



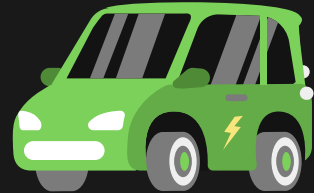
RESUME PROJECT CHALLENGE 12

Attendant: Hoang Phan (Vietnam)

Electric Vehicle Analysis



Challenge 12: Provide Insights to an
Automotive company on Electric vehicles
launch in India



AtliQ Motors?



- ⚡ **AtliQ Motors** is an automotive giant from the USA specializing in electric vehicles (EV).

AtliQ Motors
wanted to launch
their bestselling
models in India



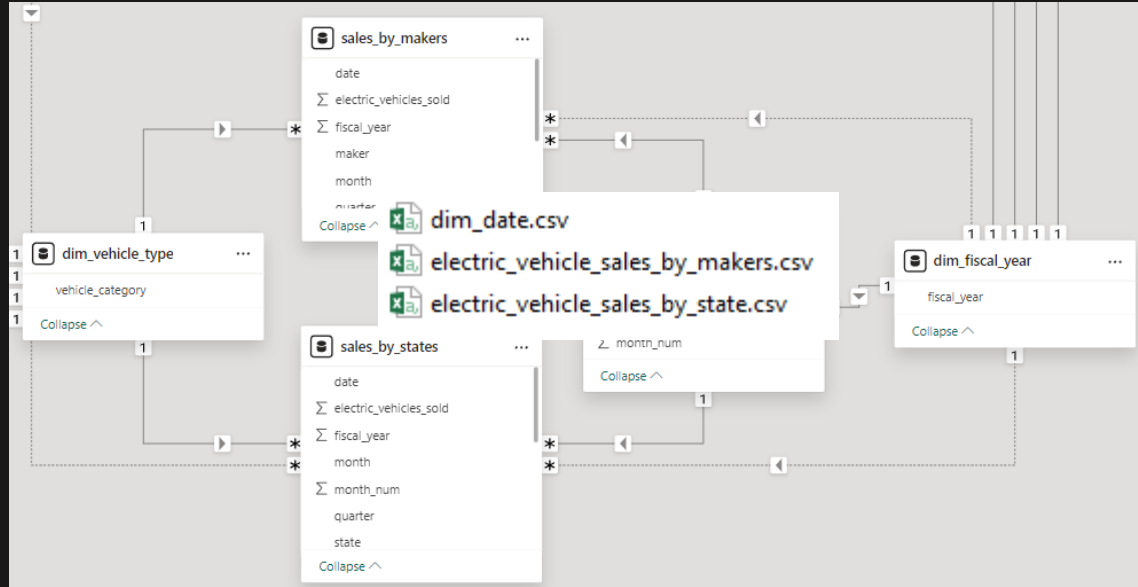
They need
information about
the EV market in
India



The data analytics
team is demanded
to do a detailed
market study

Given resources

1. List the **top 3** and **bottom 3 makers** for the fiscal years **2023** and **2024** in terms of the number of **2-wheelers** sold.
2. Identify the **primary reasons** for customers choosing 4-wheeler EVs in 2023 and 2024 (cost savings, environmental concerns, government incentives)?
3. How do government incentives and subsidies impact the adoption rates of 2-wheelers and 4-wheelers? Which states in India provided most subsidies?
4. How does the availability of charging stations infrastructure correlate with the EV sales and penetration rates in the top 5 states?
5. How do the EV **sales** and penetration rates in the top 5 states? **Karnataka** for **2024**?
6. List down the compounded annual growth rate (**CAGR**) in **4-wheeler** units for the **top 5 makers** from **2022 to 2024**.
7. List down the **top 10 states** that have the highest growth rate (**CAGR**) from 2022 to 2024. Who should be the brand ambassador if Atiq Motors launches their EV/Hybrid vehicles in India and why? (Based on data)
8. Which state of India is ideal to start the manufacturing unit? (Based on subsidies provided, ease of doing business, stability in governance etc.)
9. What are the **top 3 recommendations** for Atiq Motors, including **2-wheelers** and **4-wheelers** by **penetration rate** in **2030**, based on the compounded annual growth rate (**CAGR**) from **previous years**?
10. Estimate the **revenue growth rate** of **4-wheeler** and **2-wheelers** EVs in India for **2022 vs 2024** and **2023 vs 2024**, assuming an **average unit price**.



01.



