

The

Auto Monitor

Your Gateway to the Automotive Universe

FEBRUARY 2025

In Association with


International Federation of Electric Vehicle Association



Bharat Mobility Global Expo 2025 Successfully Concludes with an Incredible Showcase of the Indian Mobility Ecosystem & with Record-Breaking Participation

06



IPLTech Electric: Pioneering the Future of Heavy-Duty Electric Mobility in India

18

Shaping the Future on EVs,

Design Innovations, and India's

Automotive Evolution



Parminder Singh is the Country Head for Autodesk's Design & Manufacturing and Media and Entertainment verticals in India & SAARC. With over two decades of experience spanning across the manufacturing, consumer packaged goods (CPG), automotive, aerospace, and telecommunications sectors, Parminder has been instrumental in driving digital transformation for enterprise organizations. His expertise lies in creating value propositions, leading teams, devising strategies for customer win-backs, stakeholder management, and building partnerships with CXOs across India.

Q. What are your thoughts on the Indian automobile industry in the context of the increasing appeal of electric vehicles?

The Electric Vehicle (EV) market in India has been experiencing rapid growth and is poised for substantial expansion in the coming years. As per the data from ibef.org, the Indian EV market is forecasted to expand from US\$ 3.21 billion in 2022 to US\$ 113.99 billion by 2029, with a 66.52% CAGR. India is on track to become the largest EV market by 2030, with rise in investment over the next 8-10 years.

Government Initiatives and Policies

The Indian Government has been proactive in promoting the adoption of EVs through a series of initiatives and policies aimed at achieving its mission of 30% electric mobility

by 2030. Key measures include:

- 1. Customs Duty Exemption:** The budget announced customs duty exemption on the import of capital goods and machinery required for the manufacture of lithium-ion batteries, which are crucial for powering EVs.
- 2. FAME II Scheme:** Commenced on 1st April 2019, with a total budgetary support of US\$ 1.43 billion (Rs. 10,000 crore), FAME II primarily targets the electrification of public and shared transportation. Under this scheme, 30% of the procurement of manufactured or processed products must come from SMEs.
- 3. Electric Mobility Promotion Scheme:** This scheme, with a budget of US\$ 60.18 million (Rs. 500 crore), will be operational from April 1 to July 31, 2024.

It aims to enhance green mobility and stimulate electric vehicle manufacturing in the country, with further measures planned to promote this sector.

- 4. Technological Innovations** – Technology is playing a crucial role in enabling the transition to EVs. Innovations across various fields and domains have made EVs more efficient and viable. Key technological advancements include:
 - » **Battery Technology:** The shift from liquid to solid-state batteries offers higher energy density, improving the range and safety of EVs.
 - » **Charging Infrastructure:** The development of DC fast charging stations significantly reduces charging times, making EVs more convenient for users.
 - » **Factory Digitization:** The digitization of

factory design and operations enhances manufacturing efficiency and reduces costs.

Challenges and Opportunities

Despite the promising growth, the Indian EV market faces several challenges:

- **Growth Capital:** Providing accessible growth capital to late-stage startups remains a significant hurdle.
- **Attracting Foreign Manufacturers:** Efforts are needed to attract foreign EV manufacturers to invest in the Indian market.

However, these challenges also present opportunities for growth, innovation, and leadership in the global EV landscape. By addressing these issues, India can further solidify its position as a leader in the electric vehicle market.

Q. As digital transformation becomes a key focus, what specific challenges does the Indian automotive industry face in adopting fully digital design and manufacturing workflows?

Digital transformation is reshaping industries by integrating digital technologies into all areas of business, fundamentally changing how organizations operate and deliver value to customers. This shift has profound implications for the skills required in the industry. Here are some key aspects of how digital transformation is influencing the evolving skills landscape:

Technical Proficiency:

- **Software and Tools:** Proficiency in advanced software tools (e.g., CAD, CAM, CAE software like Autodesk Fusion) is becoming essential. Employees need to be adept at using these tools for design, simulation, and manufacturing processes.
- **Data Analytics:** Skills in data analysis and interpretation are crucial as data-driven decision-making becomes more prevalent.
- **Understanding Digital Systems:** A broad understanding of digital systems, including cloud computing, IoT (Internet of Things), and AI (Artificial Intelligence), is increasingly important.
- **Cybersecurity Awareness:** As digital systems become more integrated, awareness and knowledge of cybersecurity practices are vital to protect sensitive information and maintain system integrity.

Soft Skills:

- **Adaptability and Continuous Learning:** The rapid pace of technological change requires a mindset of continuous learning

and adaptability. Employees must be willing to upskill and reskill regularly.

- **Collaboration and Communication:** Digital transformation often involves cross-functional teams and collaboration across different geographies. Strong communication and teamwork skills are essential.

Project Management:

- **Agile Methodologies:** Familiarity with agile project management methodologies helps in managing projects more efficiently in a fast-paced digital environment.
- **Change Management:** Skills in change management are important to help organizations and teams navigate the transitions brought about by digital transformation.

Conclusion

Digital transformation is driving a significant shift in the skills required across various industries. To remain competitive and thrive in this evolving landscape, individuals and organizations must invest in developing these new skills. Continuous learning, adaptability, and a proactive approach to embracing new technologies are essential for success in the digital age.

Q. Autodesk has been a leader in design innovation. How do tools like Autodesk Fusion and generative design help automotive manufacturers in India create lighter, more efficient parts and improve overall performance?

Autodesk's Fusion and generative design technology plays a significant role in advancing the manufacturing industry in several ways:

- **Optimized Design Solutions:** Generative design uses algorithms to explore a vast number of design permutations, optimizing for constraints and goals such as weight, strength, cost, and manufacturability. This leads to innovative and efficient design solutions that might not be achievable through traditional design methods.
- **Material Efficiency:** By optimizing designs for material usage, generative design helps reduce waste and lower material costs. This is particularly beneficial in industries where material costs are high, such as aerospace and automotive manufacturing.
- **Performance Improvements:** Generative design enables the creation of components that are not only lighter and stronger but also better suited to their intended functions. This can lead to performance

improvements in the final products, such as increased durability and efficiency.

- **Accelerated Innovation:** The technology allows designers and engineers to quickly generate and evaluate multiple design alternatives. This accelerates the innovation process, enabling faster product development cycles and quicker time-to-market.
- **Customization and Personalization:** Generative design makes it easier to create customized and personalized products. This is particularly useful in industries like medical device manufacturing, where tailored solutions can significantly improve patient outcomes.
- **Sustainability:** By optimizing for resource efficiency and reducing waste, generative design supports sustainable manufacturing practices. It helps manufacturers minimize their environmental impact and adhere to sustainability goals.
- **Integration with Advanced Manufacturing Techniques:** Generative design is well-suited for advanced manufacturing techniques such as additive manufacturing (3D printing). It enables the creation of complex geometries that would be difficult or impossible to produce with traditional manufacturing methods.
- **Cost Reduction:** By reducing material usage, improving performance, and streamlining the design process, generative design can lead to significant cost savings in manufacturing.

Overall, Autodesk's Fusion and generative design technology empowers manufacturers to push the boundaries of what is possible in design and production, leading to more innovative, efficient, and sustainable manufacturing practices.

Q. How do Autodesk's cloud-based solutions facilitate collaboration across design, engineering, and production teams, especially in India, where many manufacturers operate in decentralised environments?

Autodesk provides several tools and solutions that enable businesses to adapt effectively to fluctuating demand and drive agile manufacturing. Here are some ways in which Autodesk supports agile manufacturing:

- **Cloud-Based Solutions:** Autodesk's cloud-based platforms, such as Fusion, allow for real-time collaboration and data sharing across different teams and locations. This ensures that design and engineering teams can work together seamlessly, making

it easier to respond quickly to changing demands.

- **Flexible Design Tools:** Autodesk's design tools, such as AutoCAD, Inventor, and Revit, offer powerful capabilities for creating and modifying designs quickly. These tools support rapid prototyping and iterative design processes, allowing manufacturers to adapt their products to meet changing market needs.
- **Digital Twin Technology:** Autodesk's digital twin technology enables manufacturers to create virtual replicas of their physical products and production processes. This allows for real-time monitoring and simulation, helping businesses to optimize their operations and respond swiftly to changes in demand.
- **Generative Design:** Autodesk's generative design tools, use AI and machine learning to explore a wide range of design alternatives based on specified constraints and goals. This helps manufacturers quickly identify the most efficient and adaptable designs, reducing time to market.
- **Product Lifecycle Management (PLM):** Autodesk's PLM solutions provide comprehensive tools for managing the entire product lifecycle. This includes capabilities for change management, version control, and collaboration, ensuring that all stakeholders are aligned and can respond rapidly to changes.
- **Additive Manufacturing:** Autodesk supports additive manufacturing (3D printing) through tools like Netfabb, which streamline the process from design to production. Additive manufacturing enables rapid production of prototypes and final parts, allowing businesses to scale production up or down quickly in response to demand.
- **Simulation and Analysis:** Autodesk's simulation tools allow manufacturers to test and validate their designs virtually before physical production. This reduces the risk of costly errors and ensures that products can be adapted efficiently to meet new requirements.
- **Supply Chain Management:** Autodesk's solutions help manufacturers manage their supply chains more effectively by providing visibility into the sourcing and movement of materials. This enables better planning and coordination, ensuring that manufacturers can respond quickly to supply chain disruptions and changes in demand.

