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## ETFs focused on EVs

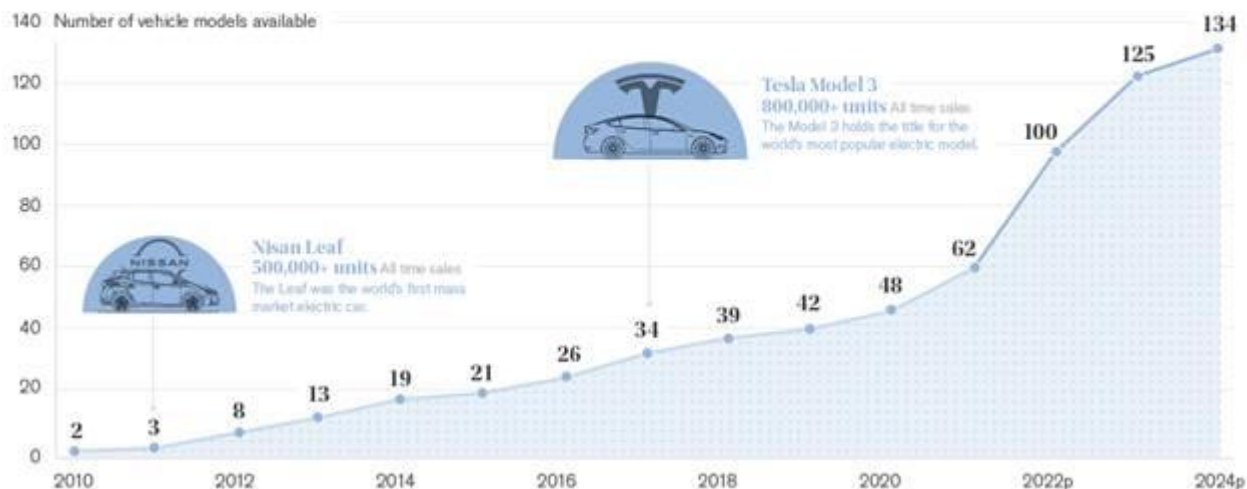
Today we revisit a previous report that took a deeper look at Exchange Traded Funds (ETF) focused on Electronic Vehicles (EV) either directly or indirectly. As the chart below outlines, the number of EV models for US consumers to purchase is expected to reach a level of 134 by 2024. This is a far cry from the number of EV models available to US consumers in the single digits in the early 2010's.

**We continue to believe there is a attractive long term investment opportunity for those companies serving the electric vehicle sector.**

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### **EV Models Will Double** BY 2024

EV shoppers in the U.S. will soon have over 130 models to choose from.

