

GLOBAL X

by Mirae Asset



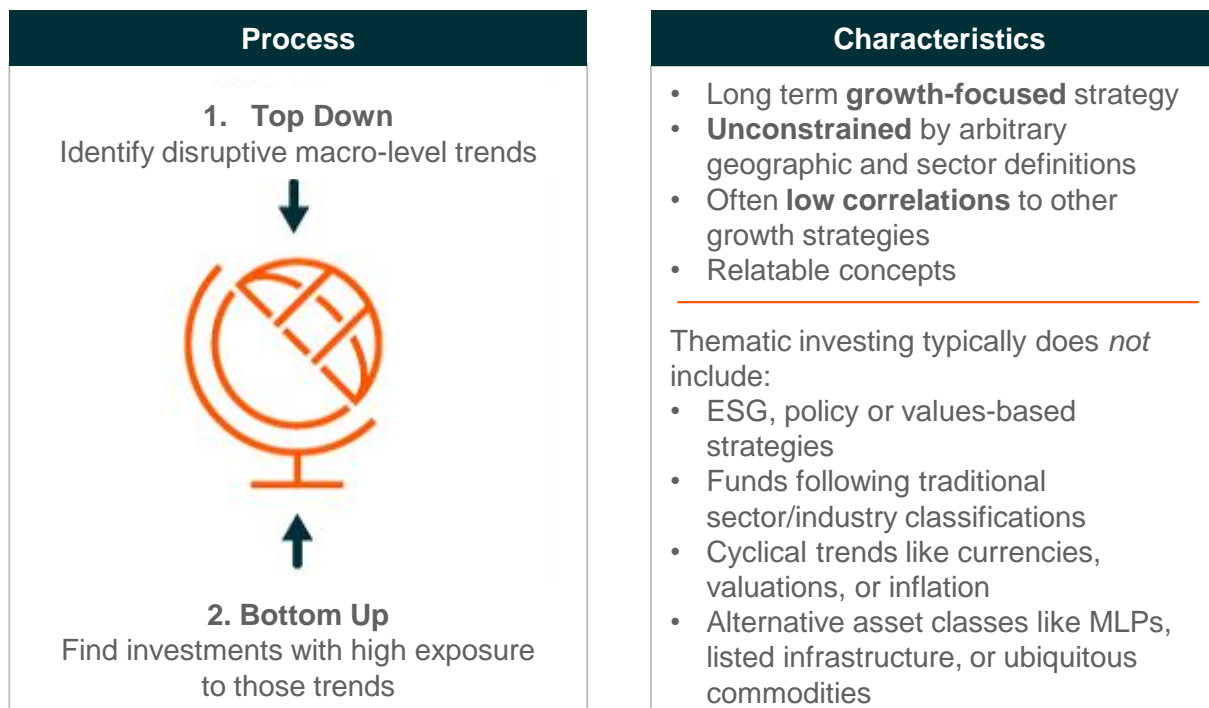
Thematic ETF Report

Q3 2019



What is Thematic Investing?

Thematic investing refers to the process of identifying powerful disruptive macro-level trends and the underlying investments that stand to benefit from the materialization of those trends.





Defining & Categorizing Themes

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

Category	Mega-Theme	Theme	Sub-Theme
Disruptive Technology	Big Data	Machine/Deep Learning	
		Cybersecurity	
		Quantum Computing	
		Cloud/Edge Computing	
	Mobility	Autonomous Vehicles	
		Electric Vehicles	Lithium/Batteries
	Digital Content	AR/VR	
		Video Games	E-sports
		Social Media	
	FinTech	Mobile Payments	
		Peer-to-Peer Lending	
		Crowdfunding	
		Blockchain	
	Connectivity	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		
	Health	Healthcare Innovation	Genomics, Immunotherapy
		Longevity	Senior Care, Senior Economy
Health & Wellness		Obesity, Organics	
Physical Environment	Climate Change	Emerging Markets Healthcare	
		Clean Energy	Cleantech, Solar, Wind
	Infrastructure Development	Resource Scarcity	Water, Waste/Recycling, Rare Earth