By leveraging these tools and solutions, businesses can enhance their agility and

responsiveness, ensuring they are well-equipped to handle fluctuating demand and maintain a competitive edge in the market.

Q. What key trends do you see shaping the future of the Indian automotive industry in the next decade, especially in terms of design?

Some of the key trends in the design and manufacturing industries are:

1. **AI and Digital Transformation:** Autodesk is leveraging AI and machine learning in its software solutions to enhance design capabilities and automate repetitive tasks. This includes tools like Autodesk Fusion 360, which integrates CAD, CAM, and CAE into a single platform.
2. **Cloud as technology** – Cloud technology is a key trend revolutionizing the design and manufacturing industries, enabling greater collaboration, scalability, and efficiency. By leveraging cloud-based solutions, companies can access powerful tools and resources without the need for significant upfront investments in hardware and infrastructure. Autodesk is at the forefront of this transformation, offering innovative cloud-based platforms like Autodesk Fusion. Fusion integrates CAD, CAM, and CAE in a single platform, allowing for seamless collaboration and real-time data sharing among team members, regardless of their location. This not only accelerates the design process but also enhances the quality of the final product. These cloud-powered tools exemplify how we are helping design and manufacturing professionals to innovate, increase efficiency, and create more sustainable products.
3. **Smart Manufacturing:** Autodesk supports the adoption of smart manufacturing practices by providing advanced manufacturing software solutions that integrate with IIoT and other Industry 4.0 technologies.
4. **Additive Manufacturing:** Autodesk offers solutions like Autodesk Netfabb, which supports additive manufacturing processes, enabling efficient and innovative product development.
5. **Workforce Development:** Autodesk is firmly committed to helping solve the skills gap problem and prepare the next generation for the jobs of today and tomorrow. We deliver on this commitment by providing free access to our full portfolio of professional-grade software to accredited institutions. In fact, in November this year, we entered into a MoU with IIT Bombay. The collaboration

will combine Autodesk's industry expertise with IIT Bombay's leadership in education, research, and innovation. The objective is to train and provide skills to top talent, support India's growth, and shape the country's technical and scientific landscape.

6. **Supply Chain and Product Lifecycle Management:** Autodesk's software solutions, such as Autodesk Fusion Lifecycle, help streamline supply chain management and product lifecycle processes, enhancing overall efficiency.
7. **Tool path generation on cloud** – Autodesk is pioneering tool path generation on the cloud, revolutionizing the way manufacturers approach CNC machining and other automated processes. By utilizing cloud-based solutions like Autodesk Fusion, users can generate, simulate, and optimize tool paths in a highly efficient and collaborative environment.

This cloud-centric approach allows for real-time data processing and sharing, enabling teams to work together seamlessly from different locations. The advanced capabilities of Fusion as platform and Data models leverage Autodesk's powerful cloud computing infrastructure to perform complex calculations quickly, reducing the time required for tool path creation and iteration. This not only enhances productivity but also ensures higher precision and quality in the manufacturing process.

Q. Aside from electric vehicles (EVs), what other significant shifts do you see taking place in the automotive industry in the coming years?

Beyond the growing emphasis on electric vehicles (EVs), the Indian automotive industry is poised to experience several other significant shifts in the coming years:

Connected and Autonomous Vehicles:

Connected Cars: The integration of Internet of Things (IoT) technology will lead to the development of connected cars, enhancing safety, navigation, and overall driving experience through real-time data exchange.

Autonomous Driving: While fully autonomous vehicles may still be some years away, advancements in driver-assistance systems (ADAS) will pave the way for semi-autonomous features, improving road safety and reducing driver fatigue.

Shared Mobility Solutions:

- **Ride-Sharing and Carpooling:** The rise of

shared mobility solutions such as ride-sharing and carpooling will continue to transform urban transportation, reducing the number of vehicles on the road and alleviating traffic congestion.

- **Subscription-Based Models:** Vehicle subscription services, where users can access a fleet of vehicles for a monthly fee, will gain popularity, offering flexibility and reducing the financial burden of car ownership.

Sustainability and Green Technologies:

- **Alternative Fuels:** The adoption of alternative fuels such as hydrogen, biofuels, and CNG (compressed natural gas) will grow, contributing to reduced emissions and a lower environmental impact.
- **Sustainable Manufacturing:** Automotive manufacturers will increasingly adopt sustainable practices, including the use of recycled materials, energy-efficient production processes, and green supply chain management.

Advanced Manufacturing and Industry 4.0:

- **Smart Factories:** The implementation of Industry 4.0 technologies, including automation, robotics, and artificial intelligence, will lead to the development of smart factories, enhancing production efficiency and quality control.
- **Additive Manufacturing:** Also known as 3D printing, additive manufacturing will revolutionize the production of automotive components, enabling rapid prototyping and cost-effective, customized parts.

Enhanced Customer Experience:

- **Digital Transformation:** The automotive industry will continue to embrace digital transformation, providing seamless online and offline customer experiences through virtual showrooms, digital sales platforms, and personalized services.
- **In-Car Infotainment:** Advances in in-car infotainment systems will offer enhanced connectivity, entertainment, and convenience features, catering to the evolving preferences of tech-savvy consumers.

Regulatory and Policy Changes:

- **Stricter Emission Standards:** The implementation of stricter emission norms, such as Bharat Stage (BS) VI, will drive the development of cleaner and more efficient vehicles.
- **Incentives for Innovation:** Government policies and incentives aimed at promoting innovation and research in

the automotive sector will encourage the development of new technologies and business models.

Q. Which areas of India's automotive sector are showing the most promise in adopting advanced design tools and technologies?

Opportunities

- Maturing EV technologies are poised to disrupt the traditional OEM-led large automotive market and fuel the rise of small EV vehicle manufacturers. Smaller design firms will capitalize on developing economies with cheaper entry points for EV vehicles.
- We're already seeing AI-driven design tools gain mass acceptance as they can help conceptualize these possibilities and streamline the design process by automating repetitive tasks.

Trends

- Cars are poised to become more integrated with the IoT, allowing for real-time data sharing, remote diagnostics, and enhanced user experiences. Hyperscalers and platforms will play a critical role in capturing data and providing real time insights.
- Software will become increasingly central to vehicle performance, operations and maintenance.
- Gradual adoption of self-driving technology is inevitable, and policymakers will have to carefully direct and navigate developments related to autonomous vehicles.
- As companies strive to develop fully autonomous systems, we can expect greater and deeper collaboration between software developers and traditional automotive manufacturers.

Q. How do you see AR and VR technologies playing a role in automotive design and manufacturing?

Autodesk is leveraging automation and AI, as well as AR / VR to support vehicle design, engineering, and manufacturing. A few examples:

- Rather than going to a clay model, manufacturers can leverage VR through Alias and VRED to virtually look at a design, easily collaborate with remote colleagues and partners, and make changes earlier in the design process
- With Form Explorer, we're leveraging generative AI technology to augment the creativity of industrial designers enabling them to create 3D concepts in seconds
- With Drawing Automation in Fusion,

which uses Autodesk AI to translate 3D models into fully dimensioned drawings, then identify and remove unnecessary items from those drawings, saving users hours of time in the process.

Q. Looking ahead, what is your personal vision for the future of automotive manufacturing in India?

Adopting advanced design technology is essential for achieving more efficient, sustainable, cost-effective, and faster outcomes. An equally crucial aspect is the upskilling of the existing workforce alongside investing in training future designers and innovators. Public-private partnerships can play a significant role in training the technical workforce within organizations, while collaborations with academic institutions are vital for developing the future workforce. These combined efforts will greatly contribute to the future of design and manufacturing industries.

Q. What do you think are the 4 key trends that will become the 4 wheels of the of the automotive industry?

Some of the future trends in the automotive industry are:

- Cars are poised to become more integrated with the IoT, allowing for real-time data sharing, remote diagnostics, and enhanced user experiences. Hyperscalers and platforms will play a critical role in capturing data and providing real time insights.
- Software will become increasingly central to vehicle performance, operations and maintenance.
- Gradual adoption of self-driving technology is inevitable, and policymakers will have to carefully direct and navigate developments related to autonomous vehicles.
- As companies strive to develop fully autonomous systems, we can expect greater and deeper collaboration between software developers and traditional automotive manufacturers.

Opportunities

- Maturing EV technologies are poised to disrupt the traditional OEM-led large automotive market and fuel the rise of small EV vehicle manufacturers. Smaller design firms will capitalize on developing economies with cheaper entry points for EV vehicles.
- We're already seeing AI-driven design tools gain mass acceptance as they can help conceptualize these possibilities and streamline the design process by automating repetitive tasks. ■



Publisher & Marketed by:
Satish Mandole
Globe-Tech Media Solutions

Editorial Support
Ayush Shriwas, Sudhanshu Nayak

Sales & Marketing
Mukesh Yadav - Director (Marketing)
Prabhu Nath, Sunil Sohani

Digital Marketing Head
Ganesh Mahale

Circulation
Mrs. Nirmala Mandole

Head Office
The Auto Monitor
Globe-Tech Media Solutions
B 502, Sanskruti Darshan,
Pune-Mumbai Road, Keshav Nagar,
Kasarwadi, Pune – 411034
Email: Editor@theautomonitor.com
marketing@theautomonitor.com

www.theautomonitor.com

INTERFACE

Welcome to the February Edition of The Auto Monitor!

Get ready to explore the latest trends, innovations, and insights from the automotive industry. In this issue, we bring you exclusive interviews, industry analysis, and updates on cutting-edge technologies driving the future of mobility.

