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1 NEW PRODUCT LAUNCHES

Table 1.1: India Launches – November 2021

Product	Vehicle Type	Battery Specs		Other Specs	Price
Boom Corbett 14	2-wheeler cargo	 Battery- 2.3 kW/ 4.6 kW swappa- ble batteries Range- 100/200 km 	•	Top Speed- 75 km/hr Charging time- 4 hours with standard charger and 2 hours with a fast charger	INR 89.999 to 124,999
Greta Harper, Evespa, Glide, and Harper ZX	2-wheeler	 Range- 70 to 100 km Battery- 48V/60V Li-ion batteries 	•	Charging time- 4 hrs (claimed)	INR 60,000 to 92,000
Darwin D5, D7, and D14	2-wheeler	• Range- 70 to 120 km	•	Other specs not known	INR 68,000; INR 73,000; and INR 77,000 respectively
Omega Seiki Rage+ Rapid	3-wheeler	 Range- 90 km+ Battery life more than 10 years 		Comes in two variants: Open Carrier Half Tray and 140 Cubic feet top body container	INR 3.59 lakhs and INR 3.99 lakhs (prices above are discounted by INR 1 lakh for first 1,000 customers)
BYD e6	E-Car	Battery- 71.7 kWh Li-ion packRange- 415 km	•	Top speed- 130 km/hr Motor Output- 180 Nm	INR 29.6 lakhs (ex-showroom)
Porsche Taycan	E-Car	 Battery- 79.2 and 93.4 kWh Li-ion pack Range- upto 484 km 	•	Comes in 7 different variants	INR 1.5 crore to INR 2.31 crore (ex-showroom)

Source: Industry news articles, JMK Research



Upcoming Launches

Product	Vehicle Type	Known/ Revealed specs.	Expected Launch Date
Bounce Infinity	2-wheeler	 Vehicle to use battery swapping technology 	Launch date: January 2022 Pre-booking to start on December 2, 2021 Pre-booking at INR 499
BMW iX	E-Car	0-100km/hr in 4.3 secsRange- 631 km	Launch by mid-December, expected to be priced between INR 1 crore and 1.5 crore

Source: Industry news articles, JMK Research

Oppo may enter EV space in India, launch likely 2024

BBK Electronics-owned smartphone brands like OPPO, Realme, and OnePlus are currently in the planning of developing and bringing in electric vehicles in India. The first to come out of the stable may be Oppo with a possible launch by early 2024.

Skoda Enyaq iV EV Could Be Launched in India in 2022

Skoda Auto global chairman Thomas Schaefer has confirmed that the carmaker is planning to launch electric vehicles in India. The company will reportedly begin its EV stint here with the Enyaq iV, possibly in 2022.

British EV start-up One Moto to launch 3 scooters in India

UK-based One Moto will launch three e-scooters – Commuta, Electa, and Byka – at price starting at INR 120,000 in January 2022. The Commuta offers a 75 km range whereas Byka and Electa are high-speed e-scooters with 150 km range equipped with a 4,000 kW Bosch motor. In terms of price, the Commuta will have a base price of INR 120,000, while Byka and Electa will be available for an initial price of INR 185,000. The e-scooters come with their own Apps to monitor performance and statistics. The e-scooters are being introduced in India by Hyderabad-based start-up Elysium Automotives. One Moto already sells its e-scooters in the Middle East and European markets.

Hero MotoCorp to go electric from 2022

Hero MotoCorp announced that it will be launching its first battery-powered scooter in the Indian market by March 2022. The manufacturer has also confirmed that its electric vehicle project is already in the advanced stages and the product will be manufactured at its plant in Chittoor, Andhra Pradesh.



eBikeGo to manufacture all-electric Velocipedo trike in Pune

eBikeGo, an electric two-wheeler mobility firm, has acquired the rights to manufacture Velocipedo, an electric trike in India, from Spanish automotive company Torrot. With this, eBikeGo will enter the premium electric three-wheeler industry. Velocipedo is claimed to combine the comfort and safety of a car with the quickness of a motorbike, but with greater stability than a motorcycle. Velocipedo will be available in three models: a personal vehicle, Trick Taxi, and a cargo vehicle, in Pune by early-2022.





The overall EV sales continue to grow with sales in November 2021 clocking 42,055 units, signifying a m-o-m increase of 8.7% and y-o-y jump of 227%. This is the first time that EV registrations have crossed the 40,000-mark in a month.



Source: Vahan Dashboard, JMK Research

Note: Sales figures represent EVs registered across 1,376 RTOs in 33 states/ UTs.