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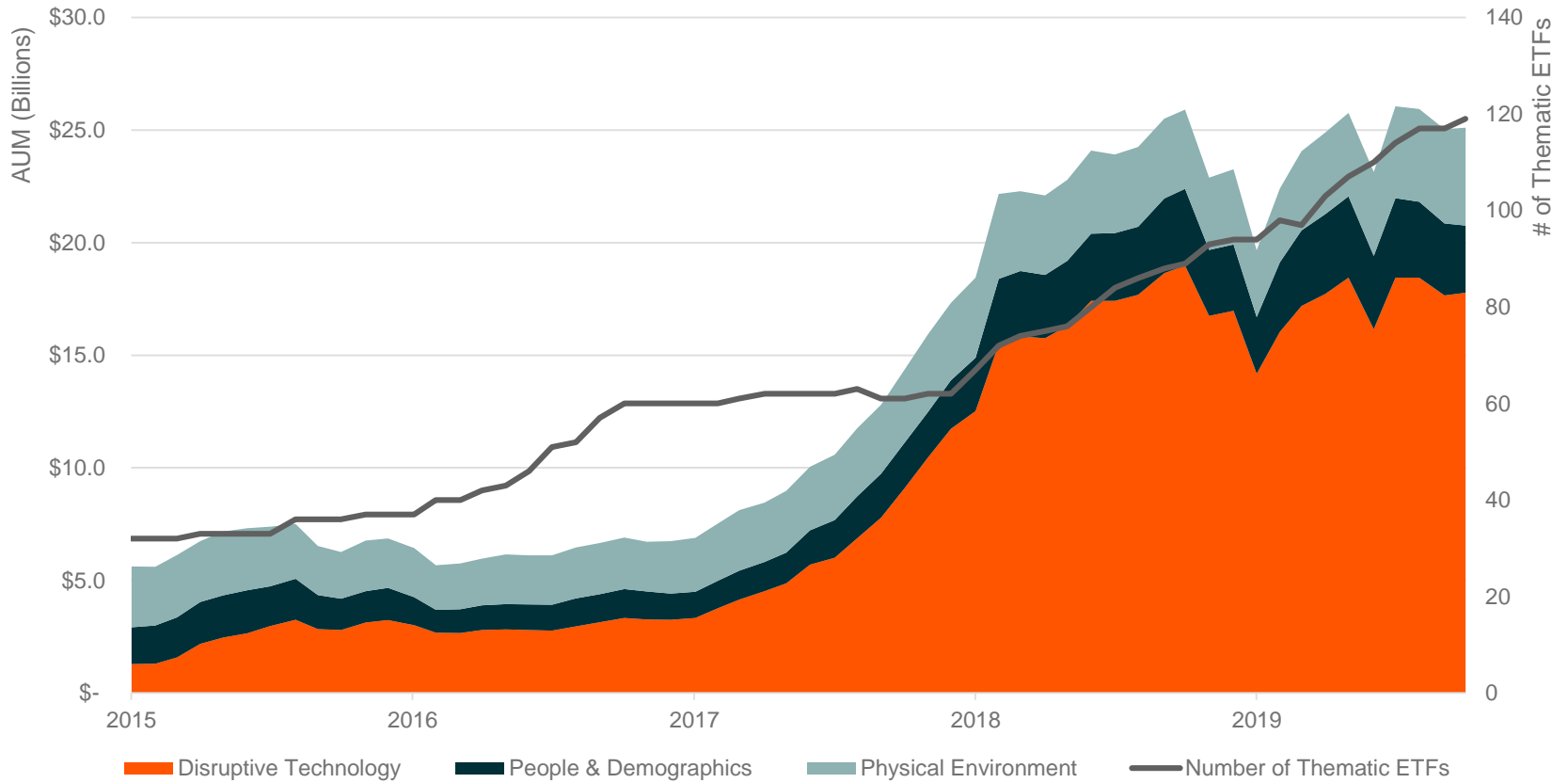
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Thematic ETF Landscape

By the end of Q3 2019, there were 119 thematic ETFs with \$25.1B in assets under management.

Total Thematic ETF AUM by Mega-Themes and Number of Thematic ETFs



Source: Bloomberg. As of Oct 1, 2019.

Note: AUM includes assets of funds closed until the last month of trading activity.



Q3 2019 Thematic ETFs Recap

Five new thematic ETFs launched during the quarter, four of which track the cannabis theme.

Thematic ETF Launches

Ticker	Name	Issuer	Inception Date
THCX	The Cannabis ETF	OBP Capital	7/9/2019
CNBS	Amplify Seymour Cannabis ETF	Amplify	7/23/2019
TOKE	Cambria Cannabis ETF	Cambria Funds	7/25/2019
WCLD	WisdomTree Cloud Computing Fund	WisdomTree	9/6/2019
POTX	Global X Cannabis ETF	Global X ETFs	9/19/2019

Thematic ETF Closures

None



Q3 2019 Thematic ETFs Recap

Climate change-related themes received among the most inflows on an absolute basis.

Top/Bottom AUM by %Δ (in millions)

Ticker	Name	Q2	Q3	%Δ
IDNA	iShares Genomics Immunology and Healthcare ETF	\$4.07	\$22.00	440.60%
IDRV	iShares Self-Driving EV and Tech ETF	\$7.19	\$26.52	268.59%
NERD	Roundhill BITKRAFT Esports & Digital Entertainment ETF	\$3.12	\$9.85	215.74%
GNOM	Global X Genomics & Biotechnology ETF	\$4.54	\$14.29	215.02%
SRVR	Pacer Benchmark Data & Infrastructure Real Estate SCTR ETF	\$44.40	\$120.58	171.58%
XBUY	Amplify International Online Retail ETF	\$2.68	\$1.95	-27.27%
FNG	AdvisorShares New Tech and Media ETF	\$14.46	\$10.13	-29.92%
MJ	ETFMG Alternative Harvest ETF	\$1,149.34	\$800.95	-30.31%
XWEB	SPDR S&P Internet ETF	\$34.91	\$23.66	-32.22%
LEND	Amplify CrowdBureau Peer-to-Peer Lending & Crowdfunding ETF	\$2.99	\$0.96	-67.99%

Top/Bottom AUM by \$Δ (in millions)

Ticker	Name	Q2	Q3	\$Δ
ICLN	iShares Global Clean Energy ETF	\$267.45	\$360.05	\$92.60
FIW	First Trust Water ETF	\$388.56	\$468.60	\$80.04
TAN	Invesco Solar ETF	\$359.45	\$438.59	\$79.14
SRVR	Pacer Benchmark Data & Infrastructure Real Estate SCTR ETF	\$44.40	\$120.58	\$76.18
CIBR	First Trust NASDAQ Cybersecurity ETF	\$903.60	\$979.63	\$76.03
ROBO	ROBO Global Robotics and Automation Index ETF	\$1,346.49	\$1,224.95	-\$121.54
BOTZ	Global X Robotics & Artificial Intelligence ETF	\$1,561.76	\$1,418.48	-\$143.28
HACK	ETFMG Prime Cyber Security ETF	\$1,571.02	\$1,427.18	-\$143.84
ARKK	ARK Innovation ETF	\$1,727.84	\$1,581.91	-\$145.93
MJ	ETFMG Alternative Harvest ETF	\$1,149.34	\$800.95	-\$348.38

