

Wardwizard Innovations and Mobility Limited:

Shaping India's Electric Vehicle Future

Wardwizard Innovations and Mobility Limited, operating under the brand names **Joy e-Bike** and **Joy e-Rik**, is a leading player in the Indian electric vehicle (EV) market. The company has rapidly expanded its presence across India, establishing a strong foothold in **400 cities across 19 states and union territories**. Wardwizard's core focus is on establishing a strong brand identity and maximizing market penetration. This strategy has yielded remarkable results, with the Joy e-Bike brand opening over **130 exclusive showrooms and 750 touchpoints within just six months**.



Manufacturing Hub: A State-of-the-Art Facility

Location

Wardwizard's manufacturing facility is strategically located in **Vadodara, Gujarat**. The facility spans a vast area, encompassing **70,000 sq ft for two-wheeler production** and an additional **40,000 sq ft dedicated to three-wheeler manufacturing**.

Capacity

The facility boasts an impressive annual production capacity of **120,000 units per year for two-wheelers during a single shift**. This translates to a remarkable production rate of **one two-wheeler every 150 seconds** once the initial vehicle is completed.

Production Efficiency

The facility is designed for optimal efficiency, showcasing the company's commitment to high-volume production and meeting the growing demand for electric vehicles. **This focus on efficiency is evident in the rapid production rate, ensuring a steady supply of vehicles to the market.**

Production Capacity:

Product	Capacity (Units/Mont h)	Capacity (Units/Year)	Utilized (Units/Month)	Utilized (Units/Year)	Used Capacity	Unused Capacity
2 Wheeler	18750 (1 Shift)	225,000	5,000	60,000	26.7 %	73.3 %
2 Wheeler	37500 (2 Shift)	450,000	—————	—————	13.3 %	86.7 %
Battery	25000	300,000	6,000	75,000	28 %	72 %
3 Wheeler	1,650	20,000	500	6,500	36 %	64 %



Strategic Partnerships: Expanding Horizons

1 Triton EV Collaboration

Wardwizard has entered into a strategic **five-year Memorandum of Understanding (MoU)** with Triton EV, a leading **U.S.-based electric vehicle manufacturer**. This partnership marks a significant milestone, signifying Wardwizard's **commitment to innovation and expansion into new technologies**. The collaboration aims to revolutionize the electric vehicle landscape in India and the United Arab Emirates (UAE), with plans to **manufacture hydrogen battery-operated trucks and two-wheelers in India in the near future**.

2 BEEAH Group Collaboration

In a strategic move to expand its reach into the **Gulf Cooperation Council (GCC) and African markets, Wardwizard has signed an MoU with BEEAH Group**, a leading environmental services company in the UAE. This collaboration will leverage **BEEAH's expertise and network to support Wardwizard's renewable energy goals and drive sales in the GCC and African regions**. This partnership reinforces Wardwizard's commitment to promoting green mobility in alignment with government initiatives.

3 Global Reach

Through these collaborations, Wardwizard is poised to expand its global footprint, leveraging its manufacturing expertise and product portfolio to meet the growing demand for sustainable transportation solutions. **The strategic partnerships with Triton EV and BEEAH Group open doors to new markets and technologies**, strengthening Wardwizard's position as a key player in the global EV industry.

Lithium-Ion Batteries vs Hydrogen Fuel Cells

Lithium-Ion Batteries

- Higher energy density than lead-acid batteries
- Longer lifespan and can be recharged many times
- Require complex charging systems and safety controls
- Longer recharging times compared to hydrogen refueling

Hydrogen Fuel Cells

- Higher energy storage density and reduced weight
- Faster refueling times, addressing range anxiety
- Around 60% of stored hydrogen energy is lost during conversion
- Require specialized infrastructure for hydrogen production and distribution

Market Potential and Growth Prospects

1

Market Expansion

The India Electric Vehicle market size is estimated at **USD34.80 billion in 2024**, and it is expected to reach **USD110.74 billion by 2029**, growing at a CAGR of **26.05%** during the forecast period 2024 to 2029.