As depicted in the figure below, EV registrations in November 2021 were driven by electric twowheeler and passenger-type electric three-wheeler, which together accounted for 92% of total registrations in the month. The shares of these categories are followed by cargo-type electric three-wheeler (3.9%), e-car (3.7%) and so on.





Among all the states and UTs, Uttar Pradesh continues to have maximum monthly registered EV sales with a 20% share in overall sales in India in November 2021. Maharashtra has the 2nd highest sales at 11% share, followed by Karnataka (9%), Rajasthan (9%), Delhi (9%), and Rajasthan (8%).





High-Speed Electric Two-Wheeler (HS-E2W)

The overall HS-E2W sales in the country in November 2021 stood at 22,453 units, signifying a 17% m-o-m jump and a y-o-y leap in registrations of 469%. The Top 10 players, as shown below, accounted for 95% of the total registrations recorded in the month of November 2021.

Fig2.4 Player-wise High-Speed E2W sales trend



Source: Vahan Dashboard, JMK Research

Note: Sales figures represent only high-range E2W (Top speed > 25 kmph) registered across 1,376 RTOs in 33 states/ UTs. Others include Goreen E-mobility Private Limited, MEW Electricals Ltd, KLB KOMAKI, and 20 other players

Units Sold





Fig 2.5: Sales trend of cargo E3W and passenger E3W

Source: Vahan Dashboard, JMK Research Note: Sales figures represent E3Ws registered across 1,376 RTOs in 33 states/ UTs; Passenger and Cargo E3W sales shown in the figure takes into account both e-rickshaw and three-wheeler classes as categorized in the Vahan dashboard.



The cumulative sales of top 6 electric 3-wheeler players across passenger and cargo segments in November 2021 accounted for 35.1% share of the entire E3W market. YC Electric Vehicle accounted for the highest share of 10.2%, followed by Mahindra Electric Mobility (7.8%), Saera Electric Auto (5%), Champion Poly Plast (4.3%), Best Way Agencies (3.7%), and Dilli Electric (3.4%).

Fig 2.6: Top E3W Players in November 2021



Source: Vahan Dashboard, JMK Research

Note: Others made up 66.6% of the E3W markets in November 2021; sales figures for players are inclusive of cargo and passenger offerings combined; Sales figures represent E3Ws registered across 1,376 RTOs in 33 states/ UTs; Passenger and Cargo E3W sales shown in the figure takes into account both e-rickshaw and three-wheeler classes as categorized in the Vahan dashboard.





The cumulative sales of e-cars in November 2021 stood at 1,539 units, a marginal m-o-m increase of 18% and a y-o-y increase of 176% in registrations. Tata Motors and MG Motors continue to drive e-car sales, accounting for 98% of registrations in November 2021, with Tata Motors' share increasing to 89% from previous month's 80% share.





Source: Vahan Dashboard, JMK Research

Note: Sales figures represent e-cars registered across 1,376 RTOs in 33 states/ UTs. Others include Audi AG, Jaguar Land Rover India Ltd., and Mercedes Benz





The cumulative sales of e-buses in November 2021 stood at 34 units, with a m-o-m decrease of 61%. This month's sales were driven by PMI Electro which accounted for 62% share of the total e-bus sales in November 2021, followed by Ashok Leyland (30%), and Olectra (8%).





Source: Vahan Dashboard, JMK Research Note: Sales figures represent e-buses registered across 1,376 RTOs in 33 states/ UTs.



3. POLICIES AND REGULATIONS

FAME-II scheme achieves just 10% target with 4 months left in original deadline

The Indian government's flagship EV promotion scheme FAME-II has so far disbursed just under 10% of the INR 8,596 crore earmarked to be given as purchase subsidies with just four months to go in its original deadline. Data shared by the Ministry of Heavy Industries under the Right to Information Act, 2005, indicate about INR 509 crore were given as subsidies for electric two-, three- and four-wheelers while buses received subsidies worth INR 310 crore as of October 9, 2021. FAME-II scheme was originally intended for a period of three years ending March 31, 2022. It was extended earlier this year by a period of 24 months to March 31, 2024.

Goa approves EV Policy, aims 30% EV penetration by 2030

The Goa government's new EV mobility policy envisages several incentives like purchase and scrapping incentives, interest subvention on loans, waiver on road tax and registration fees, a network of charging stations and swappable battery stations, and a publicly owned database of the same. Additionally, the government will provide the following subsidies.

