



The Electric Vehicle Charging Company
Charging Made Easy

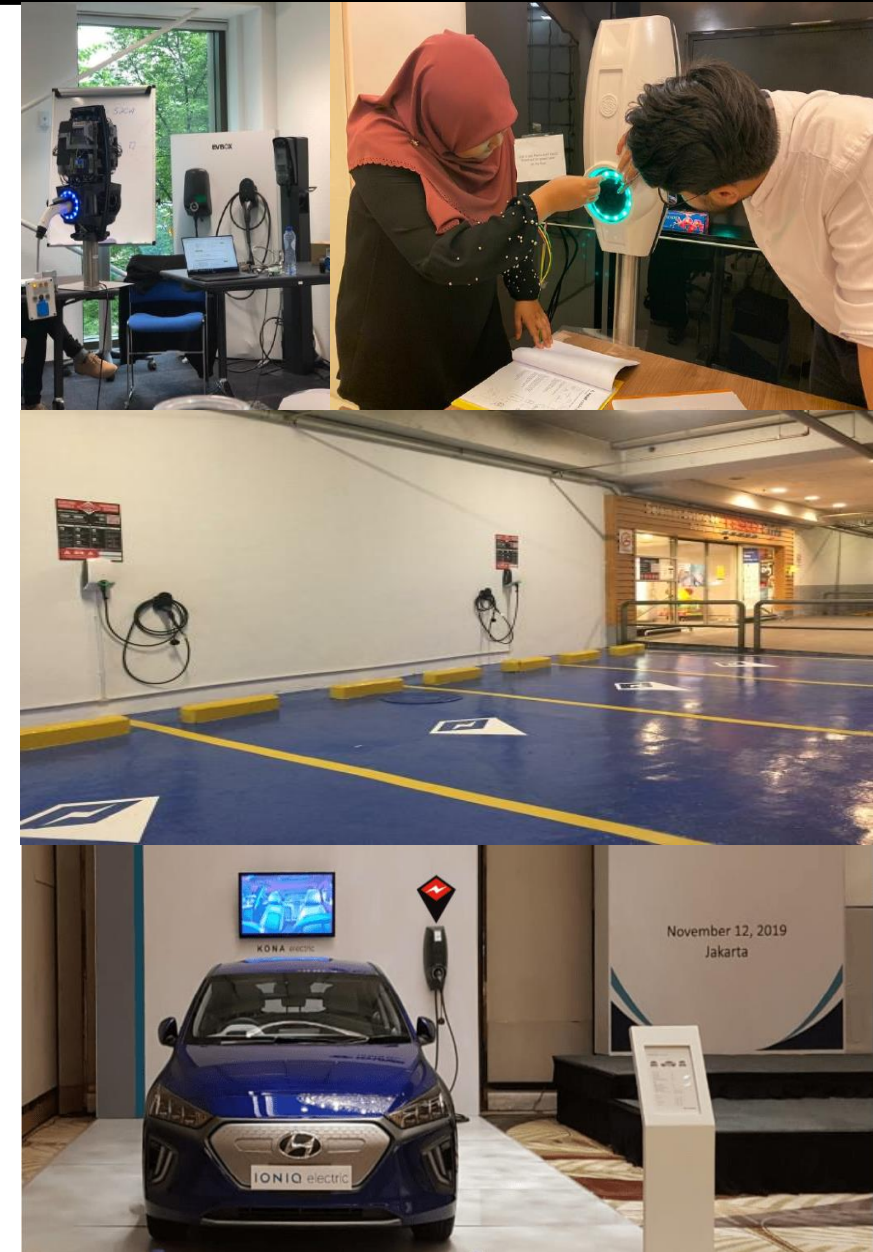
**Electric Vehicle Charging
Solutions for Residential
and Commercial High Rise
Buildings**





