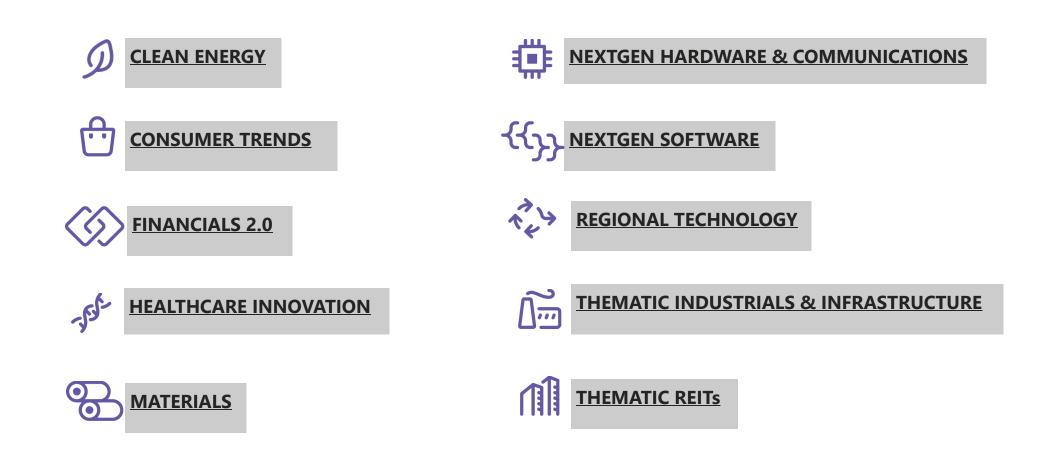
OCTOBER 2023

Thematic quarterly

Trends in the global equity markets through a thematic lens



Your world, indexed.



The MarketVector Quarterly Thematic Update provides a bird's eye view on trends in the global equity markets through a thematic lens. We've organized our family of thematic indexes into ten meta themes so investors can get a sense of the performance of which megatrends are leading or lagging, while also being able to discover the leading indexes and individual stocks within those broader themes.

Ø Clean Energy

- The Clean Energy metatheme finished the third guarter of 2023 down 10.65%, extending the trend from the previous guarter. The solar energy industry led the decline, witnessing a sharp drop of nearly 30%, with wind energy following closely at a 19% loss. Potential factors contributing to the underperformance include the stabilization of conventional energy commodity prices and increasing long-term interest rates. These factors predominantly impact companies that heavily rely on financial leverage or generate revenue from customers who use significant financial leverage.
- On the other hand, the drive for energy independence among nations worldwide, coupled with concerns that Russia or its regions might restrict uranium exports to the world market, pushed uranium prices to their highest in 12 years. As a result, the MarketVector Global Uranium and Nuclear Infrastructure Index finished the quarter up 17.68%.

{{}} NextGen Software

- The NextGen Software Metatheme which covers some of the year's hottest trends like artificial intelligence, big data, and digital advertising fell 5.09% in Q3 following a gain of 7.76% in Q2. While finishing the guarter below its 50-day moving average, the metatheme bounced off its 200-day average heading into Q4.
- The broader momentum in the Big Data and AI sector tempered a bit with a slight contraction this guarter, yet still showcasing impressive year-to-date returns: The BlueStar Big Data & AI Index is up over 37% YTD and the BlueStar Artificial Intelligence Index is up 27.42% YTD, despite contractions of 1.92% and 4.72%, respectively, in Q3. The Three-month ADV in Al-driven credit analysis company, Pagaya technologies, more than doubled against its historical average in Q3 as the stock surged nearly 13%. Quantum computing leader. lonQ, also continued its positive momentum with a gain of nearly 10% on the guarter after experiencing heavier-than-usual volume.
- In the digital advertising arena, shares of Tremor International, a U.S.-based advertising technology firm, plunged 50% this guarter. The bulk of this drop was concentrated on a single day in August after an earnings announcement that included news of an acquisition and a downward adjustment to their annual revenue projection. The company pointed to macroeconomic unpredictability as influencing major advertisers' and agencies' budget decisions and their willingness to invest in new marketing campaigns[1]

Financials 2.0

• The prior quarter's top-performing index, the Global Digital Asset Equities, experienced a reversal this guarter, shifting from a nearly 44% gain last guarter to a 19.91% decline this one. While underlying cryptocurrencies including bitcoin and Ethereum have been relatively stable, bitcoin mining companies such as Marathon Digital and Hut 8 Mining Corp have experienced dramatic declines of about 40% each.

Materials

• The Materials metatheme was among the bottom performers, having declined just over 10% on the guarter. The rare metals industry was the worst performer, slipping nearly 20%. Clean tech metals are also generating negative performance of 5.5%. Lithium prices have plummeted to a two-year low due to the weaker than expected electric vehicle demand since EV subsidies have abated in the US and China.

^[1] https://www.globenewswire.com/news-release/2023/08/17/2727069/0/en/Tremor-International-Reports-Results-for-the-Threeand-Six-Months-Ended-June-30-2023.html

Thematic REITs

- the extent they remain safe) ensures that REITs remain a competitive investment vehicle.
- outperformed by more than 3% in the quarter while still down 20.25% on the year.
- earnings and REITs look to refinance heavy volumes of debt over the coming 12-24 months.





NextGen Hardware and Communications

vear for the semiconductor industry.



