas of transformational disruption that are driving technology forward, changing consumer demands, or impacting the environment. 'Sub-Themes' are more niche areas, such as specific applications of themes or upstream forces that are driving themes forward.

The number and categories, mega-themes, themes, and sub-themes is expected to evolve over time as new drivers of structural changes emerge or fade. Such decisions will be made by the Global X Thematic Classification Committee ("the committee") and take into account internal and external research and data about potential themes.

Thematic ETF Landscape

Global X's classification system establishes a consistent framework for identifying and categorising the growing thematic ETF space.

Category	Mega-Theme	Theme	Sub-Theme
Disruptive Technology	Big Data	Machine/Deep Learning	
		Cybersecurity	
		Quantum Computing	
		Cloud/Edge Computing	Remote Work, MarTech
	Mobility	Autonomous Vehicles	
		Electric Vehicles	Lithium/Batteries
	Digital Experiences	AR/VR	
		Video Games	E-sports
		Social Media	
		Streaming	
	FinTech	Mobile Payments	
		Peer-to-Peer Lending	
		Crowdfunding	
		Blockchain	
	Connectivity	Digital Infrastructure	
		5G/Next Gen Networking	
		Emerging Markets Internet	
		Internet of Things	Smart Devices, Smart Cities, IIoT
		Space/Satellite Communications	
	Robotics	AI/Automation	
		3D Printing	
		Drones	
People & Demographics	New Consumer	Millennials & Gen Z	
		Emerging Market Consumers	
		Urbanization	
		E-commerce	
		Education	
		Sharing/Gig Economy	
		Safety and Security	
		Cannabis	
		Sports Betting	
		Professional Sports	
	Health	Healthcare Innovation	Telemedicine & Digital Health, Genomics, Immunotherapy, Public Health
		Aging Population	Senior Care, Senior Economy
		Health & Wellness	Obesity, Organics
		Emerging Markets Healthcare	
		Alternative Medicine	
Physical Environment	Climate Change	CleanTech	
		Clean & Renewable Energy	Solar, Wind, Hydrogen
		Resource Scarcity	Water, Waste/Recycling, Sustainable Food
	Disruptive Materials		
	Infrastructure Development		

Source: Global X ETFs As of February 28, 2022.

For Informational Purposes Only

GLOBAL X
by **Mirae Asset**

For more research please visit:

https://globalxetfs.eu
_