Highlights of This Issue:

1. Industry Insights: Expert opinions on market trends and future prospects.
2. New Launches: A deep dive into the latest vehicles and advancements.
3. Sustainability Focus: How the auto industry is embracing green technology.
4. Technology & Innovation: Breakthroughs in EVs, AI, and automation.
5. Exclusive Interviews: Conversations with top executives and industry leaders.

Stay tuned for in-depth articles, expert perspectives, and everything you need to stay ahead in the automotive world!

Happy Reading!



Dr. Rajeev Mishra
Editor

EDITORIAL ADVISORY BOARD



Luca Matteucci
Managing Director
MARPOSS India



Rajesh Garg
Founder
Redon Lithium Industry LLP



Sandeep Gaikwad
Managing Director
Yeskolube India Pvt. Ltd.



Mukesh Bansal
Co-Founder and CTO,
TelioEV Private Limited



Dr. Shailendra Saroj
Chairman - International
Federation of Electric Vehicle
Association



Nishant Kashyap
Experienced Manufacturing
Journalist & Founder,
Maftec Digital



Sandeep Chaudhary
Vice President India
Huf India Private Limited



Abhijeet Sinha
Technocrat, National Program Director -
Ease of Doing Business, Project Director -
National Highways for Electric Vehicles

CONTENT

NEWS & UPDATES



08 FADA Commences the 13th Auto Summit 2025

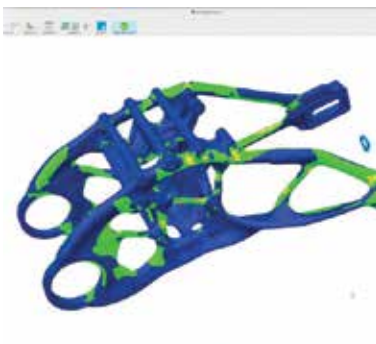


09 Goldmedal Revolutionizes Customer Experience Launches Exclusive Showroom on Wheels Designed by Ace Designer Dilip Chhabria



10 Ultraviolet Launches the Thrilling F77 SuperStreet - Revolutionizing Street Riding

TECHNOLOGICAL INNOVATIONS



14 Digital Solutions in Automotive Part Manufacturing



16 Impact of Battery Testing on EV Manufacturing Quality Standards



17 Sustainability in Automation: Schmalz compact ejectors SCPSc, & SCPSi leading the way



20 Battery Energy Storage System Business Opportunity in India

Bharat Mobility Global Expo 2025 Successfully Concludes with an Incredible Showcase of the Indian Mobility Ecosystem & with Record-Breaking Participation



Record-breaking Attendance

Building on the inaugural expo's performance in 2024 which saw a visitor turnout of 1,50,000+ over 3 days, the Bharat Mobility Global Expo 2025 witnessed exponential growth in terms of visitors, with an impressive net footfall of 9,83,522 visitors across the three venues. This remarkable turnout reflected the incredible interest for the Indian mobility revolution from both, industry professionals and consumers alike.

The expo attracted visitors from all demographics and walks of life, showcasing their enthusiasm for the innovative products and solutions on display. Every hall was bustling with curious attendees, eager to see the latest technological advancements and gain insights into the future of mobility and construction.

Bharat Mobility Global Expo's role in India's Mobility Transformation and MICE Industry

The Bharat Mobility Global Expo 2025, India's biggest mobility expo was held from 17th to 22nd January 2025 at three iconic venues – Bharat Mandapam, New Delhi, Yashobhoomi, Dwarka and India Expo Centre & Mart, Greater Noida, with the participation of more than 1,500+ exhibitors across the mobility ecosystem.

The Expo concluded on the 22nd of January on a triumphant note, marking a new chapter in innovation, collaboration, sustainable mobility and decarbonization.

Hon'ble Prime Minister Shri Narendra Modi, inaugurated the Expo on 17th January 2025, underscoring his unwavering vision and trust in India's mobility transformation journey. Speaking at the inaugural ceremony, he stated, "The entire mobility industry, the whole government, and the whole nation have come together for this expo." He further added "Driven by the aspirations of the people and

energy of the youth, India's automobile sector is witnessing an unprecedented transformation". The Prime Minister had also inaugurated the first edition of the Bharat Mobility Global Expo, held from 1st to 3rd February 2024, at Bharat Mandapam, New Delhi.

The Bharat Mobility Global Expo 2025 plays a pivotal role in advancing India's position within the MICE (Meetings, Incentives, Conferences and Exhibitions) industry by showcasing the country's capacity to host world-class events. As a multi-venue event, the expo demonstrated the potential of state-of-the-art facilities like Bharat Mandapam, Yashobhoomi and India Expo Centre & Mart, in accommodating large-scale exhibitions, conferences, pavilions, and networking forums. The Expo reinforced India's growing reputation as a global destination for innovative and impactful MICE event.

Innovative Product Launches

The expo witnessed 239 launches from exhibitors across all the concurrent shows, highlighting the commitment from all industries in the mobility ecosystem for a smart and sustainable mobility future in India. There were 90 vehicle launches at The Auto Expo Motor Show 2025, showcasing majorly electric and in some cases Flex Fuel and other alternative powertrains.

97 product and technology launches were showcased at the Auto Components Show in Yashobhoomi, highlighting the resilience and readiness of the entire automotive supply chain for the transformative journey of the automotive sector.

The Bharat Construction Equipment Expo witnessed 24 launches, with many of them being BS (CEV) Stage 5 ready equipment along with electric and hydrogen-powered equipment. The Bharat Battery Show saw 21 launches of various battery and charging

solutions, highlighting the advancements in battery storage and vehicle charging solutions.

The India Cycle Show 2025, organized by EEPC India, saw 5 launches, and showcases of bicycles, e-scooters, and micro-mobility solutions, including electric bikes and scooters.

Exhibitors from the Mobility Tech Pavilion showcased technologies and products that are setting a global benchmark in mobility solutions, through technologies such as intelligent cockpits, autonomous vehicles and solutions and cutting-edge, human-centric features that are defining the future of transportation.

The India International Tyre Show 2025 launched 2 product ranges for passenger and commercial vehicles segments, and showcased advancements in tyre technology, smart tyres, use of sustainable materials, and improved safety features. In addition, companies have also announced strategic plans to enter specific tyre segments in India.

At the Steel Pavilion, companies showcased cutting-edge innovations in automotive steel, emphasizing sustainability, strength, and lightweight solutions, and highlighted the advancements in steel technology.

The Urban Mobility and Infrastructure Show 2025 brought diverse sectors of urban mobility and infrastructure under one roof, and showcased innovations, technologies and solutions in the sustainable urban transit such as Rapid Transit Systems, Mass Rapid Transit Systems and cutting-edge equipment manufacturing, and energy-efficient mobility solutions.

The Urban Air Mobility demonstrated revolutionary advancements in air mobility technologies, with companies demonstrating their VTOLs and eVTOLs, and with other companies highlighting their air mobility solutions including drones. ■

EV Battery Pack Assembly Automation



An integrated approach to providing **high speed,**
fully automatic, completely **tracked and traced**
battery pack assembly line.



- Handling upto 6000 cells / hour
- Individual cells tracked & traced
- Complete data logging of consumables and equipment
- EOL testing using Matlab for logging all charge-discharge cycles
- Capturing >50 Lakh data points / hour
- BMS activation and Battery ID generation using Matlab & Raspberry Pi

For more information write to us at:

sales@cybernetik.com



cybernetik.com

FADA Commences the 13th Auto Summit 2025

Marked presence of over 1,800 participants, featuring 75 distinguished speakers across 20 sessions



Shaping the Future of Mobility with Safety, Efficiency, and Sustainability

The Federation of Automobile Dealers Associations (FADA), today commences the 13th edition of the Auto Summit 2025, the biennial flagship convention transformed to be an annual show in sync with Bharat Mobility the Global Expo. The summit, themed “Safe, Efficient & Sustainable: Shaping Tomorrow’s Mobility,” provides an overview of the Indian retail automobile industry. The event was attended by senior government officials and prominent figures from the Indian automobile industry, reflecting the dynamic and ever-evolving nature of the sector.

The FADA Auto Summit, widely recognized as the “Maha Kumbh” of the Indian automobile retail industry witnessed the presence of Shri H.D. Kumaraswamy, Hon’ble Union Minister for Heavy Industries, Government of India, graced the event as the Chief Guest. Joining virtually, Shri Nitin Jairam Gadkari, Hon’ble Union Minister for Road Transport & Highways, Government of India, addressed the gathering as the Guest of Honour.

FADA Auto Summit serves as a prestigious platform bringing together manufacturers, government officials, dealers, industry analysts, academia, and thought leaders. It also enables comprehensive discussions on the evolving dynamics of auto retail and services, emerging business opportunities, and strategic visions for the industry’s future. This year Auto Summit 2025, featured over 75 distinguished speakers across 20 sessions, offering an unparalleled opportunity for stakeholders to engage in meaningful dialogue, exchange insights, and explore sustainable growth strategies during the event.

He further added, “Sustainability is now

a necessity. In 2024, electric vehicle (EV) sales surged to 14,08,245 units. Together, these efforts, supported by FADA and the government, are positioning India as a global leader in safe, efficient, and sustainable mobility, ensuring the sector meets both consumer needs and global challenges like climate change and road safety.”

