

Action Summary – 1 July 2024

Analyst Theodore R. O'Neill – Initiating coverage of ZAPP with a Buy rating and US\$35 PT

- **We believe ZAPP is arguably one of the best EV investment options today.** Investors have a lot of choices, but we believe the ZAPP business model offers significant growth while avoiding some of the larger risks. EVs are most apparent in the four-wheeled segment, but electrification is also transforming two-wheelers. These vehicles are an essential link in the transportation network outside the US and Europe and yet fewer than 10% have been electrified out of an estimated annual market of 45-60 million units.
- **Balance sheet light model** – Zapp does not have to deal with the complexities of inventory procurement and management because these tasks are outsourced. The contract manufacturing arrangement also means Zapp does not need to spend significant amounts on capex, which has been a burden for four-wheeler EV companies.
- **No dedicated charging infrastructure requirement.** Batteries may be charged anywhere given that there is a standard electrical outlet.
- **Clever range anxiety solution.** Batteries are designed to be portable. The i300, (its first model) comes standard with two batteries. Customers have the option of charging anywhere or replacing a fully charged battery with a discharged battery. Customers may purchase a third or fourth battery at a relatively low cost, as needed.
- **Targeting attractive markets.** Both the company and McKinsey see the electrification of the two-wheel vehicle market as a large opportunity >\$100B and rapidly growing.
- **Solid design.** Award winning stylish and functional design. Superbike performance and scooter agility.
- **Attractive valuation.** The shares sell at a discount to both our discounted earnings model and compared to peers. Our discounted earnings model points to a share price of US\$35, while our peer comparison suggests US\$32-US\$120 based on reaching only an average multiple. We believe it deserves a higher-than-average multiple. Both methods suggest the stock is substantially undervalued.

6/28 price: US\$ 2.02	Market cap: 6MM	2025 Market Cap/Sales: 0.16x	2025 EV / Sales: 0.16x
Shares outstanding: 4MM	Insider ownership: ~30%	3-mo. avg. trading volume: >100,000	Dividend/Yield: NA/NA

GAAP estimates (EPS in \$ – Revenue in \$Million)

Period	EPS	Revenue	Op Margin
1H23A	(3.61)	0.0	NMF
2H23A	(89.38)	0.0	NMF
FY23A	(93.00)	0.0	NMF
1H24A	(1.61)	0.0	NMF
2H24E	(1.65)	0.1	NMF
FY24E	(3.26)	0.1	NMF
FY25E	(1.84)	42.8	(6.8%)
FY26E	0.44	240.0	2.7%

Note: September ending year. Numbers may not add due to rounding. See our full model at the back of this report.

Cash balance (in \$000)

• 2022A	• 1,963
• 2023A	• 823
• 2024E	• 817
• 2025E	• 4,492
• 2026E	• 4,362

LT Debt (in \$000)

• 2022A	• 35
• 2023A	• 1,023
• 2024E	• 1,300
• 2025E	• 0
• 2026E	• 0

Adj. EBITDA (in \$000)

• 2022A	• (3,161)
• 2023A	• (21,257)
• 2024E	• (5,553)
• 2025E	• (2,095)
• 2026E	• 9,200

Risks/Valuation

- Risks include competition, regulatory issues, new technology, and new product introduction.
- Our USD\$35.00 target is derived using a discounted future earnings model.

Company description: Zapp Electric Vehicles Group Ltd. (ZAPP.US) and its operating subsidiaries are run by a team of experts from the mobility industry on a mission to redefine the electric two-wheeler segment. Zapp's debut product, the i300, is an urban electric high-performance two-wheeler capable of traditional motorcycle performance levels in a step-through format, combining ease of use with exhilaration and fun. The i300 is the first in a suite of high-performance electric two-wheelers that Zapp plans to bring to market. Zapp will offer a high-quality direct-to-customer experience known as DSDTC (drop-ship-direct-to-customer).

Figure 1 – Zapp Electric Vehicles Group Ltd. – One-Year Trading snapshot



Source: FactSet

Investment Thesis

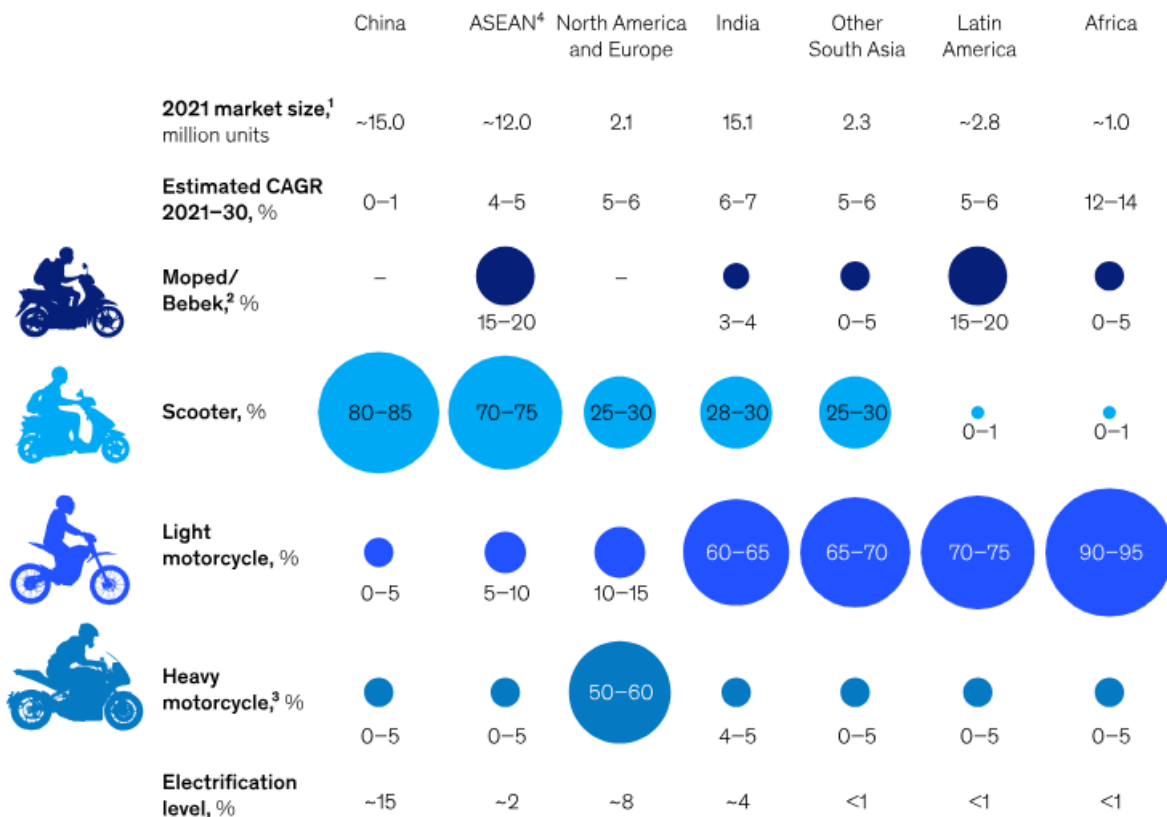
The automotive/mobility world has changed in the 12 years since Tesla (TSLA-NR) began selling the Model S. It now consists of a grab bag mix of powertrains, with electric power now playing an ascendant role. While this trend is most apparent in the four-wheeled segment, electrification is also transforming two-wheelers, which McKinsey estimates accounts for 30 percent of global mobility. According to McKinsey, these vehicles are an essential link in the transportation network, especially in China, India, and Southeast Asia, with about 45 million units sold in fiscal year 2021. ZAPP is one of the few companies well positioned to capitalize on the market to electrify two-wheelers.