2

Strategic Initiatives

Wardwizard is confident that this growth trajectory will continue, fueled by increasing demand and strategic initiatives implemented by the company. These initiatives include expanding its distribution network and introducing innovative products to cater to the evolving needs of consumers.

3

Growth in Revenue and Profit

Wardwizard anticipates significant growth in revenue and profit, supported by steady expansion in profit margin.

In the next financial year, their profit margin will increase by 8% to 10% due to cost-cutting in materials.



Expanding Distribution Network: Reaching Wider Audiences



Strategic Expansion

Wardwizard has established a robust distribution network across India, with over **100 distributors already in operation**. The company is aggressively expanding its reach, with **plans to add another 100 distributors within the next six months**. This expansion will further solidify Wardwizard's presence in key markets and provide wider access to its products.



Battery Life

- The life of battery as of now is somewhere between **1000 charging cycles to 1300 cycle charges** and we are working on a technology where we want to enhance this **life to 1500 charging cycles**.



Enhanced Customer Reach

- North India contributes somewhere around **60% to 65% and rest is South India..**



Product Strategy: Balancing Low-Speed and High-Speed Options

Low-Speed Vehicles

Wardwizard's current product portfolio consists of a balanced mix of **low-speed and high-speed electric vehicles**. **Approximately 30%** of the company's sales are attributed to low-speed vehicles, which cater to specific use cases and regulatory requirements.

High-Speed Vehicles

The remaining **70% of Wardwizard's sales are driven by high-speed electric vehicles**, demonstrating a significant market demand for vehicles capable of higher speeds and longer ranges. These vehicles provide greater versatility for commuters and offer a compelling alternative to traditional petrol-powered vehicles.

Market Share

Wardwizard currently **holds a respectable market share of 8-9% in the electric vehicle sector**. The company is optimistic about surpassing **15% market share in the next fiscal year**, driven by its strategic growth initiatives and the increasing popularity of its products.

Focus on Battery Technology: A Key Differentiator

1 In-House Battery Production

Wardwizard has taken a strategic approach to battery technology, developing its own **in-house lithium-ion battery cell called GAJA**. This cell is BIS-certified, ensuring compliance with Indian safety standards and providing customers with confidence in the quality and reliability of the batteries.