- This inflation moderation is a positive indicator for stability in the region.
- ^[2] https://www.alchip.com/press-release/alchip-technologies-set-record-net-income-and-earnings-per-share/ [3] https://tradingeconomics.com/india/inflation-cpi

🕅 MarketVector

• Interest rate pressure continued to impact valuation in the Thematic REIT space, and the drawdown extended 5.58% this guarter. Although there are concerns about fixed-rate debt rolling over at higher rates, the increase in dividend yields (to

 The US residential REIT segment, as defined by the BlueStar Top 10 US Residential Real Estate Index, corrected relative to the broader Thematic REIT meta theme in Q3 with underperformance of roughly 5%. However, the index is still up a surprising 13.27% in 2023 YTD. On the other hand, the MarketVector US Listed Office and Commercials REITs index

• It appears that segmentation within REITs is becoming more important to investors who are looking to relative value opportunities while navigating a challenging macro environment where higher longer-term interest rates pose a threat to

• Furthermore, the work-from-home trend might be waning as more companies are requiring employees to return to the office, especially in the financial and technology sectors posing the question on whether the office REIT segment has become a deep value play or is just a massive value trap. When looking at the strength of the residential sector, while the housing market for single family homes is freezing, REITs tend to operate in the rental space. With home purchases off the table for many American families, they are forced to continue renting-providing some stability to the residential REIT segment. Any signs of a weakening labor market could begin to dampen the prospects for these REITs going forward.

• The Consumer Trends metatheme experienced a guarterly decline of 8.04%, dipping under the 50 and 200 SMA. One notable stock decliner was the once-hot IPO oat milk producer, Oatly. Despite citing stronger revenues and gross margins in their Q1 2023 financial results, the stock dropped about 56% this guarter, over concerns about long term profitability. This sharp decline underscores the volatile nature of market sentiment, even in the face of positive financial performance

• The NextGen Hardware and Communications metatheme held up relatively well, retreating 3.63% following last guarter's impressive gain of 8.79%. A notable performer this guarter was Alchip Technologies, a fabless semiconductor firm from Taiwan. The company's stock rose nearly 50% over the guarter, following a 150% YoY revenue growth cited in their Q2 results. Nearly 87% of this revenue was attributed to designs for their 7nm semiconductor technology.^[2] Alchip designed these semiconductors to compete in the high performance computing segment, with applications including data centers, AI/ML, and gaming, among others. The MVIS US Listed Semiconductor 25 Index cooled off 5.01% after an action-packed

• The Regional Technology metatheme held its ground and finished the guarter down 2.09%. Once again, the MVIS Digital India Index demonstrated resiliency this quarter, realizing a gain of 5.64% following last quarters increase of 11.96%. India's food inflation rate eased more than expected in the 3rd quarter, ticking in at 6.83% while the consensus was 7%.

MarketVector

MarketVector Q3 Insights

- Quarterly Thematic Index Performance Review Q2 2023
 - <u>ReIntroducing Index: MVSMC Whitepaper July 2023</u>
- Introducing Index: BlueStar Online Gambling, Video Gaming and eSports Index
 - Gaming Meets Gambling
 - Jet-Set Comeback: Travel Industry's World Tour
 - <u>Semiconductors are Rising, But Oil Stocks are Surging</u>
 - Eastern Europe's Push for Enhanced Security
 - Introducing the BlueStar Global Robotics & 3D Printing Index
 - Just Another Bric in the Wall
 - Like it? Just Print it
 - <u>Qualcomm-Apple Deal Is a Reminder that 5G Cycle is Still in Early Innings</u>
- Surging Uranium Prices Highlight Nuclear Energy's Growing Role in Sustainable
 Development

New Thematic Indexes launched

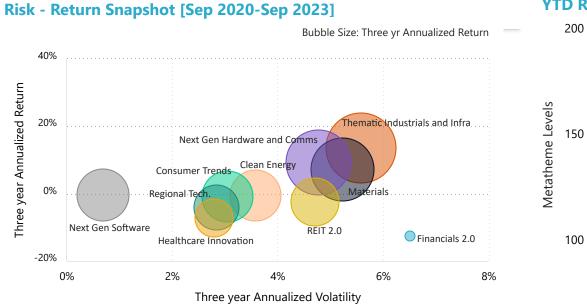
Index Name	Ticker	Metatheme
BlueStar [®] Big Data & Artificial Intelligence Index	BDAI	Next Gen Software
MarketVector [™] US Listed Office and Commercial REITs Index	MVORT	REIT 2.0

New Product Launches Tracking MarketVector Thematic Indexes

Focus Index	Ticker	Metatheme	Issuer
MarketVector ${}^{\scriptscriptstyle TM}$ US Listed Office and Commercial REITs Index	MVORT	REIT 2.0	Vaneck - US

Thematic Quarterly Q3 2023







Metatheme Returns

Metatheme	Quarterly	YTD	LTM
Clean Energy	-10.65%	4.51%	-0.07%
Consumer Trends	-8.04%	13.20%	17.37%
Financials 2.0	-7.28%	33.78%	8.35%
Healthcare Innovation	-13.56%	-11.58%	-10.73%
Materials	-10.30%	-11.17%	-3.18%
Next Gen Hardware and Comm	-3.63%	22.05%	23.97%
Next Gen Software	-5.09%	26.01%	23.52%
Regional Technology	-2.09%	0.41%	9.84%
REIT 2.0	-5.58%	-4.06%	-2.91%
Thematic Industrials and Infra	-6.93%	23.56%	37.97%

Top 10 Indexes by Quarterly Return

Index	Metatheme	Return ▼
MVector Glb Uran & Nucl Infra	Clean Energy	17.68%
MVIS Digi India	Regional Tech	5.65%
Bstar US Int Infra	Next Gen Hardware and Comm	2.92%
Bstar China Int Software	Regional Tech	1.09%
Bstar Glb E-Brokers & Digi Cap Mkt	Financials 2.0	0.49%
MVector Glb Defense Ind	Thematic Industrials and Infra	-0.27%
Bstar Big Data & Al	Next Gen Software	-1.92%
Bstar Total Security	Thematic Industrials and Infra	-2.05%
MVIS Glb Agribusiness	Materials	-3.62%
Bstar Asia Tech	Regional Tech	-3.98%

