



ward
wizard

Innovations & Mobility Limited

ABOUT US

Wardwizard Innovations & Mobility Ltd., is one of India's leading manufacturers of electric two-wheelers under the brand 'Joy e-bike'. Being the first listed entity on BSE in Electric Vehicle manufacturing, it is mainly focused on the growth potential in the Indian EV segment to have a positive impact in the future. Starting from introducing electric bicycles in 2016 to low-speed and high-speed scooters from 2018 to 2020, the Company has been a pioneering brand in the EV Segment. To cater to the rising demand and the vision of self-reliance, in January 2021, the Company inaugurated a state-of-the-art manufacturing facility in Vadodara, Gujarat, fortifying our 'Make-in-India' ethos and channeling investments into cutting-edge R&D. Adding to its research capabilities, the Company established its first global sales office and R&D centre in Singapore, under its subsidiary, Wardwizard Global PTE. Ltd.





RELENTLESS DETERMINATION IS THE KEY TO UNYIELDING SUCCESS

In the ever-evolving realm of electric mobility, Wardwizard Innovations & Mobility Ltd. (WIML) stands as a beacon of innovation, and at the forefront of its ground breaking success is the revolutionary Joy e-bike, a leading name in the electric two-wheeler industry. From being our entirely Made in India electric two wheeler, MIHOS to our debut in the three-wheeler segment with Joy e-rik, an electric rickshaw under the L5 Category, the Company has revolutionized the electric vehicle market and has become a pioneer in promoting sustainable alternatives. We've also made significant strides in establishing our EV Ancillary Cluster through Memorandum of Understanding (MoU) with the Government of Gujarat and long-term OEM agreement with A&S Power, contributing to the realization of our vision for Gujarat to be the hub of India's first EV Ancillary Cluster. As a part of the association, we have successfully manufactured the first batch of GAJA 26650 5000 mAh Cells. This journey includes the commencement of a 1GWh capacity in Phase I, aligning with our broader goal of sustainable EV manufacturing in India. In line with our PAN India presence vision, we've expanded our robust dealership network to over 750 dealers across 400 cities and 19 union territories, with a recent entry into Assam. Our global aspirations have led us to Nepal with plans for further export opportunities in the Middle East, Europe, and African nations. Striding towards global expansion, Wardwizard's milestones include strategic partnership with Triton EV for Electric Vehicles and Battery-Operated Trucks, and collaboration with BEEAH Group to advance EV Segment in GCC Countries and African Nations. India's potential in EV production and adoption aligns seamlessly with our mission for a sustainable economy. Wardwizard is leading a revolution toward a sustainable economy, and we are sure to expand our footprint, influence, and impact for a brighter, greener future.

MR. YATIN GUPTA

Chairman & Managing Director,
Wardwizard Innovations & Mobility Ltd.

To Empower

55,000

Enterprises For Prosperity

OUR VALUES



Team Work



Empowerment



Customer Satisfaction



Growth

With more than 10+ models in our portfolio in both high and low speed categories, we are charting our way to become a frontrunner in the **Green Energy World** with Joy e-bike. In less than a decade, we have formed a strong national and international customer base, with a presence in major cities throughout India and still expanding globally.

LOWSPEED SCOOTERS



HIGHSPEED SCOOTERS



ECO SCOOTERS



HIGHSPEED BIKES



Wardwizard Innovations & Mobility Ltd is leading the way today as the pioneer of electric three-wheelers in India with Joy e-rik. By revolutionizing the passenger, cargo/electric cart segment in the country, Joy e-rik is now setting global standards in various services. Joy e-rik established its foundation in 2022 and successfully got launched as India's most profitable passenger electric three-wheeler in January this year at Auto Expo 2023. Equipped and designed for excellent performance, load capacity, unparalleled customer service, state-of-the-art products and multiple awards, Joy e-rik continues to travel as a frontrunner. Joy e-rik is on the path of improving the quality of life for millions of people across India.





MAR 2016

Establishment
Inception of Wardwizard under the leadership of Mr. Yatin Gupte (MD & Chairman)



Oct 2018

Joy E-Bike's 1st Low Speed E-Scooter Launch
Wardwizard's Flagship brand launched its 1st Low Speed E-Scooter Joy E-Bike Butterfly



Jan to Oct 2019

Launch of 4 E-scooters
Wardwizard's Flagship brand launched its 4 Scooters in Low Speed Scooter Category Joy e-Bike Honeybee, Gen Next, Wolf & Glob



June 2020

Launch of E-Monster Bike
1st entry in E2W with High speed category



Nov 2020

Rannvijay Singha as Brand Ambassador
With the association of Rannvijay Singha, Wardwizard expects to educate and create more traction of their products in the youth segment.



Jan 2021

Wardwizard inaugurated one of India's largest E2W OEM Plant by Hon. Home Minister Shri. Amit Shah
The new plant has the capacity to manufacture over 1 lakh electric two wheelers in a single shift; Plant is equipped to produce 3-4 lakh units per year in full capacity



Feb 2022

Wardwizard Onlook 2022
The first keynote event for Wardwizard that showcases and talk about the way ahead and future development of the company.



