



GLOBAL X ETFs RESEARCH

The Next Big Theme: April 2022



Authored by:

Mayuranki De
Research Analyst

Date: April 19, 2022
Topic: **Disruptive Technology, Physical Environment, People & Demographics**



Related Posts

[Four Genomic Companies with Upcoming Catalysts](#)

[5G Powers a New Generation for the Internet of Things](#)

[Connectivity \(Internet of Things & Digital Infrastructure\)](#)

[Big Data \(Cloud Computing & Cybersecurity\)](#)

Renewable Energy

Private Sector Publicizes Climate Change Effects

The U.S. Securities and Exchange Commission (SEC) proposed mandating publicly traded companies to report details about their greenhouse gas emissions and their carbon footprint alongside their regular financials and risk disclosures. Companies with Scope 3 emissions, which are the emissions generated by their suppliers and customers, would also be required to disclose whether these emissions are material considerations for investors.

In Europe, the European Commission released an outline of a plan to make Europe independent of Russian fossil fuels before 2030. Coined REPowerEU, the plan addresses rising energy prices and offers steps to replenish gas stocks within the year. Through resource diversification, the EU demand for Russian gas should decrease by two-thirds in 2022. In the United States, the recently announced CHARGE Act enforces forward-looking transmission planning in a bid to lower energy prices.

AgTech & Food Innovation

Gauging Global Food Security

The United Nations forecasted up to a 20% rise in international food and feed prices over the 2022/23 marketing season, which it says would lead to an increase in global malnourishment.¹ The Food and Agricultural Organization (FAO) expressed concern about Ukraine's ability to harvest crops and the prospects for Russian exports in the near term. Together, Russia and Ukraine account for more than one-third of global cereal exports.² Adding to concerns about global food inflation, fertilizer prices are up 43%, with Russia being the world's largest fertilizer exporter and natural gas being a key component of production.³ The United States is attempting to mitigate the price spike by collaborating with G7 countries to strengthen global food supply chains.

Electric Vehicles

EVs More in Demand Than Ever



Car manufacturers are doubling down on their commitments to electrification at a time when rising gas prices present a unique opportunity for the electric vehicle (EV) push. With Tesla's 2.4 million-square-foot Berlin Gigafactory now fully operational, the company began assembly in one of their most critical markets.⁴ Tesla announced plans to build 500,000 electric vehicles a year in Europe, where they proposed an effective ban on the sale of new petrol and diesel cars from 2035.^{5,6}

In addition, collaborations within the EV space continue to form. Automaker Stellantis revealed plans to build a battery plant with LG Energy Solution in Canada, aiming to produce up to 45 GWh annually.⁷ Auto giants Volkswagen and Ford extended their partnership. Volkswagen will provide EV architecture for a second Ford model in Europe. With this added support, Ford doubled EV production estimates for 2023–2029 to 1.2 million.⁸ Honda and Sony intend to form a new company that manufactures cutting-edge battery electrics paired with mobility services.

Cybersecurity

Not an Option, a Necessity

With Russian cyberattacks a persistent threat, the Biden Administration emphasized the need for private sector and critical infrastructure owners and operators to join the federal government in making cybersecurity a nationwide effort. A new law requires companies to notify the Cybersecurity and Infrastructure Security Agency (CISA) about any attacks within 72 hours of discovery and about paying ransom to hackers within 24 hours of payment.⁹ The CISA will also team up with specific departments on cybersecurity measures. For example, it joined the Department of Health and Human Services (HHS) to introduce the Healthcare Cybersecurity Act, which aims to protect against data breaches and avoid increased healthcare delivery costs. Similarly, the EU is implementing a framework that includes a new inter-institutional Cybersecurity Board and a Computer Emergency Response Team (CERT-EU).

Genomics & Aging Population

Drug Approvals on the Fast Track

The House Committee on Energy and Commerce unveiled the Accelerated Approval Integrity Act to certify that drugs approved through the Food and Drug Administration's (FDA) accelerated approval pathway provide a real clinical benefit to patients. The new review process would remove products from circulation that lack evidence of effectiveness. The bill also offers the FDA numerous resources to follow up quickly on medicines that receive accelerated approval. The bill is positive for drugs designed to treat rarer diseases, including certain types of cancers, as accelerated approval helps the drugs reach patients sooner.

