

GLOBAL X

by Mirae Asset



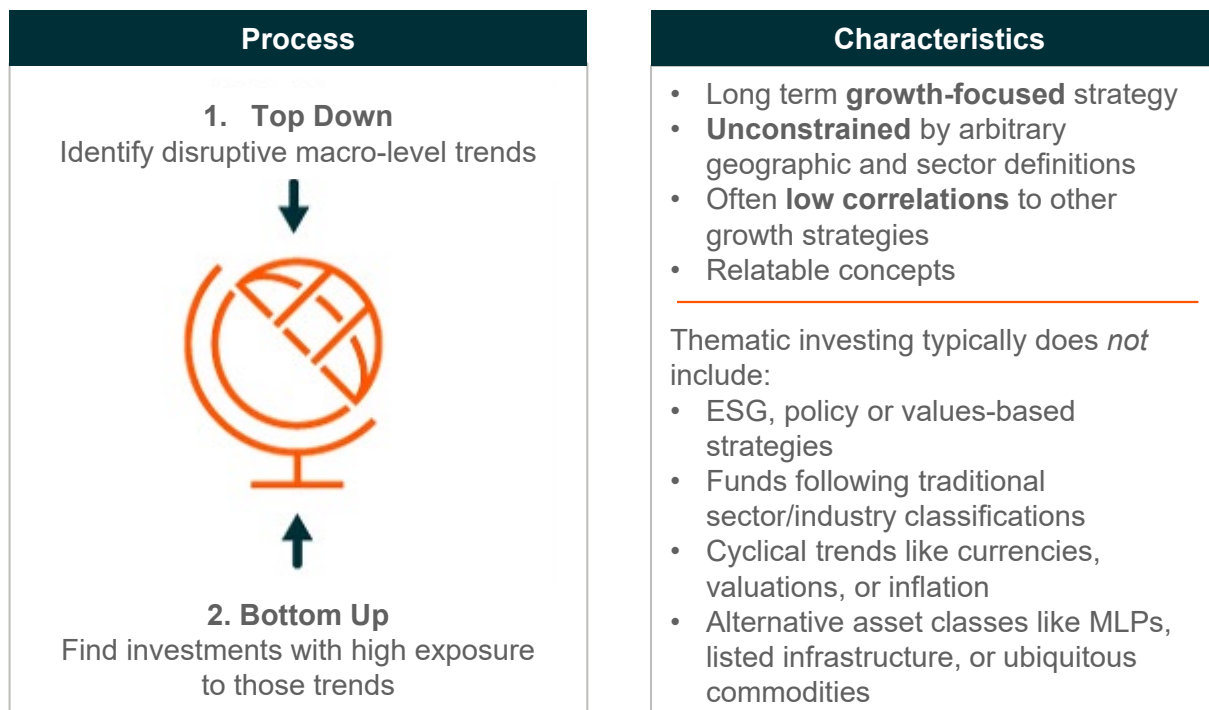
Thematic ETF Report

Q2 2020



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.



For Informational Purposes Only



Defining & Categorizing Themes

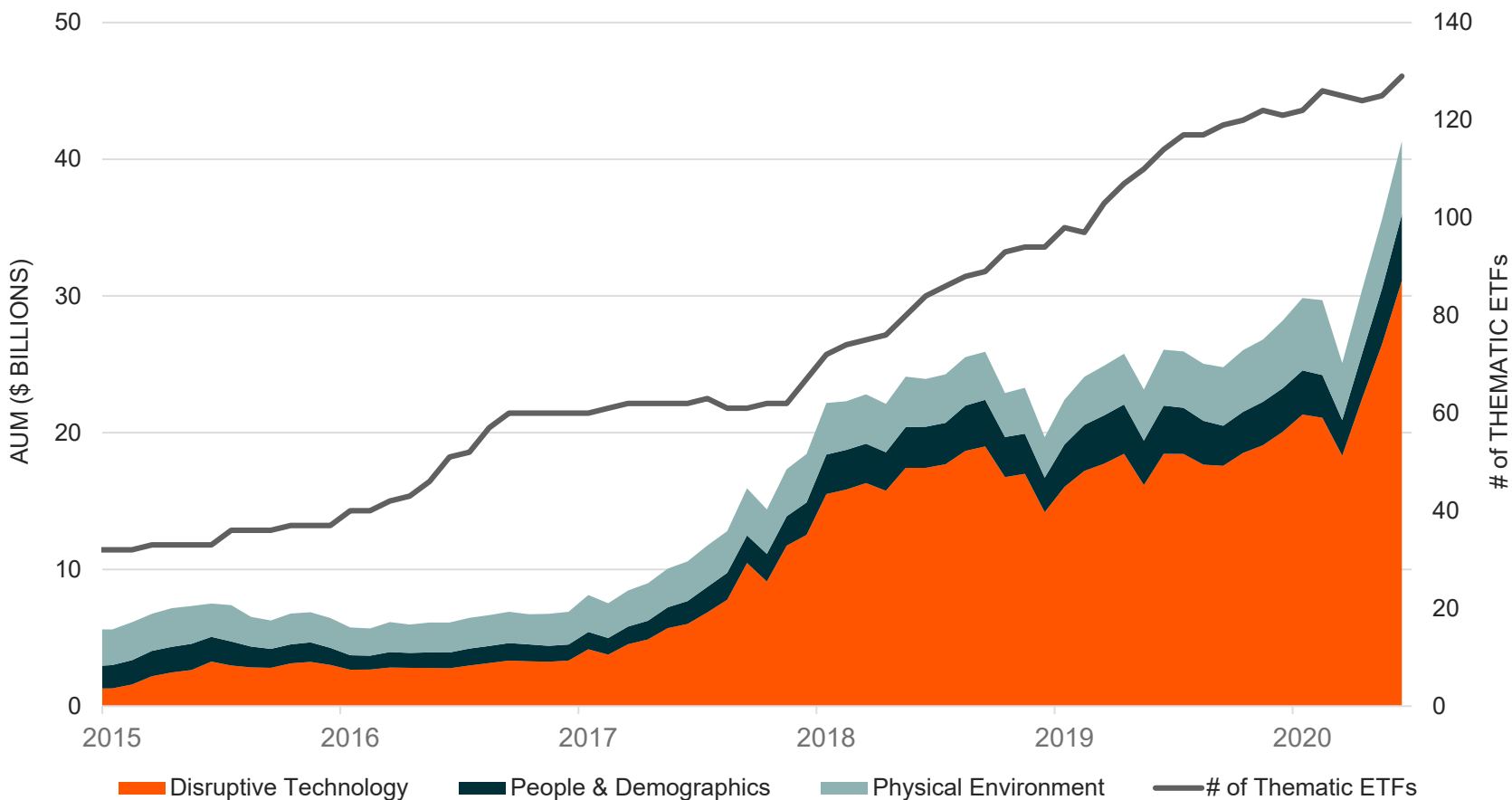
Global X's classification system establishes a consistent framework for identifying and categorizing the growing thematic ETF space.