Bottom 10 Indexes by Quarterly Return

Index	Metatheme	Return
Bstar Solar Ind	Clean Energy	-29.27%
MVIS Glb Digi Asset Equity	Financials 2.0	-19.91%
MVIS Glb Rare Metals	Materials	-19.67%
Bstar Wind Ind	Clean Energy	-18.93%
MVIS Glb Bionic Health ESG	Healthcare Innovation	-18.76%
Bstar Genomic Health Care	Healthcare Innovation	-16.74%
MVIS Glb Low Carbon	Clean Energy	-14.33%
MV Glb Clean Energy	Clean Energy	-12.14%
MVIS Glb Future Health ESG	Healthcare Innovation	-11.73%
Bstar eVehicle Ind	Clean Energy	-6.19%

Thematic Quarterly Heatmap Q3 2023

Consumer Trends			Thematic Industrials	and Infra	Healthcare Innovation		Regional Te	ech	
Bstar E-Comm US Lead -3.85%	MVector Glb Metaverse & e-Gam -3.41%	nes ESG Bstar Autonomous Driving -6.90%	Bstar Europe Infra -4.41%	MVIS GIb Space Ind ESG -10.14%	MVIS Glb Future Health ESG -7 -11.73%	Vector Bioproduction Tech & Tools ESG .15%	Bstar Israel -10.93%	Glb Tech Bstar A -3.98%	
MVIS GIb Future Food ESG -8.08%	5 Bstar Hotels, Airlines, & Cr -12.65%	ruises Bstar Glb oGamb vGame & eSpo -10.27%	MVIS Glb Circular Economy -9.12%	Bstar Glb Robotics & 3D Printing -12.86%	MVIS Glb Bionic Health ESG -18.76%	star Genomic Health Care 16.74%	MVIS Digi I 5.65%	India Bstar Chi 1.09%	ina Int Software
MVIS GIb vGame & eSpo	MVIS Glb Gamir	ng Bstar Travel & Vac	MVector Glb Defense Ind -0.27%	obotics Bstar Total Security	Next Gen Hardware a	nd Comm	Finar	ncials 2.0	
-7.26%	-10.97%	-8.87%	-9.79%	-2.05%	Bstar US Int Infra 2.92%	MVIS US Semicon -5.01%	25 Bstar -7.09	r Fintech 9%	MVIS Gib Digi Assat Equiliy -19.91%
Clean Energy					Bstar 5G Comm -7.10%	Bstar ML & Quant C -5.23%	omp Bstar Gi 0.49%	b E-Brokers & Digi Cap Mk	ct
C 4004		AV Glb Clean Energy 12.14%	REIT 2.0						
				MV US Office	Materials		Next	Gen Software	
MVector Glb Uran & Nucl Infra	-; IVIS Glb Low Carbon	Sstar Solar Ind 29.27%		-2.16%	MVIS Glb Rare Metals -19.67%	MVIS Glb Agribusi -3.62%	ness Bstar -1.92	Big Data & Al %	Bstar Al -4.72%
		/VIS Glb Hydrogen ESG 14.02%	Bstar Top 10 US Res RealEst -9.45%	MVIS US Mortg REITs -5.90%	MVIS Glb CTech Metals -8.19%	5 MVIS Glb Jr Gold Mi -8.94%	ners Bstar -8.63	Digi Ad	

MarketVector ™

Clean Energy **4** -10.65% QoQ



Clean Energy Three-Year Returns



Clean Energy ----- 50 SMA ----- 200 SMA

Top 10 Stocks by Quarterly Return

Stock Name	Return
CENTRUS ENERGY CORP	74.32%
DEEP YELLOW LTD	74.17%
NAK KAZATOMPROM AO	64.43%
BOSS ENERGY LIMITED	56.45%
URANIUM ENERGY CORP	51.47%
FISSION URANIUM CORP	50.82%
PALADIN ENERGY LTD	50.68%
RIVIAN AUTOMOTIVE INC	45.74%
KEMPOWER OYJ	42.88%
SPROTT PHYSICAL URANIUM TRUST	38.64%

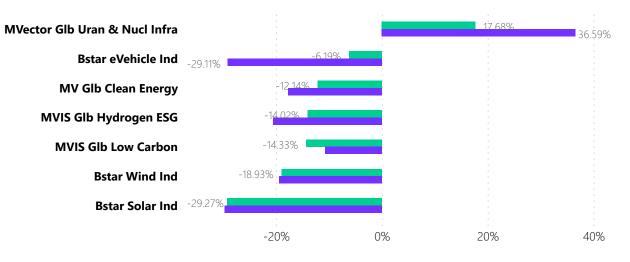
Bottom 10 Stocks by Quarterly Return

Stock Name	Return
ABALANCE CORP	-68.52%
CHALICE MINING LTD	-62.94%
LILIUM BV	-59.47%
MAXEON SOLAR ORD	-58.84%
MULLEN AUTOMOTIVE INC	-53.16%
WORKHORSE GROUP INC	-52.46%
SOLAREDGE TECHNOLOGIES INC	-51.86%
BLINK CHARGING CO	-48.91%
FREYR BATTERY SA	-47.70%
SAYONA MINING LTD	-46.86%

Index Name

Index Performance

Quarterly Return • 1 Year Return



Stock Name	3M/12M ADTV	Return
MULLEN AUTOMOTIVE INC	3.42	-53.16%
ARCHER AVIATION INC	2.42	22.82%
NIKOLA CORP	2.25	13.77%
WORKHORSE GROUP INC	1.69	-52.46%
CANOO INC	1.66	2.21%
HANNON ARMSTRONG	1.65	-15.20%
LILIUM BV	1.60	-59.47%
PUNGKUK ALCOHOL IND CO LTD	1.60	-17.20%
RIVIAN AUTOMOTIVE INC	1.58	45.74%
IHI CORP	1.53	-19.37%