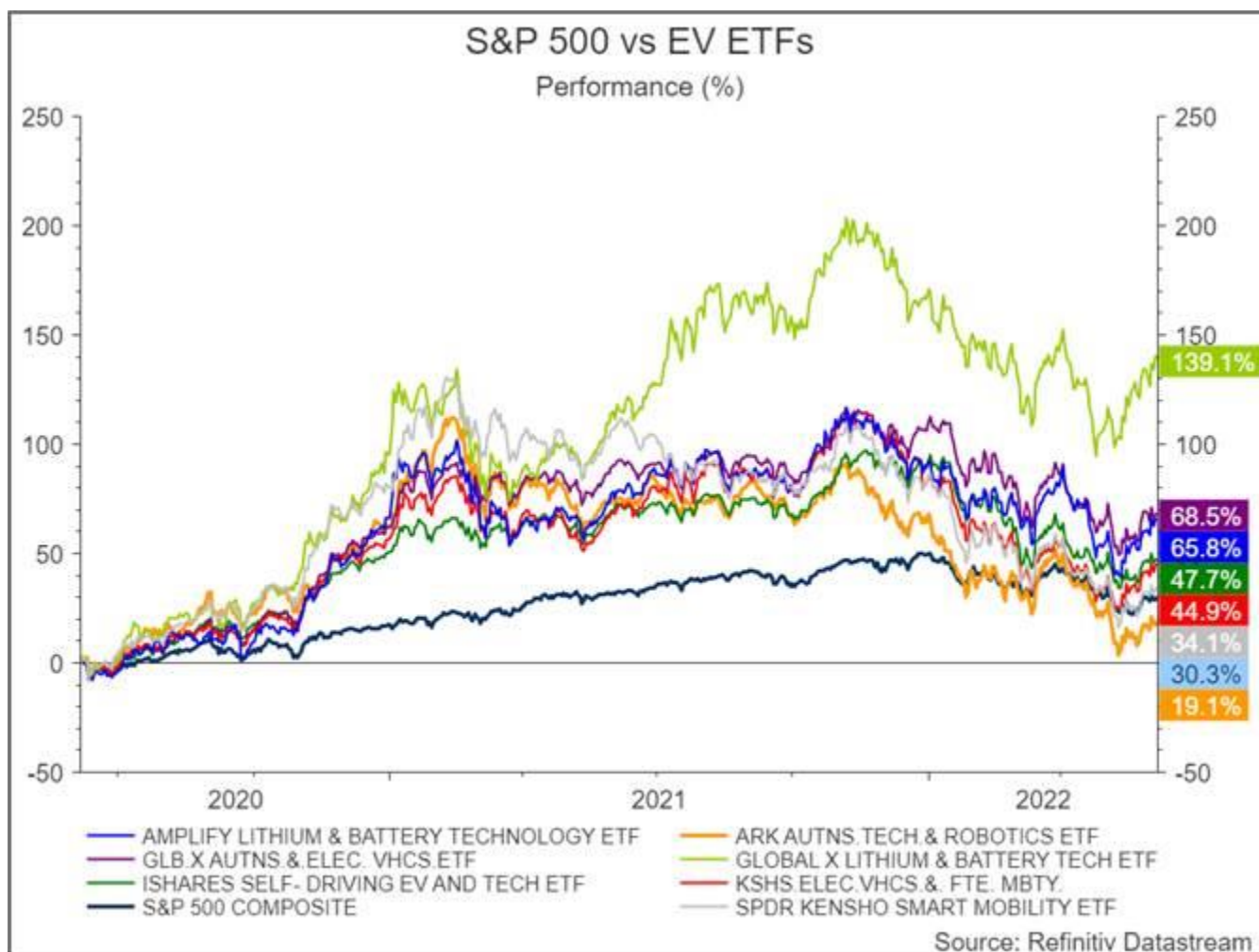


Source: Visual Capitalist

We updated our metrics on 7 ETFs listed in the US that are heavily or significantly exposed to the EV sector or theme. While all the ETF portfolios are targeting the EV sector in one way or another, their holdings or strategies can be very different so additional research should be undertaken. As you can see from their top 10 holdings below, some ETFs are focused on the commodities or battery companies, on the auto manufacturers or have portfolios that are overweight the semiconductor or software companies.

While these ETFs have not been able to escape this year's market sell off, aside from ARKQ the rest of the ETFs below have outperformed the S&P 500 over the past 2 years. The Global X Lithium & Battery Tech ETF (LIT) continues to lead the way based on performance with its heavy weighting of ~11% in Abermarle the world's largest lithium producer.

We included the 3 year Lipper ratings for each ETF as well (5 being the best score and 1 being the worst score). Amongst these ETFs, most score well on total return and consistent return but fall short when it comes to their preservation scores. Given that this is a growth space in a dynamic rapidly changing industry these score distributions are somewhat expected.



Below we table each ETF's performance, expense ratios, liquidity, top 10 holdings as well as other descriptive metrics.

				3 YR		3 YR Fund					
				3 YR Total		Consistent		Preservat			
Primary		Div		Return	Return	ion	3 Month	YTD	1-year	3-year	5-year
		Yield	Price	Lipper	Lipper	Lipper	Total	Total	Price PCT	Price PCT	Price PCT
RIC	Name	%	Close	Rating	Rating	Rating	Return	Return	Change	Change	Change
BATT.K	Amplify Lithium & Battery Technology ETF	2.65	15.75	1	1	1	2.61	- 12.50	- 7.30	44.03	
ARKQ.K	ARK Autonomous Technology & Robotics ETF	-	55.78	5	1	1	- 7.79	- 27.57	- 31.94	82.95	90.25
DRIV.O	Global X Autonomous & Electric Vehicles ETF	0.33	24.96	5	5	3	2.72	- 18.24	- 12.48	94.39	
LIT	Global X Lithium & Battery Tech ETF	0.24	75.88	5	5	1	11.39	- 10.14	10.50	195.37	153.86
IDRV.K	iShares Self-Driving EV and Tech ETF	0.81	42.40	5	5	1	2.05	- 21.81	- 13.93	85.60	
KARS.K	KraneShares Electric Vehicles and Future Mobility	1.39	37.31	4	4	2	5.19	- 20.29	- 15.76	95.24	
HAIL.K	SPDR S&P Kensho Smart Mobility ETF	1.33	40.78	5	1	1	- 1.59	- 26.07	- 36.25	53.17	

Blank cells – Not available / not applicable

Source: Refinitiv

Primary	RIC	Name	Total		Max		Max		Max	
			Expense		Average Daily		drawdown		drawdown	
			Ratio	Volume	30D	13W	1 year	3 year	5 year	
	BATT.K	Amplify Lithium & Battery Technology ETF	0.59	131,447	127,191	-	23.73	-	41.19	
	ARKQ.K	ARK Autonomous Technology & Robotics ETF	0.75	286,044	259,553	-	33.79	-	34.47	- 34.47
	DRIV.O	Global X Autonomous & Electric Vehicles ETF	0.68	250,011	299,822	-	20.71	-	24.71	
	LIT	Global X Lithium & Battery Tech ETF	0.75	785,361	732,604	-	28.26	-	28.26	- 41.09
	IDRV.K	iShares Self-Driving EV and Tech ETF	0.47	74,060	79,393	-	24.40	-	24.40	
	KARS.K	KraneShares Electric Vehicles and Future Mobility	0.70	52,976	56,149	-	30.80	-	30.80	
	HAIL.K	SPDR S&P Kensho Smart Mobility ETF	0.45	11,222	11,053	-	34.59	-	34.59	