Primary questions

Answer 10 primary questions with visualization.

1. List the **top 3** and **bottom 3 makers** for the fiscal years **2023** and **2024** in terms of the number of **2-wheelers** sold.

2. Identify the **top 5 states** with the **highest penetration rate** in **2-wheeler** and **4-wheeler** EV sales in **FY 2024**.

states with **negative penetration** (decline) in EV sales from **2022**?

are the **quarterly trends** based on sales volume for the **top 5** EV (**4-wheelers**) from **2022 to 2024**?

states and **penetration rates** in **Delhi** compare to **2024**?

compounded annual growth rate (**CAGR**) in **4-wheeler** units for the **top 5 makers** from **2022 to 2024**.

compounded annual growth rate (**CAGR**) in **2-wheelers** sold.

the **peak** and **low season months** for EV sales based on the **2022 to 2024**?

9. What is the **projected** number of EV **sales** (including **2-wheelers** and **4-wheelers**) for the **top 10 states** by **penetration rate** in **2030**, **based on** the compounded annual growth rate (**CAGR**) from **previous years**?

10. Estimate the **revenue growth rate** of **4-wheeler** and **2-wheelers** EVs in India for **2022 vs 2024** and **2023 vs 2024**, assuming an **average unit price**. **H**

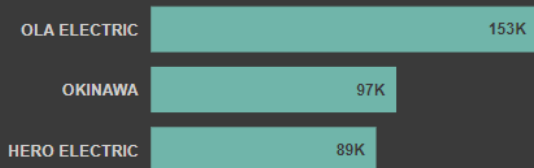


Question 1:

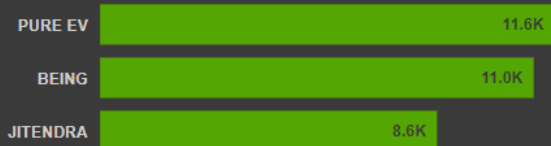
List the top 3 and bottom 3 makers for the fiscal years 2023 and 2024 in terms of the number of 2-wheelers sold.

2023

Top 3 Leading Makers

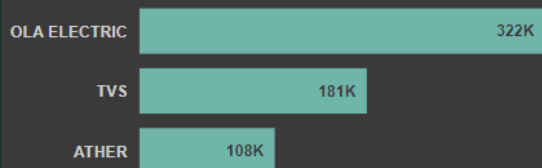


Top 3 Bottom Makers



2024

Top 3 Leading Makers



Top 3 Bottom Makers



Insights

- What makers are leading, what are struggling?
- Decide appropriate positions and plans to compete.

Question 2:

Identify the top 5 states with the highest penetration rate in 2-wheeler and 4-wheeler EV sales in FY 2024.

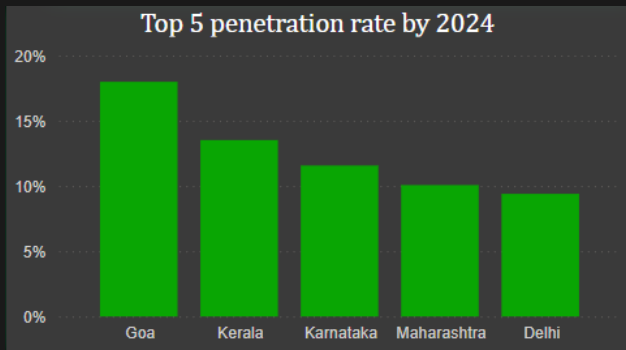


Insights

- The ideal state to start business.
- Which type of vehicles is more favorable?

2-Wheelers

Top 5 penetration rate by 2024



4-Wheelers

Top 5 penetration rate by 2024



Question 3:

List the states with negative penetration (decline) in EV sales from 2022 to 2024?

States with declining rate

state	pr_2022	pr_2024	pr_difference
Ladakh 2-Wheelers	4.48%	4.06%	-0.42%
Andaman & Nicobar Island 4-Wheelers	1.88%	0.84%	-1.04%