Vehicle category	No of vehicles to be incentivized	Incentive/kWh (INR)	Maximum Subsidy (INR)	Scrappage Incentive
E2W	3,000	10,000	30,000	Upto INR 5000
E3W (E-Autos)		10,000	30,000	Upto INR 10,000
E3W (E-Rickshaws and E-Carts)	50	10,000	30,000	NA
Goods carriers (L5N and N1 vehicles)	-	-	30,000	Upto INR 10,000
E-Cars	300	10,000	50,000	NA

Source: Department of New and Renewable Energy, Govt. of Goa

The policy has also laid down benefits to encourage EV manufacturing in the state and promote battery recycling.



Delhi government is providing a subsidy of Rs. 6,000 to the first 30,000 applicants for charging stations

Delhi government will charge only Rs 2,500 to install private chargers for light electric vehicles, including two and three wheelers at malls, apartments, hospitals, and such other places in the city. Delhi Transport Minister Kailash Gahlot made the announcement while launching the single window facility that consumers can avail by either going to the respective discom portals or by calling the helpline numbers for installation of private charging stations.



4•CHARGING INFRASTRUCTURE

Stakeholder(s)/ Player(s)	Subject/ Scope	Description
Indian Oil and BPCL	Setting up charging infrastructure at fuel stations	 Indian Oil Corporation Ltd (IOCL) and Bharat Petroleum Corporation Ltd (BPCL) have announced plans of setting up charging stations for electric vehicles at their fuel stations across India. Together, both companies will establish 17,000 new charging stations – 10,000 by IOCL and 7,000 by BPCL – over the next few years.
Nupur Recyclers	Setting up charging stations	 Nupur Recyclers has revealed plans to set up 200 charge points and several battery swapping stations in association with EVI Technologies. The installation of these charge points has already commenced in Dwarka in South-West Delhi and will shortly be expanded to other areas in Delhi-NCR. The company aims to expand the installation of charge points as well as the battery swapping stations in other metro cities by the end of FY2021-22.
Bounce and Park+	Setting up battery swapping stations across India	 Bounce and Park+ have announced a strategic partnership to strengthen the EV ecosystem in India by setting up over 3,500 battery swapping stations across 10 cities. The stations will be available at locations like residential societies, key parking spaces, malls, corporate offices for customers to find the nearest swapping station on their Bounce App or Park+ app.
BSES and eVolt	Setting up charging stations in Delhi	 EV charging Infrastructure start-up eVolt announced its three-year empanelment by three DISCOMs of Delhi, which are BSES Rajdhani Power Limited (BRPL), BSES Yamuna Power Limited (BYPL), and Tata Power Delhi Distribution Limited (TPDDL), to set up EV charging station network across Delhi. eVolt will set up EV chargers at semi-public sites comprising, but not limited to malls, offices, colleges along with privately-owned spaces such as residential and apartment complexes.
Hero Electric and Charzer	Setting up charging stations	 Hero Electric has entered into partnership with Bengaluru-based EV charging start-up Charzer to establish one lakh charging stations across India. The establishment will be complete by 2024 and will help further standardize EV infrastructure between manufacturers.
MyGate and REVOS	Setting up EV charging solutions in resident welfare associations (RWAs) and gated societies	• Gated community management app MyGate has partnered with EV infrastructure company REVOS to set up EV charging solutions in resident welfare associations (RWAs) and gated societies
Omega Seiki and Charzer	Setting up charging stations	 Bengaluru-based EV charging infrastructure start-up, Charzer has announced its partnership with Omega Seiki Mobility, an Anglian Omega Group Company, to set up a network of 20,000 EV charging stations across India by 2023, further accelerating the shift to EVs in last-mile logistics.



