Groww
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Groww Nifty EV & New Age Automotive ETF FOF

#ElectrifyYourPortfolio

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Why Electric Vehicles?

Will EV do what **motor cars did in 1890?**

Can EV revolutionize the automobile industry like motor cars did in the 1900's?

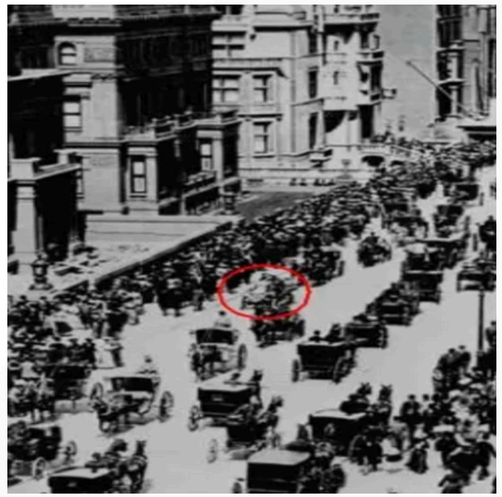


Image of 5th Ave NYC, in 1890: One motor car amidst several horse-drawn cars.

Image of 5th Ave NYC, in 1913: One horse-drawn car amidst several motor cars.

EV: Future of mobility?

Source - Business insider, Mar 31, 2011

EVs to be 30% of all automobiles by 2030: **Government of India** [1]

In 2022, India's EV penetration was a mere 1%, significantly lower than the Asian average of 17.3%. [2]

Electric vehicle adoption in India is expected to reach 13 million by 2030. [3]

Projected size of the market (volume) :

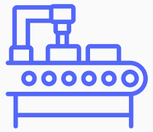
	2W	3W	4W	Bus
2023	1 Million	42,000	126,000	2,388
2030 (E)	12 Million	340,000	900,000	20,902
Growth	12x	8x	7x	8.5x

Source 1 - India-Briefing, 25th April, 2024 | **Source 2** - Business Standard, May 17, 2023
Source 3 - Excerpt of Blume Ventures EV Report, June 13, 2023

What will cause this growth?

Examining the role of **major factors** in the EV space suggests how the ecosystem may grow in the near future -

Owners of EVs:
EV ownership is likely to rise.



Manufacturers:
EV manufacturers are receiving government subsidies.

Distributors:
Distribution and dealerships of EVs hold the potential to be profitable.

Batteries:
Battery infrastructure is potentially on the verge of significant growth.

Source - Blume Ventures EV Report, June 13, 2023

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Growth in EV ownership

Total cost of ownership of EVs is lower than ICE variants

The Total Cost of Ownership (TCO) for a vehicle includes upfront vehicle costs in addition to fuel costs over the vehicle's lifetime, financing and other maintenance costs, salvage value, etc.

With the exception of buses, all electric vehicles have a lower Total Cost of Ownership(TCO) in comparison to Internal Combustion Engine (ICE) variants.

Vehicle Category	Status	ICE Model	ICE TCO	EV Model	With Subsidy	No Subsidy
 2-Wheeler Passenger	Positive	Honda Active OBD2	₹ 2,32,359	Ather 450X	₹ 1,87,324	₹ 2,35,284
 2-Wheeler Commercial	Positive	Hero Splendor	₹ 3,10,991	Ampere Magnus	₹ 1,66,817	₹ 1,66,817
 2-Wheeler Bike	Positive	Bajaj Pulsar 150	₹ 3,10,109	Revolt RV400	₹ 1,96,375	₹ 2,14,709
 3W Passenger	Positive	Bajaj Auto RE	₹ 8,20,029	Mahindra Treo	₹ 4,59,641	₹ 5,77,987
 3W Cargo	Positive	Bajaj Maxima	₹ 10,66,131	Euler hi-load	₹ 6,33,154	₹ 8,07,367
 4W Passenger	Positive	Tata Tiago XZ Plus (CNG)	₹ 14,08,116	Tata Tiago EV Long Range	₹ 8,79,605	₹ 11,37,776
 4W Commercial	Positive	Tata Tigor (CNG Plus)	₹ 28,36,049	TATA Tigor EV	₹ 17,01,152	₹ 20,12,201
 4W Cargo	Positive	TATA Ace Gold	₹ 32,72,749	TATA Ace EV	₹ 17,53,631	₹ 20,19,069
 Bus	Negative	Tata Marcopolo	₹ 3,15,03,599	PMI Electro	₹ 3,27,05,119	₹ 3,27,05,119

All segments of vehicles are TCO positive with a subsidy, except for buses.