Penetration rate changes from 2022-2024 Both 2 and 4-Wheelers

state	pr_difference
Goa	10.1%
Kerala	9.6%
Karnataka	5.9%
Maharashtra	5.7%
Chandigarh	5.3%
Chhattisgarh	4.5%
Odisha	4.4%
Puducherry	3.7%
Gujarat	3.7%
Delhi	3.6%
Rajasthan	2.8%
Tamil Nadu	2.8%
Madhya Pradesh	2.5%
Andhra Pradesh	2.4%
Uttar Pradesh	1.6%
Uttarakhand	1.5%
West Bengal	1.4%
Mizoram	1.0%
DNH and DD	0.9%
DNH and DD	0.9%
Punjab	0.9%
Jharkhand	0.9%
Bihar	0.8%
Manipur	0.6%
Tripura	0.6%
Jammu and Kashmir	0.6%
Ladakh	0.6%
Haryana	0.5%
Assam	0.5%
Himachal Pradesh	0.5%
Meghalaya	0.3%
Arunachal Pradesh	0.1%
Andaman & Nicobar Island	0.1%
Nagaland	0.0%
Sikkim	0.0%

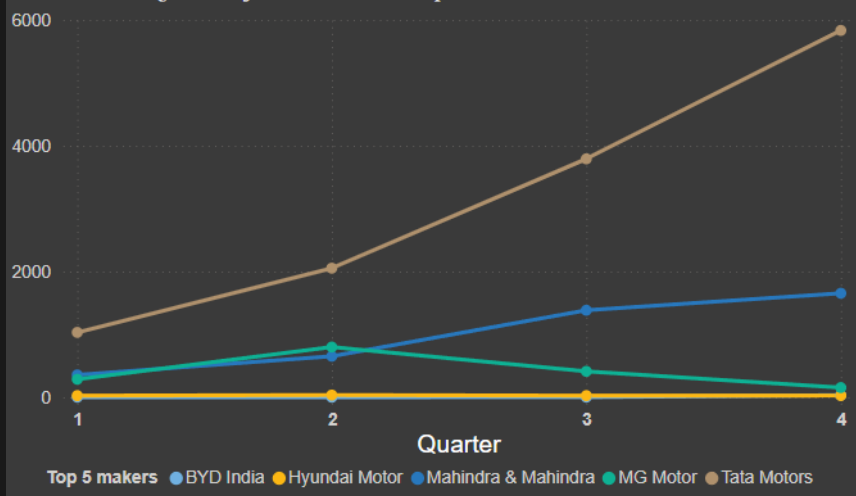
Question 4:

What are the quarterly trends based on sales volume for the top 5 EV makers (4-wheelers) from 2022 to 2024?

	maker	total_4wheelers_sales	fiscal_year
▶	Tata Motors	48181	2024
	Mahindra & Mahindra	23346	2024
	MG Motor	8829	2024
	PCA Automobiles	1533	2024
	BYD India	1466	2024

2022

Quarterly trends of the top 5 makers in 2022-2024

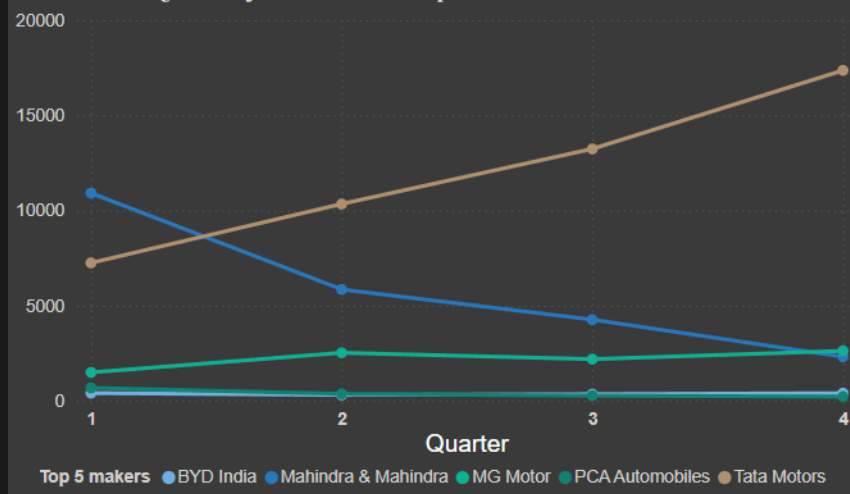


Insights

- The 4-wheelers market was heavily dominated by Tata Motors.

2024

Quarterly trends of the top 5 makers in 2022-2024



Question 5:

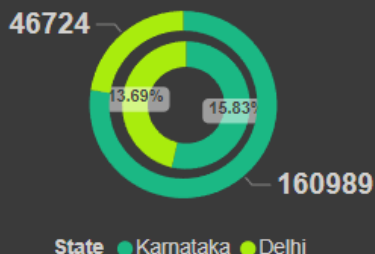
How do the EV sales and penetration rates in Delhi compare to Karnataka for 2024?