Jan 2022

1st Ever EV Ancillary Cluster
We are determined to develop India's First Ever Electric Vehicle Ancillary Cluster spread across 4 Million Sqft land. The project aims to provide a unique solution to localize and strengthen the supply chain of raw materials for EV manufacturing.



Dec 2021

Brand Positioning with Aaj Tak Association
The association with AajTak brings in major brand positioning in complete PAN India.



Nov 2021

OEM Automation
The OEM plant increases the production capacity to 2L units in 1 shift by starting the automation with semi-automized plant which produces 4-6 lacs units with 2 to 3 shifts.



Oct 2021

Brand Positioning with TKSS Association
We launched our campaign "#BachatOnTheMove" in The Kapil Sharma Show



Jan 2021

Launch of 4 High speed bike's inaugurated
Joy E-Bike is the sole manufacturer and 1st in EV market to come up with different EV models



Feb 2022

Launch of Highspeed Scooters
Transforming e-mobility with cutting-edge technology and 'Made in India' e-bikes, Wolf+ and Gen Next Nanu+



June 2022

International Brand Positioning
Sponsored India vs Ireland T20 Series known as "Joy E Bike Electrifying Cup



July 2022

Launch of Brand Campaign 2022-23
Launch of 'Joy e-bike's new brand campaign #BharatkaJoy with the anthem 'Saath Chalein' to create a huge brand recall.



Aug 2022

Embarking its Journey in Nepal
Expanding its green footprint globally, we signed up an agreement with one of the oldest and leading Automobiles Distributor of Nepal, The Mahabir Automobiles.



Sep 2022

Wardwizard Global PTE Ltd.
The company has established the R&D Centre under its wholly owned subsidiary, Wardwizard Global PTE Ltd., in Singapore.



Jan 2023

Unveiling of 'Made in India' Products
Launch of entirely 'Made in India' products MIHOS and unveiling of the concept of Rockefeller



April 2023

Deliveries of MIHOS & Joy e-Rik
Joy e-bike starts deliveries of MIHOS and Joy e-rik



Mar 2023

1 GWh Lithium-Ion Battery Assembly Line
Commencement of lithium-ion battery assembly line with a capacity of 1 Gwh



Mar 2023

Grand Opening of First Distributor Showroom
Inauguration of the first Distributor Showroom at Jaipur as per the New Distributor Model



Mar 2023

Brand Ambassadors of MIHOS
Onboarding of Saif Ali Khan and Kareena Kapoor Khan as its Brand Ambassadors for MIHOS



Feb 2023

Dadasaheb Phalke International Film Festival Awards 2023
Joy e-bike becomes the 'Powered By Partner' of Dadasaheb Phalke International Film Festival Awards 2023



Jan 2023

Launch of Joy E-Rik
Debut in the three-wheeler segment with the launch of 'Joy E-Rik' at Auto Expo 2023



June 2023

MoU with Dogra Regiment
WIML signs MoU with Dogra Regiment and establishes EV Excellence Center at Dogra Regimental Center, Ayodhya Cantt



July 2023

Association with Gramin Sevikas & UNDP
Joy e-bike associates with Gramin Sevikas & UNDP, handing over 200 Wolf Low-speed EVs for community development around Birsu Munda Airport, Ranchi



July 2023

Fastest Growing Brands 2023 by Asia One
Joy e-bike awarded as the Fastest Growing Brands 2023 by Asia One in the EV Category (Manufacturing)



Aug 2023

Association with India Tour of Ireland 2023
Joy e-bike becomes the Title Sponsor of the India Tour of Ireland 2023, a 3-Match T20 Series



Aug 2023

Next-Gen Cell Tech Partnership with A&S Power
WIML partners with A&S Power for Next-Gen Cell Tech Partnership as a leap ahead in the EV Ancillary Cluster Vision



Sept 2023

Inauguration of Wardwizard's EV Center of Excellence at ITI Tarsali
WIML inaugurates Wardwizard's EV Center of Excellence at ITI Tarsali for upskilling the youth in the EV industry



Feb 2024

Milestone of 100000 Unit Sales
WIML surpassed 100,000 unit sales of EV 2W in India



Jan 2024

Unveiling of new concept models
WIML unveiled 6 concept electric vehicles at Vibrant Gujarat Global Expo 2024



Dec 2023

MoU with Triton EV (TEV) for manufacturing Battery Operated Trucks
WIML and Triton EV (TEV) sign Strategic Partnership for manufacturing Battery Operated Trucks in India and UAE



Dec 2023

MoU with BEEAH Group, Sharjah, UAE
WIML signs MoU with BEEAH Group, Sharjah, UAE to manufacture electric vehicles and promote sustainable environmental practices in GCC Countries and African Nations



Oct 2023

MoU with Gujarat Government
WIML signs Rs. 2,000 Crore MoU with Gujarat Government for Electric Vehicle Advancement in the development of an Electric Vehicle Ancillary Cluster by 2024



Oct 2023

Inauguration of 100 Distributors' Showrooms PAN India
Joy e-bike touches the landmark number of inaugurating 100 Distributors' Showrooms within two quarters (April to Sept.)