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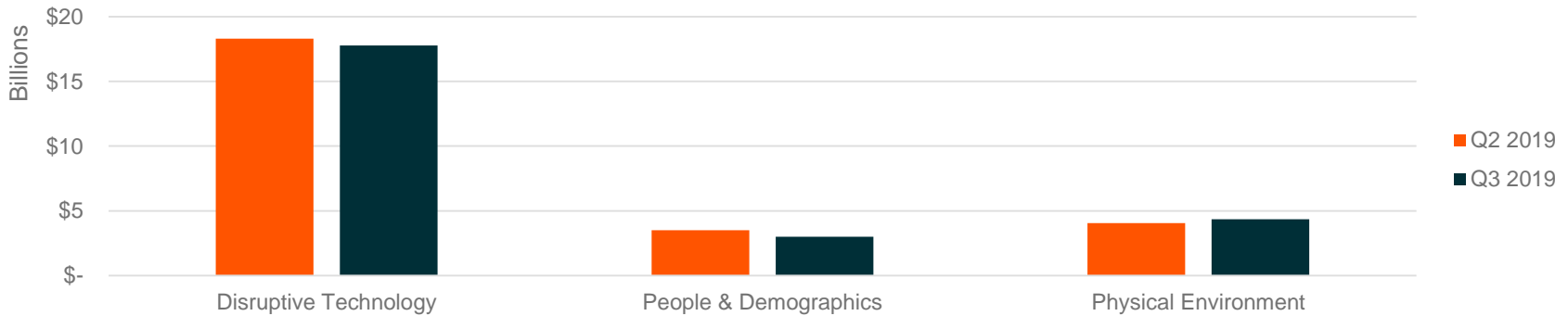
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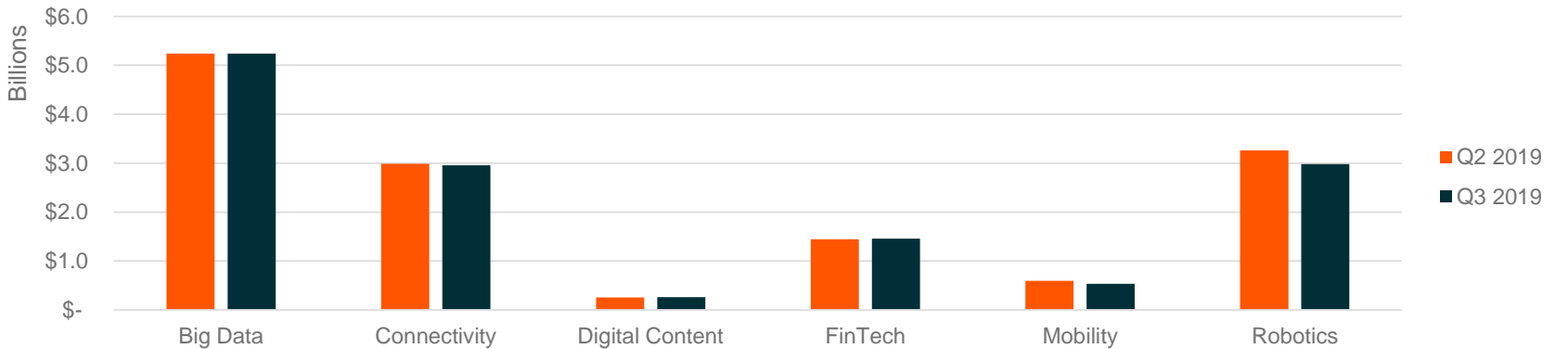
Thematic ETF Landscape

Total AUM in Disruptive Technology and People & Demographics fell, while Physical Environment grew.

AUM by Category



AUM - Disruptive Technology's Mega-Themes



Source: Bloomberg. As of Oct 1, 2019.

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

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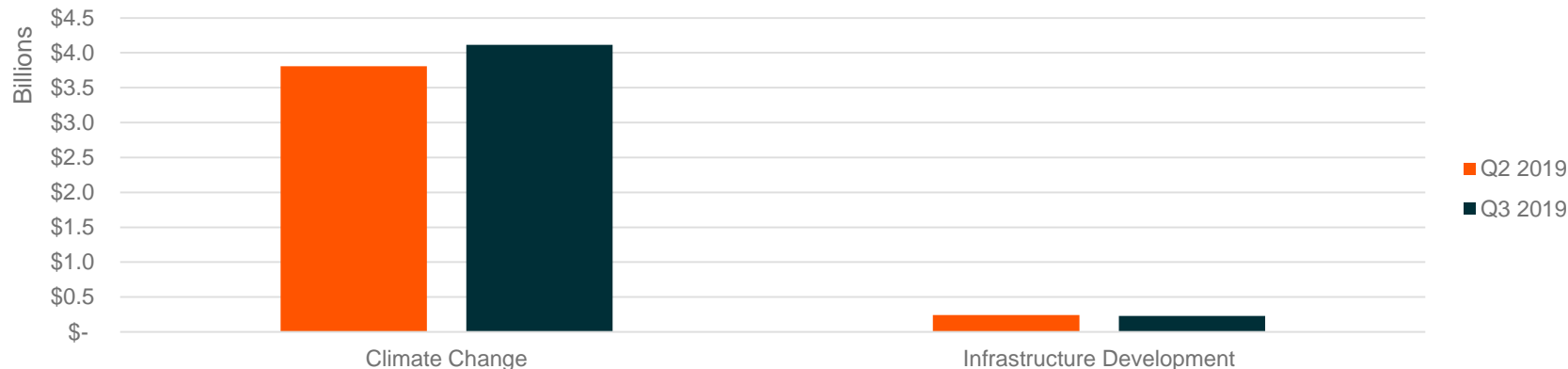
Thematic ETF Landscape