Both categories

Delhi vs Karnataka

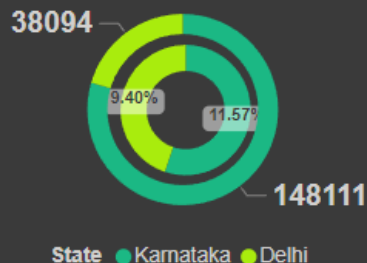
Penetration rate & Total sales



2-Wheelers

Delhi vs Karnataka

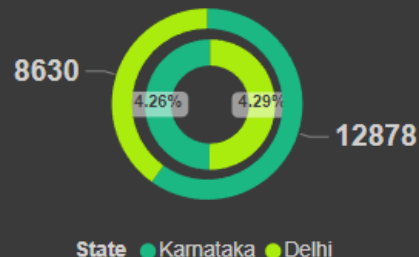
Penetration rate & Total sales



4-Wheelers

Delhi vs Karnataka

Penetration rate & Total sales





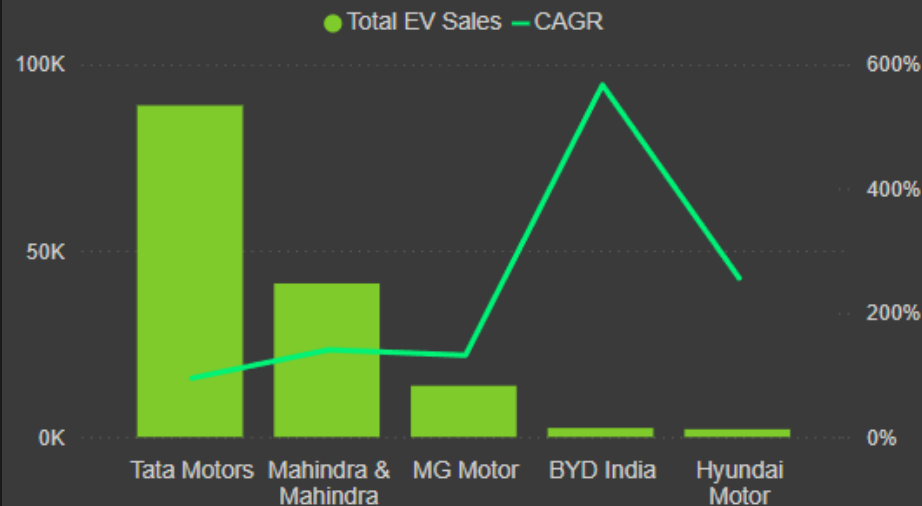
Question 6:

List down the compounded annual growth rate (CAGR) in 4-wheeler units for the top 5 makers from 2022 to 2024

Top 5 makers from 2022 to 2024

maker	EV sales	CAGR
Tata Motors	88935	94.71%
Mahindra & Mahindra	41193	140.33%
MG Motor	13753	131.53%
BYD India	2419	566.52%
Hyundai Motor	2076	255.48%

Top 5 makers from 2022 to 2024



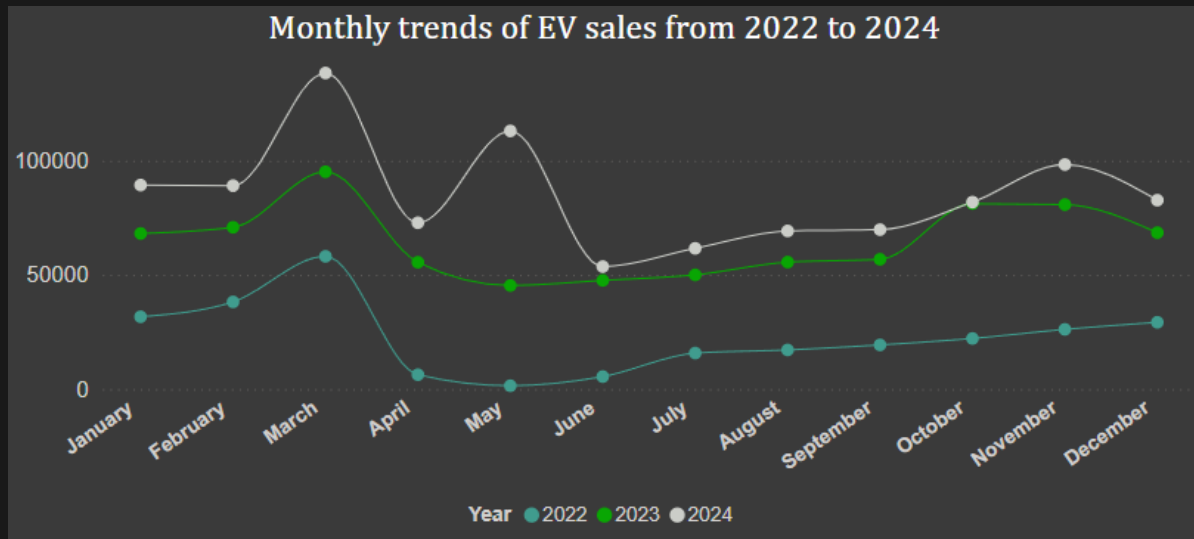
Question 7:

List down the top 10 states that had the highest compounded annual growth rate (CAGR) from 2022 to 2024 in total vehicles sold.

Top 10 CAGR		
State	Total vehicles sold	Total CAGR
Meghalaya	90,183	28.5%
Goa	199,970	27.4%
Karnataka	3,994,329	25.3%
Delhi	1,588,436	22.9%
Rajasthan	3,307,591	21.5%
Gujarat	4,125,551	20.5%
Assam	1,403,271	20.1%
Mizoram	71,307	18.8%
Arunachal Pradesh	71,547	18.3%
Haryana	1,902,768	17.7%

Question 8:

What are the peak and low season months for EV sales based on the data from 2022 to 2024?



Insights

- Peak seasons:
March
- Low seasons:
around **May & June**
- Pattern:
First-half: **fluctuate**
Second-half: **sustainable**

➔ Understand customer attitudes



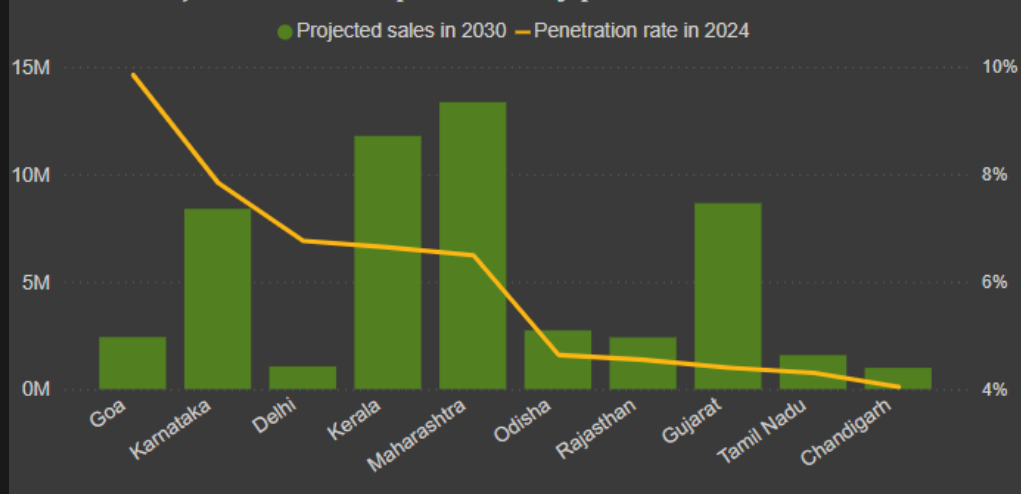
Question 9:

What is the projected number of EV sales (including 2-wheelers and 4-wheelers) for the top 10 states by penetration rate in 2030, based on the compounded annual growth rate (CAGR) from previous years?