The global two-wheeler market is massive

The two-wheeler market is projected to have a compound annual growth rate of 8.7 percent through 2029, reaching a value of about \$218 billion. Although relatively few two-wheelers are now electric, this is now changing. Figure 2 shows the types of two-wheelers used by geography and the penetration of electrification on the last line. In India, for instance, only about 4 percent of two-wheeler sales in 2021 were electric. Worldwide, however, we project that 30 percent of two-wheelers will be electric by 2030.

Figure 2 – Zapp Electric Vehicles Group Ltd. – 2-wheel market by type and geography

Electric-2-wheeler facts and product mix, by geography¹



¹The e-bike market (maximum speed of <25 kilometers per hour) has been excluded from the scope, due to the dominance of Chinese players in this segment playing at low cost.

²A bebek is a small-capacity two-wheeler popular in Indonesia.

³A motorcycle >250 cubic capacity.

⁴Association of Southeast Asian Nations.

Source: ASEAN Automotive Federation; Freedonia; Frost & Sullivan; Federation of Asian Motorcycle Industries; Society of Indian Automobile Manufacturers; McKinsey analysis

McKinsey & Company

Zapp EV has strategically approached different aspects of business, which positions it well to penetrate this market and, at the same time, avoid some of the pitfalls of the EV automotive market, as explained below:

- **Balance sheet light model** – Zapp does not have to deal with the complexities of inventory procurement and management because these tasks are outsourced. Additionally, Zapp does not need to concern itself with financing parts and assembly costs. This responsibility has been taken up by EXIM bank, which will issue a letter of credit to Summit Auto Body Industries, its outsource partner, for production expenses whenever Zapp raises a purchase order. The contract manufacturing arrangement also means Zapp does not need to spend significant amounts on capex, which has been a burden for four-wheeler EV companies.
- **No dedicated charging infrastructure requirement.** Batteries may be charged anywhere given that there is a standard electrical outlet.

- **Clever range anxiety solution.** Batteries are designed to be portable. The i300 (its first production model) comes standard with two batteries. Customers have the option of charging anywhere or replacing a fully charged battery with a discharged battery. Customers may purchase a third or fourth battery at a relatively low cost, as needed.
- **Targeting attractive markets.** Both the company and McKinsey see the electrification of the two-wheel vehicle market as a large opportunity >\$100B and rapidly growing.
- **Solid design for manufacturing, appearance and performance.** Combines quick <30-minute assembly time, with <200 parts with award winning stylish and functional design. Superbike performance and scooter agility.
- **Drop ship directly to the customer** – This model eliminates the dealership model, allowing control over the delivery timelines and providing a high-quality customer experience.
- **Doorstep after-sales service** – Zapp provides after-sales care services through Zappers at the customer's doorstep. Zappers are franchised service vans fully equipped with trained technicians and full-service capabilities.

Attractive Valuation.

The shares sell at a discount to both our discounted earnings model and compared to peers. Our discounted earnings model points to a share price of US\$35. Were ZAPP shares to only attain the average 2025 sales multiple of 3.00, the shares would be ~US\$32. If that multiple is held into 2026, our peer comparison suggests a share price of US\$120. We believe it deserves a higher-than-average multiple. Both methods suggest the stock is substantially undervalued.

Valuation Methodology

We believe ZAPP is undervalued, and we support that belief with an absolute and relative valuation. To determine our price target, we use a discounted future earnings model. The following valuation techniques are being used:

- 1) The discounted value of all future earnings was used for our price target (see Figure 3)
- 2) Valuation relative to peers (see Figure 4)

Discounted Future Earnings – Basis for Price Target

Our 12-month price target of \$35 is based on a discounted earnings model. For valuation purposes, we sum up all future earnings discounted at 11%, which we feel more than adequately addresses the risk. We assume the company reaches breakeven in 2H25 and exhibits strong topline growth for several years and then we slow growth until it eventually grows at the rate of global GDP. Our valuation model is shown in Exhibit 3 below. Note, this model understates future new products and growth through acquisitions and probably understates the tax benefits, but offsetting that, the earnings never have a down year. The implied share price is \$34.93 which we round to \$35.00.

Figure 3 – Zapp Electric Vehicles Group Ltd. – Price Target Calculation

Discounted Earnings		\$34.93
Year 1 is	Forecast	Discounted
2024	EPS	EPS
1	(3.26)	(\$3.26)
2	(1.84)	(\$1.51)
3	0.44	\$0.33
4	1.60	\$1.07
5	2.40	\$1.46
Terminal Value		\$36.85

Source: Litchfield Hills Research LLC

Valuation Relative to Peers

Figure 4 is a summary of our ZAPP peer comparison. The average Market Cap/Sales for 2025 is ~3X. Were ZAPP shares to only attain the average 2025 sales multiple, the shares would be ~US\$32. If that same multiple holds for 2026, based on our estimates, if ZAPP is awarded only an average multiple, its market cap would be \$720MM. At that market cap, assuming there are 6MM shares, the share price would be \$120. This broadly confirms our view that, along with our discounted earnings model, the shares are undervalued.