Stakeholder(s)/ Player(s)	Subject/ Scope	Description
LetsTransport and EVRE	For setting up chargers for EV Fleets	 Logistics start-up LetsTransport has partnered with EV infrastructure company EVRE for parking and charging infrastructure for its fleet of 1,000 EV vehicles across 12 cities. Under this partnership, EVRE plans to set up 1,000 EV charging stations across India in the next six months. These charging stations will be open for use by LetsTransport and other EV fleet owners as well.
Yulu	Deployment of charging stations and battery swapping stations	 Yulu is adding easily accessible, and a robust network of battery charging and swapping stations named 'Yulu Max Network'. The Max Network will help users swap their batteries with zero downtime and reduce the range anxiety. This will be India's first AI-powered, vertically integrated battery infrastructure for electric 2-wheelers. Max stations will solve the problem of electric 2-wheelers by having the battery swapping stations within 2 km of a rider's reach. To enable this, Yulu will create 500 Max stations across Bengaluru, Mumbai, and Delhi NCR regions by the middle of 2022
NREDCAP and RACEnergy	Setting up battery swapping station in Tirupati	 The New and Renewable Energy Development Corporation of Andhra Pradesh (NREDCAP) formally inaugurated Tirupati's first battery swapping station as part of its larger goal of making Tirupati a 'zero-emission zone'. This station was developed by RACEnergy, which plans to develop more such battery swapping stations for installations across Tirupati.
Magenta EV	Setting up of charging hubs in Bengaluru	 Magenta has set up six EV charging hubs for the commercial fleet vehicles in Bengaluru. The charging infrastructure shall be spread across key locations in Bengaluru which have e-commerce hubs and warehouses: BTM Layout, Kudlu, Jigani, Vijaya Bank Layout, Yeshwantpura, and Mahadevapura. The EV charging hub with over 150 charge points is synced with the Magenta ChargeGrid Smart app (Available on IOS and Android), enabling EV owners to check the real-time availability of EV Charging stations and book slots & fleet operators and to pay for EV charge points online.

Source: Industry news articles, JMK Research

Chartered Bike to deploy over 2,000 electric bikes, 200 charging stations in Mumbai

Chartered Bike, a subsidiary of surface mobility firm Chartered Speed, said it will deploy over 2,000 electric bikes and 200 charging stations in the city over the next 3-6 months for various purposes. The e-bikes, which will be powered by Adani Electricity, can be accessed by delivery partners of all e-commerce, food aggregators and delivery platforms.



5. INVESTMENTS

Date	Company name	Company type	Deal type	Investor(s)	Deal value (in US\$ Mn)	Details
Nov-21	Euler Motors	EV Manu- facturer	Equity	QRG Holdings, ADB Ven- tures, Inventus Capital, and Blume Ventures	10	Euler Motors Mops Up \$10 Mn as Part Of \$60 Mn Series B Funding Round
Nov-21	Simple En- ergy	EV Manu- facturer	Equity	Manish Bharti of UiPath and Raghunath Subramanian, Non-executive Chairman, UiPath	21	EV maker Simple En- ergy gets \$21 million funding
Nov-21	ElectricPe	EV Charging Platform	Equity	Blume Ventures and Micelio Fund	3	EV charging platform ElectricPe raises \$3 million funding in a Seed Round
Nov-21	Battery Smart	EV Battery Swapping Technology Start-up	Equity	Blume Ventures and Orios Ventures	7	Battery Smart raises \$7 million in pre-Se- ries A funding round

Source: Industry news articles, JMK Research

Electric two-wheeler mobility platform, eBikeGo, acquires Kustard Technology

eBikeGo acquired Kustard Technologies for \$2 million with the goal of modernising its EV footprints. With this acquisition, eBikeGo plans to build FMS (Fleet Management System). It will also aid in remote diagnostics of EVs to achieve preventative maintenance such as monitoring vehicle health, motor, battery, controller, etc.

Magenta to infuse INR 250 crore in Tamil Nadu for EV unit

Magenta will invest close to INR 250 crores and set up a manufacturing unit focused on the design, product development and architecture standards for EV technologies in the e-mobility space. It signed a Memorandum of Understanding (MoU) with the State Government of Tamil Nadu to invest in building the EV charging infrastructure in the state.



Ather commissions its second plant in a year

Electric two-wheeler maker Ather Energy has commissioned its second scooter factory in Tamil Nadu's Hosur, where its first plant that opened early this year is already running at full capacity. With the new plant, Ather expects its total capacity to reach 400,000 units a year, up from 120,000 units now. The new facility is expected to become operational by the end of 2022.

Greaves Electric, maker of Ampere e-scooters, opens new EV plant in Tamil Nadu

Built at a cost of INR 700 crore, the electric two-wheeler manufacturing facility aims to produce 1.20 lakh units every year. The facility will have 70 per cent of its workforce as women.