Internet of Things & Autonomous Vehicles

Chip Technology Explores Untapped Sectors

Nvidia is banking on automotive as their next multibillion-dollar business. The company unveiled an updated autonomous driving platform, historically a small segment of its business, and announced a massive \$11 billion order for its auto technology pipeline over the next six years.¹⁰ At Nvidia GTC, the company's annual developer conference, Nvidia estimated the potential market for auto-related technology services at \$300 billion.¹¹ Nvidia already signed contracts with major car manufacturers, including Lucid, BYD, Mercedes-Benz, and Jaguar/Land Rover. Another semiconductor giant, Intel, invested an initial €33 billion for



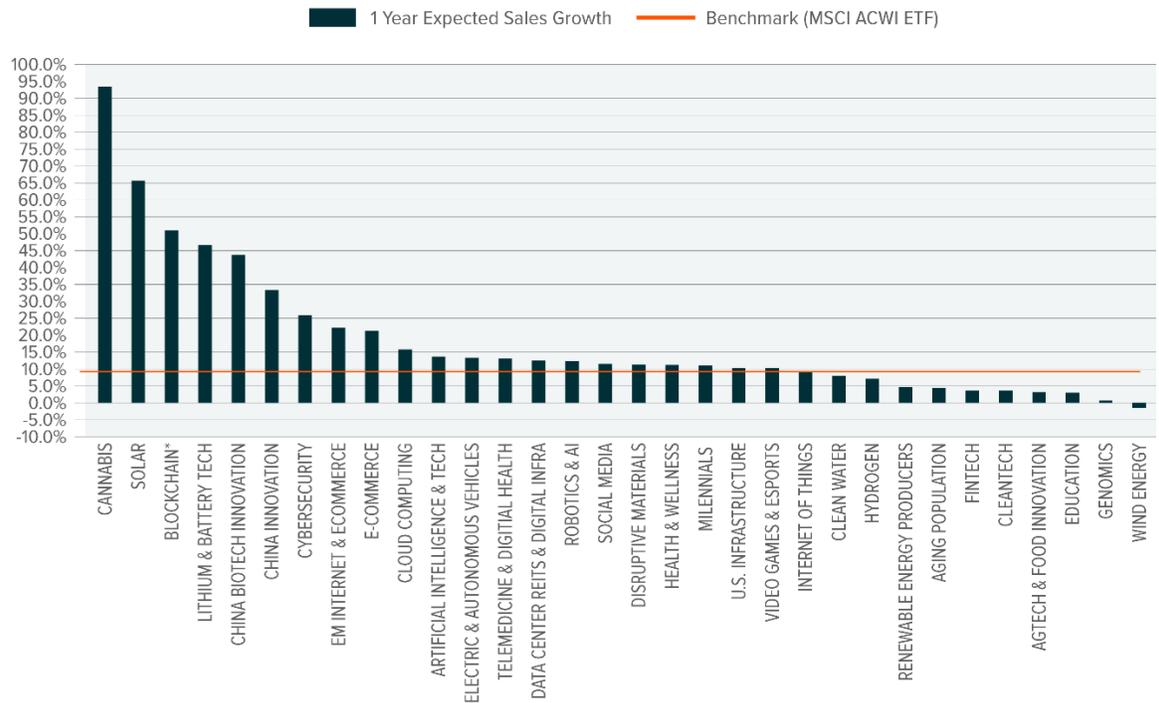
semiconductor research and development, as well as manufacturing, in the EU. Construction is expected to begin in early 2023 with production capabilities to commence in 2027.¹²

THE NUMBERS

The following charts examine returns and sales growth expectations by theme, based on their corresponding ETFs.

THEMATIC SALES GROWTH

Source: Bloomberg, March 31, 2022, Global X ETFs.



Note: Forward looking based on data and analysis from 3/31/2022.

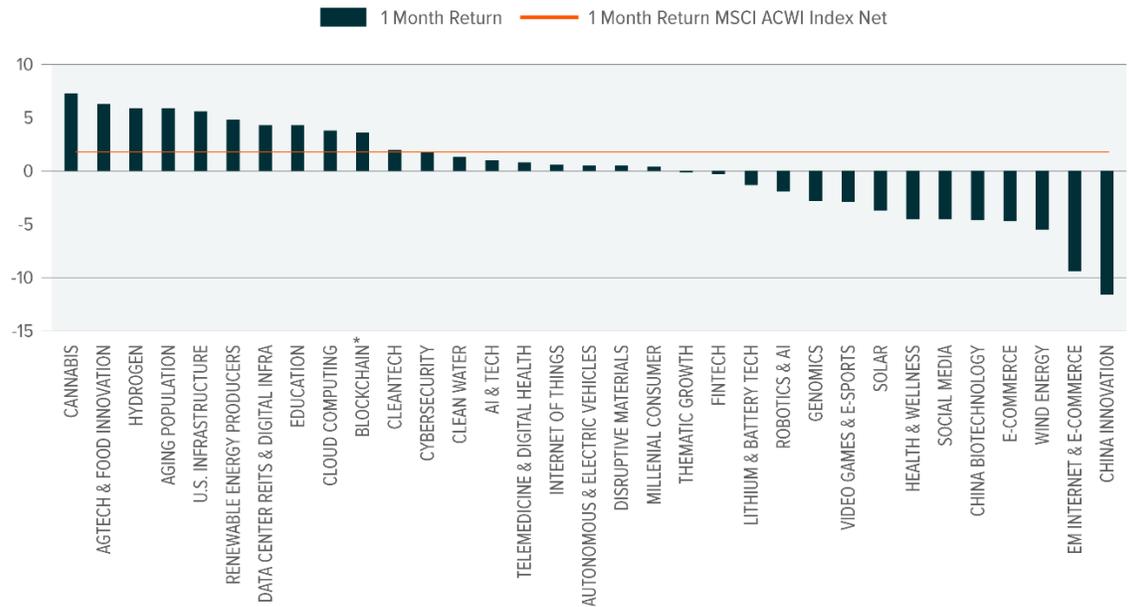
1 year annualized forward sales growth is the consensus analyst expectations for total sales growth in the next 12 months