Climate Change-related themes saw the biggest growth on an absolute basis

AUM - People & Demographics' Mega-Themes



AUM - Physical Environment's Mega-Themes



Source: Bloomberg. As of Oct 1, 2019.

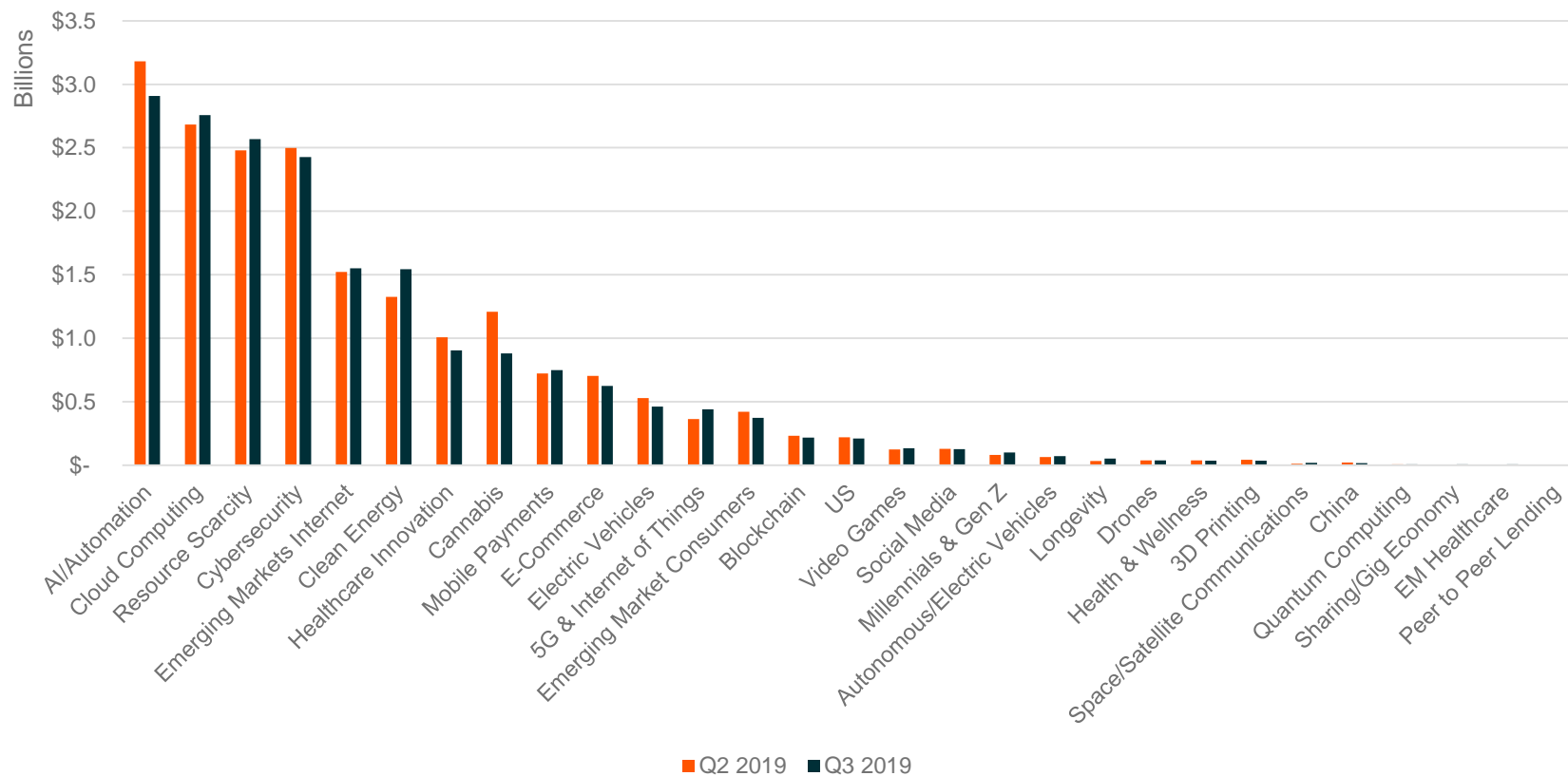
Note: Mega-Themes may or may not add up to the Category AUM given that some ETFs considered are broad and are only classified by its Category.



Thematic ETF Landscape

Among individual themes, Cloud Computing, Resource Scarcity, and Clean Energy saw the most inflows.

AUM by Themes



Source: Bloomberg. As of Oct 1, 2019.

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.

Disclosures

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 materialization 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 materialize 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 recognize 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 organize 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.