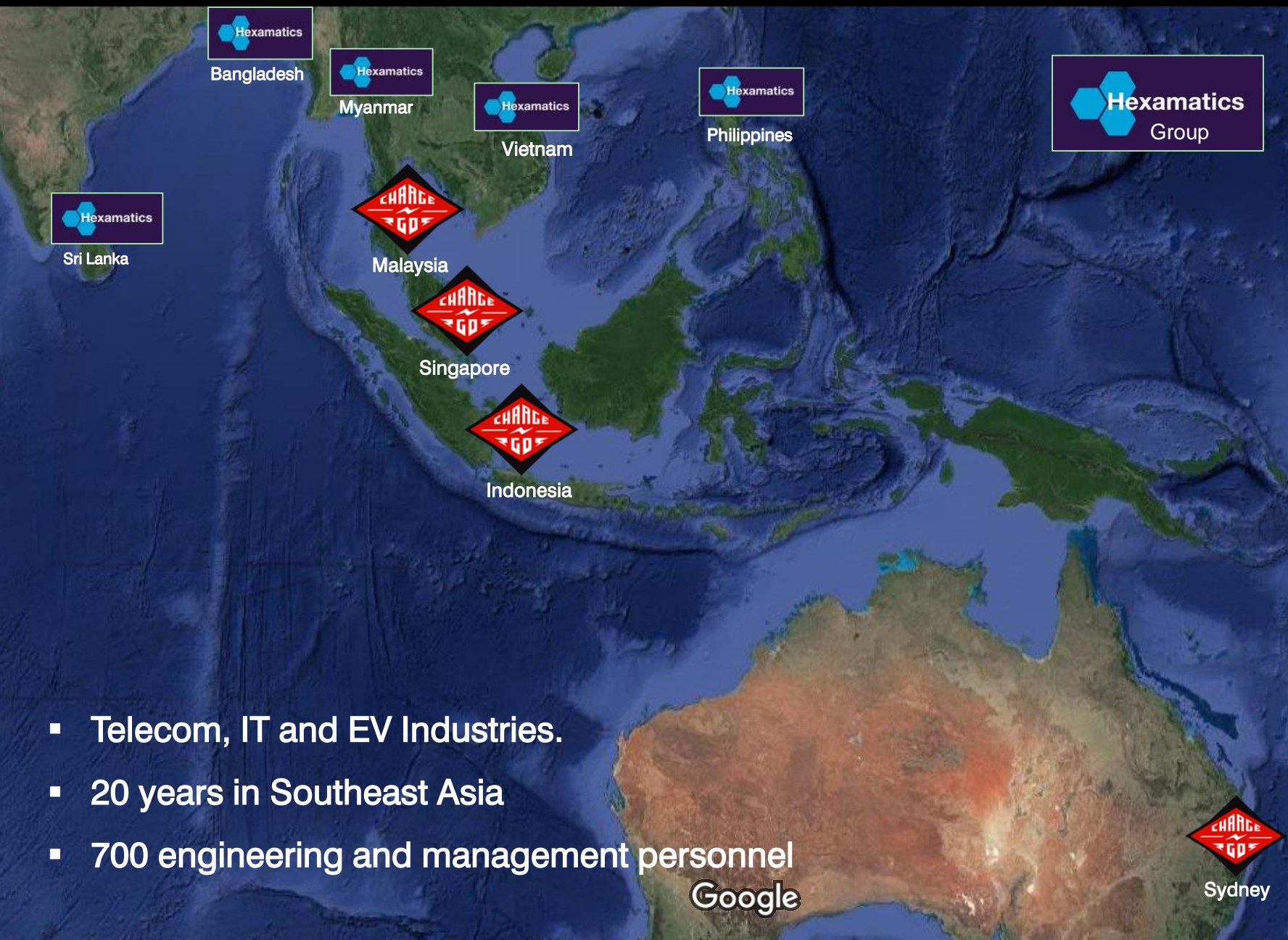
We Design, Build and Operate EV Charging Networks

- ◆ **Design and Build EV Charging Networks**
 - ◆ South East Asia partner for EVBox and Kempower, leading European Technology companies
 - ◆ Provide the full range of engineering services to build and maintain EV Charging Infrastructure
- ◆ **EV Charging as a Service**
 - ◆ Fully Managed EV Infra
 - ◆ Enable EV users to access and use chargers
 - ◆ Search, Book & Pay for EV Charging
- ◆ Key vendor for ChargeEV, the Malaysian Green Technology Corporation's network of EV Chargers
- ◆ Part of the Hexamatics Group of Technology Companies.





Group *BACKGROUND*



- Telecom, IT and EV Industries.
 - 20 years in Southeast Asia
 - 700 engineering and management personnel
- Google

The Hexamatics Group provides a range of engineering and consultancy services for leading Technology Companies





The EV Revolution is happening!!

Key Drivers

- ❖ Emissions and Air Quality Regulations
- ❖ Falling Battery Prices
- ❖ Government Policies



30%

per annum growth rate forecasted by the International Energy Agency over the next 10 years

85%

of all charging transactions are done at home or at the office

80%

Of all cars sold in Norway in 2020 were Electric Vehicles

140%

increase in global EV sales from 2020 to 2021

30%

of all cars in 2030 will be Electric Vehicles

2%

of all cars in Malaysia are Electric Vehicles.