Figure 4 – Zapp Electric Vehicles Group Ltd. – Comp Table

FactSet Ticker	Company Name	Closing Price	Market Cap \$MM	EV \$MM	2025 Consensus Multiples		
					Market Cap / Sales	EV /Sales	EV / EBITDA
TSLA-US	Tesla Inc	\$196.37	626,262	667,640	5.36	5.72	45.10
2015-HK	Li Auto Inc (Class A 2:1)	\$9.39	16,578	8,515	0.65	0.28	3.47
RIVN-US	Rivian Automotive, Inc.	\$14.74	14,556	11,336	2.06	1.52	
9866-HK	NIO Inc. (Class A (HK))	\$4.43	8,560	8,169	0.70	0.54	
9868-HK	XPeng, Inc. (HK Listing)	\$3.97	6,117	4,305	0.74	0.40	
LCID-US	Lucid Group, Inc.	\$2.60	5,999	4,918	3.41	2.64	
2206-TW	Sanyang Motor Co Ltd	\$2.44	1,948	2,436			
LVWR-US	LiveWire Group, Inc.	\$7.08	1,439	1,299	16.05	14.48	
GGR-US	Gogoro Inc.	\$1.61	396	671	0.90	1.51	10.95
PSNY-US	Polestar Automotive Holding UK PLC	\$0.71	330	2,937	0.17	0.34	
FFIE-US	Faraday Future Intelligent Electric Inc.	\$0.46	202	145			
NIU-US	Niu Technologies	\$1.74	119	35	0.23	0.05	
MULN-US	Mullen Automotive, Inc.	\$2.48	28	23			
FSRN-US	Fisker Inc	\$0.02	22	917			
EZGO-US	EZGO Technologies Ltd.	\$1.52	4	61			
BLTZ-IL	BLITZ TECHNOLOGIES LTD	\$0.55	1	0			
AVERAGE					3.03	2.75	19.84
ZAPP-US	Zapp Electric Vehicles Group Limited	\$2.00	6	6	0.15	0.15	NA
ZAPP-US Premium to peers:					-95%	-95%	NA

Source: Litchfield Hills Research LLC and FactSet

Financial Estimates and Guidance

The company does not provide direct revenue or earnings guidance, but it does project it will sell 5,000 i300s in FY2025 weighted to 2H25, which it says will result in an annual run rate of >25,000 units entering FY2026. To be conservative, we are assuming \$42.8MM in revenue which works out to 4,500 units at a blended ASP of \$9,511 (€8,887). The i300 retails between €7,590 and €9,590. We can get to the projected revenue through any number of combinations of mix of sales and accessories. We assume gross profit margins will be low (and possibly negative) and improve as volume ramps. Management has previously stated that gross margins will be in the high teens, although I suspect that will also improve with volumes and depend on the mix of models and accessories. Our projections assume the company will reach breakeven in FY2026 along with strong growth. On the capital front, the company may have to raise funds to pay down ~\$18MM of liability that it incurred in connection with its Business Combination, but excluding that, the company may not need to raise additional capital during 2024 and 2025. From an operating perspective, that is

dependent on how it manages working capital. We are only projecting annual results and not semi-annual for 2025 and 2026 until we have better insight into sales. Our estimates are shown in Figures 16-18.

Company Overview

Summary

Initially founded in the UK in 2017, Zapp Electric Vehicle Group Limited (NASDAQ: ZAPP) is a British electric vehicle brand specializing in designing, developing, and selling premium two-wheelers. Led by a team of industry experts, the company aims to revolutionize the electric two-wheeler market. Its inaugural product, the i300, is a high-performance urban electric vehicle that matches the capabilities of conventional motorcycles.

We believe ZAPP is arguably the best electric vehicle investment option today. Investors have a lot of options, but there are nearly as many potential drawbacks in the current approach to the EV build out. We believe the ZAPP business model offers insight for future EV developers. EVs are most apparent in the four-wheeled segment, but electrification is also transforming two-wheelers. These vehicles are an essential link in the transportation network, especially in China, India, and Southeast Asia, with about 45 million units sold in fiscal year 2021, according to McKinsey & Company.

ZAPP has developed a lean business model focusing on design while outsourcing manufacturing and assembly to SUMMIT, an established automotive manufacturer in Southeast Asia. It has also partnered with EXIM Bank to finance orders, ensuring a streamlined and efficient approach to operations.

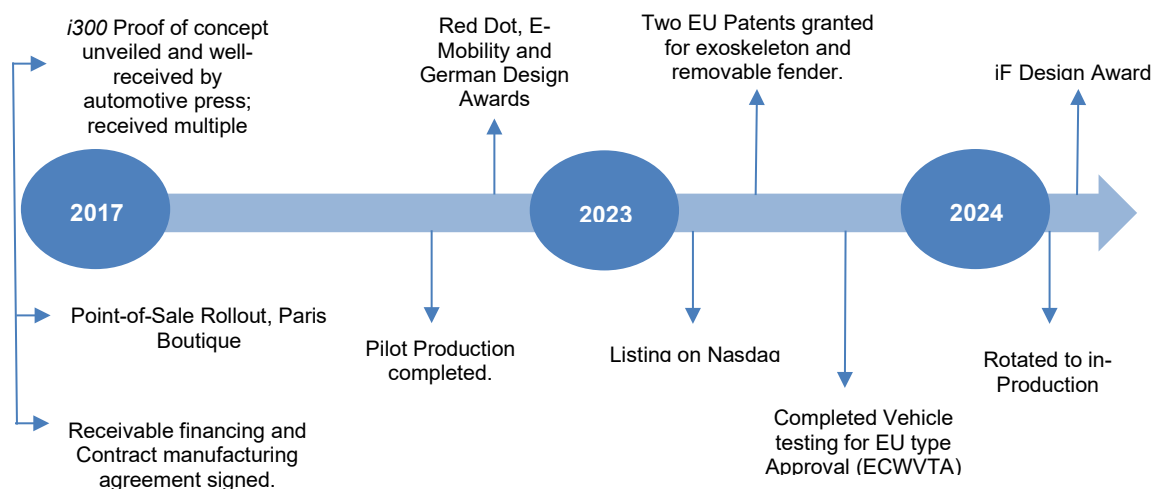
The company went public through a merger with CIIG Capital Partners II, Inc., a special-purpose acquisition vehicle created for this purpose. Zapp Electric Vehicles Group Limited commenced trading on Nasdaq on May 1, 2023. Figure 5 shows historical financial data and Figure 6 shows achieved milestones.

Figure 5 – Zapp Electric Vehicles Group Ltd. – Key Financial Data – 2022 and 2023 (fiscal year end Sept 30)

Key Financial Data (USD MM)	2022	2023
Operating Income/(Loss) excludes 2023 one-time merger related costs	(3.5)	(8.4)
Cash and cash equivalents	1.9	0.8
Trade and other receivables	0.2	1.2
Trade and other payables	0.9	19.8
Long-term borrowings	0.03	1.0
Total Equity	2.5	(18.4)
Net Cash from Operations	(2.8)	(6.5)
Post split shares count (in MM)	1.967	2.388