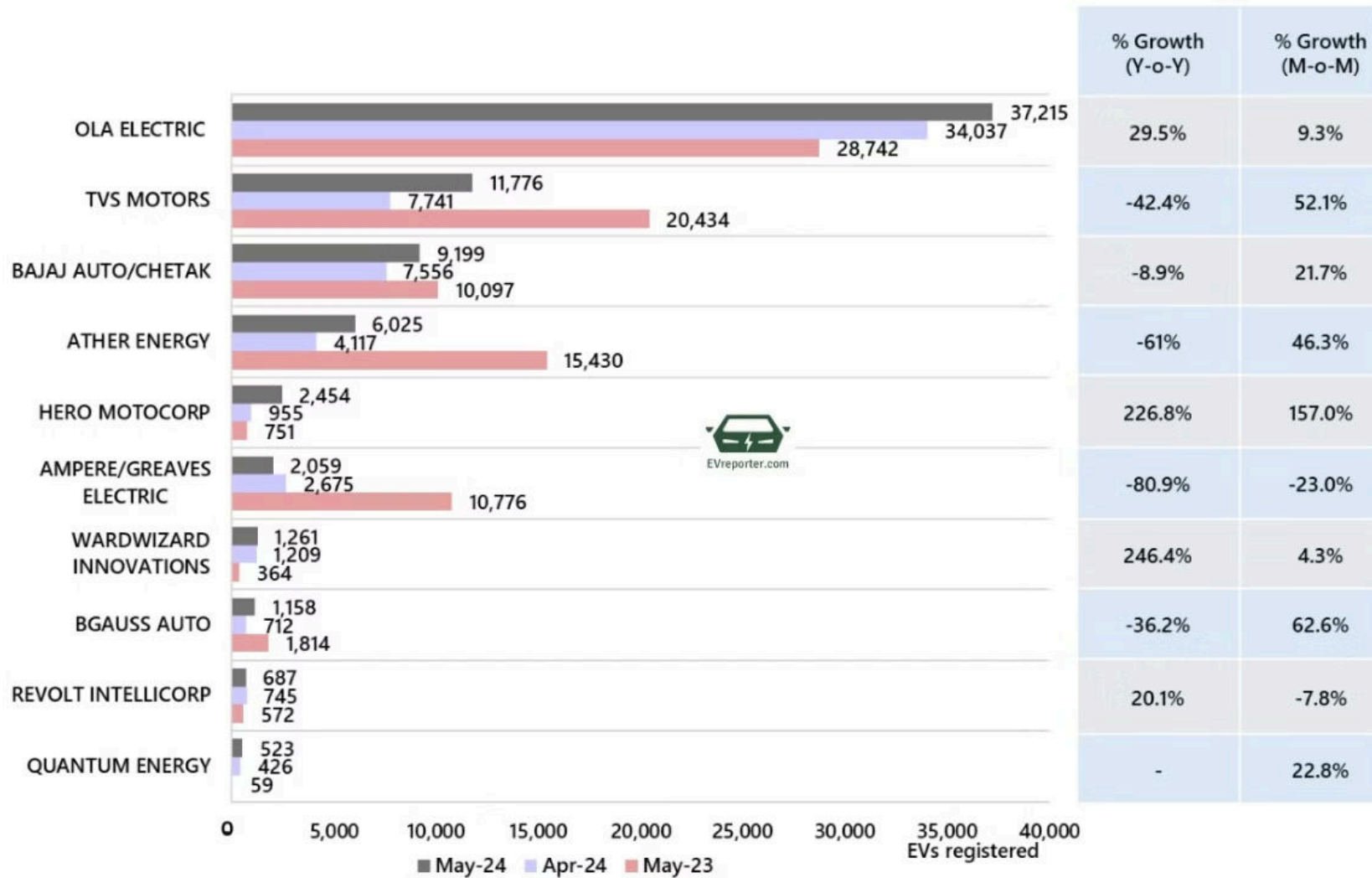
2 Battery Life and Performance

The current generation of **GAJA batteries offers a lifespan of 1,000-1,300 charging cycles**. Wardwizard is **actively working on enhancing this lifespan to 1,500 charging cycles**, further improving the value proposition for customers and reducing battery replacement costs.

3 Range and Performance

The range of Wardwizard's electric vehicles varies depending on the model. **Two-wheelers offer a range of 75-120 kilometers on a single charge**, providing sufficient range for daily commutes and urban travel. The company's focus on battery technology ensures that its vehicles deliver reliable performance and meet the needs of its target audience.





Source: Vahan Dashboard. Data as per 1360 out of 1503 RTOs across 34 out of 36 state/UTs

Segment Revenue:

(Rs. in Cr)

Particulars	March 24	March 23	March 22	March 21
Joy E - Bike	317	239	181	24
Vyom Innovation	-	0.1	0.1	12
Service	-	0	3.5	3

Geographical Revenue:

(Rs. in Cr)

Particulars	March 24	March 23	March 22	March 21
India	317	237	181	37
Uganda	-	0.2	-	0.3
USA	-	-	2.6	1.5

Projection:

Particulars	March 25	March 25	March 26
Sales (Units)	44,000	75,000	125,000
Average Price	Rs. 85,000	Rs. 87,000	Rs. 89,000
Revenue	374 Cr	652 Cr	1,112 Cr
Margin (After - distributor margin)	9 %	10.6 %	10.6 %
Operating Profit	33.6 Cr	69 Cr	118 Cr

Q3 FY24 - Revenues for the reported quarter grew at **52% Y-o-Y to 106.3 crores** with a suspended 81% Y-o-Y growth in EBITDA to 11 crores and 59% Y-o-Y growth in net profit margin to 5.4 crores. The rising volumes, along with our cost control measures, **enabled us to improve our EBITDA margin to 10.6% and NPM to 5%.**

Q- what will be your increasing margins if you can say for the next two to three years?