| Category | Mega-Theme | Theme | Sub-Theme |
|--------------------------------|----------------------|-----------------------------------|------------------------------------------------------|
| Disruptive Technology | Big Data | Machine/Deep Learning | |
| | | Cybersecurity | |
| | | Quantum Computing | |
| | Mobility | Cloud/Edge Computing | Remote Work |
| | | 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 | |
| | | Sports Betting | |
| | | Health | Healthcare Innovation |
| | 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, Sustainable Food |



Thematic ETF Landscape

At the end of Q2 2020, there were 129 thematic ETFs totaling \$41.3B in assets under management, up 65% from Q1 2020.



Source: Bloomberg. As of Jun 30, 2020.

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



Q2 2020 Thematic ETF Launches/Closures

6 new thematic ETFs launched during the quarter: 3 focused on Disruptive Technology and 3 on People and Demographics.

Thematic ETF Launches

| Ticker | Name | Issuer | Inception Date |
|--------|-----------------------------------------------|--------------------|----------------|
| IVES* | Wedbush ETFMG Global Cloud Technology ETF | ETFMG | 4/6/2020* |
| THNQ | ROBO Global® Artificial Intelligence ETF | ROBO Global | 5/7/2020 |
| BETZ | Roundhill Sports Betting & iGaming ETF | Roundhill BITKRAFT | 6/4/2020 |
| GERM | ETFMG Treatments, Testing and Advancements ET | ETFMG | 6/17/2020 |
| WFH | Direxion Work From Home ETF | Direxion | 6/25/2020 |
| VIRS | Pacer BioThreat ETF | Pacer | 6/25/2020 |

Thematic ETF Closures

| Ticker | Name | Issuer | Inception Date | Closure Date |
|--------|------------------------------------------|----------|----------------|--------------|
| IFLY* | ETFMG Drone Economy Strategy ETF | ETFMG | 3/9/2016 | 4/6/2020* |
| DIET | Defiance Next Gen Food & Agriculture ETF | Defiance | 11/14/2019 | 5/21/2020 |

*Effective April 6, 2020, the Fund name of the ETFMG Drone Economy Strategy ETF (IFLY) has changed to the Wedbush ETFMG Global Cloud Technology ETF (IVES), and the Fund's underlying index has changed to the Dan Ives Global Cloud Technology Prime Index.



Q2 2020 Thematic ETFs Recap

Big data and healthcare innovation-related themes received the most inflows on an absolute basis.

Top/Bottom AUM by %Δ

| Ticker | Name | Q1 2020 (\$M) | Q2 2020 (\$M) | %Δ |
|--------|------------------------------------------------|---------------|---------------|--------|
| WCLD | WisdomTree Cloud Computing Fund | \$36.22 | \$420.77 | 1,062% |
| ONLN | ProShares Online Retail ETF | \$27.57 | \$156.75 | 468% |
| OGIG | O'Shares Global Internet Giants ETF | \$48.25 | \$272.50 | 465% |
| IDNA | iShares Genomics Immunology and Healthcare ETF | \$24.06 | \$113.54 | 372% |
| IHAK | iShares Cybersecurity and Tech ETF | \$16.05 | \$73.10 | 355% |
| INCO | Columbia India Consumer ETF | \$67.76 | \$72.07 | 6% |
| CHNA | Loncar China BioPharma ETF | \$10.91 | \$11.50 | 5% |
| KWEB | KraneShares CSI China Internet ETF | \$2,313.64 | \$2,276.25 | -2% |
| ECON | Columbia Emerging Markets Consumer ETF | \$174.92 | \$161.64 | -8% |
| REMX | VanEck Vectors Rare Earth/Strategic Metals ETF | \$113.10 | \$96.85 | -14% |

Note: Top/bottom ETFs by %Δ are limited to those that started Q1 with AUM > \$10M and excludes fund closures

Top/Bottom AUM by \$Δ (in millions)