Source: Litchfield Hills Research; Company filings, Feb 2024

Figure 6 – Zapp Electric Vehicles Group Ltd. – Milestones



Source: Litchfield Hills Research; Company presentation, March 2024

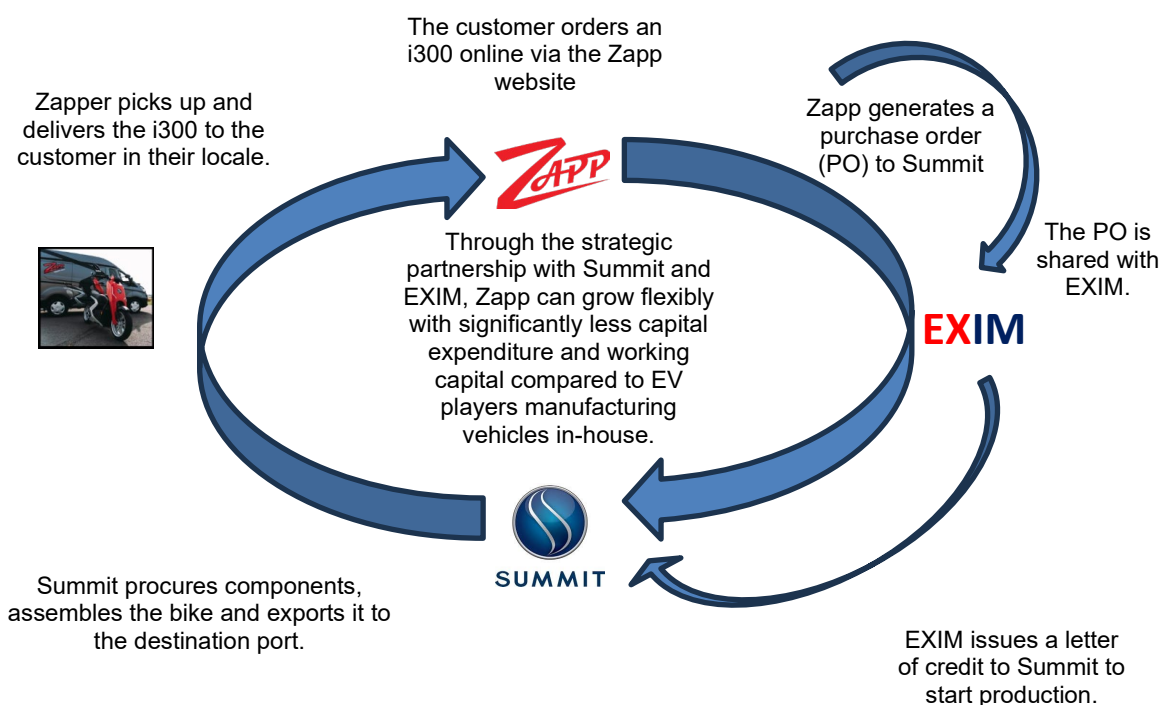
Business model

Zapp has developed a design-centric business model emphasizing premium design and customer experience while maintaining an asset-light and capital-efficient approach (see Figure 7). The company aims to deliver high-performance premium two-wheelers, leveraging extensive market analysis and a deep understanding of the technologies behind electrification.

Zapp has partnered with Summit, a major automotive manufacturer in Southeast Asia with 50 years of experience, to handle the manufacturing, procurement and assembly of its products based on purchase orders from Zapp. Summit, equipped with its own tooling and research and development (R&D) facilities, can enhance the product periodically. It has allocated a capacity of 300,000 units per year for Zapp by 2026, with room for expansion. Additionally, Summit has extensive logistics expertise across various global regions. The company has entered into a revolving loan agreement with EXIM Bank, which will provide finances in the form of a letter of credit as and when Zapp generates a purchase order.

Zapp has established a comprehensive e-commerce sales channel where orders are received through a single platform. Once an order is placed, a purchase order is created and sent to EXIM Bank, which issues a letter of credit to Summit. Summit then begins procurement and assembly. The completed vehicles are shipped to a Zapp hub, where 'Zappers'—independent agents with equipped vans—conduct pre-delivery inspections and handle customer documentation before delivering the vehicles to customers' doorsteps. The company also plans to maintain a physical retail point-of-sale presence for those customers who want human contact, with its first operational showroom in Paris. Zapp has also received >200 applications from authorized resellers globally.

Figure 7 – Zapp Electric Vehicles Group Ltd. – Business Model



Source: Litchfield Hills Research and Company Presentation, March 2024

Product Overview

Zapp's debut product, the i300, is a premium urban electric high-performance two-wheeler with 9 design awards. It delivers the performance levels of traditional motorcycles while combining ease of use with exhilaration and fun. The i300 is a design and production-ready model which Zapp plans to bring to the market.

The i300 has a unique 'Z-shaped' exoskeleton architecture, which not only reduces weight and lowers the center of gravity while enhancing on-road performance and handling. The i300 can accelerate from 0-30 mph (0-48 km/h) in just 2.3 seconds, all because of its unique design. Additionally, the exoskeleton structure contributes to weight reduction, improves efficiency and extends the battery range of the i300.

The i300 is engineered for efficiency, requiring less than 30 minutes to assemble with less than 200 components and 105 steps (see Figure 8). We believe this streamlined design reduces manufacturing and procurement complexity, by reducing the number of components by a factor of 10X, nearly halving the assembly steps resulting in assembly time reduction of 85%. Assembly is completed using a four-station, non-conveyor belt procedure, ensuring high efficiency and yield (see Figure 9). Components of the i300 are procured from blue-chip suppliers such as Bitron, Michelin (MGDDF-NR and ML-NR), Gates (GTES-NR), Dana (DAN-NR) and TM4.

Figure 8 – Zapp Electric Vehicles Group Ltd. – *Designed for Manufacturing*



Source: Litchfield Hills Research and Company Presentation March 2024

Figure 9 – Zapp Electric Vehicles Group Ltd. – *Simplified Assembly*



Source: Litchfield Hills Research and Company Presentation March 2024

Key product differentiation factors:

- **Appeal in Design**
 - Designed with high maneuverable possibility and accessibility.
 - Innovative exoskeleton architecture lowers weight and creates simplified, efficient and low-cost assembly with fewer parts and steps.
- **Performance-Driven Desirability**
 - Designed to provide superbike performance and specifications enabled by upside-down forks for rigidity, a low center of gravity and superbike-styled rear suspension.
- **Independent Battery Pack Solution and Portability**
 - Portable battery packs that can be charged anywhere without the need for any specific kind of socket or charger, with no requirement for dedicated charging infrastructure.

- Each battery is designed to be easily portable; with just 6 kg in weight, it can easily fit into a backpack or briefcase. Also, the battery is mounted underfoot to clear space under the seat for storage.
- **Quick charge with a very long-life cycle**
 - Quick charge time: 20% to 80% in ~40 minutes
 - Very long-life cycle: 2,000 cycles

Zapp has strategically priced its i300 in the EU at EUR 7,590, positioning it between low-end step-through scooters priced up to approximately EUR 3,585 and step-over motorcycles priced EUR 10,303 and higher. This pricing strategy makes the i300 appealing and accessible to step-through buyers looking to upgrade and ICE step-over buyers looking to downsize.