Feb 2024

Unveiling of Hydrogen Powered Electric Vehicle
Joy e-bike unveiled a hydrogen-powered EV 2W concept at Bharat Mobility Expo



March 2024

Inauguration of New Assembly line
Inauguration of a new facility in Deoghar, Jharkhand



March 2024

Inauguration of 150+ Distributor Showrooms
Joy e-bike establishes 150 Distributor Showrooms across India

MILESTONES OF WARDWIZARD



EV ANCILLARY CLUSTER

Wardwizard Innovations and Mobility Limited has introduced a unique concept, the first of its kind, EV Ancillary Cluster in India. With this, the manufacturing partners shall be invited to set up their production units of ancillaries under one roof, reducing the dependency on imports from other countries. The Company has signed a Memorandum of Understanding (MoU) with the Government of Gujarat to create India's first EV Ancillary. The novel initiative shall invite around 5000 job opportunities.

OUR CAPABILITIES >>

Research and Development: Steering Towards Sustainable Transport

In-House R&D: An Epicenter of Innovation

Wardwizard Innovations & Mobility Ltd accommodates an expansive in-house R&D facility, spread over an area of around 10,000 sq. ft. Here, innovation takes center stage, transforming into new EV models designed to meet market demands and the development of crucial e-bike components. Such components range from Vehicle Control Units and IoT devices to Battery Management Systems, motor controllers, and wiring harnesses.

The in-house R&D team at Wardwizard also devotes energy to refining product designs, enhancing product reliability, and developing novel features inspired by customer feedback. A commitment to innovation ensures Wardwizard's products align with the latest market technologies. The team also thoroughly analyses competitor products, adopting advantageous features to maintain market leadership.

Singapore R&D Facility: Focus on Battery Technology

Wardwizard also operates an R&D facility in Singapore, primarily focusing on battery technology and related innovations. This facility serves a crucial role in designing EV batteries for Wardwizard's Joy EV product line and supports the establishment of an automated line for battery pack manufacturing. A pilot line for Lithium Ion cell research is also active here, with plans in motion to set up a lithium-ion cell manufacturing plant in India.

Future Objectives and Anticipated Outcomes

Looking towards 2023 and beyond, Wardwizard has outlined clear objectives. These include increasing the indigenisation of EV components, improving testing facilities for electrical and electronic components, and augmenting Rapid Prototyping facilities with advanced technologies such as SLS technology 3D printers, CNC Routers, and Vertical Machining Centers. Wardwizard also plans to apply for DSIR recognition for its in-house R&D facility and seeks NABL accreditation for its R&D testing facilities.

Pursuit of Recognitions

Wardwizard actively works towards achieving recognition to enhance its global standards. The current focus is on securing DSIR recognition and achieving NABL accreditation as per ISO/IEC 17025:2017 for its testing facilities, with applications intended to be submitted by the end of this fiscal year.

Expertise in R&D

Wardwizard's R&D team hosts a breadth of technical expertise, spanning various technologies. These range from the development of Embedded Systems with CAN / RS-485 / GSM connectivity to Android App Development, Database system development, IOT system development, Cloud computing, Data Analytics and Application Development among others.

Technological Developments and Innovations

Wardwizard's team has successfully developed a complete CAN-based system and crafted a cloud-based solution for monitoring connected scooters. Furthermore, efforts are in progress to enhance the efficiency of EV powertrains, and in-house developments of Smart BMS and Vehicle Control Unit (VCU) are underway.

Product Development

Wardwizard's commitment to product development resulted in the creation of the "Mihos". Currently, Wardwizard's R&D division is developing a low-cost, low-speed delivery scooter and a commuter bike. Through continuous innovation, Wardwizard's R&D efforts aim to cater to evolving market demands and contribute significantly to sustainable transport's future.



INDUSTRY INSTITUTE PARTNERSHIPS >>

Collaboration with Army

Recently, the Company has signed an MoU with the Dogra regiment and established an EV Centre of Excellence at Dogra Regimental Centre in Uttar Pradesh, which would empower 'Agniveers' and other retired army officers by providing them with specialized skill development and employment opportunities in the industry. The various models of Joy e-Bike and its components will help the participants gain insights. The Company and the Defence regiment, together, would contribute to a sustainable future and Wardwizard is further committed to signing MoUs with different regiments in the near future, thus trying to shape the nation's progress. Dedicated to supporting education, facilitating knowledge sharing and driving sustainable progress of the EV industry through skill development and upskilling initiatives, this is a small but significant step undertaken by the Company.