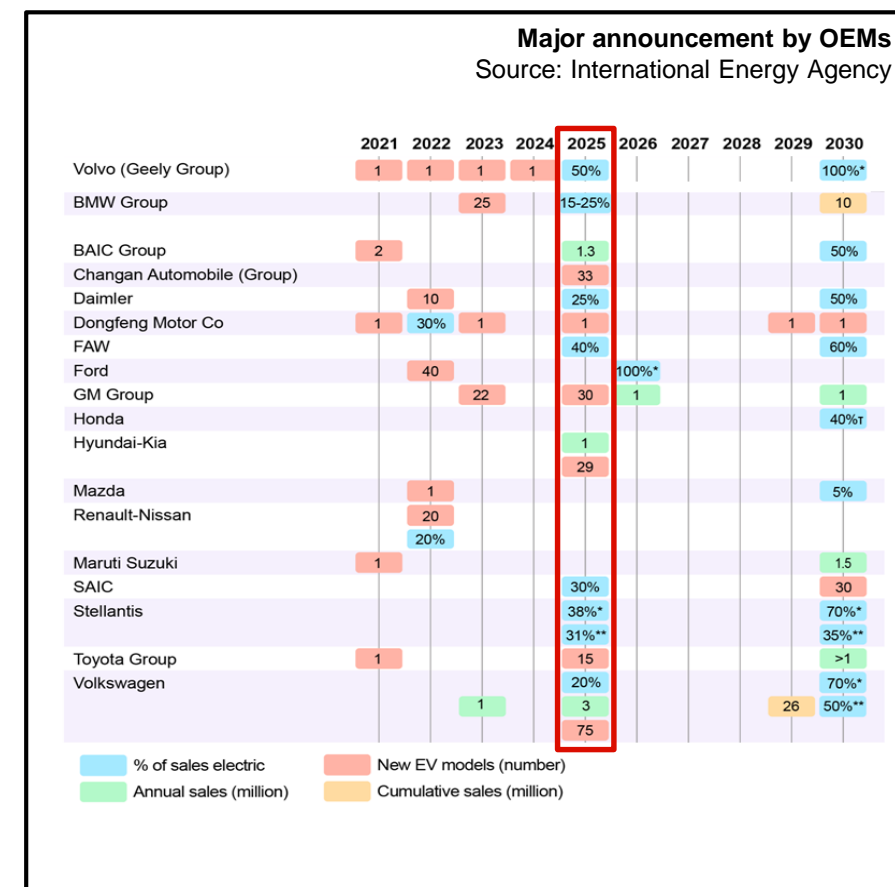
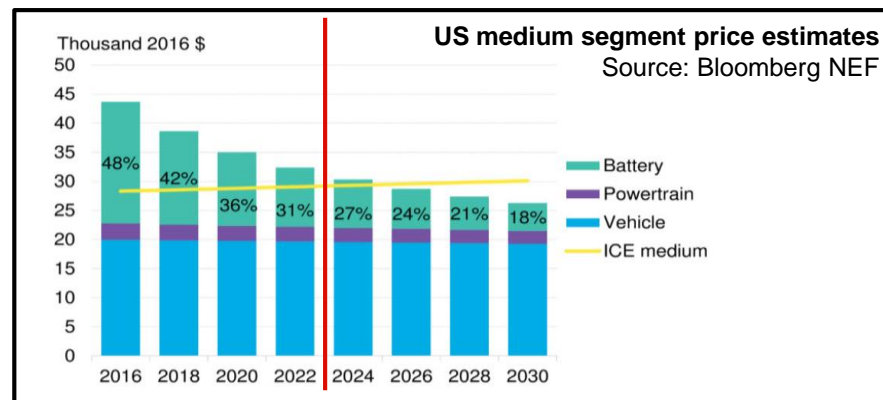
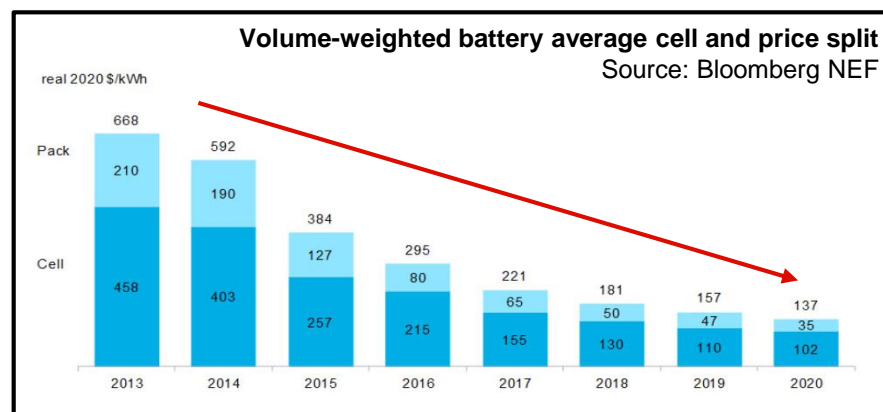
*International Energy Agency: Global EV Outlook 2021



Crossover: 2023-2025

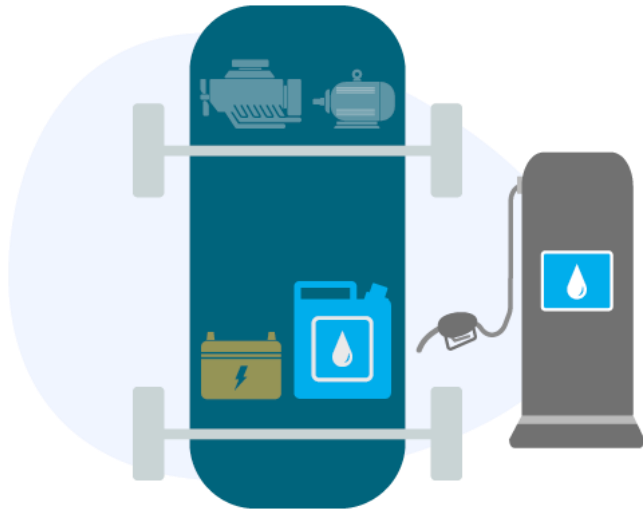
EVs may be as cheap as ICE cars as early as 2023

- ❖ The most expensive part of an EV is the battery, and batteries are rapidly getting cheaper.
- ❖ At current battery cost trajectory, EVs may become cheaper than Non-EVs by 2023
- ❖ Apart from disruptors, many traditional OEMs have EV announcements that converge around mid-decade.



