

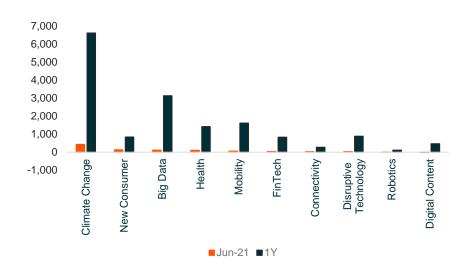
European Thematic ETFs Report June 2021

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European Thematic UCITS ETFs Flow



- In June, UCITS Thematic ETFs recorded US\$986m of net inflows, rebounding after US\$112m of net outflows in May.
- Climate change related themes attracted the largest net inflows again this month with US\$439m, spurred by a likely US\$266bn new
 public spending in sustainable infrastructures as part of the US bipartisan infrastructure deal. Most of the net new inflows went into
 clean and renewable energy themes (US\$317m), amid new large corporate investments. In June, Amazon announced its updated
 initiative to power 100% of company activities with renewable energy by 2025. The Ikea Foundation and the Rockefeller Foundation
 also announced that they will each donate US\$50m to support renewable generation projects in developing nations
- E-commerce themes, notably focused on emerging markets, recorded significant net inflows on the month (US\$125m). On June 21-22, Amazon Prime Day generated approximately US\$6.8bn in sales (+9%yoy), according to Morgan Stanley. Other e-commerce platforms try to emulate Amazon's sales during this period, thus acting as a catalyst for the theme as a whole
- Flows into health themes rebounded in June (US\$83m), amid the rapid rise in Delta variant cases globally forcing tougher restrictions



Top Mega Themes by monthly flows (US\$m)

Top/Bottom 5 UCITS Thematic ETFs by monthly flows

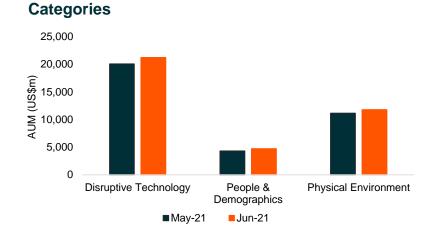
Funds	Jun-2021 (US\$m)
iShares Global Clean Energy UC	208.9
L&G Cyber Security UCITS ETF	77.2
EMQQ EM Internet & Ecommerce UCITS ETF	73.7
WisdomTree Battery Solutions UCITS ETF	53.5
L&G Ecommerce Logistics UCITS ETF	51.5
Xtrackers Future Mobility UCITS ETF	-48.5
Vaneck Vectors Video Gaming & eSports UCITS ETF	-17.4
Lyxor Robotics & AI UCITS ETF	-13.5
First Trust Cloud Computing UCITS ETF	-8.6
Amundi Smart City UCITS ETF	-8.5

Source: Bloomberg. As of June 30, 2021. Yahoo Finance, "Amazon Prime Day 2021 Generated \$6.8 Billion in Gross Sales, up 9%: Analysts", 24 June 2021.



European Thematic UCITS ETFs AUM

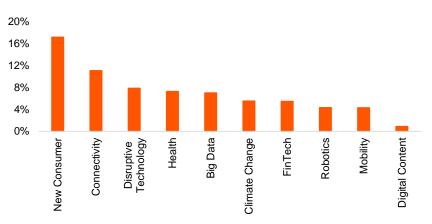




Top 10 UCITS Thematic ETFs by AUM growth

Funds	AUM (monthly % chg.)
L&G Digital Payments UCITS ETF	209%
Vaneck Vectors Digital Assets	80%
First Trust Indxx NextG UCITS ETF	54%
L&G Healthcare Breakthrough UCITS ETF	32%
First Trust Nasdaq Clean Edge Green Erg UCITS ETF	29%
EMQQ EM Internet & Ecommerce UCITS ETF	28%
WisdomTree Cybersecurity UCITS ETF	27%
Digital Infrastructure & Connectivity UCITS ETF	26%
Invesco Global Clean Energy UCITS ETF	25%
Lyxor MSCI Smart Cities ESG Filtered DR UCITS ETF	23%

Mega Themes by AUM growth (monthly % chg.)