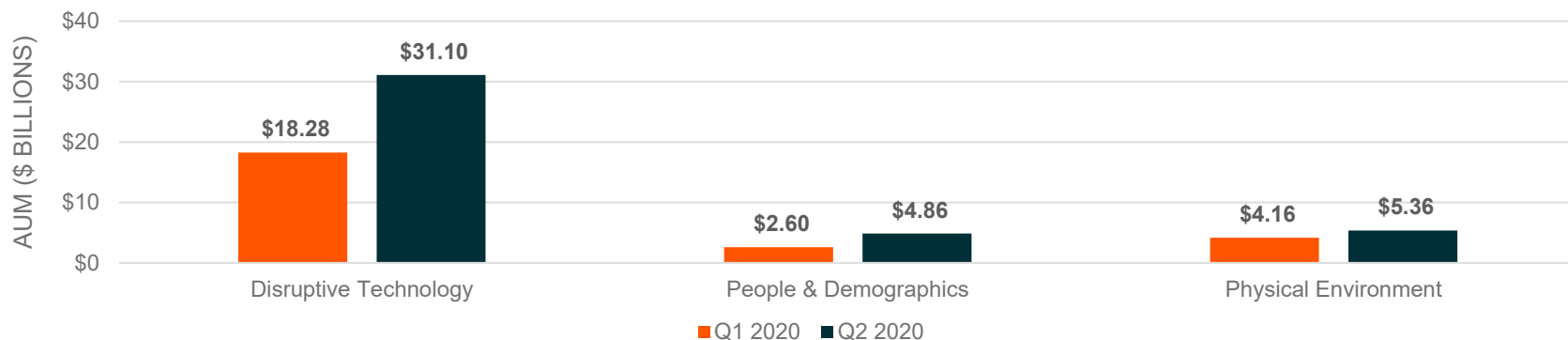
| Ticker | Name | Q1 2020 (\$M) | Q2 2020 (\$M) | \$Δ (\$M) |
|--------|-------------------------------------------------------------|---------------|---------------|-----------|
| ARKK | ARK Innovation ETF | \$2,008 | \$4,805 | \$2,797 |
| SKYY | First Trust Cloud Computing ETF | \$2,105 | \$4,448 | \$2,343 |
| ARKW | ARK Next Generation Internet ETF | \$473 | \$1,306 | \$833 |
| ARKG | Genomic Revolution ETF | \$521 | \$1,324 | \$803 |
| CIBR | First Trust NASDAQ Cybersecurity ETF | \$1,205 | \$1,850 | \$645 |
| LEND | Amplify CrowdBureau Peer-to-Peer Lending & Crowdfunding ETF | \$0.56 | \$0.67 | \$0 |
| TPAY | Tortoise Digital Payments Infrastructure Fund | \$7.46 | \$6.69 | -\$1 |
| ECON | Columbia Emerging Markets Consumer ETF | \$175 | \$162 | -\$13 |
| REMX | VanEck Vectors Rare Earth/Strategic Metals ETF | \$113 | \$97 | -\$16 |
| KWEB | KraneShares CSI China Internet ETF | \$2,314 | \$2,276 | -\$37 |



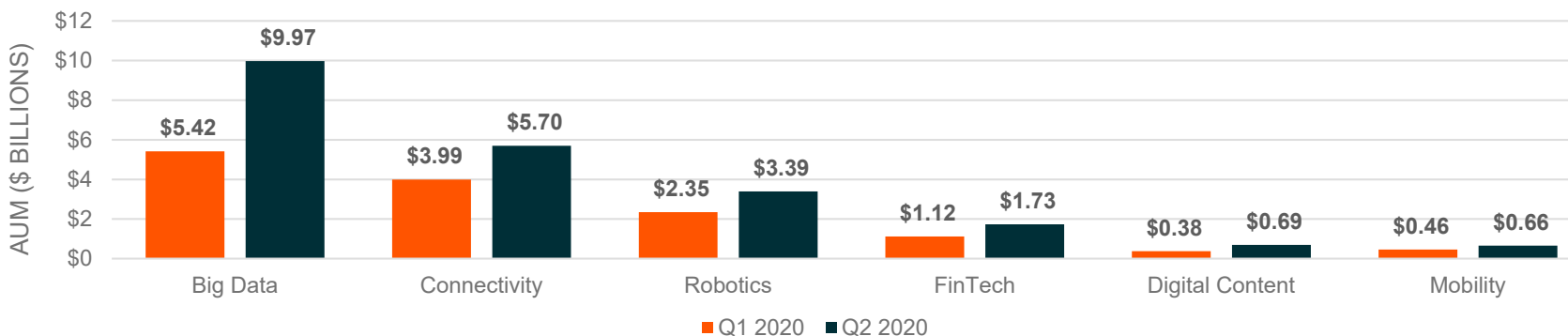
Thematic ETF Landscape

AUM increased across all 3 theme categories, ranked largest relative increase to smallest: People and Demographics, Disruptive Technology, and Physical Environment.

AUM by Category



AUM - Disruptive Technology's Mega-Themes



Source: Bloomberg. As of Jun 30, 2020.

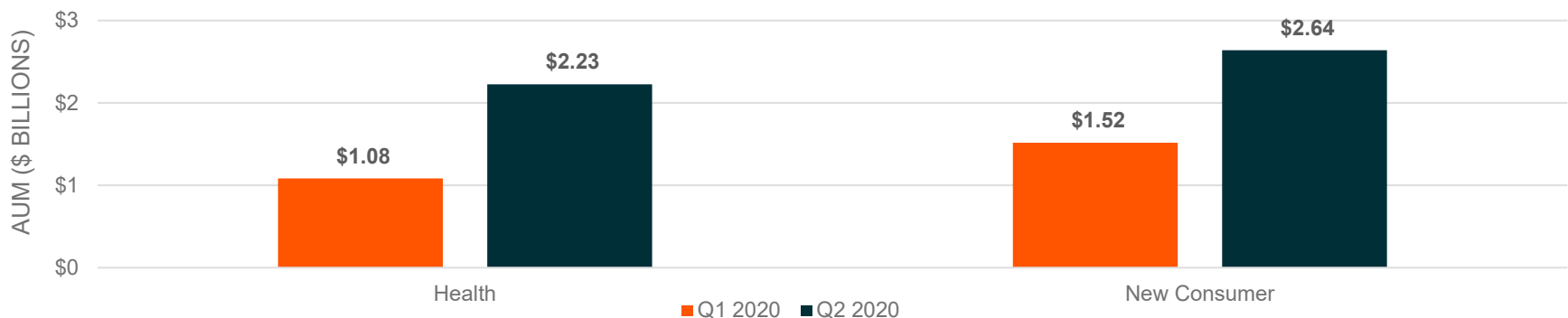
Note: Mega-Themes may or may not add up to the Category AUM given that some ETFs considered are broad and are only classified by its Category.