WARDWIZARD'S EV CENTER OF EXCELLENCE AT ITI, TARSALI >>



Wardwizard Innovations & Mobility Limited inaugurated one of the most unique EV Excellence Centers of India, "Wardwizard's EV Center of Excellence" at ITI Tarsali, Vadodara, Gujarat. This, one of the finest EV Excellence Centers in Vadodara, is a state-of-the-art facility, established to provide comprehensive training programs for students and professionals in the electric vehicle (EV) sector. The objective of the Center is to provide hands-on experience to the students and professionals to inculcate a practical training approach to hone their interest in the EV industry. The courses and training imparted at the center shall prepare the students for employment opportunities in this industry. The Center offers short-term, long-term, and certificate courses for 1 to 2 years and 400 hours of training. In addition, the Center shall also organize Training of Teachers (ToT) Programs to train the faculties of the Center with the ongoing developments in their respective fields. The Center is equipped with the latest technical equipment, including part display tables, low-speed scooters, battery and battery charging facilities, chargers, E-Rickshaws (one E-Rik in CKD & one E-Rik in SKD), LED TV, sound system, safety equipment, tool trolley with hand tools, training for ITI faculty, and monthly visits from Wardwizard employees.

MOU WITH THE GOVERNMENT OF GUJARAT FOR DEVELOPMENT OF EV ANCILLARY CLUSTER

Wardwizard signed a Memorandum of Understanding (MOU) with the Government of Gujarat to invest Rs. 2,000 crores in the development of an Electric Vehicle Ancillary Cluster by 2024. The agreement, geared towards fostering the growth of the electric vehicle industry aligns with the government's vision of enhancing green mobility within the state. Wardwizard is set to make a substantial investment of Rs. 2,000 crores, spanning various critical areas, including research and development of electric 2 & 3 wheelers, the establishment of motor assembly at Vadodara's facility, Li-ion Cell production, and the development of ancillaries for raw material manufacturing. Furthermore, this initiative is expected to generate over 5,000 employment opportunities within the state, making a profound impact on both the electric mobility sector and the regional job market.



MOU WITH TRITON EV (TEV) FOR MANUFACTURING EVS AND BATTERY OPERATED TRUCKS

Wardwizard signed an MOU with Triton EV, a distinguished U.S.-based electric vehicle manufacturer. This strategic collaboration aims to revolutionize the electric vehicle landscape in both India and the UAE. Under this partnership, Triton EV has selected WIML as its manufacturing partner for Battery Operated trucks in India and UAE. Furthermore, WIML will expand its manufacturing capabilities to produce Two-wheelers and Three-wheelers for Triton EV. Triton EV's commitment includes the Transfer of Technology for hydrogen battery packs used in two and three-wheelers, coupled with vital technology assistance for setting up production lines and expansion in India.



MOU WITH THE BEEAH GROUP, SHARJAH, UAE TO PROMOTE EV MARKET THE MIDDLE EAST AND AFRICA

WIML signed an MoU with BEEAH Group (BG), headquartered in Sharjah, UAE, a renowned sustainability pioneer to manufacture electric vehicles and promote sustainable environmental practices across the GCC Countries and African nations. As a part of this strategic alliance, WIML and BEEAH Group will conduct technical and commercial feasibility studies for the production of two-wheelers, three-wheelers, and battery-operated trucks, both small and large, in the UAE. As part of the MoU, BG will provide technology and other assistance to WIML to achieve renewable energy goals and leverage its network in the GCC and African nations to promote sales in those regions.



WARDWIZARD GLOBAL PTE LTD.

With a mounting demand for electric mobility, coupled with the Company's commitment to developing products that prioritize holistic safety, Wardwizard established its first global sales office and R&D centre in Singapore, under its subsidiary, Wardwizard Global PTE Ltd.

The state-of-art facility has an integrated approach towards R&D of E2W, E3W and E4W along with the development of technologically advanced EV products. Eventually, the research would focus on cell chemistry, pack assembly, battery management systems, motors and other components of EVs. In addition, the Company would also prioritize the enhancement of safety measures by collaborating with leading certification agencies to develop new battery standards. Singapore-based Sunconnect will be the technical knowledge partner at the centre. 30 scientists and engineers would provide their expertise and knowledge at the global R&D headquarters to design and develop global standard products in the EV sector. Wardwizard will collaborate with leading global research institutions and companies in battery technology across Southeast Asia, thus rapidly changing the face of the EV sector, upholding its promise to move towards.