He further added, “India is not just leading domestically and now has a strong foothold in the international market, with 50% of the two-wheeler segment being exported. The focus on clean, sustainable energy—ranging from ethanol and biodiesel to hydrogen and electric—underscores our commitment to a greener future. As we work towards reducing our dependency on fossil fuels, we’re creating employment opportunities for millions, with the automobile sector alone poised to generate up to 4 crore jobs. The industry’s future looks promising, with a competitive edge driven by research, innovation, and the focus on quality. We are committed to making India an ‘Atmanirbhar Bharat’, achieving self-sufficiency, while also positioning ourselves as global leaders. Initiatives like the pilot project in Nagpur for ropeway cable cars and flash-charging buses highlight the industry’s focus on cutting-edge technology for urban mass transport. The potential for growth is enormous, as we continue to expand both the domestic and export markets. With strong research, investment in institutions like IITs, and a robust focus on sustainability, India is well on its way to being a global powerhouse in the automobile sector.”

He further added, “The successful implementation of FAME I and II, along with the ongoing PM eDrive initiative, are crucial steps in India’s journey towards cleaner and greener vehicles, and FADA

“

Recognizing the automotive industry’s contribution to the Indian economy, Shri H.D. Kumaraswamy, Hon’ble Union Minister for Heavy Industries, Government of India, said, “The 13th Auto Summit is a pivotal moment for India’s automotive sector, focused on the theme “Safe, Efficient & Sustainable: Shaping Tomorrow’s Mobility.” Safety remains a core priority, with an emphasis on enhancing road safety standards, integrating advanced driver-assistance systems, and improving infrastructure. Achieving this requires collaboration among manufacturers, dealers, policymakers, and consumers to reduce accidents and protect lives. Efficiency is also at the forefront, as evidenced by the 9% growth in vehicle sales in 2024, reaching 26.1 million units. This growth reflects the industry’s focus on cutting-edge technologies that streamline manufacturing and enhance customer experiences across all segments.”

remains committed to supporting these efforts.”

At the 13th edition of the Auto Summit, Mr. Saugato Bhowmik Director CPG & D2C Automotive Meta India along with Mr. Kartick V Nagpal President, Rosmerta Group were present sharing the views & vision for the Indian Automobile industry. Their participation highlighted the growing role of technology and innovation in shaping the future of mobility, further enriching the summit’s focus on safety, efficiency, and sustainability.

The event, themed “Safe, Efficient & Sustainable: Shaping Tomorrow’s Mobility,” was thoughtfully designed to underscore the importance of these aspects for the sector. It featured lively discussions on the critical challenges facing the Indian automobile sector, fostering collaboration and actionable strategies to align with India’s vision for a safer, more efficient, and sustainable future. ■



Goldmedal Revolutionizes Customer Experience Launches Exclusive Showroom on Wheels Designed by Ace Designer Dilip Chhabria

Goldmedal Electricals, one of India's leading Fast Moving Electrical Goods (FMEG) companies, has partnered with internationally acclaimed automotive designer Dilip Chhabria to launch an ultra-premium showroom on wheels at the ongoing Bharat Mobility Global Expo 2025 in New Delhi. Designed at a cost of over Rs. 18 crore, this one-of-a-kind mobile showroom aims to bring the brand's innovative range of products closer to customers. Mr. Dilip Chhabria, Managing Director, DC2 Mercury and Mr. Jugraj Sofadia, Managing Director, JS Fashions Pvt. Ltd., unveiled the bus at the expo.

Meticulously crafted, the bus design is a world first – opening from three sides – two on either side and one at the rear. Its design is curvaceous, aerodynamic and futuristic. Everything from the windshield and the body is super streamlined, incorporating composites like those used in the construction of the Airbus A380 and the Boeing 787.

Finished in a sophisticated Satin Matte Grey and crafted using over 700 individual moulds, the vehicle boasts proprietary glazing and lighting systems. When parked, its expandable sections on the sides open up to nearly double the interior space. This allows for the display of hundreds of Goldmedal products, especially curated from the brand's extensive portfolio of modular switches, fans, wires, LED lights, electrical appliances, and home automation solutions.

The interior design also features a lounge



area, a bar, and split-level spaces illuminated by over 10,000 LEDs with adjustable lumen intensity. The interior ambience is enhanced by a vanilla white colour scheme accented with striking red highlights and glass pinstripe-lit flooring that adds a touch of modern elegance.

The bus is the brainchild of Kishan Jain, Director, Goldmedal Electricals. Speaking about the bus, he said, "The goal was to showcase the Goldmedal brand in a way that has no parallel in the world. It was a dream we've worked on for years. It showcases our commitment to make world-class electrical solutions accessible to customers across the nation in a way that matches our brand philosophy."

Speaking at the launch, Dilip Chhabria,

the ace designer dedicated the project to the brand's director, saying, "For me, the bus represents visual shock and awe. The entire design and manufacturing process was turned on its head to make this possible. It's truly a labour of love and a shared vision with Kishan Jain. I'm delighted to make Goldmedal's dream of an ultra-premium showroom on wheels a reality."

Currently on display at the Bharat Mobility Expo 2025 until January 22, 2025, access to the bus is limited to event attendees and special invitees. Following the event, the bus will travel to key events and locations across India, allowing customers to experience Goldmedal's premium offerings conveniently, without the need to visit a traditional showroom. ■

Ultraviolette Launches the Thrilling F77 SuperStreet - Revolutionizing Street Riding



Ultraviolette, makers of the Fastest Indian Motorcycle, launched the highly anticipated F77 SuperStreet today; a groundbreaking addition to its lineup, designed to revolutionize the street riding experience. Meticulously designed and engineered through extensive in-house R&D and based on customer preferences, the F77 SuperStreet is crafted to perfection as a dynamic performance street motorcycle.

The F77 SuperStreet comes equipped with a 10.3 kWh battery pack and delivering a peak power output of 30 kW (40.2 hp). Offering a staggering 100 Nm of peak torque, it accelerates swiftly from 0 to 60 km/hr in just 2.8 seconds, and reaches a top speed of 155 km/hr. With an impressive IDC range of 323 kms, the motorcycle provides an unparalleled street riding experience.

Further expanding Ultraviolette's product portfolio, the F77 SuperStreet features an upright riding posture and comfortable ergonomics, enhancing the overall riding experience while maintaining a high level of engagement.

Speaking at the launch, Narayan Subramaniam, CEO & Co-Founder, Ultraviolette said, "From launching the F77 MACH 2 last year, within a short span of 8 months, we are proud to

introduce yet another significant milestone through our intensive R&D - the F77 SuperStreet.

The F77 SuperStreet was conceived from the invaluable feedback received from customers and is a true testament to further strengthening our commitment towards them. This motorcycle perfectly combines power, agility, and a futuristic design to deliver an exhilarating riding experience that seamlessly integrates advanced engineering with everyday usability."

The F77 SuperStreet's 3-level Traction Control System ensures optimal traction and stability across diverse riding conditions. Moreover, it is equipped with 10 levels of Regenerative Braking, offering enhanced convenience, effectively extending its range, and optimizing energy efficiency. It also features Dynamic Stability Control (UV DSC); a cutting-edge feature that seamlessly modulates Regenerative Braking levels with ABS to ensure complete control and stability during mild, active, or panic braking, which makes riding safer.

Its Hill Hold feature ensures unwavering stability, effortlessly keeping the motorcycle in position without the need for constant brake application. The F77 SuperStreet is also outfitted with Delta Watch; a standout feature that provides

a heightened sense of security. This innovative technology serves as a vigilant guardian, promptly alerting riders of any encroachment attempts on their motorcycle. With the Delta Watch, riders can enjoy peace of mind, knowing they have an extra layer of protection against unwanted intrusions.

Niraj Rajmohan, CTO & Co-Founder, Ultraviolette said, "The F77 SuperStreet sets forth a smart proposition for those who demand usable performance out of their daily street riding. We have not just launched a new motorcycle with a completely different form factor but also recently introduced a Type 2 interface for charging, for our valued customers. With this interface we have now enabled access to all AC car charging stations as well, across India. This advancement ensures on-the-go charging, anytime and anywhere facilitating seamless inter-state riding."

The F77 SuperStreet is available in four colour options to choose from- Turbo Red, Afterburner Yellow, Stellar White and Cosmic Black. Ultraviolette also announced a whole range of accessories, now available to all customers; these include Aero Discs, Tank Grips, Lever Guards, TPMS, Puncture Kit, Screen Guard, Top Box, Soft Panniers, Hard Panniers, and a Type 2 Charging Interface.

Ultraviolette's ongoing optional packages are also available to all F77 SuperStreet customers, aimed at magnifying the riding experience further-

The Performance Pack focuses on optimizing performance and safety with features such as 10-levels of Regenerative Braking with Dynamic Regen and advanced 3-level Traction Control. Riders will now have the freedom and flexibility to switch to different regenerative braking levels on the fly, enhancing their riding with unprecedented control.

VIOLETTE A.I. has been designed to offer riders advanced connectivity features acting as a smart tech co-pilot during the ride and, when the bike is parked. Key features of this pack include Movement, Fall and Towing Alerts, Remote Lockdown, Crash Alert, Daily Ride Stats, and an Anti-Collision Warning System.