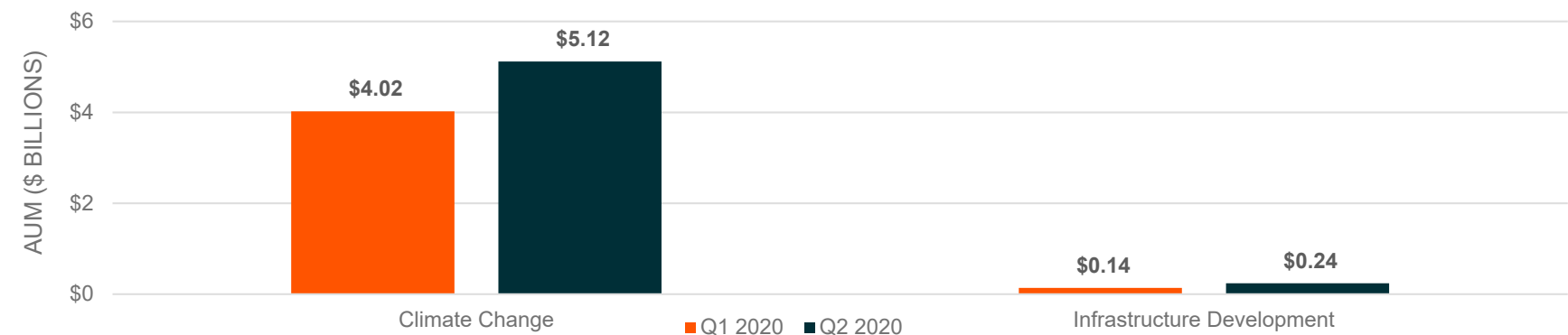
Thematic ETF Landscape

Both mega-themes within People & Demographics saw AUM increases, though New Consumer’s relative increase led. AUM increased in both of Physical Environment’s mega-themes, with Infrastructure Development gaining the most in relative terms.

AUM - People & Demographics’ Mega-Themes



AUM - Physical Environment’s Mega-Themes



Source: Bloomberg. As of Jun 30, 2020.

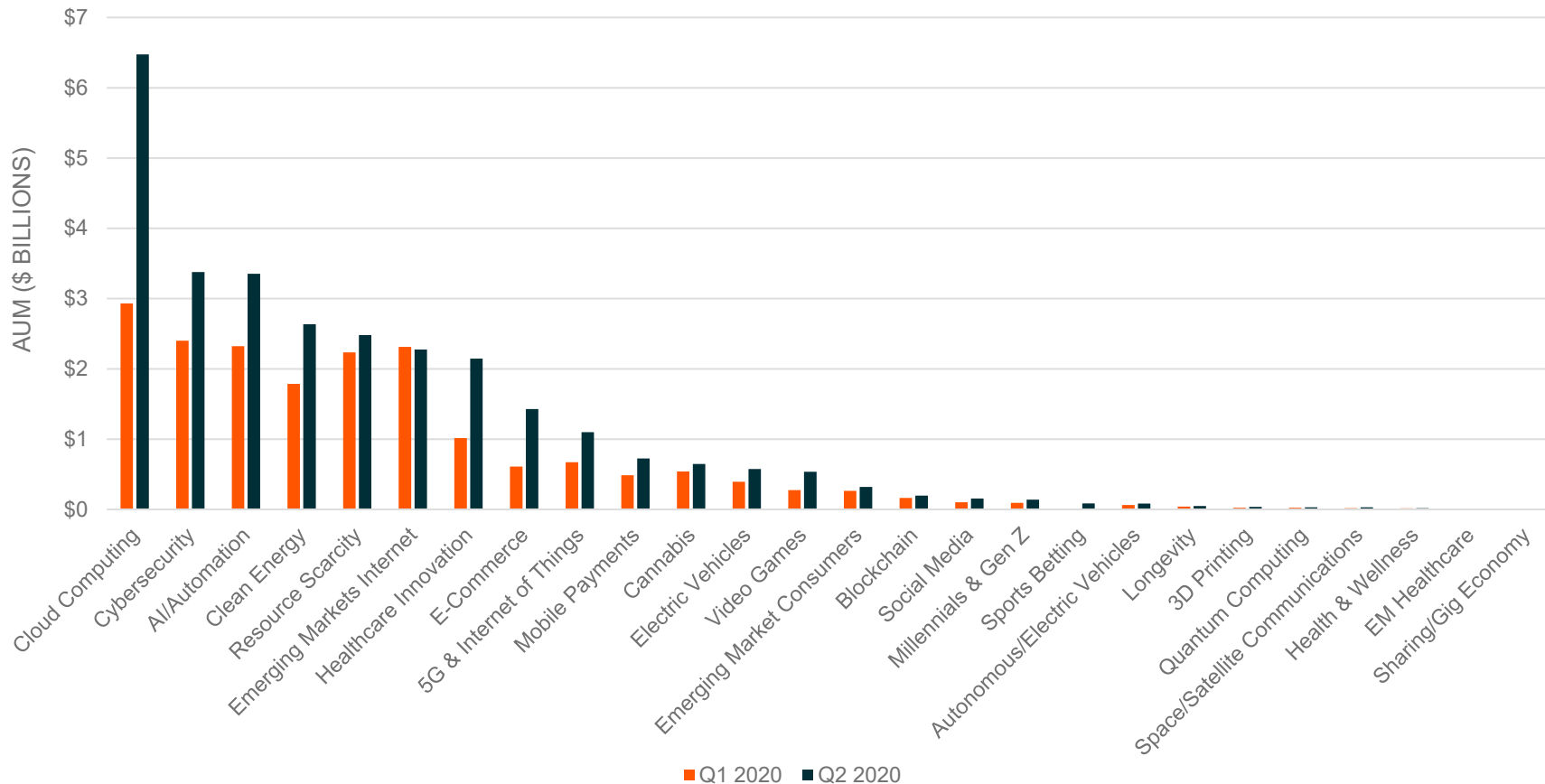
Note: Mega-Themes may or may not add up to the Category AUM given that some ETFs considered are broad and are only classified by its Category.