Recent Developments

- In June 2024, it announced that it signed a memorandum of understanding and intends to appoint Bounce Electric 1 Private Limited ("Bounce") as its contract manufacturing partner for sales of the i300 in India. Accel-backed Bounce already operates a domestic vehicle assembly facility and may further assist with distribution of i300 in the country. The parties intend for Bounce to provide the necessary support for homologation in India while Zapp continues working toward commercial rollout and first customer deliveries of the i300 in Europe and Thailand in summer 2024.
- In April 2024, Zapp EV announced that its shareholders had approved a consolidation of the company's authorized share capital at a ratio of 1-for-20 (known as the "Reverse Stock Split"). This change would extend the company's share capital from USD 50,000 divided into 500,000,000 ordinary shares with a nominal value of USD 0.0001 each to USD 50,000 divided into 25,000,000 ordinary shares with a nominal value of USD 0.002 each.
- In March 2024, Zapp EV announced that the i300 had won the iF DESIGN AWARD 2024 in the motorcycles category. This recognition came from a jury of 132 independent design experts worldwide. The i300 had previously received accolades, such as the Red Dot Award: Product Design and the German Design Award in 2023, along with six other design awards. Established in 1953, iF International Forum Design GmbH in Hannover is the world's oldest independent design organization. The 2024 competition attracted nearly 11,000 entries from 72 countries.
- In February 2024, Zapp EV secured commitment of up to USD 10MM to start production and commercial rollout of the i300 electric urban motorcycle. The company entered into a standby equity purchase agreement (SEPA) with Yorkville Advisors Global, LP affiliate (the "Investor"). The funds from this agreement would mainly support the production and launch of the i300, Zapp's high-performance electric urban motorcycle. Initial i300 deliveries were expected in Europe in summer 2024, with the commercial launch in Asian markets scheduled for late 2024.
- In September 2023, Zapp partnered with Younited SA, (a leading instant credit provider in Europe), to offer flexible finance solutions across Europe, offering a simple, automated applications process and instant credit approval.
- In July 2023, Zapp secured two European patents for groundbreaking innovations in its i300 electric urban motorcycle, anticipating customer deliveries in 2024. These patents covered the unique Z-shaped exoskeleton and the removable front fenders, offering a blend of step-through scooter convenience with motorcycle performance and handling while improving sustainability and manufacturability. The ability to remove fenders opened a wide range of color customization options for customers.
- In May 2023, Zapp celebrated a successful listing on the Nasdaq stock market. Zapp's ordinary shares and warrants commenced trading on Nasdaq under the symbols "ZAPP" and "ZAPPW".

Go-to-Market Strategy

The company has conducted comprehensive market analysis and research to identify optimal launch geographies. Its initial focus will be on European countries with a significant demand for premium products. European consumers value luxury and high-performance machines, frequently purchasing them for recreational and sporting purposes. This demand makes Europe an ideal starting point for introducing its product to the market.

Below are the pointers that indicate the company's step-by-step process to approach the market:

- **Showcasing of the Product** – The company released a product video to attract attention and gather feedback. The peer review video, posted on Electroheads' social media platforms, has garnered 3.1 MM organic views since September 2023. Additionally, the video has contributed to more than 200 reseller applications globally received in the past two years. Electroheads is a globally recognized arbiter of e-bikes whose mission statement is "...to encourage the adoption of electric vehicles around the world." Website: [Electroheads.com](https://www.electroheads.com).

- **Multiple Phase 1/2 Targets** – Although it initially targeted the EU, penetrating the regulatory bureaucracy has taken longer than expected. Through market analysis, the most demanding markets in Europe were being targeted in the initial roll-out phase (Figure 10). It has also targeted select Asian economies with already high rates of two-wheeler sales (see Figure 11). As the economies have overcome the impact of COVID-19, the recovery in new registration is visible.

Figure 10 – Zapp Electric Vehicles Group Ltd. – New Vehicle Registration in Europe

Europe's 3 largest market	New motorcycle registration in 2023 vs 2022 (+10.5% YoY)	New motorcycle registration in 2022 vs 2021 (+0.1% YoY)	Existing population of motorcycles (To be replaced by electric vehicles)
France	206,731 (+6.9% YoY)	193,350 (-6.6% YoY)	~3,600,000
Italy	320,186 (+18% YoY)	271,380 (+0.7% YoY)	~7,300,000
Spain	201,115 (+13.6% YoY)	176,960 (+6.3% YoY)	~5,700,000

Source: ACEM Statistical Release; Company Presentation

Figure 11 – Zapp Electric Vehicles Group Ltd. – Powered Two-Wheeler Market Size in ASEAN – 2022

Market Sizes in 2022 (Number of Vehicles Sold in Units)	
Vietnam, Thailand, & Indonesia	India
10,016,646	15,862,087 (2.8MM units sold in the premium segment)

Source: ACEM Statistical Release; Company Presentation

Industry Overview

Powered Two-wheeler Market

The electric vehicle market shapes the automotive industry as we move toward a net zero global environment by 2050. The future of transportation will feature a diverse range of power trains, with electric power playing a crucial role. This shift is evident in the four-wheeled segment's growing sales of battery electric and fuel cell vehicles. Additionally, electrification is expected to significantly impact two-wheelers, including mopeds, scooters, motorbikes and motorcycles, which account for about 30% of global mobility.

The global powered two-wheeler (PTW) market encompasses motorcycles, scooters, mopeds and electric bikes. It has witnessed significant growth, driven by urbanization, congestion, fuel efficiency needs and a rising preference for affordable and convenient transportation solutions.

Global Market for Two-wheelers

In 2022, the estimated global market for two-wheelers reached approximately USD 130B, with sales estimates of 45MM to 60.5MM units. This market encompassed internal combustion vehicles and electric vehicles. Of this, electric vehicles accounted for around 21%, equivalent to USD 27 bn. This segment is projected to grow at a 13% compound annual growth rate (CAGR) to reach USD 64 bn by 2029, with an expected penetration level of 29% (see Figure 12).

Figure 12 – Zapp Electric Vehicles Group Ltd. – Global Market Value – 2022 and 2029

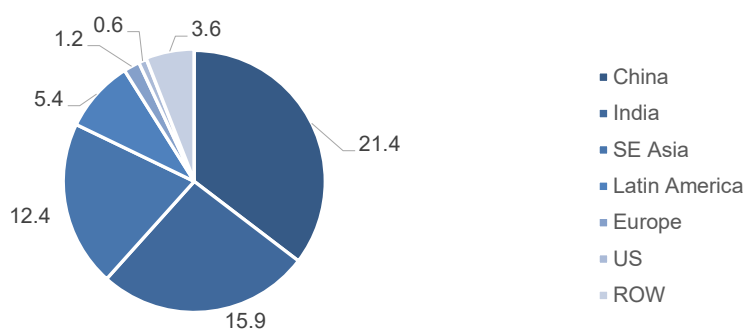
	2022	2029
Internal Combustion Vehicle (ICE) (CAGR: 8%) (in USD)	103	224
Electric Vehicle (EV) (CAGR:13%) (in USD)	27	64
Number of units sold (in MM)	60.5	76
EV market penetration (in %)	21%	29%