*Blockchain reflects figures according to BKCH ETF



MARCH 2022 THEMATIC ETF RETURNS (%)

Source: Bloomberg, March 31, 2022, Global X ETFs.



Note: The performance data quoted represents past performance and does not guarantee future results.

*Blockchain reflects figures according to BKCH ETF

Performance data quoted represents past performance and does not guarantee future results. Investment return and principal value of an investment will fluctuate so that an investors' shares, when sold or redeemed, may be worth more or less than their original cost. Current performance may be higher or lower than the performance quoted. High short-term performance of the fund is unusual and investors should not expect such performance to be repeated. For performance data current to the most recent month end, please call 1-888-493-8631 or visit www.globalxetfs.com.

Standard Performance		Cumulative % Data as of month end 03/31/22			Avg. Annualized % Data as of quarter end 03/31/22				
	Gross Expense Ratio	1 Month	3 Month	Since Inception	1 Year	3 Year	5 Year	10 Year	Since Inception
Robotics & Artificial Intelligence Inception Date 9/12/2016	NAV	-1.08%	-18.64%	102.70%	-11.19%	13.97%	11.73%	-	13.58%
	Market Price	-1.89%	-19.28%	101.05%	-12.32%	13.54%	11.43%	-	13.41%
	Index	-1.02%	-18.44%	106.94%	-10.33%	14.62%	12.14%	-	14.00%
Fintech Inception Date 9/12/2016	NAV	-0.06%	-19.82%	124.86%	-23.18%	6.89%	15.96%	-	15.72%
	Market Price	-0.34%	-20.01%	124.35%	-23.56%	6.80%	15.87%	-	15.67%
	Index	-0.22%	-19.77%	132.45%	-22.88%	7.50%	16.67%	-	16.41%
Internet Of Things Inception Date 9/12/2016	NAV	0.36%	-14.94%	132.05%	0.83%	22.89%	14.27%	-	16.38%
	Market Price	0.64%	-15.30%	131.43%	0.26%	22.73%	14.15%	-	16.32%
	Index	0.39%	-14.89%	136.34%	1.22%	23.30%	14.66%	-	16.76%
Cloud Computing Inception Date 4/12/2019	NAV	3.92%	-17.12%	48.57%	-13.12%	-	-	-	14.27%
	Market Price	3.82%	-17.05%	49.23%	-13.08%	-	-	-	14.45%
	Index	3.94%	-17.01%	51.21%	-12.58%	-	-	-	14.94%
Social Media Inception Date 11/14/2011	NAV	-3.50%	-20.73%	194.01%	-35.54%	10.19%	11.89%	11.11%	10.95%
	Market Price	-4.54%	-21.32%	191.88%	-36.31%	9.98%	11.67%	10.98%	10.87%
	Index	-4.69%	-21.19%	208.89%	-35.66%	10.58%	12.35%	11.62%	11.47%
Artificial Intelligence & Technology Inception Date 5/11/2018	NAV	0.78%	-14.86%	83.55%	-4.37%	20.31%	-	-	16.91%
	Market Price	1.01%	-15.06%	83.35%	-4.95%	20.27%	-	-	16.88%
	Index	0.87%	-14.76%	86.34%	-3.88%	20.86%	-	-	17.35%
Autonomous & Electric Vehicles Inception Date 4/13/2018	NAV	0.51%	-9.41%	93.38%	4.81%	28.79%	-	-	18.10%
	Market Price	0.47%	-9.73%	92.83%	4.19%	28.54%	-	-	18.02%
	Index	0.22%	-9.53%	94.57%	5.09%	29.08%	-	-	18.27%
Lithium And Battery Tech Inception Date 7/22/2010	NAV	0.98%	-8.53%	192.35%	34.39%	40.94%	24.64%	10.31%	9.61%
	Market Price	-1.33%	-8.83%	191.03%	31.97%	40.85%	24.42%	10.28%	9.57%
	Index	1.02%	-8.42%	208.79%	35.50%	41.13%	24.63%	10.71%	10.12%