Bottom 10 UCITS Thematic ETFs by AUM growth

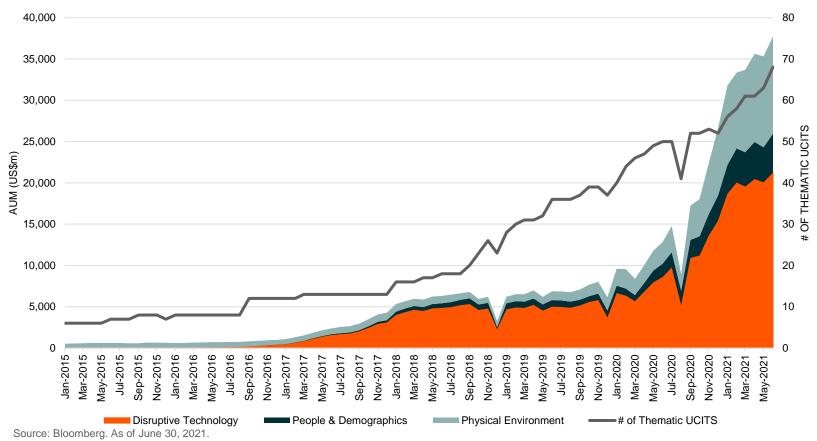
Funds	AUM (monthly % chg.)
Xtrackers Future Mobility UCITS ETF	-26%
Global X Telemedicine & Digita	-14%
Amundi Smart City UCITS ETF	-6%
Global X Video Games & Esports	-4%
Invesco KBW NASDAQ Fintech UCITS ETF	-3%
HAN-GINS Cloud Technology UCITS ETF	-2%
Medical Cannabis & Wellness UCITS ETF	1%
Vaneck Vectors Video Gaming & eSports UCITS ETF	1%
Ossiam World Esg Machine Learning UCITS ETF	1%
Lyxor World Water DR UCITS ETF	1%

Source: Bloomberg. As of June 30, 2021.



European Thematic UCITS ETFs AUM

At the end of June 2021, there were 68 thematic UCITS ETFs totalling US\$37.7bn in assets under management (AUM), increasing 6.9% on the month. People & Demographics themes recorded the largest monthly increase of AUMs in June (11.4%), followed by physical environment (7.1%) and disruptive technologies (5.8%) themes.



Note: Themes may or may not add up to the Mega-Themes AUM given that some ETFs considered are broad and are only classified by its Mega-Theme.



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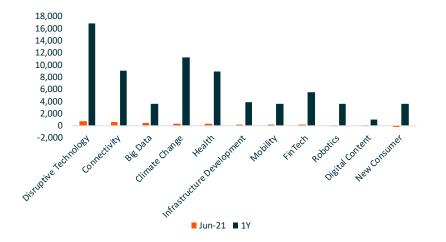


US Thematic ETFs Flow



- In June, US Thematic ETFs recorded US\$2.5bn of net inflows, strongly rebounding after US\$1.9bn of net outflows in May
- Disruptive technology themes saw the largest net inflows on the month, totalling US\$1.8bn, led by connectivity and big data themes. The US bipartisan deal over infrastructure could include US\$65bn of new spending in broadband infrastructures providing provided tailwinds to digital themes
- In the People & Demographic category, health related themes garnered the bulk of net inflows (US\$345m). Meanwhile, cannabis ETFs saw net outflows of 279m
- Infrastructure development themes continued to attract net new inflows amid the US bipartisan deal. Most inflows went to climate change themes (US\$360m)

Top Mega Themes by monthly flows (US\$m)



Top/Bottom 5 Thematic ETFs by monthly flows

Funds	Jun-2021 (US\$m)
ARK Innovation ETF	497.21
KraneShares CSI China Internet ETF	384.03
Genomic Revolution ETF	332.92
First Trust NASDAQ Cybersecurity ETF	184.63
Global X Cybersecurity ETF	179.75
ETFMG Alternative Harvest ETF	-245.31
Global X Future Analytics Tech ETF	-48.99
AdvisorShares Pure US Cannabis ETF	-48.32
Invesco Dynamic Biotechnology & Genome ETF	-45.83
Global X Video Games & Esports ETF	-33.60

Source: Politico, Bloomberg. As of June 30, 2021.