The motorcycle will be available for sale in 2 variants; the F77 SuperStreet and F77 SuperStreet Recon and is available at an introductory price starting at ₹ 2,99,000 across India; with deliveries commencing in March 2025. ■

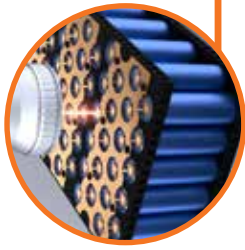


For more information,
www.ultraviolette.com

REVOLUTIONIZING **E-MOBILITY** APPLICATIONS

IPG Laser Technology powers the **MOST PRODUCTIVE** EV welding solutions in the industry

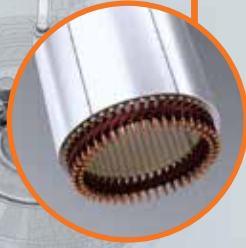
BATTERY CELLS & BUSBARS



POWER ELECTRONICS



ELECTRIC MOTORS



BATTERY PACKS & TRAYS



Turnkey Systems for FAST & EASY Integration



- Optimized Laser + Beam Delivery
- Vision System
- Controller + Software
- Real-Time Weld Measurement

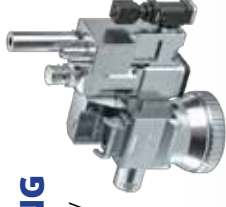
HIGH-SPEED SPATTER-FREE WELDING

Adjustable Mode Beam (AMB) laser technology **eliminates spatter** for **improved battery performance**



FASTER, MORE PRECISE WELDING

IPG laser scanning technology enables **high-speed, high-precision** welding of key EV components



100% QUALITY ASSURANCE

Real-time weld measurement directly measures each weld as it is made for **higher productivity** and **safer batteries**



LEARN MORE
ABOUT



IPG E-MOBILITY
MANUFACTURING
SOLUTIONS

+91 - 9560 608 808

sales.india@ipgphotonics.com

www.ipgphotonics.com

Motovolt Redefines Electric Mobility with Revolutionary New Species of EVs

Motovolt Mobility Pvt. Ltd, a leading player in the electric mobility sector, unveiled an innovative new species of electric vehicles at the Auto Expo 2025. This launch marks the beginning of a new category rooted in a purpose-built design philosophy aimed at addressing urban India's most pressing mobility challenges, including technology-driven trade-offs, last-mile delivery inefficiencies, accessibility issues, and the increasing demand for eco-friendly commuting solutions.

India's EV market is rapidly growing, projected to expand from USD 8 billion in 2023 to an impressive USD 117 billion by 2032. Motovolt's new range taps into this potential with advanced solutions that cater to both individual commuters and commercial logistics needs. The vehicles combine cutting-edge technology with user-centric design to unlock new efficiencies and opportunities.

The showstopper of the range is the Hyper One, India's first digital pedal motorbike, designed to thrill. It addresses a significant user expectation gap that exists with current EV technology, which often fails to offer manually controlled power on demand—a feature typical in internal combustion engine (ICE) vehicles. This motorcycle pairs advanced propulsion from a foot-operated digital pedal with a powerful 5 kW motor, delivering breakneck acceleration from 0-40 km/h in seconds. With a top speed of 110 km/h, a range of 105 km, and peak torque of 90 Nm, the Hyper One is a revolution. Its hybrid design combines the agility of a bike with the power of a motorcycle, creating an exhilarating experience that redefines e-motorbiking in India.

Leading this new era, the HUM NYC is India's first multi-utility speed pedelec, tailored for the intense demands of New York City's last mile delivery riders. Offering a 42 km/h top speed, 200 kg of payload, along with a 130 km riding range on a single charge, and compatible with advanced battery-swapping technologies that operate in NYC, offering BaaS for the end users. This indeed is a significant advancement in last-mile delivery solutions that will soon be seen on the streets of NYC.

Designed to handle multiple utility functions, the M7 is perfect for transporting goods, making it a valuable asset for logistics, while also providing a comfortable



and efficient ride for personal commuting. Its sporty design, combined with practicality, makes it equally well-suited for business and family use, offering a flexible, attractive, and reliable transportation option for a variety of needs.

The M7 Rally is a sporty and attractive version of M7, a versatile vehicle that combines reliability, robustness, and safety, bridging the gap between scooters and motorcycles. With an impressive acceleration of 0-40 km/h in just 3 seconds, a top speed of 80 km/h, and a range of over 120 kilometers, it offers an ideal solution for both personal and professional use.

Designed with the utmost consideration for safety and accessibility, these slow-speed e-two-wheelers are ideal for students, homemakers, and senior citizens, ensuring mobility is a convenience that everyone can enjoy. Unique in both form and function, these models offer a 25 km/h top speed and high torque, capable of carrying higher payloads or pillion riders without a power deficiency, even while climbing a flyover.

- **CLIP:** This plug-and-play portable device works magic in the blink of an eye and is an innovation without precedent. With the best design complemented by state-of-the-art technology, CLIP is the world's smallest and most convenient e-bike conversion kit. It can instantly convert any bike into an e-bike, allowing you to enjoy e-biking without changing the brand of your bike.

Speaking about this, Tushar Choudhary, Founder & CEO of Motovolt, "Our latest EV

range isn't just about new products—it's a leap toward creating a more inclusive, sustainable urban mobility ecosystem. Every vehicle we design is a step closer to achieving India's ambitious EV penetration goals while offering unmatched value to our users. We aim to inspire a shift in how cities move, work, and live.

Motovolt's impact extends beyond product innovation. With over 25,000 vehicles already deployed across India, the company has offset more than 142,000 kg of carbon emissions to date. This new range is set to amplify this positive impact, supporting the government's ambitious target of achieving 30% EV penetration by 2030.

About Motovolt

Founded in 2019 by Tushar Choudhary, a seasoned industrialist, Motovolt emerged as a leading EV innovator from Kolkata, acclaimed for its proprietary e-bike technology tailored to Indian conditions. Through its distinct platform, Motovolt has unveiled a series of electric cycles and e-mopeds, revolutionising urban mobility across India. To date, over 25,000 vehicles have been deployed, collectively offsetting 142,000 kg of carbon emissions, while significantly enhancing the livelihoods of numerous delivery personnel. The debut of the M7 scooter marks Motovolt's entry into the competitive arena of high-speed electric scooter manufacturing, solidifying its stature within India's dynamic EV market. ■

For more information,
www.motovolt.co

Statiq and Vertelo Collaborate to Boost India's EV Charging Infrastructure

Statiq, India's leading EV charging network, has partnered with Vertelo, a bespoke electric mobility solutions provider, to accelerate the development of India's electric vehicle (EV) infrastructure. The collaboration aims to make EV adoption seamless by enhancing access to reliable and efficient charging solutions across the country.

Under this partnership, Statiq will offer turnkey solutions, including the supply of EV chargers, a robust technology platform, and full-scale EPC (engineering, procurement, and construction) services for charger installation and commissioning. Together, Statiq and Vertelo will



co-develop EV charging sites, contributing to India's growing demand for electric mobility solutions.

Akshat Bansal, Founder & CEO, Statiq, emphasized, "Our goal is to make EV charging hassle-free and widely accessible. By

combining Statiq's technology and infrastructure with Vertelo's expertise in financing, we are laying the groundwork for a sustainable future. This partnership goes beyond adding chargers—it's about building a resilient EV ecosystem."

Sandeep Gambhir, CEO, Vertelo, added, "We are committed to making the transition to electric vehicles smooth and practical. Partnering with Statiq ensures the necessary charging infrastructure is in place to support the widespread adoption of EVs. Together, we're driving India towards a greener future."

Statiq currently operates over 7,000 chargers across 65 cities and plans to expand its network to 20,000 chargers by 2025. With Vertelo's fleet electrification expertise and financing solutions, this alliance is a major step in deploying efficient charging infrastructure nationwide. ■

INDIA'S LARGEST ELECTRIC VEHICLE SHOW

5th
EDITION

Entrepreneur
Presents



India EV 2025

Expo & Conference

27

28

JUNE, 2025

Chennai Trade Centre

CHENNAI

EXHIBIT | ENGAGE

ELEVATE YOUR PRESENCE

Showcase Smart Evs, Sharper Journeys!

2 Days

Networking

120+

Exhibitors

5000+

Participants

500+

Industry Delegates

04+

Keynote Speeches

10+

Engaging Panel Discussions

B2B

Roundtables

Product

Launches

BOOK NOW!

Early Bird Offer Ends Soon

FINANCE PARTNER






SUPPORTED BY







INTERNATIONAL PARTNER




KNOWLEDGE PARTNER





MEDIA PARTNER







EXHIBIT & SPONSORSHIP

+91 9312199219, 9821226497, 7303215155

expo@indiaev.org

AWARD NOMINATIONS

+91 6005486563

fahad@entrepreneurapj.com

ATTEND CONFERENCE

+91 9319745325

conference@indiaev.org

www.indiaev.org



Digital Solutions in Automotive Part Manufacturing

This blog discusses the increased use of digital solutions in automotive part manufacturing and highlights how Autodesk Fusion's integrated CAD, CAM, and CAE tools streamline the design and production process.

The automotive part manufacturing industry is constantly under pressure to produce high-quality, cost-effective parts within tight deadlines. As a result, and evolving from historical manufacturing solutions, the industry has seen an increase in the adoption of digital solutions. The integration of digital tools such as CAD (Computer-Aided Design), CAM (Computer-Aided Manufacturing), and CAE (Computer-Aided Engineering) has revolutionized how automotive parts are designed, tested, and produced. Among the variety of tools available in the industry today, Fusion is one of the most powerful that automotive part manufacturers have at their disposal.

Benefits of digital solutions in automotive part manufacturing

Digital solutions have become integral to automotive part manufacturing by streamlining various processes and improving overall productivity.