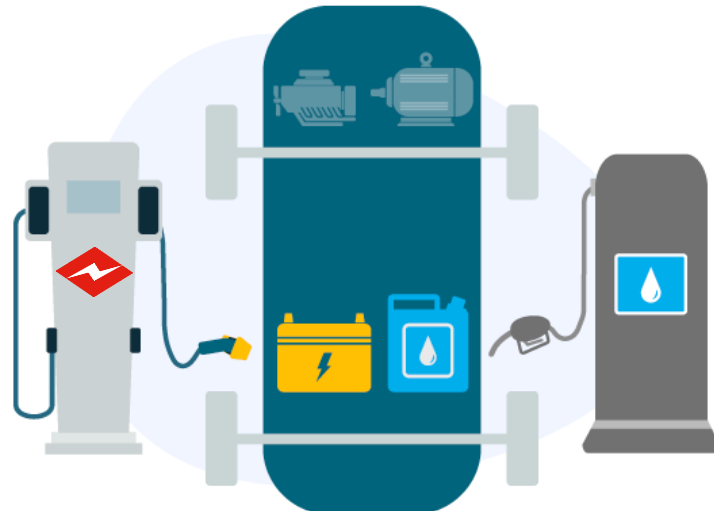


Electric *Vehicles*



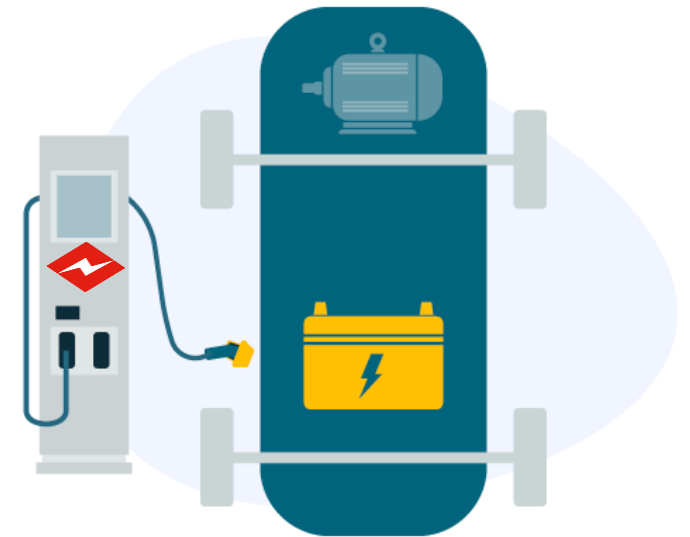
Hybrid Electric Vehicles (HEV)

- No external charging
- Battery powered by braking and from the Internal Combustion Engine
- Eg. Toyota Camry Hybrid, Honda City Sport Hybrid



Plug-in Hybrid Electric Vehicles (PHEV)

- AC charging only
- Uses Petrol and External Charging
- Eg. Volvo XC90, BMW 530e



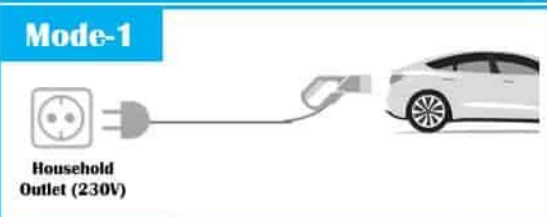



Battery Electric Vehicles (BEV)

- AC and DC charging
- Uses Petrol and External Charging
- Eg. Tesla, Nissan Leaf, Porsche Taycan etc



Key Specifications

- ◆ Charge Speeds:
 - ◆ AC Charge Speeds: 7.4kW, 11kW & 22kW
 - ◆ DC Charge Speeds: 50kW – 350kW
- ◆ OCPP Compliance
- ◆ IEC 61851, IEC 62196, CE
- ◆ MID Certified Meters
- ◆ Internet Connectivity: WiFi, 4G Mobile, Ethernet

Different Modes of charging-	
Mode-1  Household Outlet (230V)	<ul style="list-style-type: none">• AC Charging• Regular household outlet• Un-safe - Not recommended to use
Mode-2  Household Outlet (230V)	<ul style="list-style-type: none">• AC Charging• In-cable control and protection (IC-CPD)• Limited to 3.7kW (16A) in residential use or 7.4kW (32A) for industrial
Mode-3  Dedicated EVSE	<ul style="list-style-type: none">• AC charging• Control, communications and protection functions incorporated in the charge point (EVSE)• Wide range of charging : 3.7KW to 43KW
Mode-4  DC Charger	<ul style="list-style-type: none">• DC charging• Option of either CHAdeMO or CCS• For public and commercial charging applications• Wide range of charging capabilities – over 150kW



AC *Chargers*

EVBox Elvi

home charging solution

From 7.4 to 22 kW
Tracks and invoices charging sessions
Easy to use, install, and upgrade with modular, click-on features
Compatible with every electric car—now and in the future

Best suited for residential use at houses and multi-unit dwellings
Scalable to include up to 11 charging points per Hub-Satellite network



Bolt 22

Stylish durable design
Switchable from 32A to 16A
Max. output power: 22kW

Network connectivity
OCPP 1.6J (2.0 compatible)

Top quality PC with V0
Injection & painting: Anti UV

4.3" LCD optional

IK08 & IP65 for
indoor & outdoor use

LED Indicator

Type A + DC 6mA

4G / Wi-Fi / Lan
Emergency stop

IEC 62196-2 charging
plug and 5m cable



Socket Version

BusinessLine

business charging solution

From 3.7 kW to 22 kW
Charges two cars simultaneously
Available with fixed charging cables (optional)
Available with Schuko charging plugs (optional)
Durable, low maintenance
Remote monitoring and settlement of charging costs
Distributes power efficiently with Load Balancing
Integrated with multiple software providers for customer flexibility





DC *Chargers*

EVBox Troniq Modular*

EVBOX

fast charging solution

Modular and scalable architecture with a power output ranging from 90 kW to 240 kW.