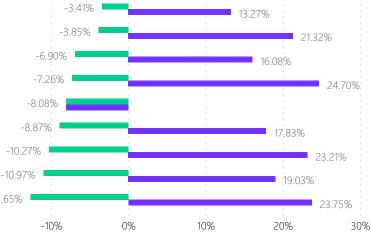
Consumer Trends Three-Year Returns



Index Performance

● Quarterly Return ● 1 Year Return





Top 10 Stocks by Quarterly Return

Stock Name	Return ▼
SENECA FOODS CORP - CL A	64.72%
APPLOVIN CORP	55.31%
RUSH STREET INTERACTIVE INC	48.08%
RIVIAN AUTOMOTIVE INC	45.74%
AFFIRM HOLDINGS INC	38.75%
XPENG INC - ADR	36.81%
SUPER GROUP SGHC LTD	27.24%
EDGIO INC	26.42%
WILLIAMS-SONOMA INC	24.18%
MARQETA INC-A	22.79%

Bottom 10 Stocks by Quarterly Return

Stock Name	Return
BENSON HILL INC	-74.50%
MICROCLOUD HOLOGRAM INC	-57.37%
OATLY GROUP AB	-56.29%
CHEWY INC - CLASS A	-53.74%
CONTROLADORA VUELA CIA DE AV	-51.33%
SUNOPTA INC	-48.53%
JETBLUE AIRWAYS CORP	-48.08%
SKILLZ INC	-43.96%
STAR ENTERTAINMENT GRP LTD/THE	-42.87%
ALLEGIANT TRAVEL CO	-39.14%

Stock Name	3M/12M ADTV ▼	Return
AURORA INNOVATION INC	2.18	-20.07%
NEXTEER AUTOMOTIVE GROUP LTD	1.96	4.40%
MICROCLOUD HOLOGRAM INC	1.93	-57.37%
INNOVIZ TECHNOLOGIES LTD	1.70	-31.34%
SENSIENT TECHNOLOGIES CORP	1.67	-17.78%
SENECA FOODS CORP - CL A	1.65	64.72%
PENN ENTERTAINMENT INC	1.61	-4.49%
RIVIAN AUTOMOTIVE INC	1.58	45.74%
COPA HOLDINGS SA	1.49	-19.41%
GODADDY INC	1.49	-0.87%

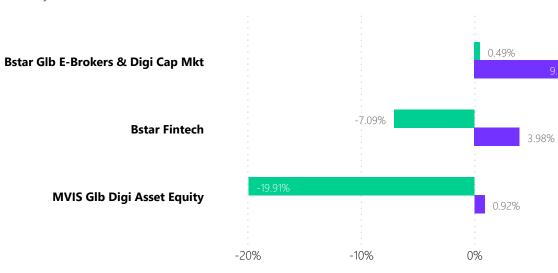
Financials 2.0 **J** -7.28% **QoQ**

™ MarketVector[™]

Financials 2.0 Three-Year Returns



Index Performance



Top 10 Stocks by Quarterly Return

Stock Name	Return T
UP FINTECH HOLDING LTD - ADR	80.28%
MONEYLION INC	80.18%
FUTU HOLDINGS LTD-ADR	45.47%
AFFIRM HOLDINGS INC	38.75%
MARQETA INC-A	22.79%
GUIDEWIRE SOFTWARE INC	18.30%
GLOBAL PAYMENTS INC	17.12%
TRADEWEB MARKETS INC	17.11%
TP ICAP PLC	12.50%
WESTERN UN CO	12.36%

Bottom 10 Stocks by Quarterly Return

Stock Name	Return
ADYEN NV	-55.50%
NUVEI CORP	-47.93%
BIT DIGITAL INC	-47.29%
HUT 8 MINING CORP	-39.32%
MARATHON DIGITAL HOLDINGS INC	-38.67%
BLOCK INC	-33.51%
APPLIED BLOCKCHAIN INC	-33.26%
EURONET WORLDWIDE INC	-32.37%
HIVE DIGITAL TECHNOLOGIES LTD	-31.76%
CMC MARKETS PLC	-31.60%

Top 10 Stocks by Unusual Volume

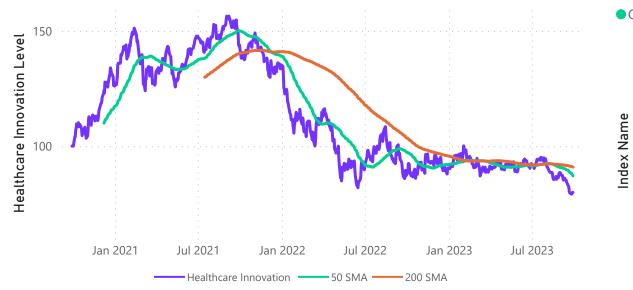
Stock Name	3M/12M ADTV	Return
TERAWULF INC	2.03	-28.00%
MATSUI SECURITIES CO LTD ORD	1.88	3.40%
CLEANSPARK INC	1.66	-11.19%
BITDEER TECHNOLOGIES GROUP	1.64	-13.93%
APPLIED BLOCKCHAIN INC	1.63	-33.26%
IRIS ENERGY LTD	1.58	-20.39%
EURONET WORLDWIDE INC	1.41	-32.37%
ADYEN NV	1.41	-55.50%
CMC MARKETS PLC	1.39	-31.60%
BIT DIGITAL INC	1.35	-47.29%

