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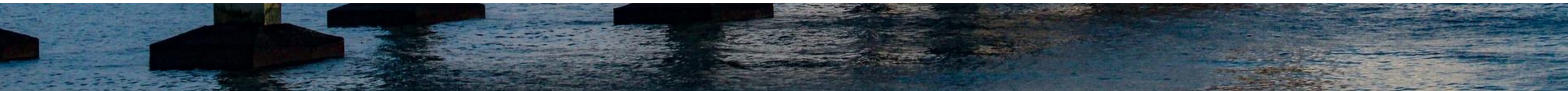
Indian Market Opportunity in Advanced Chemistry Cells



ABOUT US

Indian Market Understanding + Technical Knowhow = QUANZEN

Started in 2009, Quanzen is your consultant and market development partner in India.

Based in Pune, the Automotive hub of India.

Part of Global Alliance Automotive – a worldwide network of Local Market Support companies across 15 countries

WHY INDIA SHOULD BE YOUR NEXT DESTINATION?

WHY INDIA?

Growth Outlook + Consumer Understanding =

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India is 4th largest automotive market.

and fastest growing emerging market.

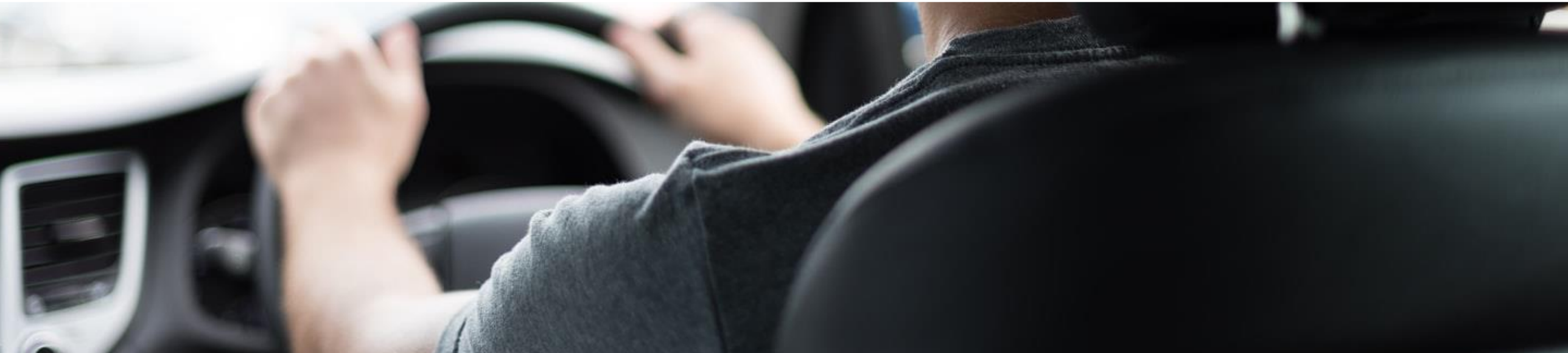
The only word which can describe potential and opportunities in the Indian market is

MASSIVE

India is a unique market with opportunities in different vehicle segments as compared to rest of the world :

	Global Rank	Sales FY-19 (Million)
	4	3.37
	1	21.18
	1	0.7
	1	0.8
	2	0.09
	3	0.9

Advanced Chemistry Cells - Huge Emerging Opportunity



AGGRESSIVE TARGETS WILL LEAD TO MASSIVE GROWTH

India will produce **over 20 million EVs annually by 2026** if the Government's vision becomes a reality

Government Goal for only Electric vehicles sold

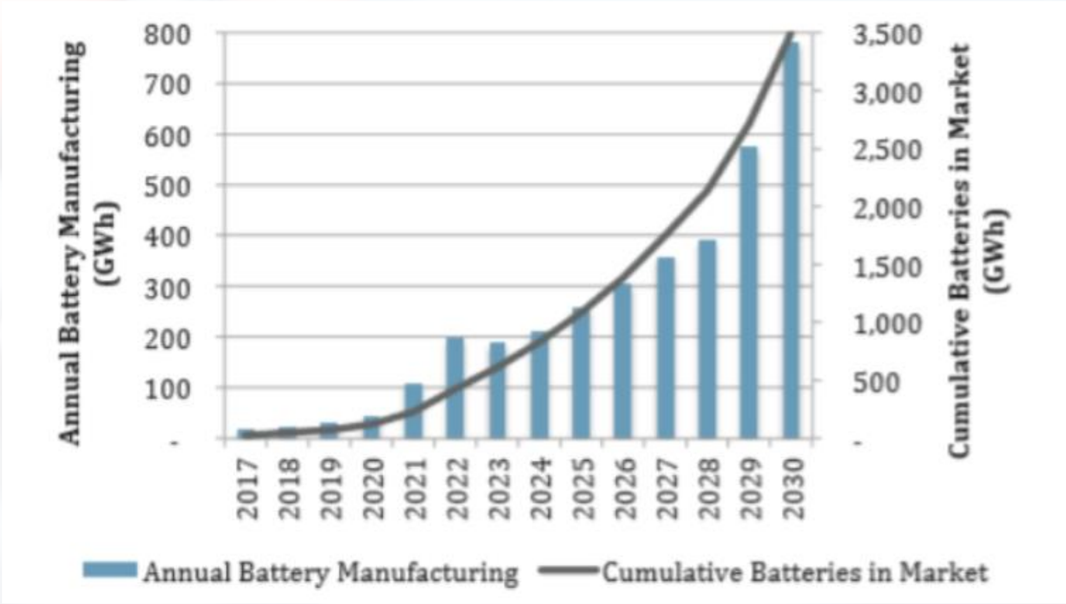
- By 2023, all 3 wheelers
- By 2025, all 2 wheelers below 150cc
- By 2026, all Taxis
- By 2030, all inter-city buses