Genomics And Biotechnology Inception Date 4/5/2019	0.50%	NAV	-3.16%	-24.18%	-1.54%	-32.95%	-	-	-	-0.52%
		Market Price	-2.78%	-24.28%	0.37%	-33.12%	-	-	-	0.12%
		Index	-3.14%	-24.12%	-0.05%	-32.69%	-	-	-	-0.02%
Millennial Consumer Inception Date 5/4/2016	0.50%	NAV	0.58%	-14.60%	149.31%	-9.16%	15.64%	17.61%	-	16.73%
		Market Price	0.41%	-14.54%	148.20%	-9.31%	15.60%	17.54%	-	16.64%
		Index	0.63%	-14.49%	156.43%	-8.69%	16.27%	18.20%	-	17.27%
Aging Population Inception Date 5/09/2016	0.50%	NAV	5.83%	-0.59%	96.77%	4.32%	10.88%	12.10%	-	12.17%
		Market Price	5.91%	-0.52%	100.92%	4.02%	10.69%	11.95%	-	12.57%
		Index	5.82%	-0.57%	99.78%	4.46%	11.09%	12.34%	-	12.45%
Health And Wellness Inception Date 5/9/2016	0.50%	NAV	-3.69%	-14.58%	68.04%	-8.26%	7.60%	10.91%	-	9.21%
		Market Price	-4.49%	-15.07%	68.06%	-9.64%	7.15%	10.66%	-	9.21%
		Index	-3.68%	-14.54%	72.07%	-7.99%	7.98%	11.32%	-	9.64%
E-Commerce Inception Date 11/27/2018	0.50%	NAV	-5.05%	-19.25%	50.28%	-34.62%	8.62%	-	-	12.96%
		Market Price	-4.72%	-19.16%	50.28%	-34.79%	8.54%	-	-	12.96%
		Index	-4.99%	-19.17%	52.50%	-34.38%	9.09%	-	-	13.46%
Us Infrastructure Development Inception Date 3/6/2017	0.47%	NAV	5.61%	-1.77%	94.02%	13.56%	22.45%	14.62%	-	13.97%
		Market Price	5.64%	-1.77%	94.16%	13.42%	22.45%	14.56%	-	13.99%
		Index	5.66%	-1.55%	99.16%	14.24%	23.13%	15.21%	-	14.55%
Cannabis Inception Date 9/17/2019	0.50%	NAV	7.95%	-6.86%	-75.42%	-64.78%	-	-	-	-42.50%
		Market Price	7.27%	-6.19%	-75.88%	-64.85%	-	-	-	-42.92%
		Index	7.72%	-7.52%	-78.46%	-65.69%	-	-	-	-45.40%
Video Games & Esports Inception Date 10/25/2019	0.50%	NAV	-2.33%	-10.99%	70.78%	-18.85%	-	-	-	24.61%
		Market Price	-2.86%	-11.02%	70.12%	-19.50%	-	-	-	24.41%
		Index	-2.30%	-10.95%	72.84%	-18.47%	-	-	-	25.22%
Cybersecurity Inception Date 10/25/2019	0.50%	NAV	2.21%	-1.07%	109.12%	26.88%	-	-	-	35.43%
		Market Price	1.81%	-1.10%	112.68%	26.25%	-	-	-	36.37%
		Index	2.27%	-0.96%	110.99%	27.08%	-	-	-	35.92%
Thematic Growth Inception Date 10/25/2019	0.50%	NAV	0.08%	-16.58%	50.78%	-21.11%	-	-	-	18.39%
		Market Price	-0.13%	-16.73%	51.54%	-21.58%	-	-	-	18.63%
		Index	0.09%	-16.64%	49.78%	-21.44%	-	-	-	18.06%
Education Inception Date 7/10/2020	0.50%	NAV	4.53%	-10.53%	-46.86%	-51.10%	-	-	-	-30.71%
		Market Price	4.27%	-10.14%	-46.92%	-51.37%	-	-	-	-30.76%
		Index	4.54%	-10.49%	-46.45%	-50.87%	-	-	-	-30.40%
Telemedicine & Digital Health Inception Date 7/29/2020	0.68%	NAV	0.35%	-12.15%	-4.50%	-23.87%	-	-	-	-2.72%
		Market Price	0.76%	-12.09%	-4.50%	-23.95%	-	-	-	-2.72%