A - Distributor gets somewhere around 5% and they pass on around 8%. In the next financial year, our profit margin will increase by 8% to 10% due to cost-cutting in materials.

Questions & Answers

Q1- what is the timeline for the introduction of these hydrogen battery packs into the market?

Ans- We have also showcased our first two-wheeler in India, which was hydrogen-packed two-wheeler. I am currently not confident at what pricing it would be. But next 18 months, we will be ready with this battery pack.

Bharat Mobility Expo 2024 witnessed a momentous unveiling as Joy e-bike revealed their groundbreaking concept of a hydrogen-powered e-scooter. This innovative step not only showcases Joy e-bike's commitment to sustainable mobility solutions but also underscores the promising future of hydrogen fuel cell technology in the electric vehicle industry.



Q2- Can you give me the bifurcation between North Indian sales and South Indian sales?

Ans- North India contributes somewhere around 60% to 65% and rest is South India.

Q3- Are we started manufacturing them with a couple of tie-ups we have for the technology?

Ans- We have tie-up with two companies in technology and **we manufacture our own lithium-ion cell**. The name of the cell is **GAJA**. We have our own BIS certification for this. It is captive consumption.

Q4- What is the life of the battery?

Ans- The life of battery as of now is somewhere between **1000 charging cycles to 1300 cycle charges** and we are working on a technology where we want to enhance this life to 1500 charging cycles. So, that is one cycle charge. That is 0% to 100% and 100% to 0% is one cycle charge.

Q5- What is the cost of making that unique showroom which you had open in Jaipur? And what are such showrooms you are planning to open going forward? How many in the current year, that is, by March '24? And what are plans for that?

Ans- 250 is the figure which we are looking by next end financial year. So, currently we are having 110 showrooms which are open. More 40 we will be adding before March and more 100 in next financial year.

The cost of beautification of this particular showroom is somewhere between INR8 lakhs to INR12 lakhs.

Yes, we are borrowing funds. So, in terms of debt, we are looking to take debt and again through equity options, we are open.

Q6- Are we going to expand in the charging infrastructure too?

Ans- No. As of now, we have not thought about expanding in charging infrastructure because it is an added cost. So, that's the reason we are giving portable chargers and portable batteries.

Q7- Are we planning for any future expansion in other than India also?

Ans- Other India, yes. Next financial year, we might open our African market and southern Asian countries. This is what we are looking at. But it will be in third quarter of next financial year.

Q8- These dealers are your own showrooms or they are third-party showrooms? And how does the economics of a showroom work?

Ans- we have our own showrooms in India. They are 22. They are company-operated showrooms. Simultaneously, now, we have revamped our sales network. So, now, we are having around 110 distributor showrooms across A-class and B-class cities. And below them are the dealers. So, we have around 850-plus dealers which are mapped under these 110 distributors, which we have recruited in this financial year.

the dealer is 500 square meters of space with minimum vehicles of 15, 15 vehicles he should have.

Q9- Sale target?

Ans- So, that targets are being given to distributors, not to dealers. Because the distributors, the targets are somewhere between **60 to 80 vehicles per month**. And then, that particular dealer, if he's having 10 -- that distributor is having 10 dealers under him, this target has been deployed by that particular distributor. So, we don't get into distributor and dealer network. **We are more concerned towards recruiting and having good showrooms by the distributors.**

Q10- the average selling price of vehicle is how much?

Ans- It starts from INR72,000 to INR1.25 lakhs. So, the last quarter average may be INR85,000.

Q11- What is the quality of the team, especially in the R&D segment?

Ans- We are having in two parts. So, local R&D, which we have, it has been led by **Mr. Vineet Akre**, who has huge experience in electronics. And the R&D team, which is led in Singapore, has been led by **Mr. Avishek**. So, Avishek is a doctorate in lithium-ion technology and solar technology. So, he leads R&D from Singapore and Vineet Akre from Vadodara.

Q12- In terms of the experience of riding the bike of Joy against Ola, what would be your take, why is Joy Bike superior than Ola today?

Ans- if Joy e-Bike is concerned, the complaint gets resolved in the next 48 hours. This is what I can vouch on.