6. JVS AND PARTNERSHIPS

Companies involved	Purpose of Partnership	Details
Altigreen and Sparelt	 Altigreen has partnered with SpareIt to use garages on the latter's platform as EV service hubs. These garages have been trained in EV technologies and ingrained with Altigreens' standard service operating procedures, according to a release To begin with, SpareIt's network will be made available across Bangalore, it said, adding Altigreen's customers, including fleet operators, can use these garages on demand, or through an AMC model for regular monthly checks. 	Bangalore-based EV technology pro- vider Altigreen partners with SpareIt
Power Global and Rap Eco Motors	 US-based clean energy and mobility products start-up Power Global entered into partnership with Hyderabad-based auto- rickshaw manufacturer Rap Eco Motors to supply its 48-volt swappable eZee lithium-ion battery module to the latter. The partnership is for the supply of lithium-ion battery technology to Rap Eco's mass-market electric three-wheeler product line RANIE, which includes passenger auto-rickshaw, delivery van, and cargo vehicle. Following an initial product launch in April 2022, the companies will partner to manufacture 50,000 e-auto-rickshaws over the next five years. 	Power Global partners Rap Eco Motors to supply eZee swappable lithium-ion battery tech

Source: Industry news articles, JMK Research



7. GLOBAL MARKET UPDATES

Nissan unveils aspirational electric vehicle plan, to launch 23 EVs with \$18 billion investment

Nissan Motor Co announced it will spend 2 trillion yen (\$17.59 billion) over the next five years to accelerate vehicle electrification to catch up with competitors in one of the fastest growing areas for car makers. This is the first time that Japan's leading automaker is unveiling a comprehensive electrification plan. Nissan will be spending twice as much as it did in the previous decade for a share of the EV market as rivals, including Toyota Motor Corp and newer entrants such as Tesla Inc, move ahead with their electric-car plans.

Macquarie green investment unit to build battery storage project with Engie, Fluence

Asset manager Macquarie Group's green investment unit has teamed up with France's Engie SA and U.S. energy storage firm Fluence Energy to build an energy storage project in Australia. The project, funded by energy group Engie and Macquarie's Green Investment Group, will be built at the site of the now closed Hazelwood power station in Victoria, and will be built, operated, and maintained over a 20-year period by Fluence. The Hazelwood project will be able to store and deliver 150 megawatt-hours (MWh) of energy and is targeted for completion and commercial operation by November 2022.

BlackRock joins e-car charging venture lonity in \$788 million funding round

BlackRock has joined EV charging venture lonity in a 700 million euro (\$788 million) funding round, providing a much-needed cash injection to speed up construction of high-power loading sites. The investment, which also includes contributions from existing shareholders, will enable lonity to quadruple its number of high-power 350-kilowatt charge points to 7,000 by 2025.

Battery maker Factorial Energy enters investment deal with Daimler, Stellantis,

US-based Factorial Energy has entered into agreements with Daimler AG owned Mercedes-Benz and Stellantis NV, in a bid to commercialize its



battery technology. Under the partnerships, both Daimler and Stellantis will make a strategic investment in the solid-state battery maker, Factorial Energy

Ford And Rivian EV Plans Come to A Halt

One of Rivian's largest investors, Ford, has discontinued building EVs with the company anymore. The original plan was for Ford to develop this EV with the help of advanced technologies from Rivian. This development has been officially confirmed by Rivian.

Subaru's first all-electric vehicle makes its American debut

Subaru pulled the cover off its first all-electric crossover for the second time in November. This time, the 2023 Subaru Solterra electric crossover — the Toyota bZ4X doppelgänger — made its US debut at the Los Angeles Auto Show. The first all-electric subcompact crossover is a joint project, like the Subaru BR-Z and the Toyota 86 (formerly the Scion FR-S) was before it, and the crossover is a close sibling, almost twin-like, to the Toyota bZ4X crossover that was announced in April.

Nio and Shell partner for battery swapping and charging stations, in Europe and China

Oil giant Royal Dutch Shell and Chinese EV firm Nio have announced a cooperative agreement to expand charging and battery swapping stations in Europe and China. The agreement includes a network of co-branded battery swapping stations, starting with two pilot sites in China, the two companies said in press releases. Shell and Nio hope to establish 100 sites in China by 2025. In Europe, the two companies plan to begin "exploring" options for pilot battery swapping sites in 2022 and scale up from there. Shell's European charging network will also become available to Nio drivers, according to the automaker.

BP invests in China's Aulton for battery swapping

British oil and gas company BP will invest in Chinese EV equipment manufacturer Aulton New Energy Automotive Technology to develop battery swapping services. BP will become a shareholder of Aulton's



subsidiary Guangzhou Aulton after the deal. The joint venture will provide battery swapping services to taxis, ride-hailing cars, and other passenger vehicles in Guangzhou in south China's Guangdong province.

Tata Chemicals in talks to buy battery business of Johnson Matthey

India-based Tata Chemicals Ltd. is in discussions with London-based Johnson Matthey Plc to buy the company's battery materials business. As per reports, a deal for the battery materials unit could fetch \$500 million to \$700 million. Tata is one of the frontrunners to acquire the assets





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