Make the most of your space by charging up to three vehicles simultaneously using CCS2 (dry or cooled), CHAdeMO, or AC Type 2.**

Field-upgradable and easy to maintain architecture that improves uptime thanks to multiple power converters ensuring service continuity.

Built-in smart load management technology that helps you to reduce peak demand charges.

Best-in-class driver experience with auto-retractable cables, 15" screen, LED guiding lights, and charging indicators.

- Up to 240 kW fast charging capacity
- Modular and scalable design
- Simultaneous charging up to 3 EVs**
- Easy installation and maintenance
- 3-year warranty
- Easy-to-brand design
- Built-in smart charging
- OCPP 1.6 compliant and OCPP 2.0 ready
- Various payment options
- LED guiding lights and charging indicator
- Anti-glare, color touchscreen up to 4 configurable languages
- Auto-retractable cables
- Wheelchair accessible



Dynamic EV charging system with satellite charging posts

Kempower S-series charging Satellite poles with range of CPU's provides fast charging system for large and widespread electric vehicle fleets. The modular and scalable system is especially ideal for continuously growing electric bus & truck fleet charging at depot and parties providing fast charging service for electric passenger cars.

Cloud connection for wireless software updates and superior data management.

Suitable for the most common charging standards: CHAdeMO, CCS and Type 2.

1-16 satellite charging poles and/or pantographs for dynamic power distribution.

Class-leading charging cable management elongates maintenance intervals.



Intuitive and user-friendly 7" touch screen ensures smooth and convenient charging experience.

Kempower Power Modules provide dynamic charging power without interruptions. Each module packs 40 kW of charging power.

Highest power vs footprint ratio in the fast charging market. The output of each charging pole can be up to 100 kW, 5 times as high as a standard charging pole of the same size.

Movable DC - Fast charging where you need it.

T-Series is a portable and easily movable DC charging station for electric vehicles. Instant charging power for when and where you need it the most.

Cloud connection for wireless software updates and superior data management.

Suitable for most common charging standards: CHAdeMO, CCS and Type 2.

40 kW of pure charging power. Simultaneous dual charging option 20 kW from each channel.

Suitable for 63 A and 32 A sockets. Maximum 40 kW with 63 A, 20 kW achievable with 32 A.

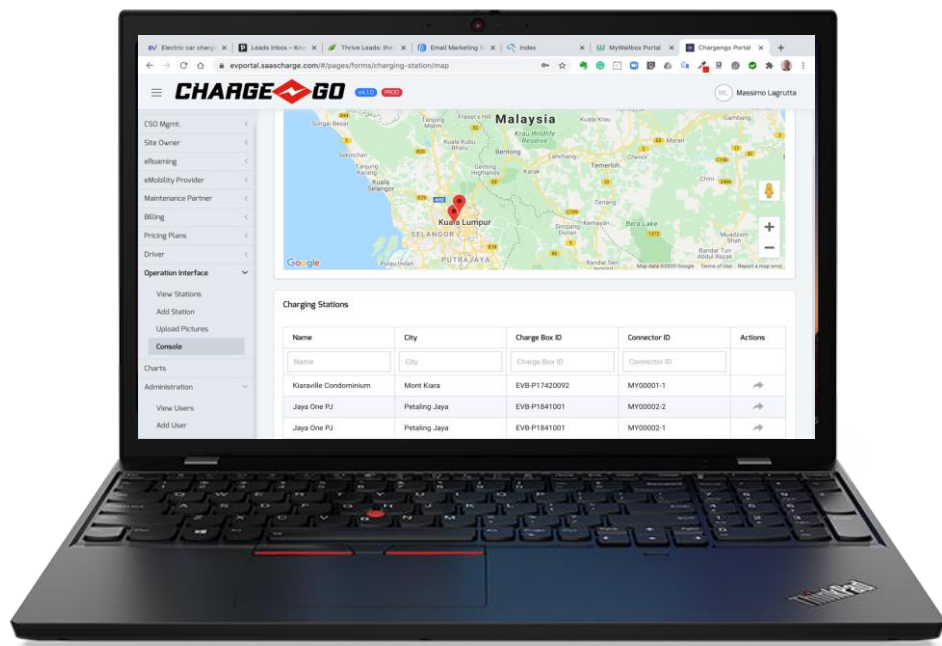
Intuitive and user-friendly 7" touch screen ensures smooth and convenient charging experience.

Robust and weatherproof yet functional T-Series is tested in harsh conditions.