10%

Healthcare Innovation **J**-13.56% QoQ

MarketVector

Healthcare Innovation Three-Year Returns



Top 10 Stocks by Quarterly Return

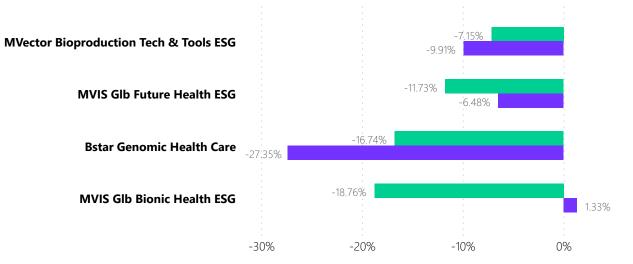
Stock Name	Return
CYMABAY THERAPEUTICS INC	36.16%
PRO MEDICUS LTD	27.04%
CASTLE BIOSCIENCES INC	23.10%
QUANTERIX CORP	20.35%
GENSCRIPT BIOTECH CORP	17.33%
REGENERON PHARMACEUTICALS	14.53%
PHARMING GROUP NV	13.13%
CARIBOU BIOSCIENCES INC	12.47%
REPLIGEN CORP	12.41%
COCHLEAR LTD	11.46%

Bottom 10 Stocks by Quarterly Return

Stock Name	Return
2SEVENTY BIO INC-W/I	-61.26%
FATE THERAPEUTICS INC	-55.46%
LYELL IMMUNOPHARMA INC	-53.77%
BIONANO GENOMICS INC	-50.33%
TREACE MEDICAL CONCEPTS INC	-48.75%
INVITAE CORP	-46.44%
PTC THERAPEUTICS INC	-44.90%
INSULET CORP	-44.69%
23ANDME HOLDING CO	-44.13%
AVIDITY BIOSCIENCES INC	-42.47%

Index Performance

Quarterly Return • 1 Year Return



Stock Name	3M/12M ADTV	Return
FORTREA HOLDINGS INC	3.92	-15.94%
CARIBOU BIOSCIENCES INC	2.63	12.47%
ABCAM PLC	2.57	-7.52%
PREMIER INC	1.81	-22.27%
EXSCIENTIA LTD - ADR	1.64	-23.65%
CASTLE BIOSCIENCES INC	1.60	23.10%
2SEVENTY BIO INC-W/I	1.54	-61.26%
INSULET CORP	1.47	-44.69%
GLOBUS MEDICAL INC	1.40	-16.61%
CYMABAY THERAPEUTICS INC	1.39	36.16%

Materials Three-Year Returns



Top 10 Stocks by Quarterly Return

Stock Name	Return •
PT BUMI RESOURCES MINERALS TBK ORD	58.21%
GATOS SILVER INC	39.68%
RED 5 LTD	39.47%
SALMAR ASA	25.53%
CF INDUSTRIES HOLDINGS INC	23.51%
WESTERN MINING CO -A	22.26%
ARTEMIS GOLD INC	21.85%
OCI NV	20.12%
WESTGOLD RESOURCES PTY LTD	17.71%
HOCHSCHILD MINING PLC	17.02%

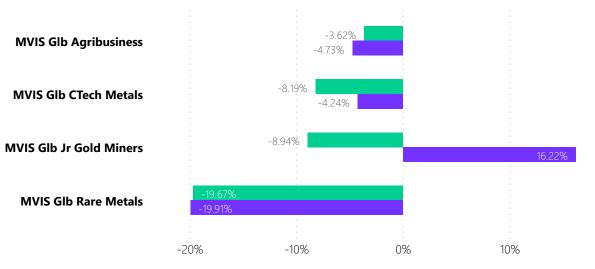
Bottom 10 Stocks by Quarterly Return

Stock Name	Return ▲
CORE LITHIUM LTD	-55.00%
SAYONA MINING LTD	-46.86%
AMG ADVANCED METALLURGICAL GROUP NV	-39.99%
JIANGXI GANFENG LITHIUM CO LTD	-37.08%
STANDARD LITHIUM LTD	-35.83%
FMC CORP	-35.82%
IONEER LTD	-33.82%
PRIME MINING CORP	-33.52%
LIVENT CORP	-32.88%
I-80 GOLD CORP	-31.21%

Index Name

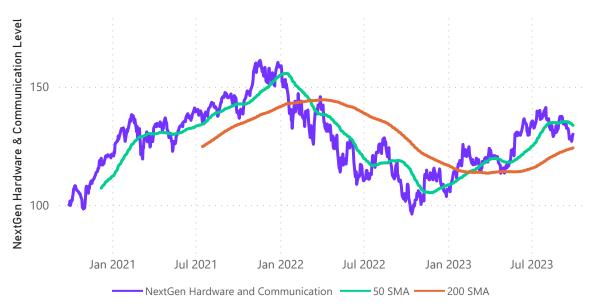
Index Performance





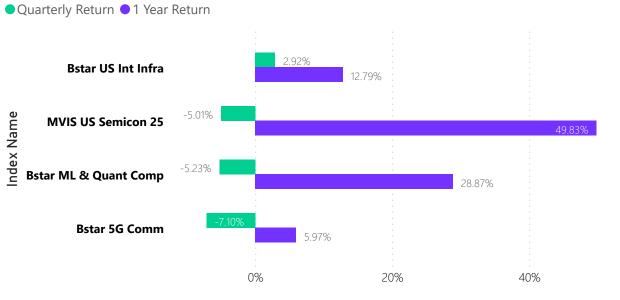
Stock Name	3M/12M ADTV ▼	Return
GENESIS MINERALS LTD	2.70	6.13%
YUNNAN CHIHONG ZINC & GERM-A	1.57	5.38%
FMC CORP	1.57	-35.82%
METALLA ROYALTY AND STREAMING LTD	1.42	-27.49%
IMPALA PLATINUM HOLDINGS LTD	1.37	-21.11%
PT BUMI RESOURCES MINERALS TBK ORD	1.34	58.21%
RED 5 LTD	1.34	39.47%
NORTHAM PLATINUM HOLDINGS LTD	1.30	-8.50%
GENUS PLC	1.27	-3.23%
MITSUBISHI MATERIALS CORP	1.26	-6.37%