Source - Blume Ventures EV Report, June 13, 2023

The Fund Manager may or may not invest in the above scrips basis the Scheme investment strategy please read the **SID** to know in detail. Please consult your financial advisor before investing.

EV financing at competitive rates

The financing ‘cold start’ issue has been addressed by financing institutions leveraging telematics and on-ground vehicle data to develop risk models and provide competitive interest rates to owners. This is expected to improve further as vehicle and component quality increases with better technology.

Large banks are already offering competitive interest rates.

With higher quality of vehicles and better components, underwriting of the vehicle is easier.

Availability of on-ground operating data (powered by data connectivity and higher penetration) allows for more accurate underwriting

Access to financing is largely solved and we see an uptick in EV purchases with this as an anchor.

Source - Blume Ventures EV Report, June 13, 2023

An increase in vehicle options

With India's specific software requirements and unique challenges, a lot of research and development is required to build an electric vehicle that is well-suited to the country's requirements. This is now changing with the likes of brands such as Ather, Euler and Ola Electric introducing quality vehicles into the market.

OEMs	Sales Percentage
Ola	18%
Okinawa	17%
Hero Electric	16%
Ampere	13%
Ather	8%
TVS	8%
Bajaj Auto	4%
Pur Energy	2%
Revolt	2%
Jitendra EV	2%
Being India	2%
Others	7%

2 Wheeler Vehicles

OEMs	Sales Percentage
Piaggio	24%
Mahindra	21%
Altigreen	5%
Euler	4%
Omega Seiki	9%
E Royce	11%
Atul Auto	5%
Others	21%

3 Wheeler Vehicles

OEMs	Sales Percentage
Tata Motors	82%
Hyundai	2%
MG motors	10%
BYD	1%
KIA	1%
Others	4%

4 Wheeler Vehicles

Source - Blume Ventures EV Report, June 13, 2023

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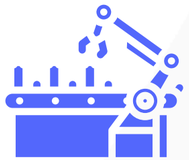
EV Manufacturing / Original Equipment Manufacturers (OEMs)

How is EV manufacturing **different from ICE manufacturing ?**



Electric vehicles are simpler to create in comparison to Internal Combustion Engine (ICE) vehicles. With fewer moving parts and shorter assembly lines, these vehicles have lower maintenance costs.

We assume that the EV market will see 10 to 15 times more models/ brands due to easier entry into the market, with simpler manufacturing and development.

Source - Blume Ventures EV Report, June 13, 2023

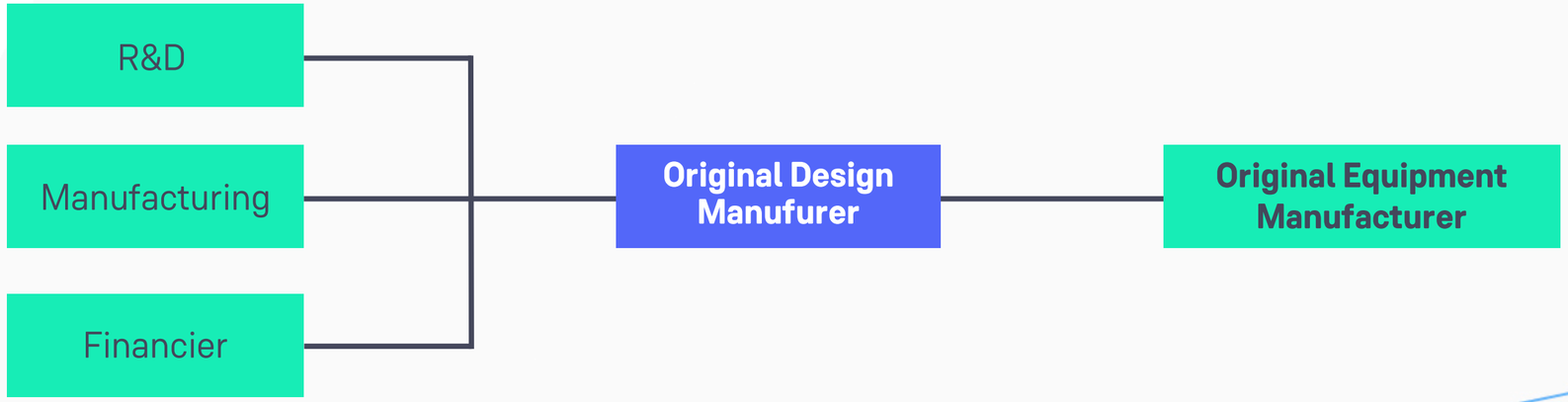
EV Kits Simplifying Manufacturing for OEMs

EV kits make it easier for OEMs to streamline manufacturing and jumpstart the manufacturing process in India. Once a design is successful, an auto component manufacturer may expand the offering to become an end-to-end platform provider.