Disclosures

The ETF industry consists of many funds seeking to provide exposure to categories, mega-themes, themes, or sub-themes identified within the thematic classification system. The Global X Thematic Classification Committee first evaluates the entire universe of US-listed ETFs to identify which qualify as thematic ETFs, based on Global X's definition of thematic investing and the stated objectives, methodology, and holdings of each ETF. Next, the committee identifies the best fit for each thematic ETF within the classification system, by further analyzing a fund's methodology, holdings, and stated objectives. When a new ETF launches or an existing ETF changes its strategy, its classification is evaluated promptly by the committee, and any changes are published in the next quarterly Thematic ETF Report.

While occasionally an ETF may engage in multiple mega-themes, themes, or sub-themes, its classification is determined based on the definition that most closely describes the true nature of the ETF.

While an ETF may be classified within a certain category, mega-theme, theme, or sub-theme, Global X does not give any assurances that the ETF provides good and accurate exposure to the specific theme it is targeting. For example, an ETF may target a particular theme, but have very broad exposure, including firms that have low relevance or economic exposure to the specified theme.

The thematic classification system is reviewed quarterly by the Global X Thematic Classification committee to consider new potential categories, mega-themes, themes, or sub-themes. Changes in the classification will be announced at the time of release of the following quarterly Thematic ETF Report. As a new ETF launches or changes its strategy, its classification is evaluated promptly by the committee, and published at the time of release of the Thematic ETF Report. In the case of change in an ETF strategy/methodology, holdings, or stated objectives, the thematic classification system will promptly incorporate or drop the ETF in regards into its respective classification, maintaining the history of assets under management (AUM) of the Fund.

These materials have been prepared solely for informational purposes based upon information generally available to the public and from sources believed to be reliable. The completeness of the Global X Thematic ETF Report is done on a best efforts basis at the point in time with the data available to Global X as of the time of its publication. The inclusion of a Fund in this framework reflects the view of Global X alone. Global X makes no guarantee that this framework is complete nor inclusive of all ETFs in their view of their respective issuer.

Global X accepts requests for reviews or appeals for any ETFs. Please contact Global X at research@globalxetfs.com, and the appeal will be considered in a timely manner. There are no guarantees that an appeal will result in a change in the ETF's classification.

The Thematic ETF Report, including its thematic classification system, fall under the supervision of the Global X Thematic Classification committee. This committee consists of members from Global X's research and product teams who have extensive knowledge and familiarity with thematic investing and the ETF industry. The objective of the committee is to ensure, in a best efforts basis, a definition, classification, and identification of the universe of thematic ETFs. The committee meets at least quarterly to review the classification system, as well as on an ad-hoc basis to review new ETF launches or ETFs that change their strategy.

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For more information on Global X, please contact research@globalxetfs.com. For access to *Global X Thematic Classification System – Methodology* please click [here](#).

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Appendix – Classification of Thematic ETFs