NextGen Hardware and Communication **J**-3.63% QoQ



NextGen Hardware & Communication Three-Year Returns

Index Performance



Top 10 Stocks by Quarterly Return

Stock Name	Return
ALCHIP TECHNOLOGIES LTD	49.86%
SPLUNK INC	37.85%
NEW RELIC INC	30.84%
DELL TECHNOLOGIES INC - C	27.33%
ELASTIC NV	26.70%
MACOM TECHNOLOGY SOLUTIONS HOLDINGS INC	24.49%
NUTANIX INC	24.35%
FASTLY INC - CLASS A	21.56%
DIGITALBRIDGE GROUP INC	19.51%
NEC CORP ORD	18.61%

Bottom 10 Stocks by Quarterly Return

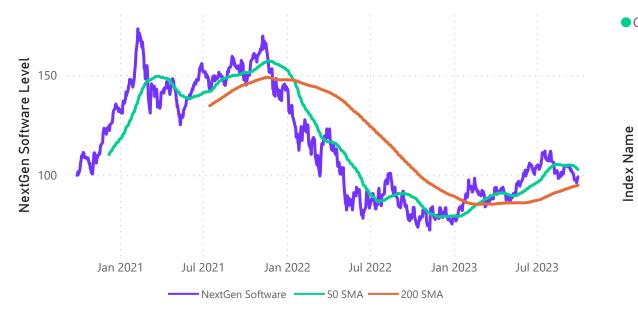
Stock Name	Return
ARQIT QUANTUM INC	-50.83%
DIGITALOCEAN HOLDINGS INC	-40.13%
LUMEN TECHNOLOGIES INC	-37.17%
AMBARELLA INC	-36.62%
COHERENT CORP	-35.97%
TOWER SEMICONDUCTOR LTD	-34.54%
MAXLINEAR INC-CLASS A	-29.50%
RTX CORPORATION	-26.53%
ADTRAN HOLDINGS INC	-21.84%
KEYSIGHT TECHNOLOGIES INC	-20.99%

Stock Name	3M/12M ADTV	Return
RIGETTI COMPUTING INC	2.45	13.19%
ASUSTEK COMPUTER INC	2.09	16.69%
NEW RELIC INC	1.78	30.84%
IONQ INC	1.77	9.98%
TOWER SEMICONDUCTOR LTD	1.73	-34.54%
MAXLINEAR INC-CLASS A	1.69	-29.50%
RTX CORPORATION	1.48	-26.53%
CSG SYSTEMS INTL INC	1.45	-3.07%
COHERENT CORP	1.43	-35.97%
CHINDATA GROUP HOLDINGS LTD	1.31	15.92%

NextGen Software -5.09% QoQ

MarketVector

NextGen Software Three-Year Returns



Top 10 Stocks by Quarterly Return

Stock Name	Return T
CARDLYTICS INC	161.08%
APPLOVIN CORP	55.31%
SPLUNK INC	37.85%
NEW RELIC INC	30.84%
ELASTIC NV	26.70%
ASPEN TECHNOLOGY INC (NEW)	21.87%
TABOOLA.COM LTD	21.86%
INFORMATICA INC	13.89%
PAGAYA TECHNOLOGIES LTD - CLASS A	12.86%
PROS HOLDINGS INC	12.40%

Bottom 10 Stocks by Quarterly Return

Stock Name	Return
TREMOR INTERNATIONAL LTD-ADR	-50.97%
S4 CAPITAL PLC	-46.35%
MAGNITE INC	-44.76%
AMBARELLA INC	-36.62%
BIGBEAR.AI HOLDINGS INC	-35.74%
DIGITAL TURBINE INC	-34.81%
QINGDAO AINNOVATION TECHNO-H	-34.64%
VERINT SYSTEMS INC	-34.43%
INTEGRAL AD SCIENCE HOLDING	-33.87%
PUBMATIC INC	-33.81%

Index Performance



Stock Name	3M/12M ADTV ▼	Return
PAGAYA TECHNOLOGIES LTD - CLASS A	2.07	12.86%
NEW RELIC INC	1.78	30.84%
IONQ INC	1.77	9.98%
CYBERAGENT INC	1.72	-23.06%
SUPER MICRO COMPUTER INC	1.57	10.02%
ALTERYX INC	1.47	-16.98%
INTEGRAL AD SCIENCE HOLDING	1.39	-33.87%
PROS HOLDINGS INC	1.25	12.40%
VERINT SYSTEMS INC	1.24	-34.43%
DOUBLEVERIFY HOLDINGS INC	1.24	-28.19%

Regional Technology **-2.09%** QoQ

MarketVector

Regional Technology Three-Year Returns



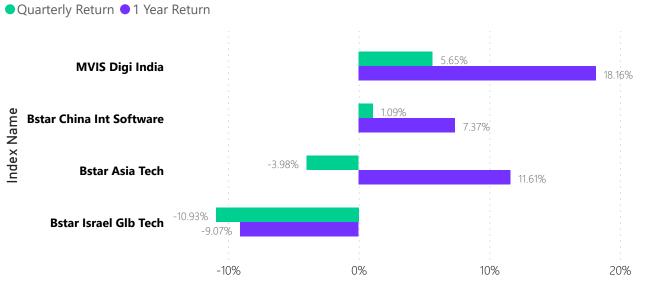
Top 10 Stocks by Quarterly Return

Stock Name	Return ▼
CAMTEK LTD	74.74%
VODAFONE IDEA LTD	56.38%
BYD ELECTRONIC (INTERNATIONAL) CO LTD	50.63%
MAKEMYTRIP LTD	50.19%
FUTU HOLDINGS LTD-ADR	45.47%
EAST BUY HOLDING LTD	44.90%
PINDUODUO INC	41.84%
ZOMATO LTD	35.24%
FABRINET	28.29%
PAYONEER GLOBAL INC	27.23%