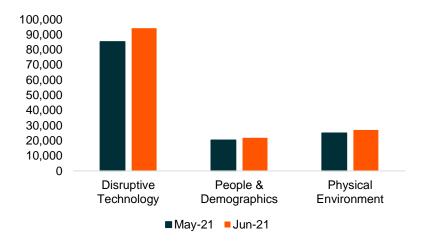


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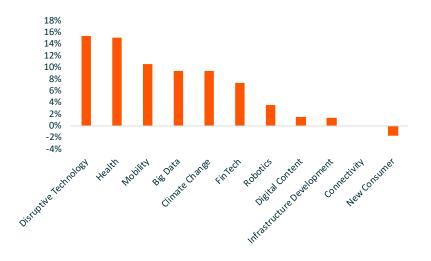
US Thematic ETFs AUM



Categories (AUM, US\$m)



Mega Themes by AUM growth (monthly % chg.)



Top 5 Thematic ETFs by AUM growth

Funds	AUM (monthly % chg.)
The Hartford Longevity Economy ETF	867%
Simplify Volt Cloud and Cybersecurity Disruption ETF	137%
Franklin Exponential Data ETF	66%
Global X Cybersecurity ETF	57%
Bitwise Crypto Industry Innovators ETF	41%

Bottom 5 Thematic ETFs by AUM growth

Funds	AUM (monthly % chg.)
Global X Future Analytics Tech ETF	-18%
ETFMG Alternative Harvest ETF	-17%
Innovator Loup Frontier Tech ETF	-10%
SPDR Kensho Final Frontiers ETF	-10%
Invesco Dynamic Biotechnology & Genome ETF	-9%

Source: Bloomberg. As of June 30, 2021.



Disruptive Trends



Category	Description
	 Connectivity (IoT) drives the digitisation of the economy and enables new disruptive technologies that are profoundly changing the way we live and work
Disruptive Technology	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
	Millennials' increased wealth from peak working years and inheritance makes them targeted consumer demographic
	Rising middle-class consumers in Emerging Markets
People & Demographics	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
	2020 was one of the hottest years on record
	• Over 75% of warming comes from carbon dioxide emissions (CO2) and humans are responsible for a 47% increase of such emissions since the start of the industrial revolution
Physical Environment	 In 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:

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.
 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.
 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.

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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
		Machine/Deep Learning	
		Cybersecurity	
	Big Data	Quantum Computing	
		Cloud/Edge Computing	Remote Work
	N.A. 1. 111	Autonomous Vehicles	
	Mobility	Electric Vehicles	Lithium/Batteries
		AR/VR	
	Digital Content	Video Games	E-sports
	J	Social Media	
Diamantina Talaharakama		Mobile Payments	
Disruptive Technology		Peer-to-Peer Lending	
	FinTech	Crowdfunding	
		Blockchain	
		5G/Next Gen Networking	
		Emerging Markets Internet	
	Connectivity	Internet of Things	Smart Devices, Smart Cities, IIoT
		Space/Satellite Communications	
		Al/Automation	
	Robotics	3D Printing	
		Drones	
	_	Millennials & Gen Z	
		Emerging Market Consumers	
		Urbanization	
		E-commerce	
	New Consumer	Education	
		Sharing/Gig Economy	
People & Demographics		Safety and Security	
		Cannabis	
_		Sports Betting	
	Lagith	Healthcare Innovation	Telemedicine, Digital Health, Genomics, Immunotherapy, Public Health
		Longevity	Senior Care, Senior Economy
	Health	Health & Wellness Obesity, Organics	Obesity, Organics
		Emerging Markets Healthcare	
	Climate Change	Clean Energy	Cleantech, Solar, Wind
Physical Environment		Resource Scarcity	Water, Waste/Recycling, Rare Earth, Sustainable Food
	Infrastructure Development		

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