Original Design Manufacturers (ODMs) focus on design, engineering and manufacturing of the auto components, and own the intellectual property rights to the auto part as well.

- The components can be assembled by a new OEM to create a brand
- This makes it easier for OEMs to streamline manufacturing as most components need not be manufactured.

Value Chain



Source - Blume Ventures EV Report, June 13, 2023

Government policies aim to make **manufacturing more investable**

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Faster Adoption and Manufacturing of Electric Vehicles (FAME)

- The FAME initiative was introduced in April 2015, with Phase II launched in April 2019. This effort aims to promote electric and hybrid vehicle adoption by offering financial subsidies. [1]
- The program aims to establish 2700 strategically located charging stations nationwide, at metro stations, in hilly regions, smart cities, and on highways. [1]
- The government had allocated Rs. 11,500 crores under FAME 2, which ended on March 31, 2024. [2]
- Rs. 500 Crores has been allocated under the Electric Mobility Promotion Scheme 2024 to accelerate adoption of electric two-wheelers and three-wheelers. [3]
- FAME 3 expected to be announced in the July budget. [4]

Production Linked Incentive (PLI) schemes

- The PLI Scheme for the Automobile and Auto component industry, with a budget of ₹25,938 crore, offers financial incentives to boost domestic manufacturing of Advanced Automotive Technology products, including electric vehicles and their components. [5]
- The scheme offers incentives of up to 18% on eligible sales of electric vehicles and their components. [5]

Source 1 - Press Information Bureau, Government of India, 28 Feb 2019 | **Source 2 -** Economic Times, March 31, 2024
Source 3 - Ministry of Heavy Industries, Government of India, data as of 13th March 2024
Source 4 - News18, 11 March 2024 | **Source 5 -** Press Information Bureau, Government of India, 11 Feb 2022

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EV Distribution

EV distribution is more profitable than ICE variants

From the table below, we may infer:

	ICE	EV-Multi Brand	Comments
Sales margin	5%	8%	Typically OEMs are willing to give higher margins to ensure placement
Spares and service margin	35%	35%	
No of vehicles requiring service	800	50	Fewer breakdown incidents as most of the vehicles are new in the market and EVs are having much fewer parts
Service revenue	1000	2000	Each part is more expensive on an average at it requires replacement and not service
Total income	680000	275000	
Rent and utilities	250000	50000	Small format stores, usually
Manpower	150000	120000	Small sales efficiency, should reduce in future
Inventory cost	200000	30000	Just in time
Operating profit	11.76%	27.27%	

Source - Blume Ventures EV Report, June 13, 2023

Thus, we may infer that EV distribution may be potentially profitable because of a **higher sales margin and higher service revenue.**

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Battery Charging/ Swapping

Battery charging infrastructure

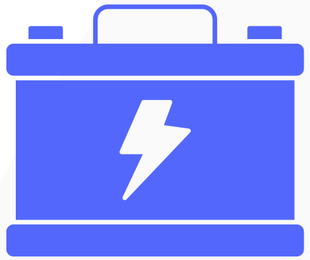
Battery charging and battery swapping are the two types of battery infrastructure prevalent in India.

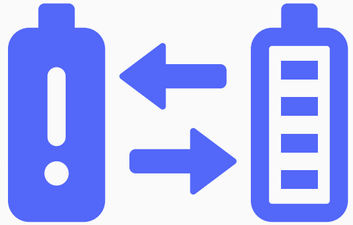
Battery charging - overview

	Public Charging	Semi Public Charging	Private Charging
Accessibility	Open	Shared but restricted access	Restricted
Locations	Public parking lots, street parking, petrol pumps, highways, metro	Apartment, Malls, Hospitals, Universities, Govt buildings	Private Parking/ Locations
Owner	Municipality, PSUs, CPOs	Location Owner, OEMs, CPOs	Vehicle Owners
Operated by	CPO/Charging Network	CPO/Charging Network	Individuals/Charging Network

Source - Blume Ventures EV Report, June 13, 2023

Battery swapping - overview





Battery swapping is exchanging discharged battery with a fully charged one.