Blank cells – Not available / not applicable

Source: Refinitiv



**BATT.K Top 10 Holdings**

Company Name	% of TNA
BHP GROUP LTD DR	8.32
TESLA INC ORD	7.11
CONTEMPORARY AMPEREX TECHNOLOGY CO LTD ORD	5.22
BYD CO LTD ORD	4.86
GLENCORE PLC ORD	4.71
SAMSUNG SDI CO LTD ORD	2.17
LG CHEM LTD ORD	1.92
SOCIEDAD QUIMICA Y MINERA DE CHILE SA DR	1.81
YUNNAN ENERGY NEW MATERIAL CO LTD ORD	1.72
ALBEMARLE CORP ORD	1.56

**DRIV.O Top 10 Holdings**

Company Name	% of TNA
APPLE INC ORD	3.54
TOYOTA MOTOR CORP ORD	3.31
ALPHABET INC CLASS A ORD	3.19
TESLA INC ORD	3.10
INTEL CORP ORD	3.09
HONEYWELL INTERNATIONAL INC ORD	3.00
QUALCOMM INC ORD	2.96
NVIDIA CORP ORD	2.61
MICROSOFT CORP ORD	2.30
ALLEGHENY TECHNOLOGIES INC ORD	1.85

**KARS.K Top 10 Holdings**

Company Name	% of TNA
TESLA INC ORD	5.94
CONTEMPORARY AMPEREX TECHNOLOGY CO LTD ORD	5.08
ANALOG DEVICES INC ORD	5.03
INFINEON TECHNOLOGIES AG ORD	4.98
FORD MOTOR CO ORD	4.78
NXP SEMICONDUCTORS NV ORD	4.70
GENERAL MOTORS CO ORD	4.60
MERCEDES-BENZ GROUP AG ORD	4.49
SAMSUNG SDI CO LTD ORD	2.92
BYD CO LTD ORD	2.61

**HAIL.K Top 10 Holdings**

Company Name	% of TNA
AVIS BUDGET GROUP INC ORD	2.19
ALLISON TRANSMISSION HOLDINGS INC ORD	2.09
MERITOR INC ORD	2.02
BLADE AIR MOBILITY INC ORD	1.95
QUALCOMM INC ORD	1.93
HONDA MOTOR CO LTD DR	1.86
TEXTRON INC ORD	1.86
VISTEON CORP ORD	1.80
CUMMINS INC ORD	1.73
HUNTINGTON INGALLS INDUSTRIES INC ORD	1.71

**ARKQ.K Top 10 Holdings**

Company Name	% of TNA
TESLA INC ORD	9.69
TRIMBLE INC ORD	7.75
KRATOS DEFENSE AND SECURITY SOLUTIONS INC ORI	7.56
UIPATH INC ORD	5.23
DEERE & CO ORD	4.86
KOMATSU LTD DR	4.84
AEROVIRONMENT INC ORD	4.70
IRIDIUM COMMUNICATIONS INC ORD	4.65
BLADE AIR MOBILITY INC ORD	4.06
ARCHER AVIATION INC ORD	2.96

**LIT Top 10 Holdings**

Company Name	% of TNA
ALBEMARLE CORP ORD	11.29
TESLA INC ORD	6.24
TDK CORP ORD	5.73
SOCIEDAD QUIMICA Y MINERA DE CHILE SA DR	5.28
BYD CO LTD ORD	5.18
SAMSUNG SDI CO LTD ORD	4.88
PANASONIC HOLDINGS CORP ORD	4.40
YUNNAN ENERGY NEW MATERIAL CO LTD ORD	4.26
CONTEMPORARY AMPEREX TECHNOLOGY CO LTD ORD	4.21
GANFENG LITHIUM CO LTD ORD	4.00

**IDRV.K Top 10 Holdings**

Company Name	% of TNA
APPLE INC ORD	5.27
TOYOTA MOTOR CORP ORD	5.02
INTEL CORP ORD	4.73
TESLA INC ORD	4.61
ALPHABET INC CLASS A ORD	4.35
QUALCOMM INC ORD	4.23
SAMSUNG ELECTRONICS CO LTD ORD	4.22
EATON CORPORATION PLC ORD	3.54
MERCEDES-BENZ GROUP AG ORD	3.51
FORD MOTOR CO ORD	3.38

Source: Refinitiv

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