		Index	0.37%	-12.04%	-3.57%	-23.39%	-	-	-	-2.15%
China Biotech Innovation Inception Date 9/22/2020	0.65%	NAV	-3.71%	-18.79%	-22.66%	-27.65%	-	-	-	-15.54%
		Market Price	-4.63%	-19.19%	-23.53%	-28.90%	-	-	-	-16.15%
		Index	-3.62%	-18.64%	-21.90%	-27.15%	-	-	-	-15.00%
Cleantech Inception Date 10/27/2020	0.50%	NAV	2.96%	-5.49%	11.26%	-23.35%	-	-	-	7.76%
		Market Price	2.03%	-5.74%	10.59%	-24.64%	-	-	-	7.31%
		Index	3.02%	-5.35%	8.94%	-25.04%	-	-	-	6.19%
Data Center Reits & Digital Infrastructure Inception Date 10/27/2020	0.50%	NAV	4.53%	-11.17%	11.25%	6.57%	-	-	-	7.75%
		Market Price	4.34%	-11.71%	11.03%	6.03%	-	-	-	7.61%
		Index	4.50%	-11.09%	11.32%	6.67%	-	-	-	7.82%
Emerging Markets Internet & E-Commerce Inception Date 11/09/2020	0.65%	NAV	-7.87%	-21.21%	-46.99%	-50.10%	-	-	-	-36.62%
		Market Price	-9.35%	-21.77%	-47.53%	-51.04%	-	-	-	-37.09%
		Index	-8.92%	-21.66%	-46.90%	-50.14%	-	-	-	-36.60%
Renewable Energy Producers Inception Date 05/27/2015	0.65%	NAV	5.94%	3.77%	38.49%	3.50%	10.73%	10.82%	-	4.87%
		Market Price	4.80%	3.33%	37.60%	2.73%	10.34%	10.63%	-	4.77%
		Index	5.21%	3.44%	41.56%	3.53%	10.95%	11.23%	-	5.20%
China Innovation Inception Date 02/22/2021	0.75%	NAV	-9.77%	-20.56%	-42.36%	-27.48%	-	-	-	-39.37%
		Market Price	-11.56%	-21.69%	-43.40%	-29.57%	-	-	-	-40.36%
		Index	-8.31%	-14.26%	-33.23%	-24.20%	-	-	-	-30.70%
Clean Water Inception Date 04/08/2021	0.50%	NAV	1.26%	-12.98%	2.44%	-	-	-	-	-
		Market Price	1.26%	-13.01%	2.57%	-	-	-	-	-
		Index	1.34%	-12.92%	2.78%	-	-	-	-	-
Agtech And Food Innovation ETF Inception Date 07/12/2021	0.50%	NAV	5.99%	0.66%	-21.25%	-	-	-	-	-
		Market Price	6.26%	0.46%	-21.09%	-	-	-	-	-
		Index	6.02%	0.73%	-21.07%	-	-	-	-	-
Hydrogen Inception Date 07/12/2021	0.50%	NAV	5.02%	-7.44%	-23.96%	-	-	-	-	-
		Market Price	5.91%	-7.08%	-23.44%	-	-	-	-	-
		Index	5.06%	-7.33%	-23.73%	-	-	-	-	-
Blockchain Inception Date 07/12/2021	0.50%	NAV	3.38%	-20.39%	-27.47%	-	-	-	-	-
		Market Price	3.57%	-20.34%	-27.40%	-	-	-	-	-
		Index	3.41%	-20.51%	-27.80%	-	-	-	-	-
Solar Inception Date 09/08/2021	0.50%	NAV	-2.02%	-8.45%	-11.76%	-	-	-	-	-
		Market Price	-3.71%	-9.40%	-11.93%	-	-	-	-	-
		Index	-1.94%	-8.32%	-11.50%	-	-	-	-	-
Wind Energy Inception Date 09/08/2021	0.50%	NAV	-3.93%	-7.55%	-13.17%	-	-	-	-	-
		Market Price	-5.51%	-8.33%	-13.53%	-	-	-	-	-
		Index	-3.90%	-7.44%	-12.92%	-	-	-	-	-
Disruptive Materials Inception Date 01/24/22	0.59%	NAV	0.53%	-	12.51%	-	-	-	-	-
		Market Price	0.45%	-	13.26%	-	-	-	-	-
		Index	0.56%	-	12.60%	-	-	-	-	-