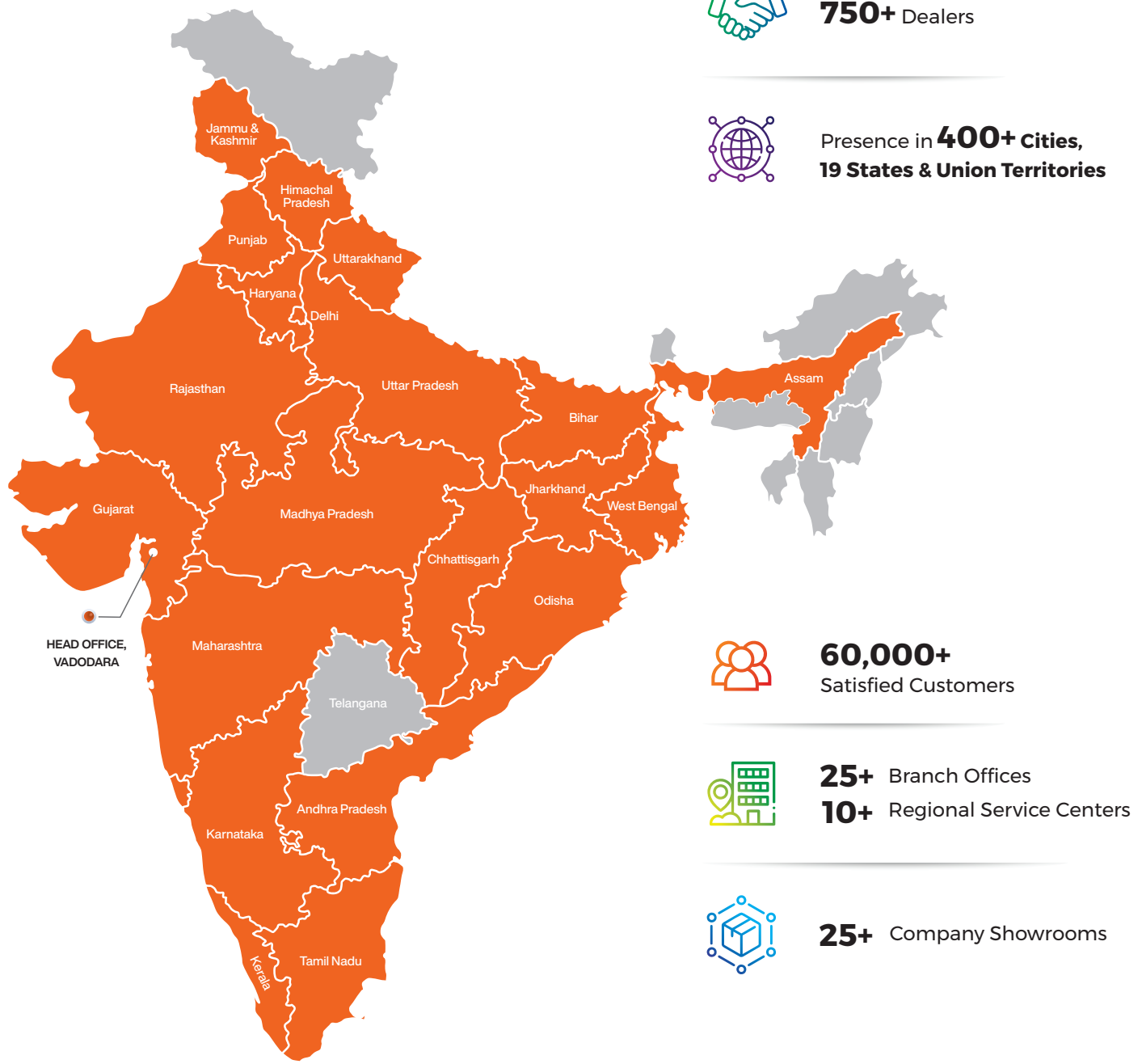
COLLABORATION WITH A&S POWER


Wardwizard has signed an agreement with A&S, a renowned technology provider to drive research, innovation, and development of cutting-edge Next-Generation Li-ion cell technology. Wardwizard Cells, manufactured at our state-of-the-art production facility, have successfully achieved Bureau of Indian Standards (BIS) Certification. This partnership will also pave the way for a dedicated production line to manufacture Wardwizard's next-gen cells.

Wardwizard Global PTE. Ltd. and A&S Power, have successfully manufactured GAJA 26650 5000mAh cells, as a part of their recent OEM Agreement. The initial modifications were made in the design aspect of GAJA Cells, resulting in notable improvement as compared to the previously used lithium-ion cells.


The Newly Developed GAJA Cells







 **750+** Dealers

 Presence in **400+** Cities,
19 States & Union Territories

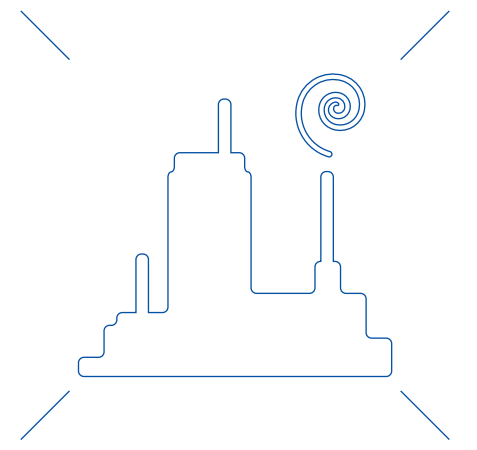
 **60,000+**
Satisfied Customers

 **25+** Branch Offices
10+ Regional Service Centers

 **25+** Company Showrooms

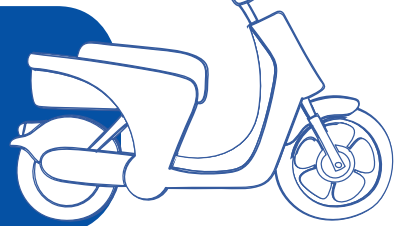
70,000 Sq.ft
manufacturing facility

3-wheeler: Spread across
20,000 sq. ft for 3 wheeler







2 Wheeler : Capacity of
1,20,000
units with 1 shift annually

Scalable upto
4-6 Lakhs
In 2-3 Shifts Per Annum With Automation

10+ Models Under Joy e-bike 

ESTABLISHED OUR OWN EV MANUFACTURING POWERHOUSE 

-  Located Vadodara Gujarat
-  Close Proximity to The Vendors
-  1 Semi-automatic Assembly Line
-  Annual Capacity Single Shift 1,20,000 Units PA for 2 wheeler