Benefits of battery swapping:

- Decrease in charging time
- Reduced consumer anxiety in battery life
- Increased range

Source - Blume Ventures EV Report, June 13, 2023

Rising number of market **participants in the battery value chain**

Electric Pe	Mass-Tech Controls	Hopcharge	BattRE	Statiq
Battery Pool	OLA ELECTRIC	Kazam	Fortum	OYE Rickshaw
EVQ Point	VOLT UP	REVOS	BOLT	RACEnergy
PlugNGo	Ener jazz	EVteQ	goEgo	Exponent
SMARTCHARGEV	Charzer	EESL	SMV	RRT LTD
CHARJET	Volttic	SUN MOBILITY	ABB	
LITHION	Battery Smart	NTPC	Magenta	
EXICOM	TATA	Delta	Statiq	

The Indian EV battery space is still emerging, but growing rapidly, with the increasing popularity of electric vehicles. OEMs like Ather and Ola are establishing exclusive charging infrastructure in this space, a sector which currently holds over 40 players.

Source - Blume Ventures EV Report, June 13, 2023

The Fund Manager may or may not invest in the above scrips basis the Scheme investment strategy please read the **SID** to know in detail. Please consult your financial advisor before investing.

Why the EV sector is **poised for growth?**

Government Support:
Policies and incentives such as FAME and PLI schemes promote EV adoption and manufacturing.

Cost Efficiency:
Lower Total Cost of Ownership (TCO) for EVs compared to Internal Combustion Engine (ICE) vehicles.

Technological Advancements:
Continuous improvements in battery technology and charging infrastructure.

Environmental Concerns:
Increasing awareness and regulations to reduce carbon emissions.

Market Potential:
Significant growth projected in EV adoption across all vehicle segments in India.

Economic Benefits:
Potential for higher profitability in EV distribution and lower maintenance costs.

Source - Blume Ventures EV Report, June 13, 2023

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About the Nifty EV & New Age Automotive Index

Index Methodology

The Nifty EV and New Age Automotive Index tracks the performance of the companies which are active in electric vehicles or new age automotive vehicle segments.

Index Methodology Universe

- Stocks forming part/going to form part of the Nifty 500 index.
- Bottom 10 percentile stocks based on 6 month average daily turnover are ineligible for inclusion in the index.

Eligible Universe

- Group A: Manufacturing of 2W/3W/4W/PV/CV Electric and New age automotive vehicles.
- Group B: Manufacturing of batteries for Electric and New age automotive vehicles.
- Group C.1 Manufacturing of components for Electric and New age automotive vehicles / Electric and New age automotive vehicles.
- Group C.2 Manufacturing/ Supply of raw material for Electric and New age automotive vehicles/batteries/components.
- Group C.3 Provide advanced automotive technology for Electric and New age automotive vehicles.
- Group D: Part of eligible universe of Group A, B or C and PLI for Advanced Automotive or ACC batteries or FAME or SMEV.

Source - NSE, Index Factsheet, Data as on June 28, 2024.

Index Methodology

Stock Selection criteria

Selection of the stocks will be done in either of the following manner:

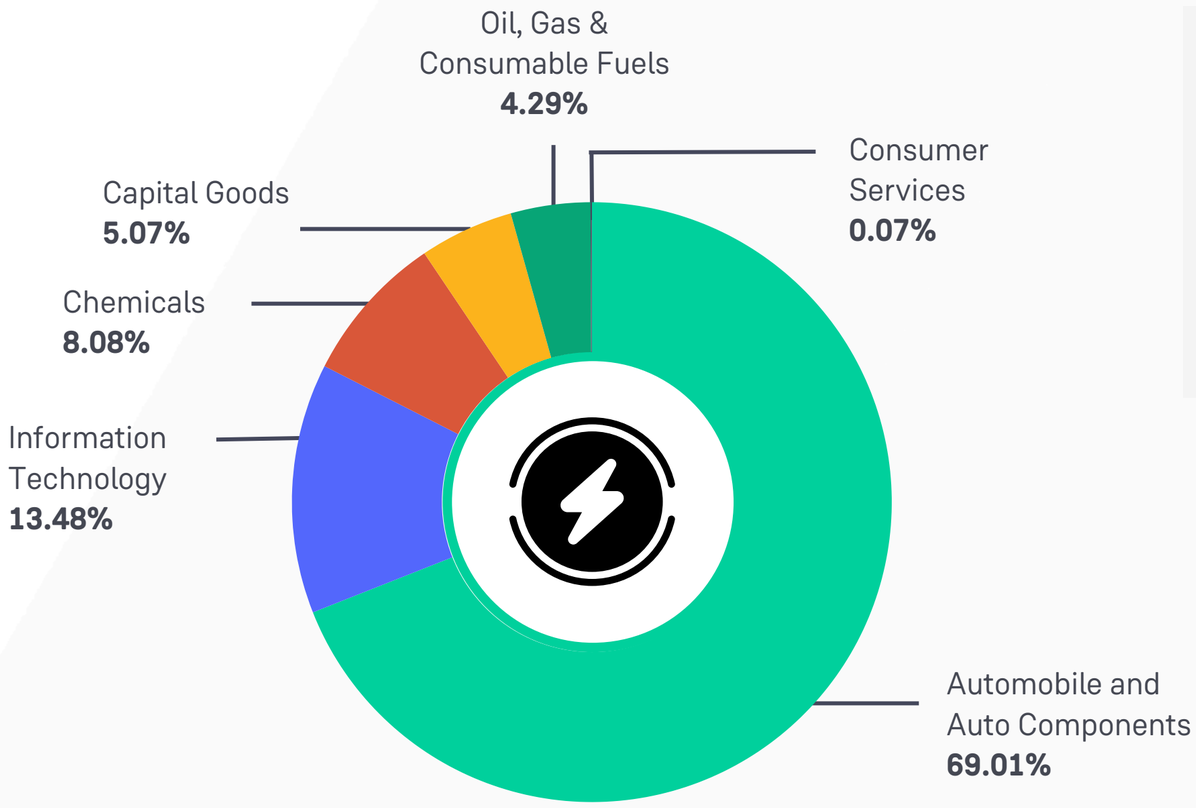
- Select all stocks forming part of the Group A and Group B.
- Select top 5 stocks based on 6 month average free-float market capitalization from each of the Group C.1, Group C.2 and Group C.3.
- Select top 5 stocks based on 6 month average free-float market capitalization from Group D that are not selected in any of the steps mentioned above.

Index Rebalancing

- Index shall be rebalanced on a quarterly basis in March, June, September and December.
- Weight of each stock in the index is based on its free float market capitalization.
- Aggregate weight of the stocks belonging to Group A shall be capped at 40%.
- The weight of each stock belonging to Group A shall be capped at 8%. All other stocks are capped at 4%.

Source - NSE, Index Factsheet, Data as on June 28, 2024.

Index Constitution



The Nifty EV & New Age Automotive Index consists of 33 stocks, of companies that are involved in the production and supply of electric or new age automotive vehicles, batteries, charging components, raw materials, and technology.

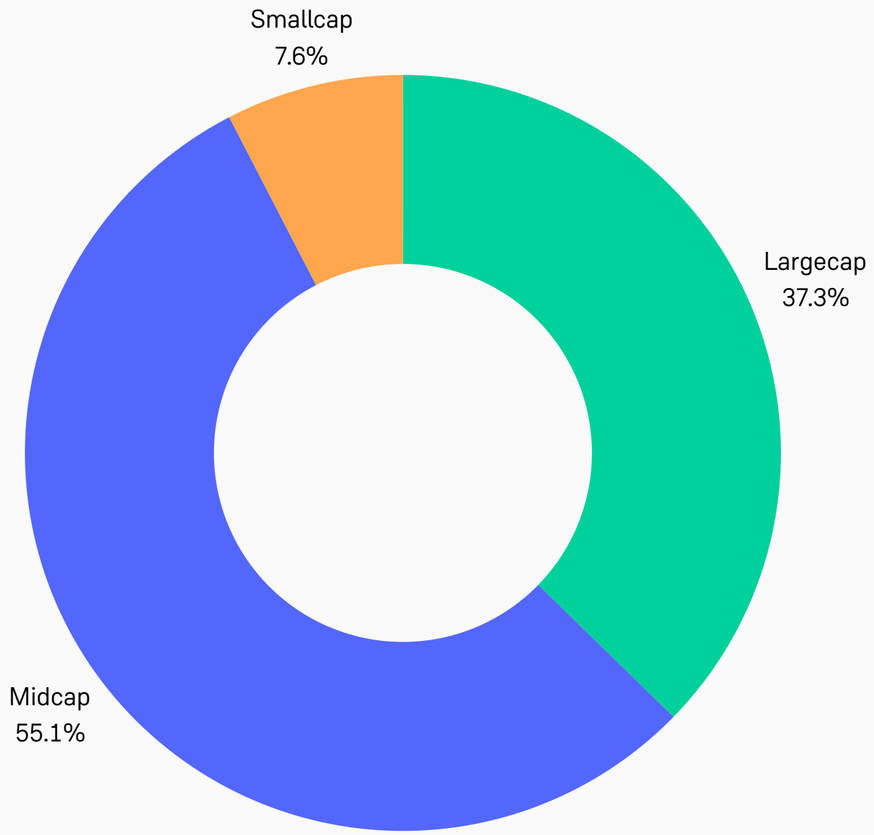
The automobile manufacturers are capped at 40% weightage in the Index. More than 60% of the index constitutes of new age, up and coming companies from the rest of the value chain.