One key benefit of digital solutions is the enhancement of productivity. For example, companies that have embraced Industry 4.0 technologies have reported substantial improvements across several key performance indicators (KPIs). According to McKinsey, these include a 30-50% reduction in



unplanned downtime due to predictive maintenance and a 10-30% increase in throughput through real-time production monitoring and scheduling systems.

Beyond Industry 4.0 technology, advanced analytics and machine learning have also helped in optimizing manufacturing processes. Enabling real-time data collection and analysis, these technologies lead to smarter decision-making on the production floor. For instance, machine learning models can detect anomalies and predict maintenance needs. This reduces scrap and rework by up to 43% and increases throughput by over 25%, according to Acerta.

Finally, the digital transformation has additionally facilitated better collaboration and data management within the automotive manufacturing sector. Cloud-based platforms allow for seamless data sharing and real-time collaboration

among different teams — leading to faster decision-making and reduced lead times. For example, the integration of CAD, CAM, and CAE tools in platforms can offer a unified environment for design, simulation, and manufacturing.

Fusion and automotive part manufacturing

Autodesk Fusion is uniquely well-suited for the needs of automotive part manufacturing.

As a comprehensive digital solution, Fusion offers a unified platform that cohesively integrates CAD, CAM, and CAE capabilities. This allows for streamlining the entire design-to-manufacturing process and enables engineers to move fluidly from conceptual design to simulation and final production — without switching between disparate software tools. Our cohesive environment enhances productivity and reduces the potential for errors and miscommunication that often arise from using multiple platforms.

The cloud-based architecture of Fusion further amplifies its advantages by facilitating collaboration among team members, irrespective of their physical locations. This capability is increasingly crucial in the context of modern, distributed design and manufacturing teams, where global collaboration is the norm rather than the exception. Engineers, designers,

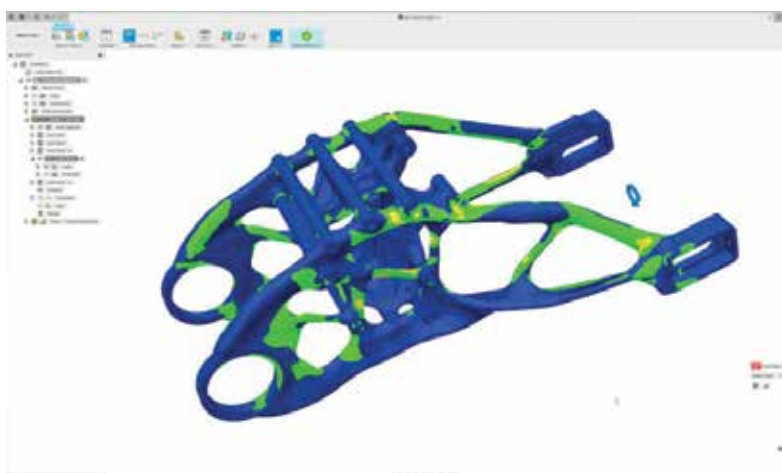
and manufacturers can work together in real time, accessing and modifying shared models and simulations. This ensures that everyone is always on the same page. Real-time collaboration accelerates decision-making processes, enhances innovation, and allows for more efficient problem-solving.

Moreover, Fusion's cloud infrastructure guarantees that all project data is stored securely and easily accessible from anywhere. Teams can quickly respond to design changes, update parts, and optimize manufacturing processes — all while maintaining a single source of truth for all project-related information. This high level of integration and accessibility supports a more agile and responsive manufacturing environment.

Moreover, Fusion supports generative design, a cutting-edge feature that uses AI to explore multiple design permutations based on specified constraints, integrating with Industry 4.0 technologies. While generative design can lead to innovative solutions that are lighter, stronger, and more cost effective than traditional designs, Industry 4.0 integration enables greater productivity, transparency, and efficiency on the factory floor.

Changing the Industry

The increased use of digital solutions in the automotive part manufacturing industry has revolutionized the way companies design, produce, and manage their products. Platforms like Autodesk Fusion amplify the benefits of integrating CAD, CAM, and CAE tools into a single, cloud-based environment for enhancing collaboration, efficiency, and precision. As the industry continues to evolve, embracing digital solutions will help meet the growing demands for high-quality, cost-effective automotive parts. ■





Fuel the Change Be a Part of India's EV Charging Revolution.

Why Invest in EV Charging Stations?

To meet the growing demand for electric vehicles (EVs), substantial expansion of charging infrastructure is essential. India would need to install over 350,000 charging points annually over the next seven years. *Source : ENERGETICA INDIA*



Perfect EV Charging Solutions for Every Space

Residential Society, Malls, Hotels/Resorts, Parking Spaces
Fuel Stations, Stores, Offices, Cafes/Restaurants



30KW Single Gun
60KW & 120KW Dual Gun



Cloud Based Charging
Management System- **Mobile App**



Zero Operational Expenditure

Scan to Explore
DABAS EV CHARGE
Solutions





As the electric vehicle market grows, demands for high-quality batteries become more critical. A battery is the heart of an EV; its performance, range, and safety features are directly related to it. Quality and reliability are crucial, which is where battery testing comes into play. In this blog, we look into how battery testing affects the quality standard in EV manufacturing, including what an EV battery assembly line is, what the role of Battery Testing Equipment for EVs might be, and what Lithium-Ion Battery Testing for EVs entails.

The Role of Battery Testing in EV Manufacturing

Battery testing is just a part of testing the whole manufacturing process for EVs and ensures that the batteries completely meet the required quality and safety standards. With the emerging trends of EVs, producers face huge pressure to produce batteries that are not only of

high performance but also safe and reliable. Testing allows the manufacturer to identify defects or low-performance capacity before installing the batteries in vehicles, reducing the chances of field failures.

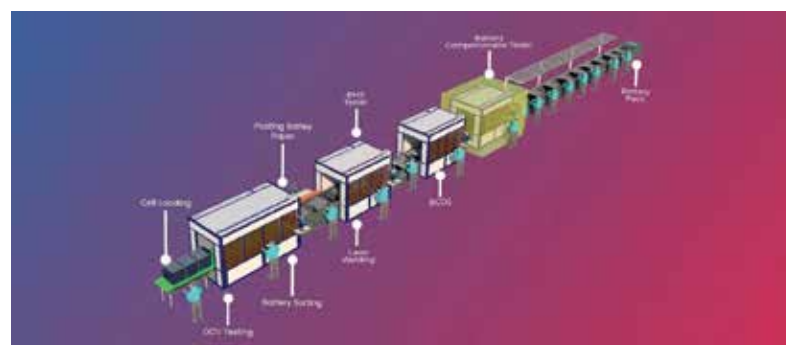
EV Battery Assembly Importance

The place where the battery cells will be going into modules and packs is the EV battery assembly line. Each phase of the assembly must go through stringent quality checks for the final product to come out to specifications. A well-organized assembly line incorporates testing at various stages: from incoming cell testing, through module testing to final Battery Pack Testing for an EV. By this means, integrating such tests into an assembly line ensures that defective units are caught on time to ensure quality across units.

Battery Testing Equipment for EVs: The Backbone of Quality Assurance



Invest in the right Battery Testing Equipment for EVs to ensure only quality EVs leave the production line. Testing equipment and technologies will be designed to test capacity, charge/discharge rates, thermal stability, and safety under various conditions. Advanced testing equipment with an enriched set of features will ensure that each pack will meet the needed performance and safety requirements, building trust among consumers in EV technology.



Lithium-ion Battery Testing for EVs: Making Sure Safety and Performance

Lithium-ion battery testing of EVs is an increasingly important process that more and more manufacturers are considering since the adoption of this technology is increasing in the industry as a result of its high energy density and efficiency. However, lithium-ion batteries are equally prone to thermal runaway and other safety issues in case they are not tested and handled properly. Their

testing incorporates a set of intensive tests, which range from mechanical and electrical to thermal. Due to this thorough testing, manufacturers ensure that batteries will operate in various conditions and minimize the possibility of failures that could result in costly recalls or even safety hazards.

EV Battery Pack Testing: Quality's Last Check

Once the individual cells and modules are built into a complete battery pack, the last step for EVs to ensure that the entire system works as specified is Battery Pack Testing for EVs. It will include a wide variety of tests: electrical integrity, thermal management, and overall system performance under various load conditions. The goal of this test campaign is to confirm that the battery pack performs as expected without any compromise on safety.

Conclusion

Battery testing is not only a part of manufacturing processes but also an extremely important factor in determining the quality and safety of electric vehicles. The manufacturer can ensure

the highest quality standards for his batteries by introducing strict testing protocols right from the EV battery assembly line up to the final Battery Pack Testing for EVs. Advanced battery testing equipment for EVs and comprehensive Lithium-Ion Battery Testing for EVs play an important role in the construction of safer, more reliable electric vehicles that consumers believe in. Moving forward, continuing these high standards will be the epitome of sustaining growth and innovation in this industry. ■

Sustainability in Automation: Schmalz compact ejectors SCPSc, and SCPSi leading the way

In an era where sustainability is a global priority, industries are tasked with balancing operational efficiency and environmental responsibility. This challenge is particularly evident in manufacturing, where resource-intensive processes, such as the use of compressed air in automation, contribute significantly to energy consumption. Optimizing these processes is essential to reduce environmental impact and achieve long-term cost savings. Schmalz has addressed this need by developing a series of compact ejectors SCPSc and SCPSi that combine cutting-edge technology with resource efficiency.