Thematic ETF Landscape

AUM increased across almost all themes, with the exception of Emerging Markets Internet. Cloud Computing and Healthcare Innovation saw the largest relative and absolute increases.

AUM by Themes



Source: Bloomberg. As of Jun 30, 2020.

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 | Q1 2020 (\$M) | Q2 2020 (\$M) | Qtr Flows (\$M) | Category | MegaTheme | Theme | Sub-Theme |
|--------|---------------------------------------------------------------|---------------|---------------|-----------------|-----------------------|-----------------|------------------------------|-------------------|
| QTUM | Defiance Quantum ETF | \$23.62 | \$30.85 | \$0.00 | Disruptive Technology | Big Data | Quantum Computing | |
| AIQ | Global X Future Analytics Tech ETF | \$39.15 | \$50.63 | -\$0.64 | Disruptive Technology | Big Data | | |
| THNQ | ROBO Global® Artificial Intelligence ETF | \$0.00 | \$3.66 | \$0.70 | Disruptive Technology | Big Data | | |
| GDAT | Goldman Sachs Motif Data-Driven World ETF | \$20.89 | \$32.95 | \$5.76 | Disruptive Technology | Big Data | | |
| SKYY | First Trust Cloud Computing ETF | \$2,105.10 | \$4,448.41 | \$1,333.73 | Disruptive Technology | Big Data | Cloud Computing | |
| SRVR | Pacer Benchmark Data & Infrastructure Real Estate SCTR ETF | \$368.62 | \$731.93 | \$281.79 | Disruptive Technology | Big Data | Cloud Computing | |
| WCLD | WisdomTree Cloud Computing Fund | \$36.22 | \$420.77 | \$323.52 | Disruptive Technology | Big Data | Cloud Computing | |
| CLOU | Global X Cloud Computing ETF | \$395.10 | \$806.02 | \$199.97 | Disruptive Technology | Big Data | Cloud Computing | |
| WFH | Direxion Work From Home ETF | \$0.00 | \$26.82 | \$7.57 | Disruptive Technology | Big Data | Cloud Computing | Remote Work |
| IVES | Wedbush ETFMG Global Cloud Technology ETF | \$26.13 | \$42.20 | \$3.53 | Disruptive Technology | Big Data | Cloud Computing | |
| BUG | Global X Cybersecurity ETF | \$5.21 | \$23.59 | \$16.42 | Disruptive Technology | Big Data | Cybersecurity | |
| HACK | ETFMG Prime Cyber Security ETF | \$1,159.86 | \$1,412.75 | -\$20.14 | Disruptive Technology | Big Data | Cybersecurity | |
| IHAK | iShares Cybersecurity and Tech ETF | \$16.05 | \$73.10 | \$49.37 | Disruptive Technology | Big Data | Cybersecurity | |
| CIBR | First Trust NASDAQ Cybersecurity ETF | \$1,204.68 | \$1,849.83 | \$276.60 | Disruptive Technology | Big Data | Cybersecurity | |
| FITE | SPDR Kensho Future Security ETF | \$15.78 | \$19.40 | -\$0.18 | Disruptive Technology | Big Data | Cybersecurity | |
| DRIV | Global X Autonomous & Electric Vehicles ETF | \$15.62 | \$23.26 | \$2.88 | Disruptive Technology | Mobility | Autonomous/Electric Vehicles | |
| EKAR | Innovation Shares NextGen Vehicles & Technology ETF | \$1.71 | \$2.21 | \$0.00 | Disruptive Technology | Mobility | Autonomous/Electric Vehicles | |
| MOTO | The SmartETFs Smart Transportation & Technology ETF | \$1.50 | \$2.03 | \$0.00 | Disruptive Technology | Mobility | Autonomous/Electric Vehicles | |
| KARS | KraneShares Electric Vehicles and Future Mobility Index ETF | \$17.12 | \$20.15 | -\$2.07 | Disruptive Technology | Mobility | Autonomous/Electric Vehicles | |
| BATT | Amplify Advanced Battery Metals and Materials ETF | \$3.37 | \$4.51 | \$0.00 | Disruptive Technology | Mobility | Electric Vehicles | Lithium/Batteries |