Source - NSE, Index Factsheet, data as on June 28, 2024

The sectors referred herein should not be construed as recommendations, advice to buy, sell or in any manner transact in this sector and neither should it be considered as Research report from Groww Asset Management Ltd/Groww Mutual Fund. The scheme may or may not have exposure in those sectors Past performance may or may not be sustained in the future and is not a guarantee of any future returns. Please consult your financial advisor before investing.

Index Constitution

Mid Cap companies make up more than 50% of the index.



Source - Internal research based on NSE and AMFI data, as on June 28, 2024.

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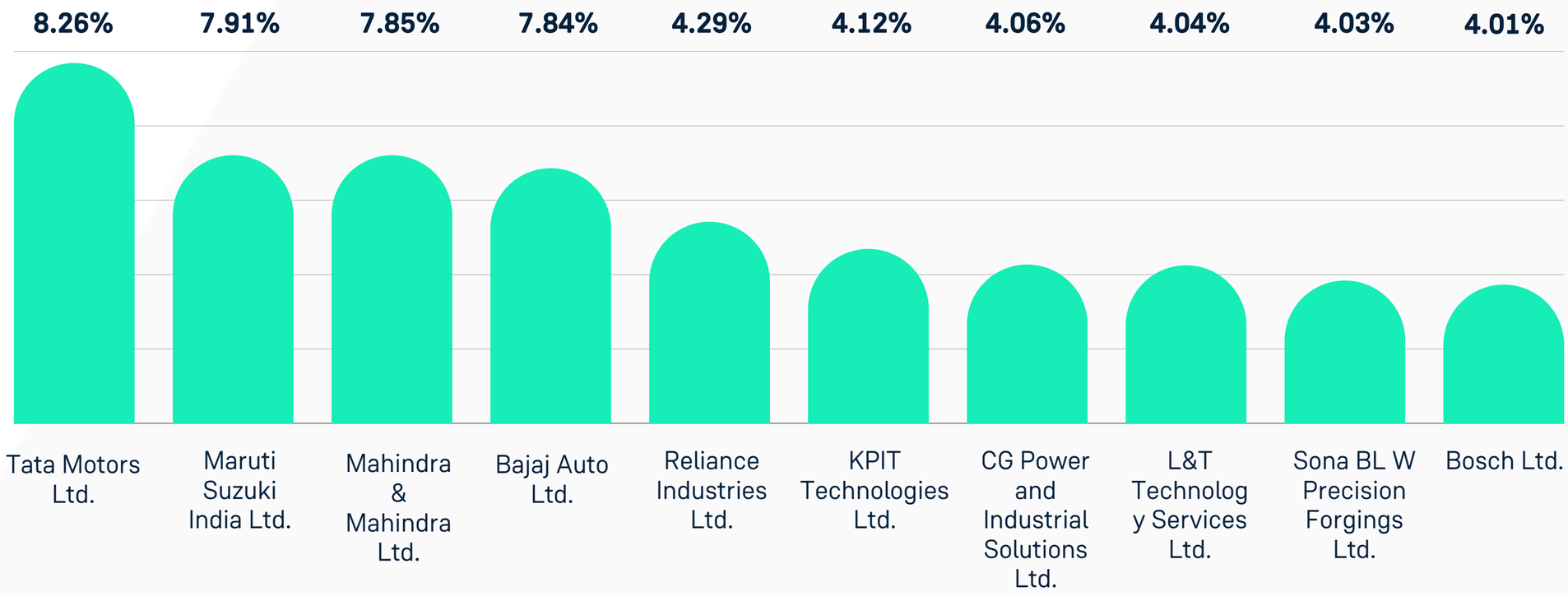
Top 10 Stocks



Source - NSE, Index Factsheet, data as on June 28, 2024.