Ticker	Name	Q2 2019	Q3 2019	Qtr Flows	Category	MegaTheme	Theme	Sub-Theme
QTUM	Defiance Quantum ETF	\$7.34	\$7.71	\$0.00	Disruptive Technology	Big Data	Quantum Computing	
AIQ	Global X Future Analytics Tech ETF	\$41.45	\$38.99	-\$1.75	Disruptive Technology	Big Data		
GDAT	Goldman Sachs Motif Data-Driven World ETF	\$10.32	\$10.32	\$0.00	Disruptive Technology	Big Data		
SKYY	First Trust Cloud Computing ETF	\$2,209.88	\$2,168.16	\$27.17	Disruptive Technology	Big Data	Cloud Computing	
TCLD	Tortoise Cloud Infrastructure Fund	\$2.69	\$3.99	\$1.38	Disruptive Technology	Big Data	Cloud Computing	
SRVR	Pacer Benchmark Data & Infrastructure Real Estate SCTR ETF	\$44.40	\$120.58	\$70.98	Disruptive Technology	Big Data	Cloud Computing	
WCLD	WisdomTree Cloud Computing Fund	-	\$4.12	\$1.84	Disruptive Technology	Big Data	Cloud Computing	
CLOU	Global X Cloud Computing ETF	\$425.62	\$461.32	\$76.44	Disruptive Technology	Big Data	Cloud Computing	
HACK	ETFMG Prime Cyber Security ETF	\$1,571.02	\$1,427.18	-\$51.73	Disruptive Technology	Big Data	Cybersecurity	
IHAK	iShares Cybersecurity and Tech ETF	\$3.84	\$3.70	\$0.00	Disruptive Technology	Big Data	Cybersecurity	
CIBR	First Trust NASDAQ Cybersecurity ETF	\$903.60	\$979.63	\$110.07	Disruptive Technology	Big Data	Cybersecurity	
FITE	SPDR Kensho Future Security ETF	\$19.88	\$15.26	-\$4.53	Disruptive Technology	Big Data	Cybersecurity	
DRIV	Global X Autonomous & Electric Vehicles ETF	\$14.69	\$12.47	-\$2.14	Disruptive Technology	Mobility	Autonomous/Electric Vehicles	
EKAR	Innovation Shares NextGen Vehicles & Technology ETF	\$1.51	\$1.48	\$0.00	Disruptive Technology	Mobility	Autonomous/Electric Vehicles	
KARS	KraneShares Electric Vehicles and Future Mobility Index ETF	\$33.39	\$24.73	-\$9.57	Disruptive Technology	Mobility	Autonomous/Electric Vehicles	
BATT	Amplify Advanced Battery Metals and Materials ETF	\$5.08	\$4.79	\$0.00	Disruptive Technology	Mobility	Electric Vehicles	Lithium/Batteries
LIT	Global X Lithium & Battery Tech ETF	\$525.10	\$457.09	-\$36.57	Disruptive Technology	Mobility	Electric Vehicles	Lithium/Batteries
HAIL	SPDR Kensho Smart Mobility ETF	\$7.01	\$6.61	\$0.00	Disruptive Technology	Mobility	Autonomous/Electric Vehicles	
IDRV	iShares Self-Driving EV and Tech ETF	\$7.19	\$26.52	\$19.60	Disruptive Technology	Mobility	Autonomous/Electric Vehicles	
VIDG	Defiance Next Gen Video Gaming ETF	\$3.55	\$3.51	\$0.00	Disruptive Technology	Digital Content	Video Games	
GAMR	ETFMG Video Game Tech ETF	\$92.11	\$83.00	-\$5.95	Disruptive Technology	Digital Content	Video Games	
ESPO	Video Gaming and eSports ETF	\$26.63	\$38.80	\$11.94	Disruptive Technology	Digital Content	Video Games	Esports
NERD	Roundhill BITKRAFT Esports & Digital Entertainment ETF	\$3.12	\$9.85	\$6.85	Disruptive Technology	Digital Content	Video Games	Esports
SOCL	Global X Social Media ETF	\$129.06	\$126.65	-\$1.62	Disruptive Technology	Digital Content	Social Media	
KOIN	Innovation Shares NextGen Protocol ETF	\$10.15	\$10.05	\$0.00	Disruptive Technology	FinTech	Blockchain	
BLOK	Amplify Transformational Data Sharing ETF	\$108.26	\$102.19	-\$3.69	Disruptive Technology	FinTech	Blockchain	
LEGR	First Trust Indxx Innovative Transaction & Process ETF	\$42.17	\$41.05	\$0.00	Disruptive Technology	FinTech	Blockchain	
BLCN	Reality Shares Nasdaq NexGen Economy ETF	\$70.92	\$65.86	-\$4.69	Disruptive Technology	FinTech	Blockchain	
IPAY	ETFMG Prime Mobile Payments ETF	\$717.43	\$743.19	\$30.17	Disruptive Technology	FinTech	Mobile Payments	
TPAY	Tortoise Digital Payments Infrastructure Fund	\$4.53	\$6.13	\$1.49	Disruptive Technology	FinTech	Mobile Payments	
LEND	Amplify CrowdBureau Peer-to-Peer Lending & Crowdfunding ETF	\$2.99	\$0.96	-\$1.63	Disruptive Technology	FinTech	Peer to Peer Lending	
FINX	Global X FinTech ETF	\$408.32	\$404.58	\$7.09	Disruptive Technology	FinTech		
GFIN	Goldman Sachs Motif Finance Reimagined ETF	\$8.37	\$10.92	\$2.81	Disruptive Technology	FinTech		
ARKF	Fintech Innovation ETF	\$71.28	\$72.01	\$4.46	Disruptive Technology	FinTech		
SNSR	Global X Internet of Things ETF	\$98.14	\$95.75	-\$5.05	Disruptive Technology	Connectivity	Internet of Things	
GRID	First Trust Nasdaq Clean Edge Smart GRID Infrastructure Index	\$29.03	\$27.23	-\$2.36	Disruptive Technology	Connectivity	Internet of Things	Smart Cities
SIMS	SPDR Kensho Intelligent Structure ETF	\$9.07	\$8.97	\$0.00	Disruptive Technology	Connectivity	Internet of Things	Smart Cities
FIVG	Defiance Next Gen Connectivity ETF	\$88.75	\$112.56	\$22.06	Disruptive Technology	Connectivity	5G/Next Gen Networking	
NXTG	First Trust Indxx NextG ETF	\$139.78	\$196.02	\$57.08	Disruptive Technology	Connectivity	5G/Next Gen Networking	
KWEB	KraneShares CSI China Internet ETF	\$1,521.53	\$1,551.27	\$122.88	Disruptive Technology	Connectivity	Emerging Markets Internet	

Source: Bloomberg, Global X Research. Q2 2019 as of 06/28/2019; Q3 2019 as of 09/30/2019.

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Appendix – Classification of Thematic ETFs

