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Generating Wealth

Plant Visit Note
10th July, 2024

OLA ELECTRIC MOBILITY LIMITED

Leading India's vision to make it a Global EV manufacturing hub.

Outlook: Positive

Stock Info	
Sector	Auto
Face Value (INR)	10
Issue size(INR mn)	55,000

Shareholding Pattern %

(Pre-offer as on date of filing DRHP)

Bhavish Aggarwal	36.94
SVF II Ostrich (DE) LLC	21.98
OEM Employees Welfare	7.67
Internet Fund III Pte Ltd	6.03
ANI Technologies Private Limited	4.35
Indus Trust	3.85
Alpha Wave Ventures II, LP	3.49
Matrix Partners India Investments III, LLC	3.43
Hyundai Motor Company	2.95
V-Sciences Investments Pte Ltd	1.78
MacRitchie Investments Pte. Ltd.	1.25

We visited Ola electric mobility's future factory and Giga factory at Tamil Nadu and BIC and Ola campus at Bengaluru. We interacted with various senior leaders of the management like Mr Bhavish Aggarwal, Mr Jose Pinheiro(VP of Manufacturing and Engineering), Mr Sundaram Murthy, Mr Bala and Mr Rajeev. Ola's margins are expected to improve post-integration of its in-house cell since it will be saving on the rich margins of the companies from which it imports batteries. Cell PLI will come when commercial production starts and it will also get 13-18% PLI on production of 2 models of electric scooters. Ola is the market leader with ~50% market share in electric 2w as of April'24. We believe that if the EV story sustains and drives demand, Ola could be one of the biggest beneficiaries. Ola's battery business can have more potential that its scooter business since surplus capacity after captive consumption could be deployed for various uses.

Key Highlights

Driving the technology innovation: For Ola to maintain its position and expand, they are investing heavily in R&D. They intend to deploy INR 16,000mn out of the INR 55,000mn they raise from IPO into R&D. The company has made tremendous progress in developing its in house battery called '4680' which will outperform all existing batteries for electric 2wheelers in market. With this, the company will no longer rely on importing batteries for its scooters. They have a dedicated BIC (battery innovation center) where 200+ researcher's are working. They also have R&D centers at San Francisco, Germany, China, South Korea and Japan. Last week, Ola got BIS certificate for it's '4680' battery which is a huge milestone. They intend to soon start using this battery in their scooters.

Newly plant setup in Tamil Nadu will lead to higher growth: They have been able to setup factories from ground zero within 8 months and get them operational within a year in Tamil Nadu. Company is inclined towards achieving the big picture of leading the EV revolution. Company has top management from companies like GM and Tesla with most of them having 2 decades plus experience. They envision to sell 10mn 2W and produce 100GWh annually. This year they are on track to sell 600k scooters.

Giga Factory with 20GWh planned under Phase A having INR 160bn potential: With Ola developing capabilities to manufacture battery in house at its giga factory, it could attract a lot of attention from peers to use this technology. Company has completed its phase 1 under which it has 1.6GWh and has civil infra ready to scale this to 5GWh under phase 2. They have a vision of 100GWh of which detailed plan has been made for 20GWh. They guided that 1GWh in general requires an investment of $70-80mn that brings in ~$100mn revenue with 25-30% margin. Co. can use these batteries outside scooters as battery packs with varied uses. Only 5% of the total capacity is built now. 5GWh can support 2mn of their scooters.

Omnichannel distribution model: Company has D2C and Omni channel model for distribution.. Ola had >600 experience centers as of May'23 and 414 service centers. Co. has been leading in terms of MS at time when other players' share is eroding. Company is underway to launch commercial production of motor bikes by next year with futuristic designs and enhanced battery capabilities. This will drive volumes for the company thereby enhancing its positioning.

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Avi Agarwal

Key Highlights

Ola Electric which started 4 years ago, is a mission-driven company with an aim to make India a global EV manufacturing hub and supply to the world. Co.'s future factory is spread across 200acres where Ola scooters are manufactured and assembled while the Giga factory for the battery manufacturing is spread across 400 acres. They introduced their first product 2.5 years ago and are on track to launch their motorbikes in the next calendar year. His focus is to make a world-class product along with its underlying technology, i.e., to make the '4680' cells in-house, which will give them a competitive edge since they will be directly saving on the gross margins of the companies they import these batteries from, along with the 5% import duty. This battery is more energy-efficient and effective.

They have invested around INR 8 bn in their R&D and INR 8 bn in the cell factory. Till now they have raised money through equity from marquee names along with term loans.

Hydrogen technology

Hydrogen as a source of power is believed to be better for static use and not for automotive use. All steps, from creation of hydrogen, then compressing, then transporting it to be put into a vehicle, consume energy. Approx 100 units of hydrogen created will boil down to 50 units by the time they reach the vehicle, thereby making it inefficient.