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Nifty EV vs Nifty 50

The index has outperformed Nifty in both, the short and long term, by a substantial margin.

The index has given potential risk-adjusted returns as compared to Nifty 50 across different time frames, as shown in the table below.

Indices	5 Years		3 years		1 Year	
	CAGR Return	Sharpe Ratio	CAGR Return	Sharpe Ratio	CAGR Return	Sharpe Ratio
Nifty EV	36.00%	21.86	39.38%	32.27	60.00%	60.34
Nifty 50	16.53%	8.43	16.32%	13.78	28.12%	27.13

CAGR: Compounded annual growth rate

Source - NSE, Data as of June 28, 2024

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Nifty EV & New Age Automotive ETF FOF

Why you may consider Groww Nifty EV **& New Age Automotive ETF FOF**

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Aims to invest predominantly in units of Groww Nifty EV & New Age Automotive ETF, which seeks to invest in ~33 stocks belonging to the entire EV ecosystem

Seeks to capitalize on the growing EV market

The index aims to cap automobile manufacturers at 40%, with over 60% comprising new age companies from the value chain [1]

Aims to simplify investment by avoiding individual stock selection, through investment in units of Groww Nifty EV & New Age Automotive ETF

The index has more than 50% mid-cap companies [2]

Source 1 - Nifty Indices, June 28, 2024 | **Source 2** - Internal research based on NSE and AMFI data, as on June 28, 2024.
Please read the scheme information document for more details. Please consult your financial advisor before investing.
Refer last slide for NSE disclaimer

Scheme Details

Name of the Scheme	Groww Nifty EV & New Age Automotive ETF FOF
Scheme Type	An open-ended fund of fund scheme investing in units of Groww Nifty EV & New Age Automotive ETF
Scheme Benchmark	Nifty EV & New Age Automotive Index
Category	Fund of Fund - Domestic (FOF)
Investment Objective	The investment objective of the Scheme is to generate long term capital gains by investing in units of the Groww Nifty EV & New Age Automotive. However, there can be no assurance or guarantee that the investment objective of the scheme will be achieved.
Fund Manager	Abhishek Jain
Minimum Investment Amount	Monthly SIP: Rs. 100/- and in multiples of Re.1 for purchases and of Re 0.01 for switches. Lumpsum: Rs. 500/- and in multiples of Re.1 for purchases and of Re 0.01 for switches.
Exit Load	1%, if redeemed within 30 days

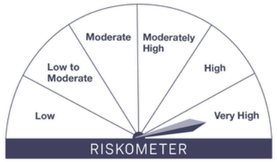
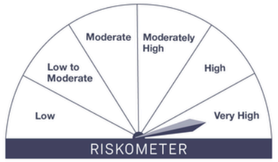
Groww Nifty EV & New Age Automotive ETF FOF

(An open-ended fund of fund scheme investing in units of Groww Nifty EV & New Age Automotive ETF)

PRODUCT LABEL#

This product is suitable for investors who are seeking*:

- Investment predominantly in units of Groww Nifty EV & New Age Automotive ETF
- Long-term capital appreciation

Scheme Riskometer	Benchmark Riskometer
	As per AMFI Tier I Benchmark i.e. Nifty EV and New Age Automotive Index - Total Return Index 
Investor understands that their principal will be at very high risk	The Benchmark Risk-o-meter is at very high risk

*Investors should consult their financial advisers if in doubt about whether the product is suitable for them.

#The product labelling assigned during the New Fund Offer is based on internal assessment of the Scheme Characteristics or model portfolio and the same may vary post NFO when actual investments are made.

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The investors are requested to note that they are bearing the recurring expenses of the scheme, in addition to the expenses ofGroww Nifty EV & New Age Automotive ETF ie in which Groww Nifty EV & New Age Automotive ETF FOF makes investments.

Mutual Fund investments are subject to market risks, read all scheme related documents carefully.