P/S AND EV/S

Source: Bloomberg, data is as of 3/31/22 and 2/28/22, Global X ETFs.

Ticker	Name	P/S		EV/S	
		3/31/2022	2/28/2022	3/31/2022	2/28/2022
BUG	Global X Cybersecurity ETF	9.72	8.42	9.36	9.71
CLOU	Global X Cloud Computing ETF	6.83	6.66	7.21	7.07
GNOM	Global X Genomics & Biotechnology ETF	6.68	7.12	6.00	6.88
HYDR	Global X Hydrogen ETF	6.18	6.25	5.83	5.80
BKCH	Global X Blockchain ETF	5.77	6.33	7.60	8.56
CHB	Global X China Biotech Innovation ETF	5.66	5.95	5.52	5.75
VPN	Global X Data Center REITs & Digital Infrastructure ETF	5.18	5.20	8.33	6.44
AGNG	Global X Aging Population ETF	4.53	4.31	5.18	4.94
FINX	Global X FinTech ETF	4.48	3.61	5.24	24.72
KEJI	Global X China Innovation ETF	3.95	4.59	3.08	3.47
BOTZ	Global X Robotics & Artificial Intelligence ETF	3.89	3.96	3.76	3.81
HERO	Global X Video Games & Esports ETF	3.87	3.99	3.63	3.69
SOCL	Global X Social Media ETF	3.86	3.97	3.66	3.85
RNRG	Global X Renewable Energy Producers ETF	3.57	3.47	5.48	5.45
EDOC	Global X Telemedicine & Digital Health ETF	3.46	3.56	3.81	3.90
POTX	Global X Cannabis ETF	3.38	2.90	8.09	6.35
AQWA	Global X Clean Water ETF	2.97	2.94	4.13	3.96
AIQ	Global X Artificial Intelligence & Technology ETF	2.97	3.67	3.76	3.73
SNSR	Global X Internet of Things ETF	2.91	2.89	3.21	3.20
SPX	S&P 500 Index	2.90	2.80	3.19	3.09
RAYS	Global X Solar ETF	2.83	3.08	3.51	4.02
MILN	Global X Millennial Consumer ETF	2.61	2.64	3.00	3.03
LIT	Global X Lithium and Battery Tech ETF	2.40	2.41	2.62	2.64
DMAT	Global X Disruptive Materials ETF	2.23	2.25	2.55	2.59
EWEB	Global X Emerging Markets Internet & E-commerce ETF	2.11	2.15	2.01	2.02
ACWI	MSCI ACWI Index	2.07	2.03	2.34	2.31
WNDY	Global X Wind Energy ETF	1.82	1.84	3.07	3.00
EDUT	Global X Education ETF	1.73	1.64	1.53	1.47
KROP	Global X AgTech & Food Innovation ETF	1.69	1.56	1.87	1.83
CTEC	Global X Cleantech ETF	1.58	1.54	1.85	1.76
PAVE	Global X U.S. Infrastructure Development ETF	1.57	1.48	1.87	1.80
BFIT	Global X Health & Wellness ETF	1.37	1.43	1.53	1.61
EBIZ	Global X E-commerce ETF	1.33	1.39	1.27	1.38
DRIV	Global X Autonomous & Electric Vehicles ETF	1.13	1.11	1.24	1.17

P/S and EV/S refer to price-to-sales and enterprise value-to-sales, respectively.



F12 MONTH SALES GROWTH, PSG, AND EVSG

Source: Bloomberg, data is as of 3/31/22 and 2/28/22, Global X ETFs.

Ticker	Name	F12M Sales (%)		PSG		EVSG	
		3/31/22	2/28/22	3/31/22	2/28/22	3/31/22	2/28/22
POTX	Global X Cannabis ETF	93.4%	83.2%	0.04	0.03	0.09	0.08
RAYS	Global X Solar ETF	65.7%	66.9%	0.04	0.05	0.05	0.06
BKCH	Global X Blockchain ETF	51.0%	47.7%	0.11	0.13	0.15	0.18
LIT	Global X Lithium and Battery Tech ETF	46.7%	43.2%	0.05	0.06	0.06	0.06
CHB	Global X China Biotech Innovation ETF	43.7%	47.8%	0.13	0.12	0.13	0.12
KEJI	Global X China Innovation ETF	33.4%	36.7%	0.12	0.12	0.09	0.09
BUG	Global X Cybersecurity ETF	25.9%	24.0%	0.37	0.35	0.36	0.40
EWEB	Global X Emerging Markets Internet & E-commerce ETF	22.2%	29.5%	0.09	0.07	0.09	0.07
EBIZ	Global X E-commerce ETF	21.3%	22.3%	0.06	0.06	0.06	0.06
CLOU	Global X Cloud Computing ETF	15.8%	14.5%	0.43	0.46	0.46	0.49
AIQ	Global X Artificial Intelligence & Technology ETF	13.7%	12.5%	0.22	0.29	0.27	0.30
DRIV	Global X Autonomous & Electric Vehicles ETF	13.3%	13.2%	0.08	0.08	0.09	0.09
EDOC	Global X Telemedicine & Digital Health ETF	13.1%	12.6%	0.26	0.28	0.29	0.31
VPN	Global X Data Center REITs & Digital Infrastructure ETF	12.5%	8.3%	0.41	0.63	0.67	0.78
BOTZ	Global X Robotics & Artificial Intelligence ETF	12.4%	11.3%	0.31	0.35	0.30	0.34
SOCL	Global X Social Media ETF	11.5%	13.0%	0.34	0.31	0.32	0.30
DMAT	Global X Disruptive Materials ETF	11.3%	7.8%	0.20	0.29	0.23	0.33
BFIT	Global X Health & Wellness ETF	11.2%	12.0%	0.12	0.12	0.14	0.13
MILN	Global X Millennial Consumer ETF	11.0%	10.5%	0.24	0.25	0.27	0.29
PAVE	Global X U.S. Infrastructure Development ETF	10.3%	8.4%	0.15	0.18	0.18	0.21
SPX	S&P 500 Index	10.3%	8.7%	0.28	0.32	0.31	0.35
HERO	Global X Video Games & Esports ETF	10.3%	14.4%	0.38	0.28	0.35	0.26
ACWI	MSCI ACWI Index	9.9%	8.5%	0.21	0.24	0.24	0.27
SNSR	Global X Internet of Things ETF	9.1%	8.7%	0.32	0.33	0.35	0.37
AQWA	Global X Clean Water ETF	8.0%	8.0%	0.37	0.37	0.52	0.49
HYDR	Global X Hydrogen ETF	7.1%	11.8%	0.87	0.53	0.82	0.49
RNRG	Global X Renewable Energy Producers ETF	4.7%	9.5%	0.76	0.36	1.16	0.57
AGNG	Global X Aging Population ETF	4.4%	4.4%	1.04	0.97	1.18	1.11
FINX	Global X FinTech ETF	3.7%	6.3%	1.20	0.57	1.40	3.92
CTEC	Global X Cleantech ETF	3.6%	0.9%	0.44	1.63	0.51	1.87
KROP	Global X AgTech & Food Innovation ETF	3.2%	1.8%	0.53	0.87	0.58	1.01
EDUT	Global X Education ETF	3.0%	7.7%	0.58	0.21	0.51	0.19
GNOM	Global X Genomics & Biotechnology ETF	0.7%	5.8%	9.48	1.23	8.52	1.19
WNDY	Global X Wind Energy ETF	-1.5%	-0.9%	-1.23	-1.95	-2.08	-3.18