Ticker	Name	Q2 2019	Q3 2019	Qtr Flows	Category	MegaTheme	Theme	Sub-Theme
PNQI	Invesco NASDAQ Internet ETF	\$561.77	\$520.06	-\$13.29	Disruptive Technology	Connectivity		
ARKW	ARK Web x.0 ETF	\$442.53	\$355.11	-\$60.55	Disruptive Technology	Connectivity		
XWEB	SPDR S&P Internet ETF	\$34.91	\$23.42	-\$7.46	Disruptive Technology	Connectivity		
OGIG	O'Shares Global Internet Giants ETF	\$48.84	\$45.63	\$0.00	Disruptive Technology	Connectivity		
ROKT	SPDR Kensho Final Frontiers ETF	\$3.37	\$6.76	\$3.16	Disruptive Technology	Connectivity	Space/Satellite Communications	
UFO	Procore Space ETF	\$8.55	\$12.27	\$3.93	Disruptive Technology	Connectivity	Space/Satellite Communications	
PRNT	3D Printing ETF	\$42.62	\$36.33	-\$1.00	Disruptive Technology	Robotics	3D Printing	
IFLY	ETFMG Drone Economy Strategy ETF	\$38.70	\$37.71	-\$1.74	Disruptive Technology	Robotics	Drones	
ARKQ	ARK Autonomous Technology & Robotics ETF	\$172.32	\$147.42	-\$14.12	Disruptive Technology	Robotics	AI/Automation	
BOTZ	Global X Robotics & Artificial Intelligence ETF	\$1,561.76	\$1,418.48	-\$84.22	Disruptive Technology	Robotics	AI/Automation	
ROBO	ROBO Global Robotics and Automation Index ETF	\$1,346.49	\$1,224.95	-\$61.95	Disruptive Technology	Robotics	AI/Automation	
ROBT	First Trust Nasdaq Artificial Intelligence and Robotics ETF	\$54.50	\$61.44	\$9.66	Disruptive Technology	Robotics	AI/Automation	
IRBO	iShares Robotics and Artificial Intelligence ETF	\$39.66	\$48.64	\$9.70	Disruptive Technology	Robotics	AI/Automation	
GMAN	Goldman Sachs Motif Manufacturing Revolution ETF	\$5.02	\$6.23	\$1.21	Disruptive Technology	Robotics	AI/Automation	
XT	iShares Exponential Technologies ETF	\$2,542.52	\$2,508.15	-\$10.71	Disruptive Technology			
XITK	SPDR FactSet Innovative Technology ETF	\$74.75	\$59.49	-\$10.31	Disruptive Technology			
DTEC	ALPS Disruptive Technologies ETF	\$71.98	\$67.61	\$1.62	Disruptive Technology			
LOUP	Innovator Loup Frontier Tech ETF	\$13.27	\$10.24	-\$2.28	Disruptive Technology			
ARKK	ARK Innovation ETF	\$1,727.84	\$1,581.91	\$37.68	Disruptive Technology			
KOMP	SPDR Kensho New Economies Composite ETF	\$41.99	\$71.68	\$32.15	Disruptive Technology			
FNG	AdvisorShares New Tech and Media ETF	\$14.46	\$10.13	-\$2.20	Disruptive Technology			
IZRL	ARK Israel Innovative Technology ETF	\$19.15	\$19.58	\$0.52	Disruptive Technology			
IETC	iShares Evolved U.S. Technology ETF	\$11.60	\$16.09	\$4.49	Disruptive Technology			
PLAT	WisdomTree Modern Tech Platforms Fund	\$2.59	\$2.51	\$0.00	Disruptive Technology			
IBUY	Amplify Online Retail ETF	\$276.41	\$238.66	-\$25.18	People & Demographics	New Consumer	E-Commerce	
ONLN	ProShares Online Retail ETF	\$22.85	\$21.92	\$1.88	People & Demographics	New Consumer	E-Commerce	
EBIZ	Global X E-commerce ETF	\$2.74	\$2.57	\$0.02	People & Demographics	New Consumer	E-Commerce	
XBUY	Amplify International Online Retail ETF	\$2.68	\$1.95	-\$0.68	People & Demographics	New Consumer	E-Commerce	
EMQQ	Emerging Markets Internet & Ecommerce ETF	\$399.74	\$360.25	-\$29.90	People & Demographics	New Consumer	E-Commerce	
KEMQ	KraneShares Emerging Markets Consumer Technology Index ETF	\$25.90	\$21.73	-\$3.35	People & Demographics	New Consumer	Emerging Market Consumers	
ECON	Columbia Emerging Markets Consumer ETF	\$271.03	\$239.10	-\$22.52	People & Demographics	New Consumer	Emerging Market Consumers	
INCO	Columbia India Consumer ETF	\$123.73	\$111.87	-\$11.45	People & Demographics	New Consumer	Emerging Market Consumers	
MILN	Global X Millennials Thematic ETF	\$55.75	\$75.76	\$20.25	People & Demographics	New Consumer	Millennials & Gen Z	
GENY	Principal Millennials Index ETF	\$21.21	\$20.67	\$0.00	People & Demographics	New Consumer	Millennials & Gen Z	
GBUY	Goldman Sachs Motif New Age Consumer ETF	\$5.27	\$5.22	\$0.00	People & Demographics	New Consumer	Millennials & Gen Z	
GIGE	SoFi Gig Economy ETF	\$5.97	\$7.21	\$2.02	People & Demographics	New Consumer	Sharing/Gig Economy	
POTX	Global X	-	\$2.07	\$2.44	People & Demographics	New Consumer	Cannabis	
YOLO	AdvisorShares Pure Cannabis ET	\$59.75	\$45.86	\$11.28	People & Demographics	New Consumer	Cannabis	
MJ	ETFMG Alternative Harvest ETF	\$1,149.34	\$800.95	\$54.91	People & Demographics	New Consumer	Cannabis	
THCX	The Cannabis ETF	-	\$18.24	\$21.94	People & Demographics	New Consumer	Cannabis	

Source: Bloomberg, Global X Research. Q2 2019 as of 06/28/2019; Q3 2019 as of 09/30/2019.