Charge Service Operator **PLATFORM**



The Charge N Go EVNet Platform is a full suite Electric Mobility Management platform that includes all functions required to operate a Nationwide EV Network including User Authentication, Payment Management, Network Monitoring, Reporting and many other features.



e-Mobility



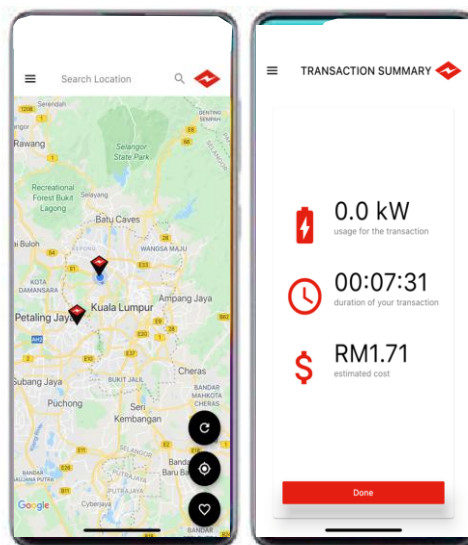
Roaming



Management

Key Features

- ◆ Manage the entire network in real-time.
- ◆ Fully Automated Payment System via credit & debit cards
- ◆ Roaming by connecting to other networks
- ◆ Charger Management : configuration, status, and firmware updates
- ◆ User Management : Permissions, public and closed group structures, multiple billing options
- ◆ Reporting: Statistics, energy consumption, load balancing, charging session analysis and costing.