Note: F12 Sales Growth refers to the consensus analyst expectations for total sales growth in the next 12 months. PSG and EVSG refer to Price-to-Sales over F12 Sales Growth and Enterprise Value over F12 Sales Growth, respectively. N/A's reflect a negative growth number in the denominator and similar to traditional PEG ratios aren't typically displayed as such (hence the N/A).

INTRO TO THEMATIC INVESTING COURSE – ELIGIBLE FOR CE CREDIT

Global X has developed an interactive, self-guided [Intro to Thematic Investing course](#), that is designed to share the latest ideas and best practices for incorporating thematic investing into a portfolio.

This program has been accepted for 1.0 hour of CE credit towards the CFP®, CIMA®, CIMC®, CPWA® or RMA certifications. To receive credit, course takers must submit accurate and complete information on the



requested forms, complete the entire course, and receive a 70% or higher on the Intro to Thematic Investing Quiz.

For Canadian course takers: This program has been reviewed by FP Canada and qualifies for 1 FP Canada-Approved CE Credit, in the category of Product Knowledge, towards the CFP® certification or QAFP™ certification. To receive credit, course takers must submit accurate and complete information (including Job Title) on the requested forms, complete the entire course, and receive a 70% or higher on the Intro to Thematic Investing Quiz.

Questions on receiving CE credit may be sent to: Education@globalxetfs.com

KEEP UP WITH THE LATEST RESEARCH FROM GLOBAL X

To learn more about the disruptive themes changing our world, read the latest research from Global X, including:

- [Four Genomic Companies with Upcoming Catalysts](#)
- [5G Powers a New Generation for the Internet of Things](#)
- [Connectivity \(Internet of Things & Digital Infrastructure\)](#)
- [Big Data \(Cloud Computing & Cybersecurity\)](#)
- [New Investments Ready to Propel AV Technology Forward](#)

ETF HOLDINGS AND PERFORMANCE:

To see individual ETF holdings and current performance across the Global X Thematic Growth Suite, click the below links:

- **Disruptive Technology:** [Artificial Intelligence & Technology ETF \(AIQ\)](#), [Robotics & Artificial Intelligence ETF \(BOTZ\)](#), [Cybersecurity ETF \(BUG\)](#), [Cloud Computing ETF \(CLOU\)](#), [Autonomous & Electric Vehicles ETF \(DRIV\)](#), [FinTech ETF \(FINX\)](#), [Video Games & Esports ETF \(HERO\)](#), [Lithium and Battery Tech ETF \(LIT\)](#), [Internet of Things ETF \(SNSR\)](#), [Social Media ETF \(SOCL\)](#), [China Biotech Innovation ETF \(CHB\)](#), [Data Center REITs & Digital Infrastructure ETF \(VPN\)](#), [Emerging Markets Internet & E-Commerce ETF \(EWEB\)](#), [AgTech & Food Innovation ETF \(KROP\)](#), [Blockchain ETF \(BKCH\)](#), [Blockchain & Bitcoin Strategy ETF \(BITS\)](#), [Disruptive Materials ETF \(DMAT\)](#)
- **People and Demographics:** [Cannabis ETF \(POTX\)](#), [Millennial Consumer ETF \(MILN\)](#), [Health & Wellness ETF \(BFIT\)](#), [E-Commerce ETF \(EBIZ\)](#), [Genomics & Biotechnology ETF \(GNOM\)](#), [Aging Population ETF \(AGNG\)](#), [Telemedicine & Digital Health ETF \(EDOC\)](#), [Education ETF \(EDUT\)](#)
- **Physical Environment:** [U.S. Infrastructure Development ETF \(PAVE\)](#), [CleanTech ETF \(CTEC\)](#), [Renewable Energy Producers \(RNRG\)](#), [Clean Water ETF \(AQWA\)](#), [Hydrogen ETF \(HYDR\)](#), [Solar ETF \(RAYS\)](#), [Wind Energy ETF \(WNDY\)](#)
- **Multi-Theme:** [Thematic Growth ETF \(GXTG\)](#), [China Innovation ETF \(KEJI\)](#)

