

## IIT KHARAGPUR | PITCHING CASE COMPETITION | 2023

### CASE THUS FAR

US has planned to switch 50% of their car sales to Electric Vehicles (EV). California has announced total ban on gasoline and diesel vehicle sales from 2035. 22% of vehicles in Europe are currently electric and by 2035 EU has a mandate for 100% electric cars.

In India, electric vehicles are set to be a \$100 billion market by 2030 as per Bain & company out of which EV Batteries can be \$12-14 billion market. 2022 was the first year when EV sales crossed 1 million mark in India. Indian govt in Nov 2022 announced its intent to increase the EV market share of passenger vehicles from 4.8% in 2022 to 30% in 2030, commercial vehicles (trucks) to 70% and 2 & 3 wheelers to 80%

Achieving these targets to tackle climate change, improve INR currency strength and wean away from heavy reliance on crude oil all in one go requires a biggest bottleneck to be solved – domestic production of EV batteries including raw materials. Currently China is the largest producer of EV batteries with 125 gigafactories approx.. in operation and heavily dominates raw materials supply chain including lithium mining, refining, and processing.

### CHALLENGE: EV STARTUP IN BATTERY TECH

You are a startup in Electric Vehicle space and have researched sodium ion batteries as well as graphene batteries which are better than currently used Lithium-Ion Batteries (LiB). You are close to filing a patent and want to scale this commercially by raising venture capital seed round. You are now pitching a venture capital firm on why they should invest in your startup.

To clear the due diligence process with an investor, below are the potential steps for creating a business plan.

- Understanding the challenges of **Lithium-Ion Batteries** like
  - Mining, Refining and Processing of Lithium Ore
  - Environmental Hazards of Mining
  - Availability of Lithium deposits globally
  - Recycling or disposing Lithium batteries
  - Historical analysis of procurement costs of Lithium
  - Performance of lithium batteries and limitations of it

## Sodium Ion Batteries

- Advantages of sodium ion batteries over Lithium Ion and performance
- Raw material availability in India
- Competitive Landscape: Key players globally working on this, timeline for commercialization and industry readiness for transition
- Key startups or companies in India focusing on sodium ion batteries
- Technology pathways and economic feasibility for large scale adoption

## Graphene Batteries

- What is Graphene and journey thus far
- How can Graphene batteries help in EV space
- What advantages does graphene batteries have over lithium ion batteries
- There are 3 kinds of graphene batteries researched currently. Graphene- lithium ion batteries, Graphene- sodium ion batteries & graphene aluminum ion batteries. Which kind of graphene batteries is suitable for the EV
- What are the business strategies of Tesla, Samsung & Xiaomi for Graphene Batteries for EV & Smart Phones

## KEY OBJECTIVE

What technology (graphene or sodium ion) would you choose for your startup and why? The one you like the most should have a pitch deck of 9-10 slides covering the following topics.

Both technologies are competitive and have a potential to be the next gen EV batteries. You need to meticulously research and convince investors which one is best and suited for Indian market and why they should invest in you.

## PITCHDECK GUIDELINES

Below are some pointers you could use during your research.

### Slide 1 Problem statement

- Why EV batteries need better alternatives
- Value chain and supply chain overview

- How this poses a risk for India

## Step 2 Solution

- What can succeed Lithium-Ion Batteries
- Comparison of competitive technologies

## Step 3 Product

- Why is this product best
- How will it be produced (technology) and why is this the best one
- What are the raw materials required
- Intellectual property strategy
- Timeline to get ready for large scale commercialization
- Annual production quantities

## Step 4 Go to Market Strategy

- Why will EV manufacturers buy into your product
- How will you reach out and get them onboard
- Competition analysis

## Step 5 Growth & Pricing Strategy

- Pricing Strategy
- Growth Strategy
- Potential New Markets (Smartphones, Energy Storage etc)

## Step 6 Financial Model

- What would be the COGS?
- 3- & 5-year financial projections
- Capex, IRR & EBITDA Model

### Step 7 Funding

- Fundraise Breakdown
- Deployment of Funds

### Step 8 Risks

- Based on above research, what are the risks to this startup idea.

### Step 9 Team

- Team Members
- Experience
- Future Hiring Strategy

This is a guideline meant to stimulate your thought process and by no means is a definitive approach that you should necessarily adhere to. Please feel free to proactively create your own strategy based on your personal research and analysis on this subject.