Q13- I've been hearing that we are also planning to launch four wheelers maybe in the coming months. So, is that right, sir?

Ans- Yes, four wheelers. We are exploring this particular area. And I think we would be coming with the prototype by late third quarter of next financial year. I think it will take another quarter to launch it. So, I think by next year's fourth quarter, we would be ready with the entire setup of this four wheeler plant.

(IMP) Q14- Sir, actually I wanted to understand. You have been doing this four wheeler business for quite some time now. And you have recently started three wheelers as well. Any reason, sir, that you wanted to do everything at once because of the small balance sheet that we have today? You are also saying that you have capacity of INR4.5 lakhs for your two wheeler itself. And we are doing somewhere around 35 to 40, which is around 10% of your current setup. So, any reason that rather than concentrating more on two wheelers to scale it up to 4 lakh units per year, why you wanted to launch four wheelers? Why I am asking this question is, when we come to four wheeler business, all the setup has to be different. You should have new manufacturing plant, new showrooms, new distributors. Everything will be different. So, I wanted to understand this point, sir.

Ans- So, our major concentration this financial year would be only on two wheelers and three wheelers manufacturing. As you rightly said, we are under capacity as of now. But the setup, what we have done this financial year, that setup will help us to achieve getting production capacity to more than 50% in next financial year. As far as four wheeler is concerned, four wheeler, yes, we will not be going aggressively.

The management has decided that what we want is to launch a **four wheeler which should be below 10 lakhs**. So, this is what we are looking at. So, we will not be going into multiple variations or multiple models. But it would be a single model which should be in the budget. This is what we are targeting. And if this readiness would be thereby, we would be getting this particular calculations by next three to four months. And if we are okay with it, then we can go with this particular one single model which would be below 10 lakhs. So, for next financial year, we are very clear that we would be focusing more on two wheeler and three wheeler. **this would be for Indian market.**

Q15- Are we planning to come in hydrogen technology for all the products or is it specific to only few products?

Ans- We want to come into hydrogen technology, but we are not currently focused towards two-wheeler because the technology is not cheap. **We cannot afford in two-wheeler.** we have shown our presence in this field. Later on, we would be adding this particular **technology in three-wheeler or four-wheeler**, but not specifically in two-wheeler.

Profit & Loss

Standalone Figures in Rs. Crores / [View Consolidated](#)

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[PRODUCT SEGMENTS](#)

	Mar 2013	Mar 2014	Mar 2015	Mar 2016	Mar 2017	Mar 2018	Mar 2019	Mar 2020	Mar 2021	Mar 2022	Mar 2023	Mar 2024
Sales +	0	5	1	0	0	0	0	0	39	185	239	317
Expenses +	0	5	1	0	0	0	0	1	36	171	219	285
Operating Profit	0	0	0	-0	-0	-0	-0	-1	3	14	19	32
OPM %	80%	9%	3%	-121%	-1,167%			-1,225%	8%	8%	8%	10%
Other Income +	-0	0	0	0	0	0	0	0	0	1	0	0
Interest	0	0	0	0	0	0	0	0	0	0	1	5
Depreciation	0	0	0	0	0	0	0	0	1	2	5	7
Profit before tax	0	0	0	0	0	0	-0	-1	2	12	14	21
Tax %	33%	32%	0%		50%	0%	0%	-1%	25%	30%	32%	31%
Net Profit +	0	0	0	0	0	0	-0	-1	2	8	9	14
EPS in Rs	0.05	0.82	0.00	0.00	0.00	0.00	-0.02	-0.12	0.08	0.32	0.36	0.54
Dividend Payout %	0%	0%	0%	0%	0%	0%	0%	0%	59%	23%	28%	28%

Compounded Sales Growth

10 Years:	51%
5 Years:	%
3 Years:	101%
TTM:	33%

Compounded Profit Growth

10 Years:	46%
5 Years:	146%
3 Years:	96%
TTM:	52%

Stock Price CAGR

10 Years:	%
5 Years:	%
3 Years:	-2%
1 Year:	29%

Return on Equity

10 Years:	12%
5 Years:	13%
3 Years:	15%
Last Year:	15%

Industry Ananlysis

- Problem statement of the industry

- Understand the industry –

1. Who are the main players?

Ans - OLA, TVS Motors, Bajaj, Hero Motocorp, ATHER, Ampere, etc

2. What are the characteristics of the industry?

- a) Concentrated / Fragmented / Dominated by few players

Ans- The industry is fiercely competitive, characterized by a multitude of small and medium-sized players, both organized and unorganized.