1. Balmer, C. (2022, March 11). U.N. agency warns Ukraine war could trigger 20% food price rise. *Reuters*.
2. Ibid.
3. Elkin, E. (2022, March 28). Fertilizer price surges 43% to fresh record as supplies tighten. *Bloomberg*.
4. Schuetze, C. F. (2022, March 22). Elon Musk opens Tesla's first European plant, near Berlin. *The New York Times*.
5. Ibid.
6. Carey, N., & Steitz, C. (2021, July 14). EU proposes effective ban for new fossil-fuel cars from 2035. *Reuters*.
7. Halvorson, B. (2022, March 28). Nissan and Toyota EV tax credit, Stellantis-LG battery plant, cobalt and EV affordability: Today's car news. *Green Car Reports*.



8. Rosevear, J. (2022, March 14). Ford and Volkswagen expand EV partnership to a second electric model for the European market. *CNBC*.
9. Conger, K. (2022, March 23). With eye to Russia, Biden administration asks companies to report cyberattacks. *The New York Times*.
10. Hyman, J. (2022, March 25). Why Nvidia's CEO sees auto chips and tech as the company's next big business. *Yahoo! Finance*.
11. Ibid.
12. Business Wire. (2022, March 15). *Intel announces initial investment of more than €33 billion for semiconductor R&D and manufacturing in EU*. Intel.

Investing involves risk, including the possible loss of principal. There is no guarantee the strategies discussed will be successful. International investments may involve risk of capital loss from unfavorable fluctuation in currency values, from differences in generally accepted accounting principles or from economic or political instability in other nations. Emerging markets involve heightened risks related to the same factors as well as increased volatility and lower trading volume. Narrowly focused investments may be subject to higher volatility. The funds are non-diversified.

Information Technology companies can be affected by rapid product obsolescence, and intense industry competition. Risks include disruption in service caused by hardware or software failure; interruptions or delays in service by third-parties; security breaches involving certain private, sensitive, proprietary and confidential information managed and transmitted; and privacy concerns and laws, evolving Internet regulation and other foreign or domestic regulations that may limit or otherwise affect the operations. Healthcare, Genomics, Biotechnology and Medical Device companies can be affected by government regulations, expiring patents, rapid product obsolescence, and intense industry competition.

The companies in which DRIV invests may be subject to rapid changes in technology, intense competition, rapid obsolescence of products and services, loss of intellectual property protections, evolving industry standards and frequent new product productions, and changes in business cycles and government regulation. There are additional risks associated with investing in mining industries.

The value of securities issued by companies in the energy sector may decline for many reasons, including, without limitation, changes in energy prices; international politics; energy conservation; the success of exploration projects; natural disasters or other catastrophes; changes in exchange rates, interest rates, or economic conditions; changes in demand for energy products and services; and tax and other government regulatory policies.

Carefully consider the Funds' investment objectives, risk factors, charges, and expenses before investing. This and additional information can be found in the Funds' summary or full prospectus, which may be obtained by calling 1.888.493.8631, or by visiting globalxetfs.com. Please read the prospectus carefully before investing.

Global X Management Company LLC serves as an advisor to Funds. The Funds are distributed by SEI Investments Distribution Co. (SIDCO), which is not affiliated with Global X Management Company LLC or Mirae Asset Global Investments.

Shares of ETFs are bought and sold at market price (not NAV) and are not individually redeemed from the Fund. Brokerage commissions will reduce returns. Beginning October 15, 2020, market price returns are based on the official closing price of an ETF share or, if the official closing price isn't available, the midpoint between the national best bid and national best offer ("NBBO") as of the time the ETF calculates current NAV per share. Prior to October 15, 2020, market price returns were based on the midpoint between the Bid and Ask price. NAVs are calculated using prices as of 4:00 PM Eastern Time. The returns shown do not represent the returns you would receive if you traded shares at other times.

Indices are unmanaged and do not include the effect of fees, expenses or sales charges. One cannot invest directly in an index. This information is not intended to be individual or personalized investment or tax advice and should not be used for trading purposes. Please consult a financial advisor or tax professional for more information regarding your investment and/or tax situation.