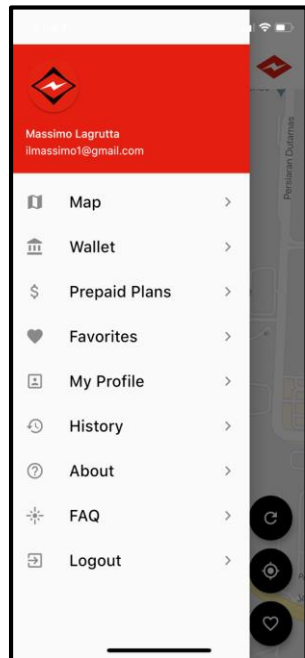


Mobile APP

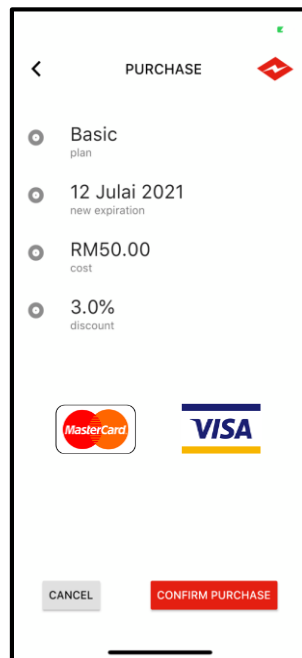
CHARGE^{GO}



Download App



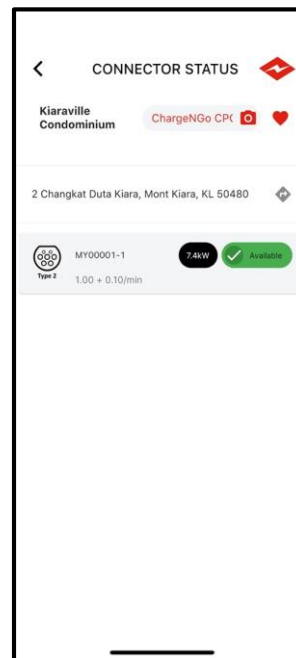
Add Payment



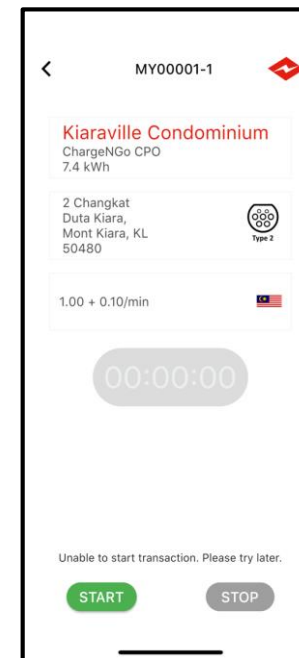
Find a Charger



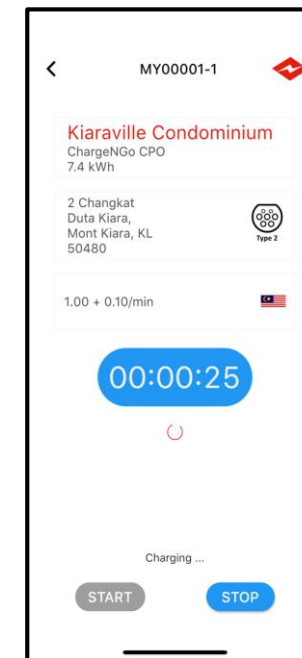
Select Charger



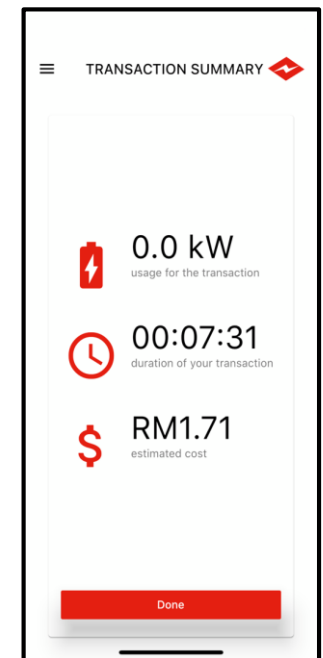
START a Session



END a Session



Session Summary



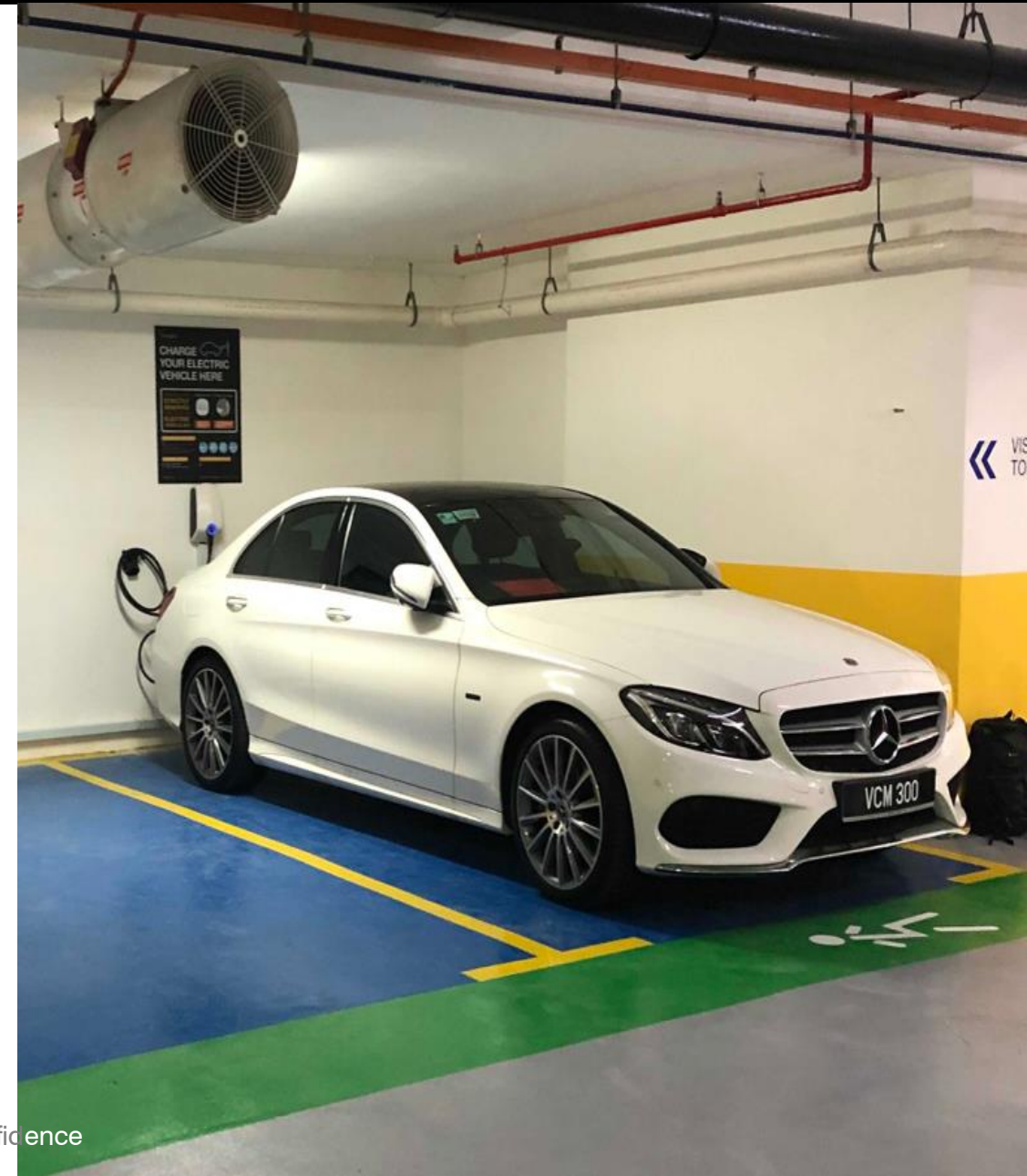


Why *Chargers?*

Why your Building needs EV Chargers?

EV Chargers will become a standard Utility in all Buildings.

- ❖ Safety: Standard Electric sockets were not designed to accommodate high power levels for extended periods of time.
- ❖ Provide resident EV owners with significant cost savings over fossil fuels
- ❖ Save on cost leakages from unauthorised charging – **RM 2,000 per car per year**
- ❖ Increase the value of your property – **Be EV Ready!**





85% of Charging is at home or the office

- ❖ The Average Malaysia drives around 2000km per month
- ❖ 5 -6 Electric kilometres per kWh
- ❖ A typical EV needs between 300 to 400kWh of power per month
- ❖ Vast Majority of current EV Owners are Plug-in Hybrid Owners
- ❖ Almost all Plug-in Hybrids currently can only charge at 3.6 kW