Source: Litchfield Hills Research; Company Presentation, March 2024

Zapp's Targeted Rollout to Capitalize on Brand Positioning by Geography (Figure 13)

- **European Union**
 - A favorable regulatory framework for electric vehicles, including tax incentives and emissions standards, acted as a tailwind for the industry.
 - New electric motorcycle sales nearly doubled in 2022 to ~40,000+ units as compared with ~20,000+ in 2021; in percentage terms, it grew by approx. +88%
 - Country level regulation to phase out internal combustion vehicles by 2035 should further accelerate growth.
 - Zapp's primary target markets in Europe, including France, Italy and Spain, saw significant growth in electric motorcycle sales. France experienced a 126% increase, Italy 83% and Spain 58%
- **India (further expansion to developing nations)**
 - India's premium segment is bigger than the US and EU combined, with a total of 2.8MM units sold in 2022 in the premium segment, which is motorcycles with a retail price of more than INR 200,000
 - British brands continue to hold their appeal in India.
- **Southeast Asia**
 - As per McKinsey, the sale of electric two-wheelers is soaring in India and Indonesia, forecast to become two of the world's top three markets.
 - As per Grutter Consulting, a cumulative of 55MM units is expected to be sold in Indonesia in the next 8 years.

Figure 13 – Total Addressable Market – by Geography in 2022 (60.5 MM units)



Sources: Litchfield Hills Research; Company Presentation, March 2024

Electric Two-wheeler Market Share, Growth Statistics and Product Mix by Geography¹

The expansion of electric two-wheelers is divided between developing and developed nations. Developing countries such as China, India and Southeast Asian (SE Asian) nations prioritize smaller, utility-focused machines for work or transportation. In contrast, developed nations such as those in North America and Europe emphasize premium brands and higher performance. Luxury and high-performance motorcycles, popular for leisure and sports, are gradually seeing the introduction of electric models by some established brands. Zapp has strategically positioned itself with a premium and high-performance electric vehicle, making it well-suited for developed markets based on its target geography and product characteristics (see Figures 14 and 15).

Figure 14 – Zapp Electric Vehicles Group Ltd. – Market Share of Powered Two-wheelers (P2W) by Product¹

	China	ASEAN ²	North America & the EU	India	Other South Asia	Latin America	Africa
Moped/Bebek³	-	15-20	-	3-4	0-5	15-20	0-5
Scooter and Light Motorcycle	80-90	75-85	35-45	88-95	90-100	70-76	90-96
Heavy Motorcycle⁴	0-5	0-5	50-60	4-5	0-5	0-5	0-5
2021 market size ⁴ (~MM units)	15.0	12.0	2.1	15.1	2.3	2.8	1.0
Estimated CAGR (2021-2030) %	0-1	4-5	5-6	6-7	5-6	5-6	12-14
Electrification Level, ~%	15	2	8	4	<1	<1	<1

1. The e-bike market (maximum speed < 25 kilometers per hour) has been excluded from the scope due to the dominance of Chinese players in this segment playing at low cost

2. Association of Southeast Asian Nations

3. A bebek is a small-capacity two-wheeler popular in Indonesia

4. A motorcycle with > 250 cubic capacity

Source: Litchfield Hills Resource; McKinsey & Company

Figure 15 – Zapp Electric Vehicles Group Ltd. – Key Market Players by Segment



Key Trends

- The rise in electric two-wheeler adoption is driven by declining battery prices, stricter emissions regulations, increased environmental awareness among consumers, and advancements in electric powertrain performance.
- Prices of lithium-ion batteries have dropped by 82 percent over the past decade since 2013. On a global scale, the average cost of lithium-ion battery packs decreased to USD 139 per kWh in 2023, down from USD 161 per kWh in 2022, marking a 13.6% decline in a single year.
- Asia Pacific currently dominates the global electric motorcycle market, with China and India as the front runners. Widespread adoption is driven by rapidly growing middle-class consumer segments across the region. Two-wheel ownership in these markets is a personal mobility need rather than a leisure proposition.
- Europe and North America are seeing rising demand for high-performance electric motorcycles, with a growing number of consumers willing to pay premium prices.
- The premium electric motorcycle market is relatively small as of now. However, the market is gaining traction with companies such as Energica, Harley Davidson, BMW, Zero, and others launching models targeting performance enthusiasts willing to pay more.
- Electric two-wheeler manufacturers are integrating connected technologies, such as mobile apps, to offer features like remote monitoring, ride analytics, and over-the-air updates.

Management

Swin Chatsuwan, CEO

Swin Chatsuwan is Zapp's Founder and serves as the Chief Executive Officer and a Director of Zapp EV. He has led and grown Zapp's business as Chief Executive Officer since its establishment in 2017. He is also currently an Independent Director of Haadthip PLC. Prior to founding Zapp, Mr. Chatsuwan founded and has served as the Managing Partner of Paragon Partners Co., Ltd., a corporate solutions boutique specializing in the hospitality, automotive and retail sectors, since 1996. In its 27 years of operations, Paragon Partners has executed more than 50 transactions and developed private equity and proprietary positions in leading companies and brands. Notable transactions of Paragon Partners include the successful acquisition, business development and exit of the Hertz and Volkswagen (Audi) automotive franchises in Thailand. Previously, Mr. Chatsuwan served as Country Head (Thailand) at CLSA from 1990 to 1995. He began his career as an Information Technology Analyst in the London and New York offices of Morgan Stanley, from 1987 to 1988. Mr. Chatsuwan received his Master of Science in Economics (Information

Systems) from the London School of Economics and Bachelor of Science in Accounting and Finance from Loughborough University.

Jeremy North, President

Jeremy North is a co-founder of Zapp and serves as the President and Director of Zapp EV. He is also currently a non-executive director of Art House Ukraine (a Canadian non-profit) and since 2016 as Managing Director and Chief Financial Officer of CloudMade Limited, a 50/50 joint venture with Valeo SE. From 2011 to 2015, he served as Chief Financial Officer of Dearman Engine Company Limited. He also served as Chief Financial Officer of Highview Power Storage, between 2010 and 2013. Mr. North received his Bachelor of Arts (Politics) from Nottingham University and was formerly a member of the Institute of Chartered Accountants in England and Wales from 1986 to 2003.