-  Spread Across 70,000 Sq Ft for 2 Wheeler
Spread Across 20,000 Sq Ft for 3 Wheeler
-  A 2wheeler is Produced Every 150Seconds After First Vehicle Is Completed

36,500
EV Units Sold In FY 23

750+
Number of Dealers

100+ Showroom Distributors

OUR STRENGTHS

01. Expanding the EV Product Offerings through in-house R&D

Key Outcomes in FY 23

- ▶ Launched the all-new 'Made in India's electric scooter MIHOS
- ▶ Unveiled a high-speed electric bike named 'Rockefeller'
- ▶ Launched Joy E-Rik, an electric rickshaw.
- ▶ Starts deliveries of its New Electric two-wheeler MIHOS and Electric three-wheeler Joy e-rik in a phased manner across Gujarat, Maharashtra and other states.

Goals for the coming year and beyond

- ▶ Wardwizard's R&D division is developing a low-cost vehicles with better performance, Safety and durability in both 2W and 3W segments Launched the all-new 'Made in India's electric.

02. Strengthening the R&D

Key Outcomes in FY 23

- ▶ Apart from three new products developed through R&D, the company has enhanced its R&D focus to increase efficiency and innovation across the product value chain

- ▶ Established its first global R&D centre in Singapore through Wardwizard Global PTE Ltd, a wholly owned subsidiary of Wardwizard. This centre will focus on EV technology advancements, including cell chemistry, pack assembly, and battery systems. Over 30 global scientists and engineers will develop products meeting international standards.

Goals for the coming year and beyond

- ▶ For the future, the company is in the process of increasing the indigenisation of EV components, improving testing facilities for electrical and electronic components, and augmenting Rapid Prototyping facilities with advanced technologies such as SLS technology 3D printers, CNC Routers, and Vertical Machining Centres. Wardwizard also plans to apply for DSIR recognition for its in-house R&D facility and seeks NABL accreditation for its R&D testing facilities.

03. Increasing the Joy e-bike network across India and abroad

Key Outcomes in FY 23

- ▶ Added 209 new dealers in FY23 taking the total number of dealers to 759 with a healthy urban-rural balance

Goals for the coming year and beyond

- ▶ In the next 2-3 years, the company plans to increase the dealers to 2000
- ▶ The company plans to have 150 distribution showrooms at district levels, which will connect with Taluka Level dealers.

04. Agile Manufacturing

Key Outcomes in FY 23

- ▶ Conducted a feasibility study for capacity expansion. The Semiautomated existing facility for both 2W & 3W continues to be scalable
- Goals for the coming year and beyond.

Goals for the coming year and beyond

- ▶ Within the existing capacity and additional capacity in future, the company will continue to expand its manufacturing capabilities.

05. Increasing the brand equity in the existing and new markets

Key Outcomes in FY 23

- ▶ The company participated in 09 number of exhibitions and increased the brand promotion outlay during the year. The brand association through events includes leading sports, entertainment and festival events

Goals for the coming year and beyond

- ▶ Planning to reduce the distance between dealer points will contribute to improved brand visibility, customer engagement, and overall brand equity. By strategically placing dealer points in key locations and creating a consistent and compelling brand experience

06. Revenue Growth

Key Outcomes in FY 23

- ▶ The number of units sold during the year is 36500 an increase of 5739 units year on year. Revenue increased 29.46% year on year. EBITDA increased 35.15% year on year and PAT 11.67%
- Goals for the coming year and beyond sports, entertainment and festival events.

Goals for the coming year and beyond

- ▶ Planning to reduce the distance between dealer points will contribute to improved brand visibility, customer engagement, and overall brand equity. By strategically placing dealer points in key locations and creating a consistent and compelling brand experience

07. International Expansion

Key Outcomes in FY 23

- ▶ Advancing in its mission to spread awareness about green mobility globally, the Company has entered into a strategic partnership with Mahabir Automobile, a leading distributor and dealer for major automobiles brands in Nepal which brings with it a 2000 sq. ft. state-of-the-art dealership and a workshop which possesses new age Components, unrivalled sales, after-sales services and spare operations to the customers. This has not only taken the Company to a new country but has also facilitated the export targets.