Sustainability as a design principle

Compressed air, though indispensable in vacuum systems, is often one of the most energy-intensive resources in automated operations. Recognizing this, Schmalz has embedded air-saving technology into its ejector designs. This innovation optimizes air usage, significantly reducing compressed air consumption by up to 80% compared to conventional systems. Beyond energy savings, this reduction translates into lower greenhouse gas emissions, supporting the global push toward sustainable manufacturing. Moreover,

the SCPSc and SCPSi models incorporate durable materials and robust designs that extend their operational life. This minimizes the frequency of replacements and reduces material waste, further contributing to sustainability goals.

Advancing automation with intelligent design

The compact ejectors are meticulously designed to meet the demands of modern automation. Their compact and lightweight construction allows for seamless integration into automated systems, particularly in applications with limited space or high dynamics. The SCPS series offers fundamental reliability, while the SCPSc and SCPSi models bring advanced features tailored to specific industrial requirements.

The SCPSc model includes a user-friendly 7-segment display that provides clear, real-time information about system status and vacuum parameters. This ensures ease of operation and simplifies configuration, even in complex setups. The SCPSi variant takes this a step further by offering digital connectivity via IO-Link. This enables real-time monitoring of vacuum levels, energy consumption, and cycle times, allowing for integration with Industry 4.0 systems.



Applications across industries

Compact ejectors play a critical role in a variety of industrial applications. They are particularly suited for handling airtight and slightly porous workpieces, ensuring high precision and efficiency. Industries such as automotive, packaging, electronics, and logistics rely on these ejectors for diverse applications, including robot handling, pick-and-place operations, & linear axis systems.

For example, in the automotive industry, ejectors assist in lifting and positioning car body panels with optimized air consumption. Similarly, in packaging operations, they excel in handling lightweight and porous materials, such as cardboard, ensuring smooth and reliable processes. These versatile devices are indispensable wherever precision handling and energy efficiency are required.



The SCPSi model's advanced monitoring capabilities amplify these benefits. Its IO-Link interface not only facilitates seamless communication with automation systems but also enables users to track energy metrics in real time. This empowers businesses to make data-driven decisions, optimizing their processes for both efficiency and sustainability.

The intersection of technology and responsibility

Schmalz compact ejectors demonstrate how advanced engineering can contribute to sustainability goals. By minimizing air consumption and integrating with modern digital systems, these ejectors not only improve operational efficiency but also align with environmental objectives. Manufacturers who choose these models benefit from a solution that enhances both their operational performance and their sustainability efforts. ■

Enhancing sustainability through air saving

The air-saving function integrated into SCPSc and SCPSi is a defining feature that sets these ejectors apart. By actively monitoring vacuum levels, the system ensures that compressed air is used only when necessary, preventing waste and reducing operational costs. This function is particularly impactful in high-cycle operations where air consumption can quickly escalate without proper control.



Contact for questions
Schmalz India Private Limited
marketing@schmalz.co.in

IPLTech Electric: Pioneering the Future of Heavy-Duty Electric Mobility in India



We @ IPLTech Electric are excited to share the strides we are making in the EVolutionising sustainable journey in the Indian trucking industry

At IPLTech Electric, we believe in a customer-centric approach to product development. Our trucks are made in India, for India, and are designed from the ground up to meet the specific needs of our market. This solution-based approach allows us to drive profitability over the life cycle of our Electric Vehicle trucks.

We have also established a state-of-the-art in-house battery manufacturing facility. This not only ensures the quality & reliability of our products but also strengthens our commitment to sustainability and self-sufficiency. In our first year of full-fledged operation, we have already disrupted the Indian trucking industry. Our fleet Rhino EV trucks is a testament to this. These trucks have collectively clocked a staggering 6 million kilometres in just over a 1 year of operation.

But-our commitment to our customers doesn't stop at delivering quality products. We also offer unique customer value propositions, such as Premium AMC of 10 yrs/ 9 lac kms which is not heard of in Indian CV



Laxmiprasad Jahagirdar
Chief Executive Officer
IPLTech Electric Pvt. Ltd.

space which comes with uptime assurance, unique financing & leasing options, detailed telematics (real time tracking of truck), and on-site service support. Furthermore, we are working on establishing a network of charging stations across the country to ensure our customers are never far from a charging point.

At IPLTech Electric, we are not just manufacturing trucks, we are EVolutionising Indian trucking.

About IPLTech Electric

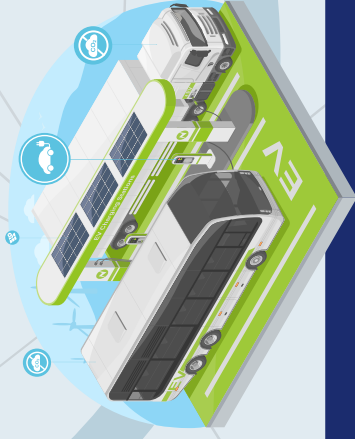
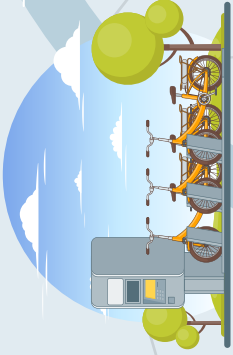
IPLTech Electric Pvt. Ltd. stands at the forefront of India's electric mobility revolutionising visionary company, driven by a steadfast

commitment to transforming the heavy-duty commercial vehicle landscape. As a subsidiary of the esteemed Murugappa Group and a venture under TI Clean Mobility, IPLTech Electric envisions itself as a trailblazer in the Indian EV industry, fostering the rapid adoption of electric vehicles in the heavy commercial sector. Our vision is to be the leading provider of Electric Trucks for the commercial transportation Industry Central to our mission is the revolutionary RHINO range, India's first electric heavy commercial truck, embodying our dedication to innovation and

environmental sustainability. Operating from a state-of-the-art manufacturing plant in Manesar, Gurgaon, Haryana, our company ensures each RHINO EV truck meets the highest standards of quality and performance. With a customer-centric approach, IPLTech Electric not only provides cutting-edge electric vehicles but also offers value-added services, emphasizing lasting relationships and driving the Evolution toward a greener and more sustainable future.

IPLTech Electric is a zero-emission pure electric truck designed and manufactured in India. The first offering of IPLTech Electric is "RHINO" designed to operate in all-weather & road conditions. IPLTech Electric is inspired to drive goods with green and tech-driven innovative mobility. Imagine the future of transportation – imagine a cleaner, smarter, and more integrated system of mobility. Now imagine if his shared vision could be brought to life in an efficient, cost-effective manner. This is the vision that we, at IPLTech Electric, aspire to achieve every day. ■

www.advancable.in



TRUST ADVANCE CABLE FOR UNWAVERING RELIABILITY

Ensuring powerful and
dependable connections



BATTERY ENERGY STORAGE SYSTEM Business Opportunity in India



Rajeev Tiwari

Vice President - Energy & Power
RX Infotech Pvt. Ltd.

The Battery Energy Storage System (BESS) market in India is booming due to the country's aggressive push towards renewable energy, grid stability, and electric vehicle (EV) adoption. With government policies, increasing demand for energy security, and the need for efficient energy management, BESS presents a lucrative business opportunity.

Market Drivers

1. Renewable Energy Integration

- India aims for 500 GW of renewable capacity by 2030, which requires large-scale energy storage for grid stability.
- Solar and wind energy depend on storage solutions to ensure round-the-clock availability.

2. Government Initiatives & Policies

- National Energy Storage Mission (NESM) promotes BESS for grid management and renewable energy integration.
- PLI Scheme for Advanced Chemistry Cells (ACC) supports domestic battery manufacturing.
- Incentives for grid-scale and behind-the-meter (BTM) storage projects.

3. Rising EV Demand

- India's push for electric mobility (FAME II & state EV policies) is increasing the need for charging infrastructure and second-life battery applications.
- BESS can support fast-charging networks and battery swapping solutions.

4. Grid Modernization & Reliability

- DISCOMs & Industries are investing in BESS to manage peak demand and avoid power outages.
- Energy storage helps reduce diesel generator dependency for commercial and industrial (C&I) users.

5. Cost Reduction in Battery Technology

- Lithium-ion battery prices have fallen by over 80% in the last decade, making BESS more viable.
- Emerging technologies like solid-state batteries, sodium-ion, and flow batteries offer alternatives.

Business Opportunities in BESS

1. Utility-Scale Storage Solutions

- Large-scale storage projects for grid balancing, peak shaving, and frequency regulation.
- Hybrid Renewable Energy Systems (solar/wind + storage) for round-the-clock power supply.

2. Commercial & Industrial (C&I) Storage

- Energy storage solutions for factories, IT parks, and hospitals to reduce electricity costs and ensure backup power.
- Demand-side management & participation in energy trading (open access).

3. EV Charging & Battery Swapping

- BESS-powered fast-charging stations for EVs to avoid grid stress.
- Battery swapping stations for 2-wheelers & 3-wheelers, offering leased energy solutions.

4. Residential & Rooftop Solar Storage

- Home battery systems for uninterrupted

power and energy independence.

- Virtual Power Plants (VPPs) where homeowners sell excess stored power.

5. Second-Life Battery Solutions & Recycling

- Repurposing used EV batteries for stationary storage (lower cost alternative to new BESS).
- Battery recycling plants for recovering lithium, cobalt, and nickel.

Challenges & Risks

- High initial costs & financing hurdles for large BESS projects.
- Supply chain dependency on lithium-ion imports (but India is promoting local production).
- Regulatory uncertainties around BESS business models.
- Limited consumer awareness about the benefits of energy storage.