GROWTH DEMAND - BATTERY PACK MAKERS

According to the Rocky Mountain Institute, India would have 40% of the global battery demand by 2027-28.

EV Battery Pack Manufacturers :

- Octillion Power Systems
- Exicom Tele Systems
- Bosch
- GreenFuel Energy
- Future HiTech
- Fusion Power Systems
- Exide-Leclanche



GOVERNMENT SUPPORT

Federal Government FAME 2 Scheme : $1.3 billion over 3 years to incentivize:

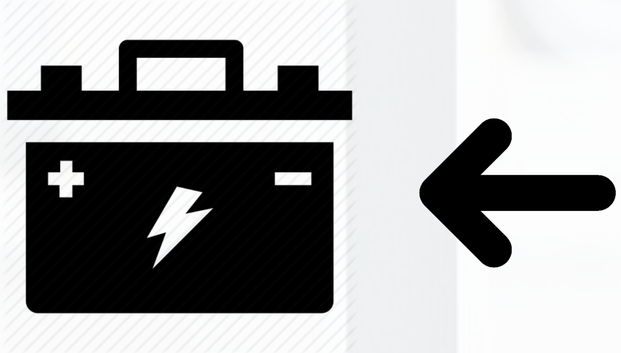
- 7,000+ Electric Buses
- 55,000 Electric and Hybrid 4 Wheelers
- 500,000 Electric 3 Wheelers
- 1,000,000 Electric 2 Wheelers

Various State Governments have own incentive schemes

- Substantial subsidies for purchasing electric two and three wheelers and passenger cars
- Exemption of registration charges and road tax
- Incentivize public charging infrastructure

Next Big Step - Local Battery Cell Production

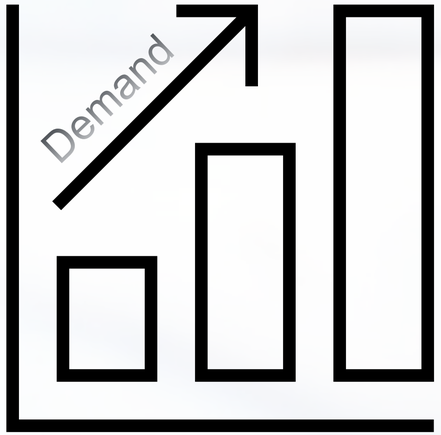
- Battery cells localisation has now become a strategic requirement
- In May 2021, the Indian Government notified the Production Linked Incentive (PLI) Scheme for manufacturing of Advanced Chemistry Cells (ACC).
- An outlay of US$ 2.5 billion has been earmarked for incentives
- Target - to establish local manufacturing capacity of 50 Giga Watt Hour (GWh) of ACC and 5 GWh of Niche ACC capacity.



Advanced Chemistry Cells (ACC) - Update

- 20 companies have already submitted the bid for ACC PLI scheme
- According to India Energy Storage Alliance (IESA) there would be more than 50 GWh capacity that will be built, even more than what the ACC PLI scheme has envisaged.
- The expectation is as follows:

By Year	2025	2030	2035
Demand	55 GWh	190GWh	650GWh
Manufacturing capacity in India	20GWh	100GWh	500GWh



- There is already demand from the industry to double the provision of this PLI scheme so that more manufacturing capacity can come up.

Large Battery cell manufacturing Projects coming up

Bloomberg and RMI expect the base scenario demand to be 80 GWh / year by 2025

Local & global players already announced mega projects. Many others are keen to enter. Here are some examples …..

Reliance Industries, one of the largest Indian companies with USD 200 Billion market capitalisation, announced its plan for a Giga factory for advance chemistry batteries.

Some other large players - Adani Group, Tata Chemicals, Larsen and Toubro Ltd (L&T), and a joint venture (JV) led by Japan's Suzuki Motor Corp

Amara Raja Batteries, the country's second-largest automotive battery maker, has opened a technology hub to develop lithium-ion cells. The company is one of the 10 companies in India that have a technology transfer agreement with the Indian Space Research Organisation (ISRO) since early 2019.

There is a huge opportunity opening up for Battery cell manufacturers, technology providers, component suppliers and other equipment or software suppliers in Indian market

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