Top 10 by PR 2030's projected sales

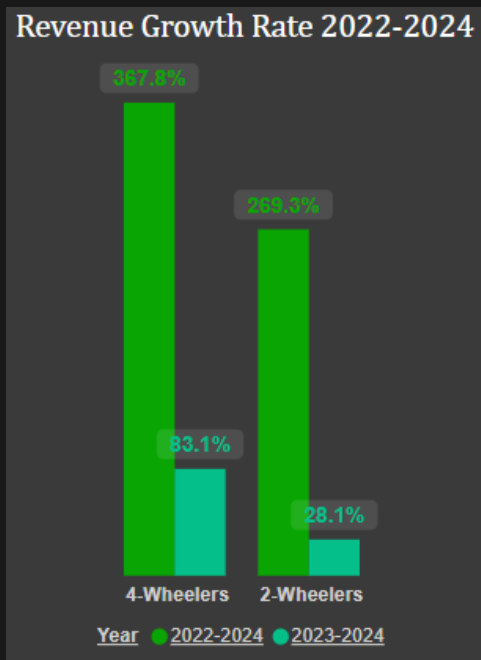
state	2024's penetration rate	Projected 2030's EV Sales
Goa	9.8%	2,419,574
Karnataka	7.8%	8,383,406
Delhi	6.8%	1,054,259
Kerala	6.6%	11,779,401
Maharashtra	6.5%	13,351,146
Odisha	4.6%	2,732,814
Rajasthan	4.5%	2,404,794
Gujarat	4.4%	8,646,246
Tamil Nadu	4.3%	1,579,547
Chandigarh	4.0%	986,811

Projected sales of top 10 states by penetration rate in 2024



Question 10:

Estimate the revenue growth rate of 4-wheeler and 2-wheelers EVs in India for 2022 vs 2024 and 2023 vs 2024, assuming an average unit price.



Interesting Insights

- FY2022 – 2023 contributed the most profit, much higher than FY2023-2024

Year	Vehicle Category	Revenue growth rate
2022 - 2023	2-Wheelers	241%
2022 - 2023	4-Wheelers	285%

FAME II Subsidy Scheme

- FAME II is the Phase-II of FAME Scheme (Faster Adoption and Manufacturing of Electric Vehicles), which encourages the use of EVs.
- The EV subsidy scheme provides incentives for setting up charging infrastructure, providing financial support for the EV sector, promoting the adoption of Evs.

Year	Vehicle Category	Revenue growth rate
2022 - 2023	2-Wheelers	241%
2022 - 2023	4-Wheelers	285%

Responding to a question in the Rajya Sabha, the Ministry of Heavy Industry has said that the entire budgeted allocation under FAME II was used up in the first three years, beginning from 2019-20, falling marginally in 2022-23, but in 2023-24, there was a huge gap.

<https://economictimes.indiatimes.com/industry/renewables/government-ev-push-fame-ii-ending-march-31st-2024-fame-iii-likely-in-main-budget-in-july/articleshow/108911332.cms?from=mdr>



03.

Secondary questions

Answer secondary questions, research, give insights, suggestions.

1. What are the primary reasons for customers choosing 4-wheeler EVs in 2023 and 2024 (cost savings, environmental concerns, government incentives)?
2. How do government incentives and subsidies impact the adoption rates of 2-wheelers and 4-wheelers? Which states in India provided most subsidies?
3. How does the availability of charging stations infrastructure correlate with the EV sales and penetration rates in the top 5 states?

4. Who should be the brand ambassador if AtliQ Motors launches their EV/Hybrid vehicles in India and why?
5. Which state of India is ideal to start the manufacturing unit? (Based on subsidies provided, ease of doing business, stability in governance etc.)
6. Your top 3 recommendations for AtliQ Motors.



Question 1:

What are the primary reasons for customers choosing 4-wheeler EVs in 2023 and 2024 (cost savings, environmental concerns, government incentives)?

Environmental Concerns

- EV is a cleaner alternative
- ➔ Help curbing air pollution

Cost savings

- EV is cheaper than traditional vehicles
 - Less maintenance
 - Don't use fuel

Government incentives

- Discounts, tax breaks, return money back
- FAME subsidy scheme



Question 2:

How do government incentives and subsidies impact the adoption rates of 2-wheelers and 4-wheelers? Which states in India provided most subsidies?

2-Wheelers

Effective method: cheaper bikes & scooters, discounts, return money back... E.g: FAME II
=> Highly effective in India, where most customers are bargain hunters.

4-Wheelers

Effective method: tax breaks, lower registration costs... => reduce purchase prices, improve buying rate.

The most EV-friendly States

Gujarat

The very first on our list is Gujarat, which offers a maximum subsidy of up to ₹20,000 on electric two-wheelers with no registration charges. Furthermore, the subsidy is up to ₹50,000 for three-wheelers. For electric four-wheelers, the state government offered a maximum benefit of up to ₹1.5 lakh.

Maharashtra

Maharashtra EV subsidy includes up to ₹25,000 for electric two-wheelers, up to ₹30,000 for electric three-wheelers with no registration charges and road taxes, and up to ₹2.5 lakh for electric four-wheelers.