Investment & Market Potential

- India's BESS market is expected to grow at a CAGR of 25-30% over the next decade.
- Grid-scale BESS market alone could reach \$5 billion by 2030.
- Major players include Tata Power, Reliance, Adani, JSW, Exide, Amara Raja, Tesla, and Fluence.

Conclusion: Why Enter the BESS Market Now?

- Massive demand growth due to renewables & EVs.
- Strong policy support from the Indian government.
- Technological advancements reducing costs.
- Multiple business models (grid, C&I, EV, residential, second-life, recycling).

If you're considering entering the market, this is the right time to enter in BESS Business, you can explore opportunities in manufacturing, project development, EPC, financing, or service-based models. ■

FADA Releases January'25 Vehicle Retail Data

FADA President, Mr. C S Vigneshwar, shared his perspective on the Auto Retail performance for January 2025: "The Auto Retail sector kicked off 2025 on a promising note, aligning with FADA's earlier survey projections that expected January to range from flat to moderately positive. Indeed, overall retail sales posted a robust 6.6% YoY growth, reinforcing the industry's optimistic start. Our observations indicate that each vehicle category—2W, 3W, PV, Tractor and CV—witnessed positive momentum, pointing toward sustained consumer confidence and steady market recovery.

Continuing from our last press release, where FADA's dealer survey suggested a 'flat to growth' sentiment for January, the month closed with an overall growth of 6.6% on a YoY basis. All categories began the new calendar year on a solid footing, with 2W, 3W, PV, Tractor and CV growing by 4%, 6.8%, 15.5%, 5% and 8%, respectively on YoY basis.

Two-wheeler sales saw a healthy 4.15% YoY and 27.39% MoM growth, with urban markets gaining share from 41.6% in December to 43.7% in January. Urban sales also outpaced rural on a YoY basis, growing by 4.54% compared to 3.85%. Dealers cite new model launches, marriage season demand and improved financing as key growth drivers. However, concerns about rising interest rates, rural liquidity challenges and market uncertainty still linger.

Passenger Vehicle sales grew robustly by 15.53% YoY and 58.77% MoM, although some of that spike stems from December purchases registered in January for a "2025 model year" advantage. Urban markets inched up from 60.8% to 61.8% share, but rural actually posted a higher YoY growth of 18.57% vs. urban's 13.72%. Many dealers noted improved demand but also pointed to last year's heavy discounting, which helped clear older models and shift registrations. Inventory levels have improved, dropping by around five days to 50–55 days, suggesting improved supply-demand balance.

Commercial Vehicle sales increased by 8.22% YoY and surged 38.04% MoM, with urban markets climbing from 50.1% to 51.2% share and outpacing rural growth (9.51% vs. 6.89%). While higher freight rates and passenger carrier demand provided a boost, many dealers cited low cash flow, strict financing policies and sluggish industries (like cement and coal) as major hurdles. Sentiments in rural regions remained notably subdued, compounded by limited new products. Overall, the sector shows cautious optimism but faces persistent headwinds."

Near-Term Outlook

Riding on the momentum of a promising start to 2025, the Auto Retail sector enters February with cautious optimism. According to our latest survey, nearly half of dealers (46%)

anticipate growth in the coming month, while 43% expect sales to stay flat and 11% foresee a dip. This blend of sentiments underscores the industry's complex landscape—where bright spots are tempered by ongoing challenges.

On the positive side, dealers report that the continuing marriage season, fresh product launches and strategic promotional activities are likely to sustain customer footfalls. Furthermore, improved inventory management, better financing options from select lenders and backlogged orders in certain segments (such as commercial vehicles) add to the sense of guarded confidence. With supportive policies and a post-budget lift in consumer sentiment, many believe February could see a stable or slightly elevated sales curve.

At the same time, shorter working days, pockets of weak rural liquidity and inflationary pressures remain areas of concern, potentially limiting the extent of any upswing. Strict lending criteria, costlier vehicles and subdued demand in certain industrial sectors could weigh on overall performance.

Even so, India's Auto Retail stands poised for modest gains if these headwinds ease. With nearly half of surveyed dealers still expecting an uptick, a collective sense of optimism prevails, suggesting that the industry is ready to ride out near-term challenges and look forward to brighter days ahead. ■

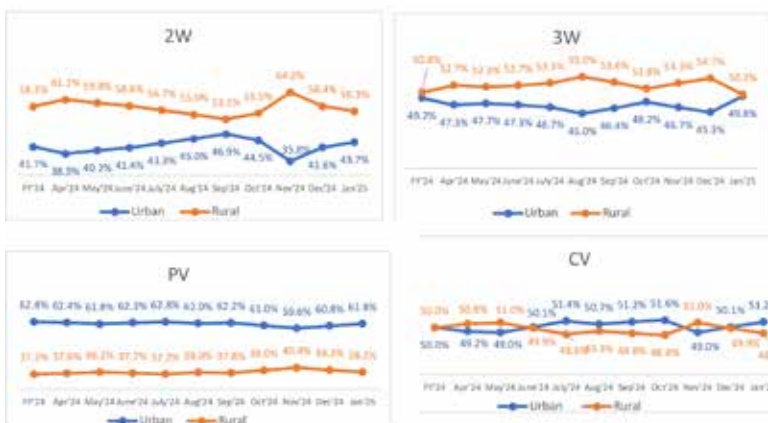
Chart showing Vehicle Retail Data for YTD FY'25 and January'25

All India Vehicle Retail Data for YTD FY'25 (April'24 to Jan'25)

CATEGORY	YTD FY'25	YTD FY'24	Growth %
2W	1,60,01,097	1,45,46,886	10.00%
3W	10,27,437	9,66,612	6.29%
CV	8,30,028	8,27,451	0.31%
PV	34,76,061	32,92,192	5.59%
TRAC	7,43,538	7,37,262	0.85%
Total	2,20,78,161	2,03,70,403	8.38%

Source: FADA Research

All India Vehicle Retail Strength Index for Jan'25 on basis of Urban & Rural RTOs.



All India Vehicle Retail Data for January'25

CATEGORY	Jan'25	Dec'24	Jan'24	MoM%	YoY%
2W	15,25,862	11,97,742	14,65,039	27.39%	4.15%
3W	1,07,033	93,892	1,00,160	14.00%	6.86%
E-RICKSHAW(P)	38,830	40,845	40,537	-4.93%	-4.21%
E-RICKSHAW WITH CART (G)	5,760	5,826	3,744	-1.13%	53.85%
THREE-WHEELER (GOODS)	12,036	9,122	10,716	31.94%	12.32%
THREE-WHEELER (PASSENGER)	50,322	38,031	45,113	32.32%	11.55%
THREE-WHEELER (PERSONAL)	85	68	50	25.00%	70.00%
PV	4,65,920	2,93,465	4,03,300	58.77%	15.53%
TRAC	93,381	99,292	88,741	-5.95%	5.23%
CV	99,425	72,028	91,877	38.04%	8.22%
LCV	56,410	39,794	51,260	41.76%	10.05%
MCV	6,975	4,662	5,586	49.61%	24.87%
HCV	30,061	22,781	30,220	31.96%	-0.53%
Others	5,979	4,791	4,811	24.80%	24.28%
Total	22,91,621	17,56,419	21,49,117	30.47%	6.63%

Source: FADA Research

1,30,000+

Installations across 62 Countries



Finest Range of CNC Machines

Turning / Turn-Mill Centers | Vertical Machining Centers
Horizontal Machining Centers | 5-Axis Machining Centers | Multi-Tasking Machining Centers



JYOTI CNC AUTOMATION LIMITED

G - 506, G.I.D.C. Lodhika, Village : Metoda, Dist : Rajkot - 360021, Gujarat (INDIA).
T : +91-2827-235100/101 | E : info@jyoti.co.in, sales@jyoti.co.in | jyoti.co.in huron.fr

The Next Generation of EVs

Clean, Green & Powered by Lithium Technology



Battery Capacity
2000mAh - 15000mAh



Nominal Voltage
3.2V - 3.7V



Discharge Rate
1C - 3C



Discharge Rate
12H - 48H



A true companion for every Electric Vehicle (EV) battery pack



Introducing the complete line product for entire charging process



CHARX Connect 

E-Mobility empowered by Phoenix Contact

High Power Charging Fast Charging in a New Dimension

- > Replaceable Power Contact and Mating Frame
- > Higher robustness and longevity.
- > Increased Safety – Contact chamber concept.
- > Easy billing - 4-wire-measurement.
- > Dual Temperature Sensors.



HEAD OFFICE

Phoenix Contact (India) Pvt.Ltd.

F-26/2, Okhla Industrial Area, Phase-II,
New Delhi - 110 020 INDIA

Tel.: +91-11-71810700 / 800

Fax: +91-11-41611071

E-mail: power-reliability-ac@phoenixcontact.co.in

Website : www.phoenixcontact.co.in

SOUTHERN INDIA OFFICE

No. 10/7 - 8, 2nd Floor,
Umiya Landmark, Lavelle Road,
Bangalore - 560 001

Tel.: +91-80-33235400

WESTERN INDIA OFFICES

30, Shaswat Bungalow, 1st Floor,
Ceasur Road, Amboli,
Andheri [W], Mumbai - 400 058

Tel.: +91-8377004752 / 4753

5th Floor, Devi House,
37, Shivaji Nagar,
Pune - 411 005

Tel.: +91-20-71395000-031