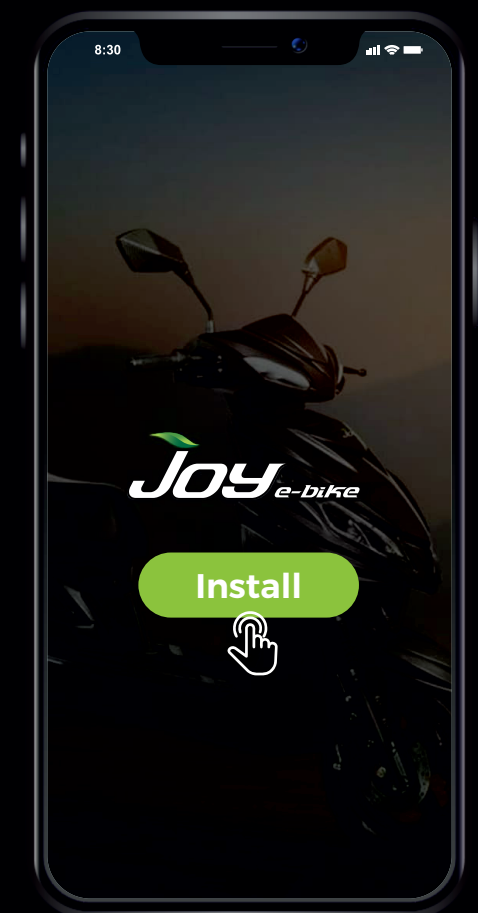
Goals for the coming year and beyond

- ▶ The company is exploring Middle-east, European and African countries for its electric two-wheelers and three wheelers targeted for the upcoming fiscal years



Joy e Connect App:
The models come with a cloud based mobile application 'Joye Connect' with new age technology to enrich each riding experience for the customers. The app helps to track the following:-

- ▶ Mileage
- ▶ Analytics
- ▶ Rider details
- ▶ Battery management
- ▶ Real time tracking
- ▶ Green analysis (Amount saved due to fuel conservation)





▶ By manufacturing its own motors, the company can reduce its dependence on third-party suppliers, resulting in lower production costs and more affordable electric vehicles for consumers.

▶ Wardwizard's in-house manufactured motors can enhance the performance of their electric vehicles, setting them apart from competitors and attracting customers seeking higher quality and reliability.

▶ In-house motor manufacturing enables the company to customize EV motors for enhanced efficiency, range, and performance, setting it apart from competitors and giving it a market edge.

▶ Company can enter new markets, including the global market, by offering its in-house manufactured motors, which can meet the rising demand for electric vehicles and provide a unique selling proposition.

▶ Backward integration into motor manufacturing can provide Wardwizard with new revenue streams, the company can sell them to other EV manufacturers, creating new sources of revenue and strengthening its market position.

Wardwizard is now looking to backward integrate into the manufacturing of EV scooter/bike motors, which presents several exciting opportunities for the company.

Stringent Quality Control

Assigning a company representative at the manufacturing site to establish rigorous quality control measures, ensuring early detection and resolution of any potential defects or issues throughout the process.

Data Collection and Monitoring

Our AI technology diligently monitors battery parameters like voltage, current, temperature, state of health, state of charge, Current limits, Protection Status, error codes, and protection status.

Higher Grade Material

Certified cells (IS 16893-Part 2 and Part 3) with enhanced thermal stability and puncture resistance.

Effective Thermal Management

Implementing efficient thermal management systems within batteries ensures temperature regulation, prevents overheating, and dissipates excess heat. This is achieved through the utilization of thermal pads or potting material.

Comprehensive Testing Protocols

All Batteries go through rigorous testing protocols to check performance, safety, and reliability tests, to identify and address any potential issues.

Mechanical Integrity

The battery pack is built with utmost structural integrity, guaranteeing a secure assembly. This encompasses meticulous design and construction of the pack enclosure, frame, and mounting components, ensuring precise alignment and secure attachment of battery cells and other essential components.

Smart Battery Management Systems (BMS)

Smart CAN-based Battery Management System (BMS) incorporates several crucial safety features to ensure the optimal performance and protection of the battery system

▶ Over-voltage protection: Safeguards the battery pack by monitoring and preventing voltage levels from exceeding safe limits, minimizing the risk of damage or failure.

▶ Over-charge protection: Monitors the charging process to prevent excessive charging, which can lead to battery degradation or hazardous conditions.

▶ Over-discharge protection: Monitors the battery's discharge levels to prevent it from reaching critically low levels, protecting against potential damage and prolonging battery lifespan.

battery's temperature and activates safeguards if it exceeds safe thresholds, preventing overheating and potential thermal runaway.

▶ Overcurrent protection: Detects and limits excessive current flow, protecting the battery cells and electrical components from damage caused by high current conditions.

▶ Short circuit protection: Rapidly detects and responds to short circuits, ensuring immediate disconnection of the circuit to prevent damage or safety hazards.

▶ These safety features collectively work to enhance the reliability, longevity, and safety of the battery system, reducing the risk of critical failures or accidents.

Protection and Safety Features

Our Battery packs incorporate appropriate safety features, such as fuses to prevent overcurrent and short circuits, Pressure Vents, silicone insulated cables to help safeguard the battery cells and the overall pack from potentially hazardous conditions.

