

# **TNBAURA** Perspectives: Offering a view of emerging industries and business models

Electric Vehicles Infrastructure Edition

## Accelerating towards a greener future with electric vehicles (EVs)

Unveiling the Potential of Evs in Southeast Asia

- EV adoption and opportunities within EV • Infrastructure
- End-to-End and Charge Point Operators 11. as the winning models within the space

## III. Southeast Asia as the next EV Infrastructure hub

## Strong EV adoption drives E2W and Charging Infrastructure opportunities

Increasing demand for green transportation creates opportunities across high TAM sectors, namely Electric Two Wheelers (E2W) and Charging Infrastructure.

## EV adoption is driven by shifting

### preferences towards sustainable transport

Decarbonising the industry has emerged as a major global priority, with numerous countries pledging to intensify efforts in decarbonising public land transport. EV is a large industry with over \$317 billion in market size, growing at 23.1% **as seen in Fig. 1.** This uptake is mainly driven by:

- $\checkmark$  Cost savings of up to 50% compared to petrol vehicles.<sup>1</sup>
- $\checkmark$  Government incentives and policies for increased EV  $adoption^2$
- ✓ A favourable investment environment for sustainability initiatives<sup>3</sup>

## Developing proper infrastructure is crucial to meet both demand and adoption of EVs



With the ascent of EVs, the need for robust infrastructure becomes increasingly urgent. In **Fig. 2.**, critical factors like Total Addressable Market (TAM), precedents, sector valuations, and funding were considered. **Charging Infrastructure and E2W** emerge as crucial sectors within the EV industry with high valuations, plenty of activity within the industry as seen by high funding trends and number of precedents. Fleets emerged as the least opportunistic sector, while E4W showed high valuations and funding but were found to be dominated by a few global player such as CVCs and conglomerates.

#### Fig. 2. EV Sectors Side-by-Side Analysis

Sectors	No. of Unicorns	Total Valuation (US\$ '000)	Total Funding Raised (US\$ '000)	Opportunity in SEA
1. Components & Materials	2	16,328	3,280	Low. No Expertise in SEA.
2. Electric Four-Wheelers (E4W)	5	945,942	32,200	<b>Low.</b> Dominated by a Few Global Players.
3. Electric Two-Wheelers (E2W)	3	22,659	11,663	High. Market opportunity present.
4. Fleets	0	1,914	142	Mid. Opportunistic.
5. Self-Operated/Third-Party Automobile Stores	Operated by E4Ws & Traditional Players			Low. No Relevant Players.
6. Charging Infrastructure	5	13,681	3,998	High. Market opportunity present.
7. Battery Swapping Stations	1	1,992	232	Low. No Clear Traction at the Moment.

## End-to-End EV Infrastructure and CPOs as winning models within the sector

High utilisation rates to achieve low capex and mitigate electricity and installation costs are crucial factors for EV infrastructure players.

## Identifying the models in EV Infrastructure

Four primary models have surfaced in the EV infrastructure sector, covering the production, operation, and commercialization of EV chargers.

✓ Charge Point Operators (CPO)

Operators of charging stations

✓ Charger OEMs

Producers of charging stations

✓ End-to-End (E2E)

Produce and operate charging stations

✓ Technology

Provides charging management SaaS and consumer apps for chargers

#### Fig. 3. Overview of models within EV Infrastructure

<b>Business Models</b>	Total Valuation	Total Funding	No. of Precedents	No. of Exits
1. Charge Point Operators	\$3.9B	\$1.5B	1	2
2. Charger OEMs	\$92.8B	-	<b>2</b> *Traditional incumbents	-
3. End-to-End	\$9.7B	\$2.4B	4	5
4. Technology	\$850M	\$540M	0	0

Charge Point		Star Charge		
HQ	US	HQ	China	
Market Cap	\$839M \$2.4B Valuation at IPO	Valuation	\$2.4B	
Total Raised	\$1.4B	Total Raised	\$125M	
Business Model	E2E Model	Business Model	E2E Model	
Revenue Breakdown	<ul> <li>73% Charging</li> <li>Station</li> <li>21%</li> <li>Subscriptions</li> <li>6% Others</li> </ul>	GTM Strategy	<ul> <li>Site selection for high utilisation rates</li> <li>Acquires smaller operator and offering cloud services</li> </ul>	

## Key Success Factors to look out for in EV Infrastructure players in SEA

End-to-End and CPOs drive success through the following:

 Increasing Utilisation Rates: Has the ability to increase utilisation rates through strategies like optimising heat maps or providing fixed fee rentals to partners, similar to StarCharge and Bolt.Earth.

It was observed that there were no start-ups that operate under a purely Charger OEM model. All precedents indicated for Charger OEMs are traditional players.

As depicted in Fig. 3, End-to-End (E2E) and Charge Point Operations (CPO) models have been identified to hold the most opportunity. Charger OEMs, despite high valuations, face challenges due to their need for specialized expertise, being less VC-backable, and their reliance on traditional players such as ABB, Schneider Electric, etc. that still generate majority of their business from non-EV products.

- Electricity and installation costs: Has the ability to breakeven on capex quickly by understanding installations and electricity costs.
- Scalable Partnerships: Collaborates with partners to identify sites with the highest utilisation to reduce capex such as fleets.
- Create a Charging Network Platform: Is able to integrate nation-wide charging points into a single platform.

## EV Infrastructure gains regional momentum as successful players emerge A sizable market, combined with appropriate regulations and facilities, sets the stage for sustainable transportation within the region.

#### Key Takeaways for EV Infrastructure in SEA **Opportunities in Southeast Asia** The EV market presents strong global and regional Currently, the region's EV market is valued at \$1.5B, with an opportunities and is seeing rapid growth due to the even greater CAGR of 32%.<sup>1</sup> EV infrastructure is seeing a major increasing number of chargers, local adoption boom in the region, presenting significant opportunities from incentives, and significant private sector involvement, the following developments: especially in SG and TH. • Availability of significant reserves of key raw materials E2E models and CPOs have the most significant for battery production. opportunities for growth and high valuations within the • Growing infrastructure capacity, e.g. Increasing number EV infrastructure sector. of chargers in Thailand and Singapore. • Success in EV infrastructure is driven by high • Favourable local adoption incentives such as tax utilization rates, scalable partnerships, reductions, subsidies, and convenient road access policies, comprehensive charging network platforms, and etc. dual charger installation for broad coverage and Most chargers are installed by private players and rapid expansion. • license for EV charging businesses are relatively easy to Fig. 5. EV Chargers in Southeast Asia acquire.

Fig. 4. Market Size Projection in SEA (TAM) (US\$ '000s)<sup>2</sup>

No. of Chargers (#)	2022A	2023E	2024E
Singapore	3,335	4,395	5,792
Thailand	3,739	5,184	7,188
Vietnam	2,000	2,286	3,070
Malaysia	898	1,085	1,404
Indonesia	440	875	1,424
Philippines	400	467	594
Total	10,813	14,292	19,473
% Growth		32%	36%



As seen on Fig. 4 and Fig. 5.., Singapore and Thailand emerge as the largest markets in Southeast Asia, boasting the highest number of chargers and highest TAM.

<sup>-</sup>SG -ID -TH -MY -PH -VN



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