| LIT | Global X Lithium & Battery Tech ETF | \$390.44 | \$570.13 | \$7.35 | Disruptive Technology | Mobility | Electric Vehicles | Lithium/Batteries |
| HAIL | SPDR Kensho Smart Mobility ETF | \$4.29 | \$5.37 | -\$1.39 | Disruptive Technology | Mobility | Autonomous/Electric Vehicles | |
| IDRV | iShares Self-Driving EV and Tech ETF | \$23.04 | \$30.68 | \$0.01 | Disruptive Technology | Mobility | Autonomous/Electric Vehicles | |
| HERO | Global X Video Games & Esports ETF | \$68.86 | \$121.94 | \$22.35 | Disruptive Technology | Digital Content | Video Games | Esports |
| GAMR | ETFMG Video Game Tech ETF | \$72.84 | \$97.37 | \$0.00 | Disruptive Technology | Digital Content | Video Games | |
| ESPO | Video Gaming and eSports ETF | \$123.51 | \$290.13 | \$109.97 | Disruptive Technology | Digital Content | Video Games | Esports |
| NERD | Roundhill BITKRAFT Esports & Digital Entertainment ETF | \$10.27 | \$25.81 | \$9.41 | Disruptive Technology | Digital Content | Video Games | Esports |
| SOCL | Global X Social Media ETF | \$102.11 | \$156.44 | \$8.19 | Disruptive Technology | Digital Content | Social Media | |
| KOIN | Innovation Shares NextGen Protocol ETF | \$7.28 | \$8.99 | \$0.00 | Disruptive Technology | FinTech | Blockchain | |
| BLOK | Amplify Transformational Data Sharing ETF | \$71.54 | \$91.05 | -\$1.51 | Disruptive Technology | FinTech | Blockchain | |
| LEGR | First Trust Indxx Innovative Transaction & Process ETF | \$33.76 | \$36.78 | -\$3.10 | Disruptive Technology | FinTech | Blockchain | |
| BLCN | Reality Shares Nasdaq NexGen Economy ETF | \$51.10 | \$60.95 | -\$5.58 | Disruptive Technology | FinTech | Blockchain | |
| IPAY | ETFMG Prime Mobile Payments ETF | \$479.05 | \$718.86 | \$84.84 | Disruptive Technology | FinTech | Mobile Payments | |
| TPAY | Tortoise Digital Payments Infrastructure Fund | \$7.46 | \$6.69 | -\$2.65 | Disruptive Technology | FinTech | Mobile Payments | |
| LEND | Amplify CrowdBureau Peer-to-Peer Lending & Crowdfunding ETF | \$0.56 | \$0.67 | \$0.00 | Disruptive Technology | FinTech | Peer to Peer Lending | |
| FINX | Global X FinTech ETF | \$367.55 | \$559.65 | \$51.23 | Disruptive Technology | FinTech | | |
| GFIN | Goldman Sachs Motif Finance Reimagined ETF | \$16.23 | \$25.55 | \$4.38 | Disruptive Technology | FinTech | | |
| ARKF | Fintech Innovation ETF | \$88.13 | \$221.11 | \$77.70 | Disruptive Technology | FinTech | | |
| GRID | First Trust Nasdaq Clean Edge Smart GRID Infrastructure Index | \$27.88 | \$38.35 | \$2.49 | Disruptive Technology | Connectivity | 5G & Internet of Things | Smart Cities |
| SIMS | SPDR Kensho Intelligent Structure ETF | \$5.89 | \$6.28 | -\$1.55 | Disruptive Technology | Connectivity | 5G & Internet of Things | Smart Cities |
| FIVG | Defiance Next Gen Connectivity ETF | \$222.93 | \$351.66 | \$70.49 | Disruptive Technology | Connectivity | 5G & Internet of Things | |
| NXTG | First Trust Indxx NextG ETF | \$293.17 | \$476.44 | \$126.36 | Disruptive Technology | Connectivity | 5G & Internet of Things | |
| WUGI | Esoterica NextG Economy ETF | \$2.55 | \$5.42 | \$1.79 | Disruptive Technology | Connectivity | 5G & Internet of Things | |
| SNSR | Global X Internet of Things ETF | \$119.02 | \$221.54 | \$60.45 | Disruptive Technology | Connectivity | 5G & Internet of Things | |