Bottom 10 Stocks by Quarterly Return

Stock Name	Return
NOVOCURE LTD	-61.08%
NANO-X IMAGING LTD	-57.65%
SOLAREDGE TECHNOLOGIES INC	-51.86%
TREMOR INTERNATIONAL LTD-ADR	-50.97%
KORNIT DIGITAL LTD	-35.61%
TOWER SEMICONDUCTOR LTD	-34.54%
SISRAM MEDICAL LTD	-32.76%
INNOVIZ TECHNOLOGIES LTD	-31.34%
LEMONADE INC	-31.04%
SUNNY OPTICAL TECH	-30.01%

Index Performance



Stock Name	3M/12M ADTV	Return
CAMTEK LTD	2.20	74.74%
PAGAYA TECHNOLOGIES LTD - CLASS A	2.07	12.86%
SILICON MOTION TECHNOLOGY	1.88	-28.68%
VENTURE CORPORATION LIMITED	1.77	-15.91%
TOWER SEMICONDUCTOR LTD	1.73	-34.54%
INNOVIZ TECHNOLOGIES LTD	1.70	-31.34%
SILICOM LTD	1.68	-29.19%
VODAFONE IDEA LTD	1.65	56.38%
MAKEMYTRIP LTD	1.64	50.19%
CELLEBRITE DI LTD	1.64	6.25%

Thematic REITs **4**5.58% QoQ

MarketVector

Thematic REITs Three-Year Returns



Top 10 Stocks by Quarterly Return

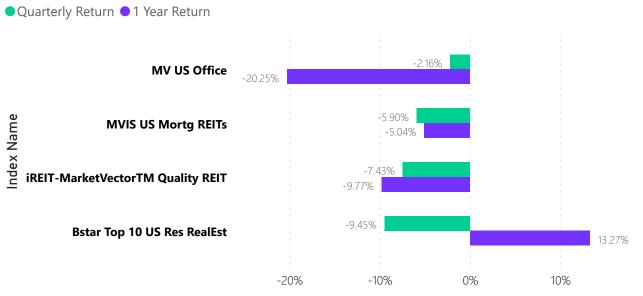
Stock Name	Return •
HUDSON PACIFIC PROPERTIES INC	57.58%
VORNADO REALTY TRUST	25.03%
SL GREEN REALTY CORP	24.13%
OPI 6 3/8 06/23/50	12.60%
REDWOOD TRUST INC	11.93%
SUMMIT HOTEL PPTYS RED SRS F PRF	10.62%
EPR 9 12/31/49	9.00%
EMPIRE STATE REALTY TRUST-A	7.34%
KILROY REALTY CORP	5.05%
BLACKSTONE MORTGAGE TRUST INC	4.52%

Bottom 10 Stocks by Quarterly Return

Stock Name	Return
OFFICE PROPERTIES INCOME TRUST	-46.75%
PIEDMONT OFFICE REALTY TRUST INC	-22.70%
ORION OFFICE REIT INC	-21.18%
EASTERLY GOVERNMENT PROPERTIES INC	-21.17%
WP CAREY & CO LLC	-19.95%
CROWN CASTLE INC	-19.23%
EXTRA SPACE STORAGE INC	-18.32%
ORCHID ISLAND CAPITAL INC	-17.78%
NNN REIT INC	-17.41%
REALTY INCOME CORP	-16.47%

ndex Name

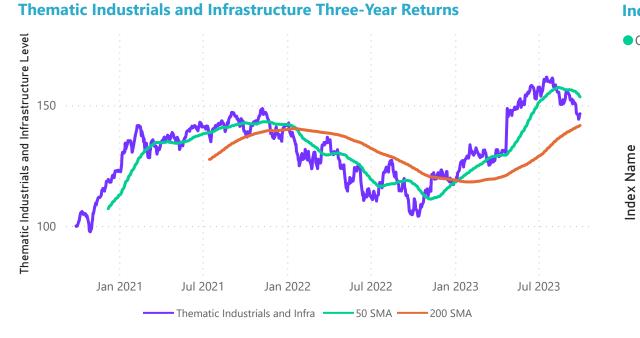
Index Performance



Stock Name	3M/12M ADTV	Return
HANNON ARMSTRONG	1.65	-15.20%
EQUITY LIFESTYLE PROPERTIES	1.62	-4.75%
ORION OFFICE REIT INC	1.47	-21.18%
EXTRA SPACE STORAGE INC	1.47	-18.32%
OFFICE PROPERTIES INCOME TRUST	1.39	-46.75%
APPLE HOSPITALITY REIT INC	1.34	1.52%
NNN REIT INC	1.32	-17.41%
ORCHID ISLAND CAPITAL INC	1.25	-17.78%
REALTY INCOME CORP	1.25	-16.47%
CROWN CASTLE INC	1.22	-19.23%