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Appendix – Classification of Thematic ETFs

Ticker	Name	Q2 2019	Q3 2019	Qtr Flows	Category	MegaTheme	Theme	Sub-Theme
TOKE	Cambria Cannabis ETF	-	\$8.41	\$7.94	People & Demographics	New Consumer	Cannabis	
CNBS	Amplify Seymour Cannabis ETF	-	\$5.38	\$4.56	People & Demographics	New Consumer	Cannabis	
ARKG	Genomic Revolution ETF	\$448.61	\$396.07	\$14.15	People & Demographics	Health	Healthcare Innovation	Genomics
GNOM	Global X Genomics & Biotechnology ETF	\$4.54	\$14.29	\$11.76	People & Demographics	Health	Healthcare Innovation	Genomics
GDNA	Goldman Sachs Motif Human Evolution ETF	\$7.80	\$8.56	\$1.25	People & Demographics	Health	Healthcare Innovation	Genomics
IDNA	iShares Genomics Immunology and Healthcare ETF	\$4.07	\$22.00	\$20.51	People & Demographics	Health	Healthcare Innovation	Genomics
PBE	Invesco Dynamic Biotechnology & Genome ETF	\$246.41	\$213.38	\$0.05	People & Demographics	Health	Healthcare Innovation	Genomics
SBIO	ALPS Medical Breakthroughs ETF	\$194.40	\$156.92	-\$7.03	People & Demographics	Health	Healthcare Innovation	
BTEC	Principal Healthcare Innovators Index ETF	\$56.98	\$47.63	-\$1.63	People & Demographics	Health	Healthcare Innovation	
IEIH	iShares Evolved U.S. Innovative Healthcare ETF	\$5.11	\$4.84	\$0.00	People & Demographics	Health	Healthcare Innovation	
CNCR	Loncar Cancer Immunotherapy ETF	\$38.07	\$32.74	-\$0.98	People & Demographics	Health	Healthcare Innovation	Immunotherapy
HTEC	ROBO Global Healthcare Technology & Innovation	\$2.48	\$2.93	\$0.60	People & Demographics	Health	Healthcare Innovation	
BFIT	Global X Health & Wellness Thematic ETF	\$17.75	\$19.10	\$0.97	People & Demographics	Health	Health & Wellness	
ORG	Organics ETF	\$10.26	\$7.39	-\$2.48	People & Demographics	Health	Health & Wellness	Organics
SLIM	Obesity ETF	\$10.41	\$9.99	\$0.00	People & Demographics	Health	Health & Wellness	Obesity
LNGR	Global X Longevity Thematic ETF	\$17.03	\$21.23	\$4.23	People & Demographics	Health	Longevity	
OLD	Long-Term Care ETF	\$17.13	\$30.36	\$12.01	People & Demographics	Health	Longevity	
CHNA	Loncar China BioPharma ETF	\$3.34	\$6.55	\$3.32	People & Demographics	Health	EM Healthcare	
CNRG	SPDR Kensho Clean Power ETF	\$6.28	\$8.79	\$2.38	Physical Environment	Climate Change	Clean Energy	
PBW	Invesco WilderHill Clean Energy ETF	\$171.47	\$179.76	-\$9.90	Physical Environment	Climate Change	Clean Energy	
QLCN	First Trust Nasdaq Clean Edge Green Energy ETF	\$105.83	\$113.33	\$6.63	Physical Environment	Climate Change	Clean Energy	
SMOG	VanEck Vectors Global Alternative Energy ETF	\$89.97	\$88.46	-\$0.03	Physical Environment	Climate Change	Clean Energy	
ICLN	iShares Global Clean Energy ETF	\$267.45	\$360.05	\$96.85	Physical Environment	Climate Change	Clean Energy	
ACES	ALPS Clean Energy ETF	\$68.69	\$86.98	\$16.92	Physical Environment	Climate Change	Clean Energy	
PZD	Invesco Cleantech ETF	\$184.07	\$191.47	\$10.74	Physical Environment	Climate Change	Clean Energy	
TAN	Invesco Solar ETF	\$359.45	\$438.59	\$63.92	Physical Environment	Climate Change	Clean Energy	Solar
FAN	First Trust ISE Global Wind Energy Index Fund	\$73.47	\$75.50	\$3.36	Physical Environment	Climate Change	Clean Energy	Wind
EVX	Environmental Services ETF	\$35.98	\$36.49	-\$5.15	Physical Environment	Climate Change	Resource Scarcity	Waste/Recycling
TBLU	Tortoise Global Water ESG Fund	\$4.55	\$7.78	\$3.05	Physical Environment	Climate Change	Resource Scarcity	Water
PHO	Invesco Water Resources ETF	\$972.44	\$1,016.56	\$16.58	Physical Environment	Climate Change	Resource Scarcity	Water
CGW	Invesco S&P Global Water Index ETF	\$649.05	\$670.87	\$8.95	Physical Environment	Climate Change	Resource Scarcity	Water
FIW	First Trust Water ETF	\$388.56	\$468.60	\$72.03	Physical Environment	Climate Change	Resource Scarcity	Water
PIO	Invesco Global Water ETF	\$191.47	\$188.58	-\$2.82	Physical Environment	Climate Change	Resource Scarcity	Water
KGRN	KraneShares MSCI China Environment ETF	\$3.75	\$3.48	\$0.00	Physical Environment	Climate Change		
REMX	VanEck Vectors Rare Earth/Strategic Metals ETF	\$236.73	\$178.57	-\$25.18	Physical Environment	Climate Change	Resource Scarcity	Rare Earths
PAVE	Global X U.S. Infrastructure Development ETF	\$139.78	\$136.00	-\$2.20	Physical Environment	Infrastructure Development		
IFRA	iShares U.S. Infrastructure ETF	\$6.83	\$6.92	\$0.00	Physical Environment	Infrastructure Development		
AIRR	First Trust RBA American Industrial Renaissance ETF	\$72.69	\$66.90	-\$6.41	Physical Environment	Infrastructure Development		
OBOR	KraneShares MSCI One Belt One Road ETF	\$21.44	\$18.15	-\$2.29	Physical Environment	Infrastructure Development		

Source: Bloomberg, Global X Research. Q2 2019 as of 06/28/2019; Q3 2019 as of 09/30/2019.

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GLOBAL X

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