Source: Bloomberg, Global X Research. Q1 2020 as of 03/31/2020; Q2 2020 as of 06/30/2020.

Appendix – Classification of Thematic ETFs

| Ticker | Name | Q1 2020 (\$M) | Q2 2020 (\$M) | Qtr Flows (\$M) | Category | MegaTheme | Theme | Sub-Theme |
|--------|-------------------------------------------------------------|---------------|---------------|-----------------|-----------------------|--------------|--------------------------------|-----------|
| KWEB | KraneShares CSI China Internet ETF | \$2,313.64 | \$2,276.25 | -\$672.49 | Disruptive Technology | Connectivity | Emerging Markets Internet | |
| PNQI | Invesco NASDAQ Internet ETF | \$459.45 | \$690.96 | \$35.13 | Disruptive Technology | Connectivity | | |
| ARKW | ARK Next Generation Internet ETF | \$473.16 | \$1,305.71 | \$478.53 | Disruptive Technology | Connectivity | | |
| XWEB | SPDR S&P Internet ETF | \$10.39 | \$24.36 | \$6.36 | Disruptive Technology | Connectivity | | |
| OGIG | O'Shares Global Internet Giants ETF | \$48.25 | \$272.50 | \$174.93 | Disruptive Technology | Connectivity | | |
| ROKT | SPDR Kensho Final Frontiers ETF | \$4.01 | \$8.80 | \$3.71 | Disruptive Technology | Connectivity | Space/Satellite Communications | |
| UFO | Procure Space ETF | \$14.52 | \$20.59 | \$3.62 | Disruptive Technology | Connectivity | Space/Satellite Communications | |
| PRNT | 3D Printing ETF | \$25.10 | \$36.89 | \$6.07 | Disruptive Technology | Robotics | 3D Printing | |
| ARKQ | ARK Autonomous Technology & Robotics ETF | \$161.42 | \$316.72 | \$82.17 | Disruptive Technology | Robotics | AI/Automation | |
| BOTZ | Global X Robotics & Artificial Intelligence ETF | \$1,086.48 | \$1,584.34 | \$156.78 | Disruptive Technology | Robotics | AI/Automation | |
| ROBO | ROBO Global Robotics and Automation Index ETF | \$922.36 | \$1,179.52 | -\$10.15 | Disruptive Technology | Robotics | AI/Automation | |
| ROBT | First Trust Nasdaq Artificial Intelligence and Robotics ETF | \$65.13 | \$109.63 | \$20.71 | Disruptive Technology | Robotics | AI/Automation | |
| IRBO | iShares Robotics and Artificial Intelligence ETF | \$75.87 | \$141.70 | \$41.87 | Disruptive Technology | Robotics | AI/Automation | |
| GMAN | Goldman Sachs Motif Manufacturing Revolution ETF | \$10.98 | \$18.84 | \$4.18 | Disruptive Technology | Robotics | AI/Automation | |
| IQM | Franklin Intelligent Machines ETF | \$2.07 | \$2.83 | \$0.00 | Disruptive Technology | Robotics | AI/Automation | |
| XT | iShares Exponential Technologies ETF | \$1,934.57 | \$2,444.19 | \$29.95 | Disruptive Technology | | | |
| XITK | SPDR FactSet Innovative Technology ETF | \$51.77 | \$148.21 | \$61.39 | Disruptive Technology | | | |
| DTEC | ALPS Disruptive Technologies ETF | \$67.00 | \$88.04 | -\$2.78 | Disruptive Technology | | | |
| LOUP | Innovator Loup Frontier Tech ETF | \$9.01 | \$12.33 | -\$0.03 | Disruptive Technology | | | |
| ARKK | ARK Innovation ETF | \$2,008.12 | \$4,805.32 | \$1,321.82 | Disruptive Technology | | | |
| KOMP | SPDR Kensho New Economies Composite ETF | \$430.77 | \$1,011.13 | \$389.09 | Disruptive Technology | | | |
| IZRL | ARK Israel Innovative Technology ETF | \$16.13 | \$45.26 | \$23.67 | Disruptive Technology | | | |
| IETC | iShares Evolved U.S. Technology ETF | \$29.06 | \$57.25 | \$18.85 | Disruptive Technology | | | |
| PLAT | WisdomTree Modern Tech Platforms Fund | \$1.69 | \$3.25 | \$0.00 | Disruptive Technology | | | |
| TECB | iShares US Tech Breakthrough Multisector ETF | \$4.50 | \$334.63 | \$313.24 | Disruptive Technology | | | |
| AWAY | ETFMG Travel Tech ETF | \$1.43 | \$8.26 | \$6.65 | People & Demographics | New Consumer | | |
| BETZ | Roundhill Sports Betting & iGaming ETF | \$0.00 | \$86.76 | \$90.31 | People & Demographics | New Consumer | Sports Betting | |
| BUYZ | Franklin Disruptive Commerce ETF | \$2.13 | \$7.11 | \$3.29 | People & Demographics | New Consumer | E-Commerce | |
| IBUY | Amplify Online Retail ETF | \$181.11 | \$501.95 | \$173.00 | People & Demographics | New Consumer | E-Commerce | |
| ONLN | ProShares Online Retail ETF | \$27.57 | \$156.75 | \$92.99 | People & Demographics | New Consumer | E-Commerce | |
| EBIZ | Global X E-commerce ETF | \$6.05 | \$31.80 | \$20.05 | People & Demographics | New Consumer | E-Commerce | |
| XBUY | Amplify International Online Retail ETF | \$1.63 | \$5.95 | \$3.10 | People & Demographics | New Consumer | E-Commerce | |
| EMQQ | Emerging Markets Internet & Ecommerce ETF | \$392.10 | \$724.37 | \$127.47 | People & Demographics | New Consumer | E-Commerce | |
| KEMQ | KraneShares Emerging Markets Consumer Technology Index ETF | \$22.48 | \$87.08 | \$58.37 | People & Demographics | New Consumer | Emerging Market Consumers | |
| ECON | Columbia Emerging Markets Consumer ETF | \$174.92 | \$161.64 | -\$42.77 | People & Demographics | New Consumer | Emerging Market Consumers | |
| INCO | Columbia India Consumer ETF | \$67.76 | \$72.07 | -\$10.43 | People & Demographics | New Consumer | Emerging Market Consumers | |
| MILN | Global X Millennials Thematic ETF | \$62.08 | \$75.81 | -\$8.96 | People & Demographics | New Consumer | Millennials & Gen Z | |
| GENY | Principal Millennials Index ETF | \$18.21 | \$25.71 | \$0.00 | People & Demographics | New Consumer | Millennials & Gen Z | |
| GBUY | Goldman Sachs Motif New Age Consumer ETF | \$13.36 | \$36.83 | \$16.24 | People & Demographics | New Consumer | Millennials & Gen Z | |
| GIGE | SoFi Gig Economy ETF | \$6.36 | \$9.53 | \$0.00 | People & Demographics | New Consumer | Sharing/Gig Economy | |
| POTX | Global X Cannabis ETF | \$7.65 | \$10.67 | \$2.05 | People & Demographics | New Consumer | Cannabis | |
| YOLO | AdvisorShares Pure Cannabis ET | \$32.30 | \$45.50 | \$3.66 | People & Demographics | New Consumer | Cannabis | |
| MJ | ETFMG Alternative Harvest ETF | \$473.20 | \$555.05 | \$18.13 | People & Demographics | New Consumer | Cannabis | |
| THCX | The Cannabis ETF | \$15.07 | \$20.51 | \$2.45 | People & Demographics | New Consumer | Cannabis | |
| TOKE | Cambria Cannabis ETF | \$8.01 | \$10.40 | \$0.65 | People & Demographics | New Consumer | Cannabis | |
| CNBS | Amplify Seymour Cannabis ETF | \$3.50 | \$4.92 | \$0.58 | People & Demographics | New Consumer | Cannabis | |

Source: Bloomberg, Global X Research. Q1 2020 as of 03/31/2020; Q2 2020 as of 06/30/2020.