Thematic Industrials and Infrastructure **-6.93%** QoQ





Top 10 Stocks by Quarterly Return

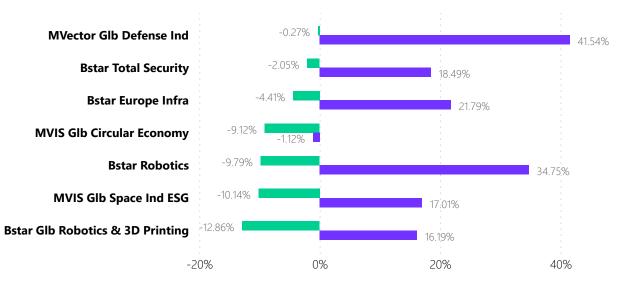
Stock Name	Return T
BABCOCK INTERNATIONAL GROUP PLC	46.28%
ROLLS-ROYCE HOLDING PLC	46.24%
WISTRON NEWEB CORPORATION	44.81%
MDA LTD	41.13%
LEONARDO SPA	31.41%
DARKTRACE PLC	30.89%
THAICOM PCL	28.18%
SKY PERFECT JSAT HOLDINGS INC ORD	22.42%
TECHNIPFMC PLC	22.38%
DISCO CORP ORD	21.98%

Bottom 10 Stocks by Quarterly Return

Stock Name	Return
VIASAT INC	-55.26%
VIRGIN GALACTIC HOLDINGS INC	-53.61%
3D SYSTEMS CORP	-50.55%
ATOS SE	-49.48%
BLACKSKY TECHNOLOGY INC	-47.30%
TERRAN ORBITAL CORP	-44.51%
INSTALCO AB	-39.65%
AMBARELLA INC	-36.62%
MATERIALISE NV	-36.46%
LI-CYCLE HOLDINGS CORP	-36.04%

Index Performance

Quarterly Return • 1 Year Return



Stock Name	3M/12M ADTV ▼	Return
CRH PLC	3.96	0.51%
ZINWELL CORP	3.15	14.42%
WISTRON NEWEB CORPORATION	1.92	44.81%
VIASAT INC	1.80	-55.26%
ECHOSTAR CORP	1.65	-3.40%
NAPCO SECURITY TECHNOLOGIES IN	1.61	-35.79%
MERCURY SYSTEMS INC	1.57	7.23%
3D SYSTEMS CORP	1.57	-50.55%
STRATASYS LTD	1.51	-23.37%
RTX CORPORATION	1.48	-26.53%

Index Short Name	Index Ticker	Metatheme
Bstar Solar Ind	BSOLR	Clean Energy
Bstar Wind Ind	BWIND	Clean Energy
MV Glb Clean Energy	MVCET	Clean Energy
MVector Glb Uran & Nucl Infra	MVNUCL	Clean Energy
MVIS Glb Hydrogen ESG	MVHTWO	Clean Energy
MVIS Glb Low Carbon	MVSMOG	Clean Energy
Bstar Travel & Vac	BTOUR	Consumer Trends
MVector Glb Metaverse & e-Games ESG	MVMETV	Consumer Trends
MVIS Glb Future Food ESG	MVFOF	Consumer Trends
MVIS Glb Gaming	MVBJK	Consumer Trends
MVIS Glb vGame & eSpo	MVESPO	Consumer Trends
MVIS Glb Digi Asset Equity	MVDAPP	Financials 2.0
MVector Bioproduction Tech & Tools ESG	MVBIOP	Healthcare Innovation
MVIS Glb Bionic Health ESG	MVBION	Healthcare Innovation
MVIS Glb Future Health ESG	MVFHC	Healthcare Innovation
MVIS Glb Agribusiness	MVMOO	Materials
MVIS Glb CTech Metals	MVGMET	Materials
MVIS Glb Jr Gold Miners	MVGDXJ	Materials
MVIS Glb Rare Metals	MVREMX	Materials
Bstar US Int Infra	BUII	Next Gen Hardware and Comm
MVIS US Semicon 25	MVSMH	Next Gen Hardware and Comm
MVIS Digi India	MVDIND	Regional Tech
Bstar Top 10 US Res RealEst	BURRT	REIT 2.0
iREIT-MarketVectorTM Quality REIT	IRET	REIT 2.0
MV US Office	MVORT	REIT 2.0
MVIS US Mortg REITs	MVMORT	REIT 2.0
Bstar Total Security	BTOT	Thematic Industrials and Infra
MVector Glb Defense Ind	MVDEF	Thematic Industrials and Infra
MVIS Glb Circular Economy	MVCIRC	Thematic Industrials and Infra
MVIS Glb Space Ind ESG	MVSPC	Thematic Industrials and Infra

Index Short Name	Index Ticker	Metatheme
Bstar 5G Comm	BFIVG	Next Gen Hardware and Comm
Bstar Al	BAIPR	Next Gen Software
Bstar Asia Tech	BSEAQ	Regional Tech
Bstar Autonomous Driving	BAUT	Consumer Trends
Bstar Big Data & Al	BDAI	Next Gen Software
Bstar China Int Software	BCHNQ	Regional Tech
Bstar Digi Ad	BADTQ	Next Gen Software
Bstar E-Comm US Lead	BECOM	Consumer Trends
Bstar Europe Infra	BEURI	Thematic Industrials and Infra
Bstar eVehicle Ind	BEV	Clean Energy
Bstar Fintech	BFNQ	Financials 2.0
Bstar Genomic Health Care	BDNAPR	Healthcare Innovation
Bstar Glb E-Brokers & Digi Cap Mkt	BBIDS	Financials 2.0
Bstar Glb oGamb vGame & eSpo	BVGOG	Consumer Trends
Bstar Glb Robotics & 3D Printing	BRB3D	Thematic Industrials and Infra
Bstar Hotels, Airlines, & Cruises	BCRUZ	Consumer Trends
Bstar Israel Glb Tech	BGTH	Regional Tech

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equally weighted portfolio of the indexes included, rebalanced on a quarterly basis effective at the open on the day following the third Friday of March, June, September, and December. Individual stocks referenced in this document were index components of one of MarketVector's Indexes as of June 30, 2023.

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