Question 3:

How does the availability of charging stations infrastructure correlate with the EV sales and penetration rates in the top 5 states?

- The top 5 states with the highest penetration rate all have the most public charging stations available, except for Goa.
- The availability of charging stations has a direct correlation to the adoption of electric vehicles and ultimately the penetration rate of the state

State	Penetration Rate
Goa	22.24%
Kerala	19.28%
Karnataka	15.83%
Delhi	13.69%
Maharashtra	10.07%

State	Public charging stations
Goa	113
Kerala	852
Karnataka	1041
Delhi	1886
Maharashtra	3079

Question 4:

Who should be the brand ambassador if AtliQ Motors launches their EV/Hybrid vehicles in India and why?

Virat Kohli

- One of the greatest cricketer => Well-known
- An embodiment of strong aspiration, passion, modesty and commitment to a healthy life => Well-respected.



Dia Mirza

- A successful actress with various awards
- One of the most enthusiastic activist in terms of environmental concerns.



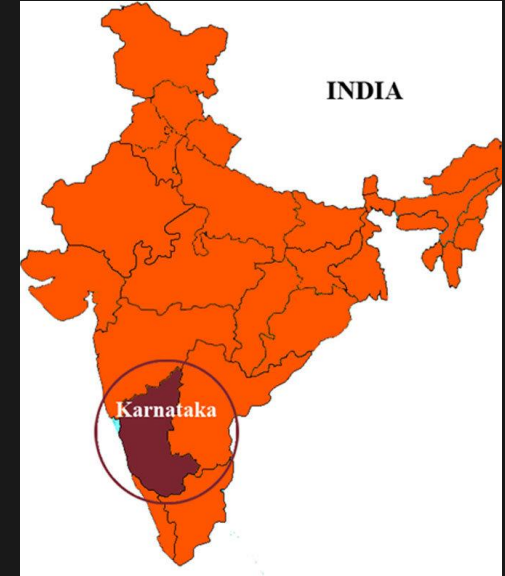
Question 5:

Which state of India is ideal to start the manufacturing unit? (Based on subsidies provided, ease of doing business, stability in governance etc.)

The ideal state: Karnataka

- Karnataka sold the 2nd highest number of E2Ws in the last FY (149,767 units – 15% market share)
- Karnataka ranked 2nd in e-cars sales (13,288 units – 13% market share)
- Karnataka has effectively utilized the FAME-II subsidy program, accounting for 15% of the total subsidies disbursed nationwide.
- Karnataka has the 3rd highest penetration rate (15.83%).
- Karnataka **tops** the country in terms of public electric vehicle charging stations (5059).

STANDOUT ASPECT: Karnataka provides a stability in governance.



State	Penetration Rate
Goa	22.24%
Kerala	19.28%
Karnataka	15.83%
Delhi	12.60%

Question 6:

Your top 3 recommendations for AtliQ Motors

1. Charging stations

- Build a charging network, catering to urban/busy areas, highways, commercial zones...
- ➔ Easy to charge => More customers

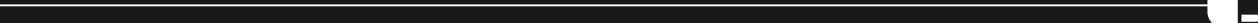
2. Training for service technicians

- Deal with any kinds of maintenance: battery conditioning, emergency discharge, diagnostics, repairs
- ➔ Trust among customers, clear uncertainty => Absolute pros!

3. Choose the right brand ambassador

- Build trust and catch attention from customers.
- ➔ Immediately improve popularity and reputation.






04.

Conclusion

Final conclusion and
thanks.





Conclusion

- AtliQ Motors gained extensive knowledge about the current EV market in India
 - ✓ leading makers
 - ✓ leading states
 - ✓ the number of 2W & 4W sales
 - ✓ Peak season, low season, customer attitudes
 - ✓ CAGR, Revenue Growth Rate, penetration rate
- Other essential information
 - ✓ appropriate brand ambassador
 - ✓ the ideal state to start
 - ✓ important business plans: charging network, staff training...

→ AtliQ Motors is ready to step into the market, launch their models, compete, take challenges and expand their successful business.



THANKS FOR LISTENING!



Thanks!



Do you have any questions?

youremail@freepik.com

+91 620 421 838

yourcompany.com

CREDITS: This presentation template was created by **Slidesgo**, including icons by **Flaticon** and infographics & images by **Freepik**

Please keep this slide for attribution