Appendix – Classification of Thematic ETFs

| Ticker | Name | Q1 2020 (\$M) | Q2 2020 (\$M) | Qtr Flows (\$M) | Category | MegaTheme | Theme | Sub-Theme |
|--------|-----------------------------------------------------|---------------|---------------|-----------------|-----------------------|----------------------------|-----------------------|-----------------|
| VIRS | Pacer BioThreat ETF | \$0.00 | \$2.50 | \$0.00 | People & Demographics | Health | Healthcare Innovation | Public Health |
| ARKG | Genomic Revolution ETF | \$521.31 | \$1,323.94 | \$402.72 | People & Demographics | Health | Healthcare Innovation | Genomics |
| GNOM | Global X Genomics & Biotechnology ETF | \$17.69 | \$41.25 | \$14.99 | People & Demographics | Health | Healthcare Innovation | Genomics |
| GDNA | Goldman Sachs Motif Human Evolution ETF | \$16.93 | \$28.44 | \$7.04 | People & Demographics | Health | Healthcare Innovation | Genomics |
| IDNA | iShares Genomics Immunology and Healthcare ETF | \$24.06 | \$113.54 | \$71.10 | People & Demographics | Health | Healthcare Innovation | Genomics |
| PBE | Invesco Dynamic Biotechnology & Genome ETF | \$195.34 | \$238.90 | -\$5.66 | People & Demographics | Health | Healthcare Innovation | Genomics |
| GERM | ETFMG Treatments, Testing and Advancements ET | \$0.00 | \$21.33 | \$17.63 | People & Demographics | Health | Healthcare Innovation | |
| HELX | Franklin Genomic Discovery ETF | \$2.26 | \$3.08 | \$0.00 | People & Demographics | Health | Healthcare Innovation | Genomics |
| SBIO | ALPS Medical Breakthroughs ETF | \$144.27 | \$190.27 | -\$10.61 | People & Demographics | Health | Healthcare Innovation | |
| BTEC | Principal Healthcare Innovators Index ETF | \$46.20 | \$95.34 | \$25.76 | People & Demographics | Health | Healthcare Innovation | |
| IEIH | iShares Evolved U.S. Innovative Healthcare ETF | \$5.06 | \$19.44 | \$12.86 | People & Demographics | Health | Healthcare Innovation | |
| CNCR | Loncar Cancer Immunotherapy ETF | \$31.79 | \$43.48 | \$0.37 | People & Demographics | Health | Healthcare Innovation | Immunotherapy |
| HTEC | ROBO Global Healthcare Technology & Innovation | \$9.99 | \$25.35 | \$11.51 | People & Demographics | Health | Healthcare Innovation | |
| BFIT | Global X Health & Wellness Thematic ETF | \$16.54 | \$18.87 | -\$1.83 | People & Demographics | Health | Health & Wellness | |
| LNGR | Global X Longevity Thematic ETF | \$22.26 | \$26.86 | -\$0.07 | People & Demographics | Health | Longevity | |
| OLD | Long-Term Care ETF | \$18.18 | \$21.17 | -\$1.94 | People & Demographics | Health | Longevity | |
| CHNA | Loncar China BioPharma ETF | \$10.91 | \$11.50 | -\$2.55 | People & Demographics | Health | EM Healthcare | |
| CNRG | SPDR Kensho Clean Power ETF | \$16.70 | \$29.42 | \$5.16 | Physical Environment | Climate Change | Clean Energy | |
| PBW | Invesco WilderHill Clean Energy ETF | \$205.03 | \$366.51 | \$48.84 | Physical Environment | Climate Change | Clean Energy | |
| QCLN | First Trust Nasdaq Clean Edge Green Energy ETF | \$149.00 | \$244.88 | \$26.32 | Physical Environment | Climate Change | Clean Energy | |
| SMOG | VanEck Vectors Global Alternative Energy ETF | \$83.32 | \$112.99 | \$0.00 | Physical Environment | Climate Change | Clean Energy | |
| ICLN | iShares Global Clean Energy ETF | \$499.22 | \$721.34 | \$69.90 | Physical Environment | Climate Change | Clean Energy | |
| ACES | ALPS Clean Energy ETF | \$127.98 | \$210.85 | \$23.60 | Physical Environment | Climate Change | Clean Energy | |
| PZD | Invesco Cleantech ETF | \$196.88 | \$213.31 | -\$41.76 | Physical Environment | Climate Change | Clean Energy | |
| TAN | Invesco Solar ETF | \$419.96 | \$632.42 | \$33.29 | Physical Environment | Climate Change | Clean Energy | Solar |
| FAN | First Trust ISE Global Wind Energy Index Fund | \$88.75 | \$104.63 | \$0.55 | Physical Environment | Climate Change | Clean Energy | Wind |
| EVX | Environmental Services ETF | \$27.03 | \$32.57 | -\$0.07 | Physical Environment | Climate Change | Resource Scarcity | Waste/Recycling |
| TBLU | Tortoise Global Water ESG Fund | \$13.80 | \$15.52 | \$0.07 | Physical Environment | Climate Change | Resource Scarcity | Water |
| PHO | Invesco Water Resources ETF | \$904.06 | \$1,015.47 | -\$30.16 | Physical Environment | Climate Change | Resource Scarcity | Water |
| CGW | Invesco S&P Global Water Index ETF | \$567.64 | \$639.19 | \$0.00 | Physical Environment | Climate Change | Resource Scarcity | Water |
| FIW | First Trust Water ETF | \$442.40 | \$490.08 | -\$24.53 | Physical Environment | Climate Change | Resource Scarcity | Water |
| PIO | Invesco Global Water ETF | \$164.55 | \$190.95 | -\$1.32 | Physical Environment | Climate Change | Resource Scarcity | Water |
| KGRN | KraneShares MSCI China Environment ETF | \$1.66 | \$2.15 | \$0.00 | Physical Environment | Climate Change | | |
| REMX | VanEck Vectors Rare Earth/Strategic Metals ETF | \$113.10 | \$96.85 | -\$42.15 | Physical Environment | Climate Change | Resource Scarcity | Rare Earths |
| PAVE | Global X U.S. Infrastructure Development ETF | \$92.34 | \$175.30 | \$64.67 | Physical Environment | Infrastructure Development | | |
| IFRA | iShares U.S. Infrastructure ETF | \$5.07 | \$16.56 | \$10.25 | Physical Environment | Infrastructure Development | | |
| AIRR | First Trust RBA American Industrial Renaissance ETF | \$33.08 | \$39.99 | -\$0.07 | Physical Environment | Infrastructure Development | | |
| OBOR | KraneShares MSCI One Belt One Road ETF | \$7.11 | \$8.19 | \$0.00 | Physical Environment | Infrastructure Development | | |
| GXTG | Global X Thematic Growth ETF | \$4.44 | \$10.89 | \$4.57 | Disruptive Technology | | | |

Source: Bloomberg, Global X Research. Q1 2020 as of 03/31/2020; Q2 2020 as of 06/30/2020.

GLOBAL X

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