PLI

Ola has received maximum PLI allocation with 2 PLI schemes. Lithium PLI for 20 GWh. 5 GWh of capacity can support 2 mn electric scooters. No major but only incremental capex will have to be incurred to increase capacity to 4 mn scooters. They focus less on marketing spend and put more efforts into R&D. It is the first 2W OEM to have PLI certification. Cell PLI will come when commercial production starts, which is expected to begin by early next year. It will also get 13-18% PLI on production of 2 models of electric scooters.

Cathode anode powder is imported from outside India, which Ola plans to make in India through partnerships.

FAME 3 subsidy is to come, which is reflective of the continuing support from the government. State authorities of Tamil Nadu have also been supportive of the industrial activities.

Future Factory

Within 7 months Ola had produced their first scooter from future factory. The first building of the future factory has the capacity to have 4 assembly lines of which 1 is currently operational. Each line having 1 mn scooter producing capacity annually. Post utilization of this, Ola plans to build a mirror image of this factory adjacent to the current plant on the same land, which will handle another 4 assembly lines, thereby helping Ola to achieve its 10 mn vision. The general assembly line was 120 meters long and moved people and scooters on a conveyor-type belt. On this line were 40 assembly stations, each helping to fit different parts on the scooter. It took 20 minutes for a scooter to get assembled, and one scooter came out of the assembly line every 30 seconds.

Last year, they sold 400k+ scooters. This year they are on track to sell 600k+ scooters. They can easily increase this production according to demand. Their vision is to have one scooter come out of the assembly line every 2 seconds. The company has a total area of 2000 acres, which it will use to develop these factories and supply parts.

Upcoming Motorbikes slated for launch next year

The motorbikes, which are being planned to launch next year, are all built on the same platform. One model will be for adventure, the other will be a track-focused sports bike with a diamond-shaped front having +200 km/h top speed. The third will be a Roadster, which would be a mainstream bike.

Cells, electronics, and magnets are the components that Ola is importing. They are currently importing their battery from Korea and China which are IP67 rated. They purchase all their metallic parts from local suppliers.

Workforce
They have a workforce of around 3500 people at this plant. Apart from ~150 men, the entire remaining workforce comprises of females. They are recruited from nearby local villages on a contract basis. These people with no prior experience are first trained for 12 days at a polytechnic school in Krishnagiri. This training is rigorous, during which they are not even allowed to go home. Post this initial training, they are then given on-job training for the next 4-5 weeks. The workforce works in 3 shifts of 8.5 hours each.

Use of AI
AI is being used in its manufacturing process. In a single battery, 224 cells are inserted, which is entirely done by a robot. A camera, with the use of AI, checks whether glue has been properly put in at all places. Out of 168 weldings, 86 of those are also checked by this camera.

Ola Maps
They have eliminated their dependency on Google Maps and are now using their in-house developed map system. This has also resulted in cost savings for the company. They also showcased their adaptive cruise control tech along with safety features like reducing speed on recognizing humans on the path.

Robots
They use autonomous mobile robots (AMR) in the plant which is used to shift material within the factory without human intervention. These robots are developed in Delhi, India. **Battery development** is the main focus of Ola. They have also designed their own PCBs which it will get manufactured from a 3rd party supplier.

Giga Factory
They currently have 1.4 GWh capability under Phase 1 at the Giga factory with civil infrastructure ready to increase this to 5 GWh under Phase 2. Expansion work under Phase 2 is being undertaken. Ola has a detailed plan ready to increase its capacity to 20 GWh under Phase A.

They are currently using '2170' battery in 2-wheelers, which represents 21mm diameter and 70mm height. Ola is developing their '4680' battery which is currently under quality checking and will be used in the future to power the electric two-wheelers. The Giga Factory is a linear factory with high automation, which will facilitate material movement without human interaction.

Motor
Production of Gen 2 motor should start in the next 2 months. This motor is being developed in-house and has an 11 kWh motor within the same size package. The Gen 3 motor, which shall come in the future, will be based on magnets.

Battery
Gen 1 battery was sourced from a 3rd party supplier while it was designed, developed, and tested in-house. Gen 2 battery saw a 33% cost reduction and 28% reduction in cost of producing. This is also sourced from a 3rd party seller and takes less time to manufacture. This battery had better thermal efficiency than the previous one. Gen 3 battery, which will be used in the future, will take even less time to manufacture and will have cells made in-house.

Exhibit 1: The battery being developed by Ola

Exhibit 2: Ola future factory in Tamil Nadu

Exhibit 3: 1st Assembly line with 1mn capacity.

Exhibit 4: AMR robots used to shift material in factory without human intervention.

Exhibit 5: Current line up of electric 2w by Ola

Exhibit 6: Motorbikes which the company plan to launch by next year

Source: Company, Arihant Capital Research

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Stock Rating Scale	Absolute Return
BUY	>20%
ACCUMULATE	12% to 20%
HOLD	5% to 12%
NEUTRAL	-5% to 5%
REDUCE	-5% to -12%
SELL	<-12%

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