- b) High / Low competition

Ans - High competition

- d) Competitive factors

Ans- Pricing, Range, Service, etc.

- e) Selling channels

Ans - Dealerships, Authorized Resellers, E- Commerce Platforms and D2C.

- Examine the link between the industry and the macroeconomy

1. Relation with economic factors – Average disposable income, Employment rate, Economic growth, Income Distribution

Ans- Highly related to the economic growth of the country.

2. Relation with demographic factors – Population growth, Age of household head, Household size, Household composition, Number of wage earners

Ans - Highly correlated to the demographic factors.

Red Flags

- Continuously reducing the promoter holding.

Wardwizard Inno. trades			
Person	Quantity	Avg Price	Value in Rs. Lacs
Jun 2024			
Wardwizard Solutions India Private Limited Promoter	-67,12,785	68.7	4,608
May 2024			
Aevas Business Solutions Private Limited Promoter Group	-53,00,000	55.5	2,940
Wardwizard Solutions India Private Limited Promoter	-12,02,376	50.6	608
Apr 2024			
Aevas Business Solutions Private Limited Promoter Group	14,30,000	61.0	871
Aevas Business Solutions Private Limited Promoter Group	-14,30,000	61.0	872
Wardwizard Solutions India Private Limited Promoter	-23,45,000	61.2	1,434
Mar 2024			
Wardwizard Solutions India Private Limited Promoter	-4,11,401	61.8	254
Jan 2024			
Wardwizard Solutions India Private Limited Promoter	-21,00,000	79.0	1,660

- High P/E.
- The competitor offers superior features and performance within the same price range.**
- In the Balance sheet of 2023
- Not provided: Prepaid Expense details of INR 28.85 Cr. The last year's prepaid expense was INR 9.45 Cr. The sudden difference is not justified from any perspective.
- Debtors' Days have tripled compared to the previous financial year, indicating that the sales may not be as strong as they appear.

Details- the business model of Joy E-bike requires distributors to pay for the stock to be displayed in the outlets and due to underperformance in sales, the debtor's days increased.

- The company is facing challenges with the cash conversion cycle, which has increased year over year.

Ratios

Standalone Figures in Rs. Crores / [View Consolidated](#)

	Mar 2013	Mar 2014	Mar 2015	Mar 2016	Mar 2017	Mar 2018	Mar 2019	Mar 2020	Mar 2021	Mar 2022	Mar 2023	Mar 2024
Debtor Days	219	119	562	3,631	0			456	27	12	25	76
Inventory Days		3	19		0			7,446	84	165	131	126
Days Payable		0	0					511	106	162	87	96
Cash Conversion Cycle	219	122	581	3,631	0			7,391	4	15	68	106
Working Capital Days	2,044	427	2,090	12,506	365			18,889	62	-7	13	125
ROCE %	15%	14%	0%	0%	0%	0%	-2%	-10%	13%	27%	18%	

- The company paid an advance of INR 54.69 crore to the supplier, but the sales and consumption are not justified compared to last year's sales and advance payment to Wardwizard Solutions India Pvt Ltd.

Particular	Related Party	AS at March 31, 2023	AS at March 31, 2022
Closing Balance of Related Parties:			
Rent Deposit			
Wardwizard Solutions India Pvt Ltd	Promoter Company	-	4.36
Advance to Supplier			
Wardwizard Solutions India Pvt Ltd	Promoter Company	-5469.09	-94.91

Conclusion:

Based on financial instability, uncertain market survival, questionable valuation, and inability to forecast positive outcomes in the current scenario, the company does not meet our investment criteria.