David Sturgeon, Chief Financial Officer

David Sturgeon has served as Chief Financial Officer of Zapp EV since May 2023. Mr. Sturgeon currently serves on the board of directors at Quarterworld Capital Limited. Previously, Mr. Sturgeon held various roles at Central European Media Enterprises Ltd., a leading media and entertainment company in Central and Eastern Europe which was listed on Nasdaq until its sale in October 2020. At Central European Media Enterprises Ltd., Mr. Sturgeon held a series of senior financial positions from 2005-14, leading to his appointment as Executive Vice President and Chief Financial Officer from 2014-20. Earlier in his career, Mr. Sturgeon served as Head of Corporate Accounting from 2002-05 at Equant N.V., a NYSE-listed company that provided communications solutions to multinational companies. Mr. Sturgeon began his career at Arthur Andersen's Technology, Media and Communications practice, where he held several positions from 1990 to 2002. He is a Fellow of the Institute of Chartered Accountants in England and Wales. Mr. Sturgeon received his Master of Arts in Philosophy, Politics and Economics from St. Catherine's College, Oxford University.

Kiattipong Arttachariya, Chief Strategy Officer

Kiattipong Arttachariya is a co-founder of Zapp and serves as Chief Strategy Officer of Zapp EV. In that role, he is responsible for supporting different teams in executing Zapp's business strategy to realize its growth plans and future goals. He previously served as Zapp's Head of Corporate Affairs since its establishment in 2017 and as acting Chief Financial Officer of Zapp EV until April 2023. Prior to founding Zapp EV, Mr. Arttachariya was Vice President at Paragon Partners Ltd from 2014 to 2017. Previously, he served as a Senior Investment Banking Analyst at Bangkok Bank PCL from 2011 to 2013. Mr. Arttachariya received his Master of Business Administration from the University of Oxford Said Business School and Bachelor of Science in Economics from George Washington University.

Warin Thanathawee, Chief Design Officer

Warin Thanathawee is a co-founder of Zapp and serves as Chief Design Officer of Zapp EV. In his capacity as Chief Design Officer, Mr. Thanathawee is responsible for Zapp's product design efforts. His designs have received a number of international awards, including the iF Design Award, the German Red Dot Design Award and the Good Design Award in the U.S. Mr. Thanathawee is also the founder of CORdesign studio, a Bangkok-based design agency. Prior to joining Zapp, he held the position of Design Director at Nomono Co. from 2015 to 2017. Mr. Thanathawee received his bachelor's degree from the Department of Industrial Design at King Mongkut's Institute of Technology Ladkrabang.

David McIntyre, Chief Commercial Officer

David McIntyre joined Zapp in 2021 and serves as Chief Commercial Officer of Zapp EV. Prior to joining Zapp, he was the Regional Director (Asia-Pacific and China) of Group Lotus between 2019 and 2021 and the Chief Executive Officer of Simpson Marine Limited from 2017 to 2018. Mr. McIntyre joined Simpson Marine Limited from McLaren Automotive Ltd, where he was Managing Director of the Asia-Pacific region from 2015 to 2017. Previously, Mr. McIntyre has also served as Managing Director and Chief Executive Officer of Jaguar Land Rover Korea from 2012 to 2015 and General Manager (Asia-Pacific and China) at Bentley Motors from 2005 to 2012. Before relocating to the Asia-Pacific, he was Global Corporate Marketing Manager at Aston Martin Lagonda Ltd. from 2001 to 2005, and from 1997 to 2001, he served in several roles for Porsche, including in dealer development for Porsche Cars Great Britain, as Sales Manager for Latin America at Porsche AG, and Regional Marketing Manager for Porsche Latin America. Mr. McIntyre received his Bachelor of Science in International Business and Modern Languages (German) from Aston University.

Theodore Allegaert, Chief Legal Counsel and Corporate Secretary



Zapp Electric Vehicles Group Ltd.

ZAPP - Rating-Buy – US\$35 PT

Theodore Allegaert has served as the Chief Legal Officer and Corporate Secretary of Zapp EV since March 2023. Mr. Allegaert is a U.S.-qualified lawyer with twenty-five years of commercial legal experience, including thirteen years in private practice at preeminent firms in Silicon Valley and New York and a further decade of experience as senior in-house counsel at multinational companies. From 2017-20, he served as Chief Legal Officer at Nasdaq-listed Ferroglobe PLC in London (initially as Deputy), after previously serving as Deputy General Counsel of its U.S. subsidiary Globe Specialty Metals, Inc. from 2011-15. From 2016 to early 2017, and from 2021-23, Mr. Allegaert was self-employed, serving as a contract general counsel and legal and compliance consultant to international businesses in Asia and the U.K. Mr. Allegaert holds a bachelor's degree from Columbia University and a Juris Doctor degree from The University of Chicago Law School.

Figure 16 – Zapp Electric Vehicles Group Ltd. – Income Statement (US\$000)

September year-end	2022A Year	2023A Year	2024E		2024E Year	2025E Year	2026E Year
			1H24A	2H24E			
Total revenue	\$0	\$0	\$0	\$100	\$100	\$42,800	\$240,000
<i>Growth</i>	NA	NA			NMF	42700%	461%
Cost of Goods	0	0	0	90	90	36,395	197,600
Gross Profit	0	0	0	10	10	6,405	42,400
Gross Margin				10.0%	10.0%	15.0%	17.7%
Selling and distribution	\$423	\$1,425	\$220	\$300	\$520	\$2,300	\$13,000
% of total revenue				300%	520%	5%	5%
General and administrative	\$3,187	\$6,373	\$2,914	\$3,000	\$5,914	\$7,000	\$23,000
% of total revenue				3000%	5914%	16%	10%
Other operating	\$0	\$0	\$0	\$0	\$0	\$0	\$0
% of total revenue				0.0%	0.0%	0.0%	0.0%
Total Operating Expenses	3,610	7,798	3,134	3,300	6,434	9,300	36,000
Operating Income	(3,610)	(7,798)	(3,134)	(3,290)	(6,424)	(2,895)	6,400
Operating Margin				-3290.0%	-6424.1%	-6.8%	2.7%
Total Other Items	33	(214,299)	(1,899)	(2,000)	(3,899)	(4,000)	(4,000)
Pre-Tax Income	(3,578)	(222,097)	(5,033)	(5,290)	(10,323)	(6,895)	2,400
Pre-Tax Margin				-5290.0%	-10323.1%	-16.1%	1.0%
Taxes (benefit)	0	0	0	0	0	0	380
Tax Rate	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	15.8%
Net Income (loss)	(3,578)	(222,097)	(5,033)	(5,290)	(10,323)	(6,895)	2,020
Net Margin				-5290.0%	-10323.1%	-16.1%	0.8%
EPS, as reported	(1.82)	(93.00)	(1.61)	(1.65)	(3.26)	(1.84)	0.44
Diluted Shares Outstanding	1,967	2,388	3,130	3,200	3,165	3,750	4,600

Source: Company reports and Litchfield Hills Research LLC

Figure 17 – Zapp Electric Vehicles Group Ltd. – Balance Sheet (US\$'000)