Enclosure and Sealing

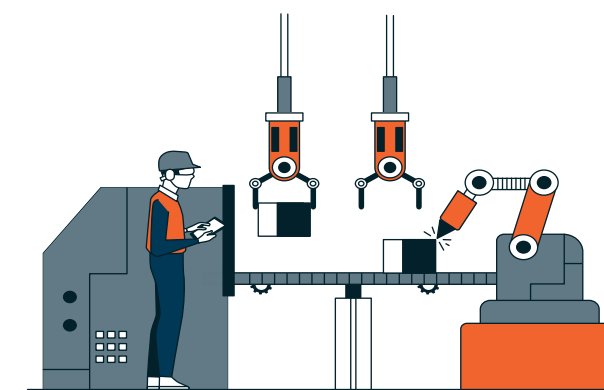
The battery pack enclosure is thoughtfully designed to safeguard against environmental factors and impacts. Through the implementation of effective sealing techniques, such as gaskets or adhesives, a secure seal is achieved, preventing the entry of contaminants and maintaining the integrity of the battery pack.

Continuous Research and Development

Our research aims to comprehend battery aging, reduce degradation, and enhance lifespan. We explore CAN communication protocols for improved BMS connectivity, data logging, and remote monitoring. Advanced data analytics and machine learning are employed to optimize battery performance through analysis of battery data.

Improved Battery Life

We have developed diverse charging profiles that allow users to select their preferred charging speeds. Improvements in Depth of Discharge (DOD) have been made to enhance cycle life, battery efficiency, health, and aging. Peak and continuous discharging currents are limited to 1C and 0.7C respectively. By implementing these current limits, we effectively mitigate temperature rise, reducing the risk of thermal runaway and significantly enhancing battery safety and longevity.





Mr. Yatin Gupte, Chairman & Managing Director, Wardwizard Group honoured as

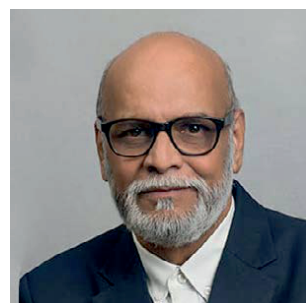
"INDIA'S IMPACTFUL CEO" BY THE TIMES GROUP

- ▶ Joye-bike awarded as the Fastest Growing Brands 2023 by AsiaOne
- ▶ Joye-bike awarded as the Fastest Growing E2W Company in India by ETEdge in the 3rd edition of The Best Brands 2020
- ▶ Joy e-bike awarded with the Leading e-Bike Manufacturer Award-2019, by Pride of Gujarat- News 18 Gujarati, Ahmedabad
- ▶ Enterprise of the year 2019 for Electric Vehicles and Consumer Electronics
- ▶ Honor award for Indispensable contribution towards the social and economic development of Gujarat - October 2019 by Zee 24 Kalak
- ▶ Mantavya MSME Award 2019
- ▶ India's 5000 Best MSME Award - 2018, by Benchmark Trust, TQV

BOARD OF DIRECTORS



Yatin Sanjay Gupte
Chairman & Managing Director



Sanjay Mahadev Gupte
Executive Director



Sheetal Mandar Bhalerao
Non-Executive
Non - Independent Director



Kamal Lalani
Non-Executive Independent
Director



Avishek Kumar
Non-Executive Independent
Director



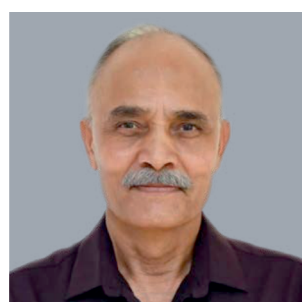
Preyansh Bharatkumar Shah
Non-Executive Independent
Director



Rohini Abhishek Chauhan
Non-Executive Independent
Woman Director



Dr. John Joseph
Non-Executive Independent
Director



Lt General Jai Singh Nain (Retd)
Non-Executive Independent
Director

SENIOR MANAGEMENT



Sanjay Kumar Sablok
President - Operations



Tarun Kumar Sharma
President - Marketing &
Branding



Vineet Akre
Senior Vice President-
R&D And Production



Alok Singh Jamdar
Vice President -
Operations (Production)



Vilas Paturkar
Associate Vice President -
Factory Operations

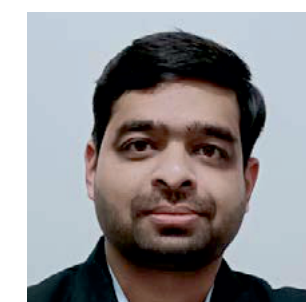


Sneha Shouche
Chief Marketing Officer

KEY MANAGERIAL PERSONNEL



Jaya Ashok Bhardwaj
Company Secretary (CS) &
Compliance Officer



**Deepak Kumar
Minesh Kumar Doshi**
Chief Financial Officer (CFO)



ward
wizard

Innovations & Mobility Limited

Global Headquarters :

Survey No. 26/2, Opp. Pooja Farm, Sigma College Road,
Hanumanpura, Ajwa Road, Vadodara-390019 (Gujarat)

Registered Office :

Office No 4604, 46th floor Kohinoor Square, kelkar Marg, Shivaji Park,
Dadar (West) Nr. R.G. Gadkari Chock Mumbai, Maharashtra-400028, India.

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