September year-end	FY2026E	FY2025E	FY2024E	FY2023A	FY2022A
Balance sheet					
Current Assets					
Cash and S.T.I.	\$4,362	\$4,492	\$817	\$823	\$1,963
Trade receivables	33,000	15,000	1,000	1,262	195
Inventories	12,000	5,000	800	566	112
Other assets	200	100	0	0	0
Total Current Assets	49,562	24,592	2,617	2,651	2,270
Net PP&E	700	600	500	591	481
Goodwill & Intangibles	900	900	900	1,043	1,019
Other non-current assets	500	450	400	3,057	456
Total Assets	\$51,662	\$26,542	\$4,417	\$7,342	\$4,225
Current Liabilities					
Trade and Other payables	\$65,000	\$42,000	\$26,000	\$19,885	\$905
Current portion of borrowings	\$5,000	\$5,000	\$4,000	\$3,714	\$12
Deferred revenue	\$0	\$0	\$0	\$0	\$0
Other current liabilities	\$400	\$300	\$200	\$0	\$324
Total current liabilities	70,400	47,300	30,200	23,598	1,241
Interest bearing borrowings	0	0	1,300	1,023	35
Other Liabilities	1,000	1,000	700	1,058	375
Total Liabilities	71,400	48,300	32,200	25,679	1,651
Stockholders' Equity					
Preferred stock	0	0	0	0	0
Share Capital	6	6	6	6	1
Additional paid-in-capital	225,000	225,000	212,000	211,121	10,295
Retained earnings	(244,844)	(246,864)	(239,969)	(229,646)	(7,544)
Cum. Other comp and treasury stock	100	100	80	82	(239)
Total stockholders' equity	(19,738)	(21,758)	(27,883)	(18,438)	2,512
Total Liabilities and equity	\$51,662	\$26,542	\$4,317	\$7,242	\$4,164

Source: Company reports and Litchfield Hills Research LLC

Figure 18 – Zapp Electric Vehicles Group Ltd. – Cash Flow (US\$000)

	FY26E	FY25E	FY24E	FY23A
Net Income	\$2,020	(\$6,895)	(\$10,323)	(\$222,097)
Trade receivables	(18,000)	(14,000)	262	(1,067)
Inventories	(7,000)	(4,200)	(234)	(454)
Other assets	(100)	(100)	0	0
Net PP&E	(100)	(100)	91	(110)
Goodwill & Intangibles	0	0	143	(24)
Other non-current	(50)	(50)	2,657	(2,601)
Trade and Other payables	23,000	16,000	6,115	18,979
lease liabilities	0	(100)	0	38
Current portion of borrowings	0	1,000	286	3,701
Deferred revenue	0	0	0	0
Other current liabilities	100	100	200	(324)
Interest bearing borrowings	0	(1,300)	277	988
Other Liabilities	0	300	(358)	684
Preferred stock	0	0	0	0
Share Capital	0	0	0	5
Additional paid-in-capital	0	13,000	879	200,826
Cum. trans. adj. and treasury stock	0	20	(2)	321
Other	0	0	0	0
Total Cash Flow	(\$130)	\$3,675	(\$7)	(\$1,140)

Sources: Company reports and Litchfield Hills Research, LLC

Source: Litchfield Hills Research LLC

Disclosures:

Analyst Certification

We, the Litchfield Hills Research Department, hereby certify that the views expressed in this research report accurately reflect our personal views about the subject company and the underlying securities.

FINRA Compliant Research Report

We, the Litchfield Hills Research Department, hereby certify that this report is compliant with FINRA research rules 2241, 3110, the analyst is registered with FINRA, and the report has been reviewed by a Supervisory Analyst.

MiFID II Compliant Research Report

Our research is classified as minor non-monetary benefit under MiFID II. This applies to all forms of transmission, including email, website and financial platforms such as Bloomberg, FactSet, S&P Global, Refinitiv and 13 others. We do not seek payment from the asset management community and do not have any execution function. Investors can continue to receive our research under the MiFID II regime without the need for a contract for services to be put in place. This applies to all forms of transmission, including email, website and financial platforms.

Litchfield Hills Research LLC Rating System

BUY: We expect the stock to provide a total return of 15% or more within a 12-month period.

HOLD: We expect the stock to provide a total return of negative 15% to positive 15% within a 12-month period.

SELL: We expect the stock to have a negative total return of more than 15% within a 12-month period.

Total return is defined as price appreciation plus dividend yield.

Other Disclosures

Litchfield Hills Research, LLC ("LHR") is not a U.S. broker-dealer registered with the U.S. Securities and Exchange Commission nor a member of Financial Industry Regulatory Authority. This report is not directed to, or intended for distribution to or use by, any person or entity who is a citizen or resident of or located in any locality, state, country or other jurisdiction where such distribution, publication, availability or use would be contrary to law or regulation or which would subject LHR or any divisions, subsidiaries or affiliates to any registration or licensing requirement within such jurisdiction.

All material presented in this report, unless specifically indicated otherwise, is under copyright to LHR and the subject company. None of the material, nor its content, nor any copy of it, may be altered in any way, transmitted to, copied or distributed to any other party,



Zapp Electric Vehicles Group Ltd. ZAPP - Rating-Buy – US\$35 PT

without the prior express written permission of LHR or the subject company. All trademarks, service marks and logos used in this report are trademarks, service marks, registered trademarks, or service marks of LHR or its affiliates. The information, tools and material presented in this report are provided to you for information purposes only and are not to be used or considered as an offer or the solicitation of an offer to sell or to buy or subscribe for securities or other financial instruments. LHR may not have taken any steps to ensure that the securities referred to in this report are suitable for any particular investor. The investments or services contained or referred to in this report may not be suitable for you and it is recommended that you consult an independent investment advisor if you are in doubt about such investments or investment services. Nothing in this report constitutes investment, legal, accounting or tax advice or a representation that any investment or strategy is suitable, appropriate to your individual circumstances, or otherwise constitutes a personal recommendation to you. LHR does not offer advice on the tax consequences of investment, and you are advised to contact an independent tax adviser. LHR believes the information and opinions in the Disclosure Appendix of this report are accurate and complete. Information and opinions presented in this report were obtained or derived from sources LHR believes are reliable, but LHR makes no representations as to their accuracy or completeness.

Ownership and Material Conflicts of Interest

The analyst owns no shares of the subject company. The analyst and his family have no known material conflicts of interest in authoring this report.

Investment Banking and Fees for Services

Litchfield Hills Research has not received compensation for advisory or investment banking services from the Company in the past 12 months. Litchfield Hills Research LLC has received compensation from the company for distribution and investor targeting services.

Market Making

Litchfield Hills Research, LLC does not make a market in the subject company's securities.

Additional information is available upon request. LHR accepts no liability for loss arising from the use of the material presented in this report, except that this exclusion of liability does not apply to the extent that liability arises under specific statutes or regulations applicable to LHR. This report is not to be relied upon in substitution for the exercise of independent judgment.