Implementation **Considerations**



EV Charging is a Utility Service required for all buildings

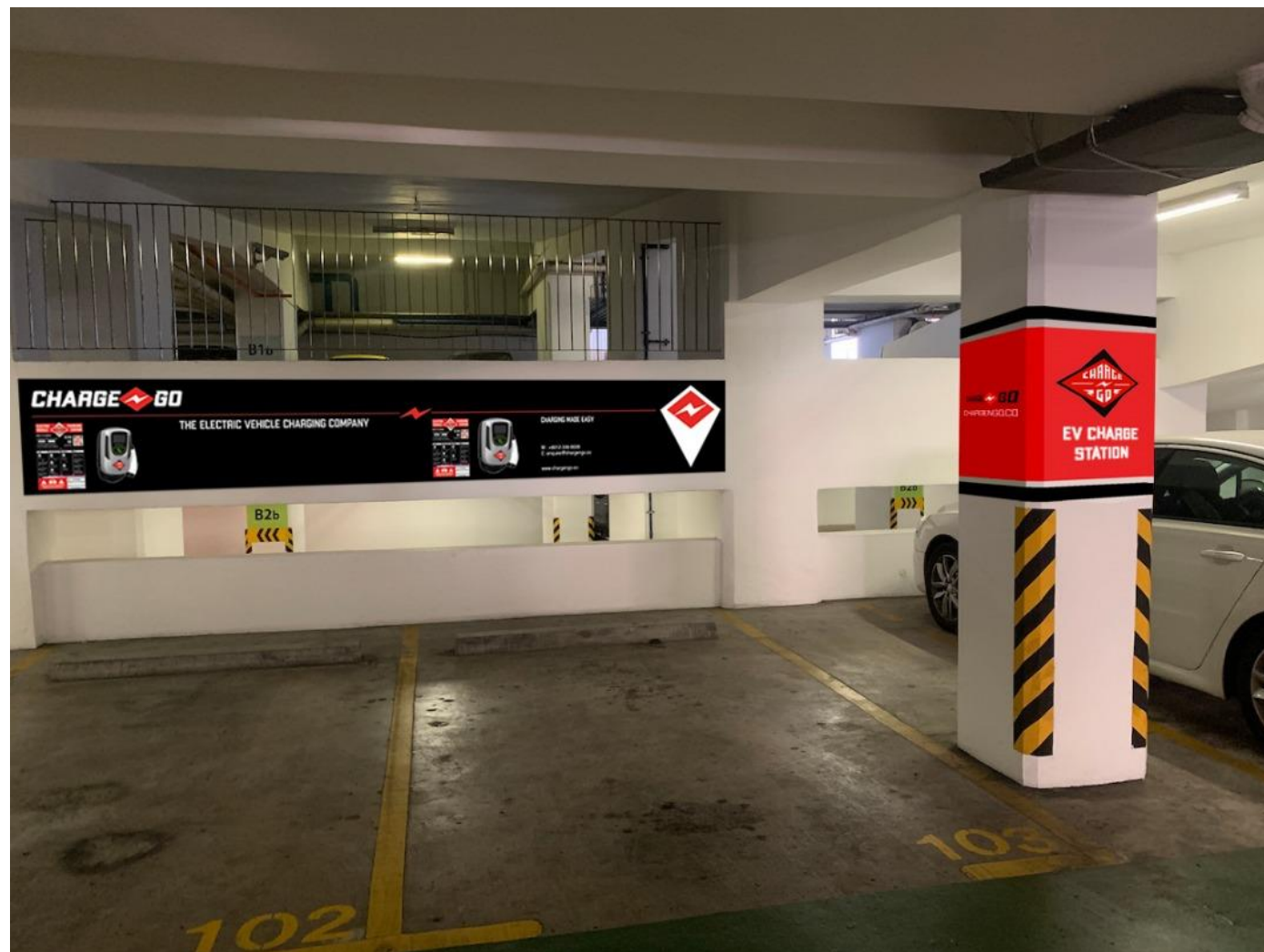
- ❖ User Profile: **Average available time per charge:**
- ❖ Charger Profile: **Private, Limited Group or Public?**
- ❖ Existing supply availability: **To cater for current and future demands**
- ❖ Cable Distance to nearest available breaker: **Infrastructure costs potentially more expensive than the charger costs for long cable runs**
- ❖ Maintenance and Support: **Recommended every 6 months**
- ❖ Management: **User self management, Building management or 3rd party Professional Management**



EV Charging **As A Service**




Fully Managed Charging

- ❖ Chargers fully Managed by Charge N Go
- ❖ Multiple Service Models
- ❖ Scalable Architecture
- ❖ Revenue Share with Site Owners
- ❖ Customer Care and Technical Support for Users
- ❖ Dynamic Load Management



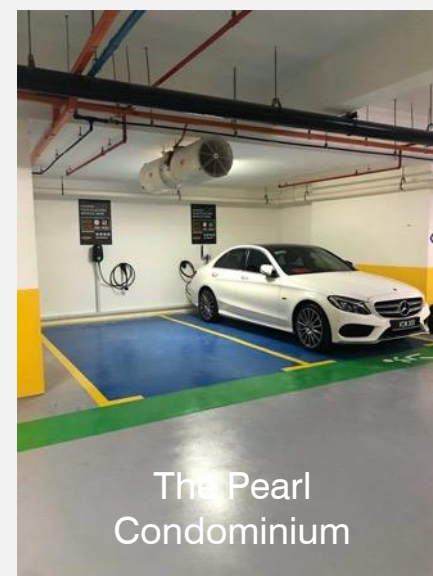
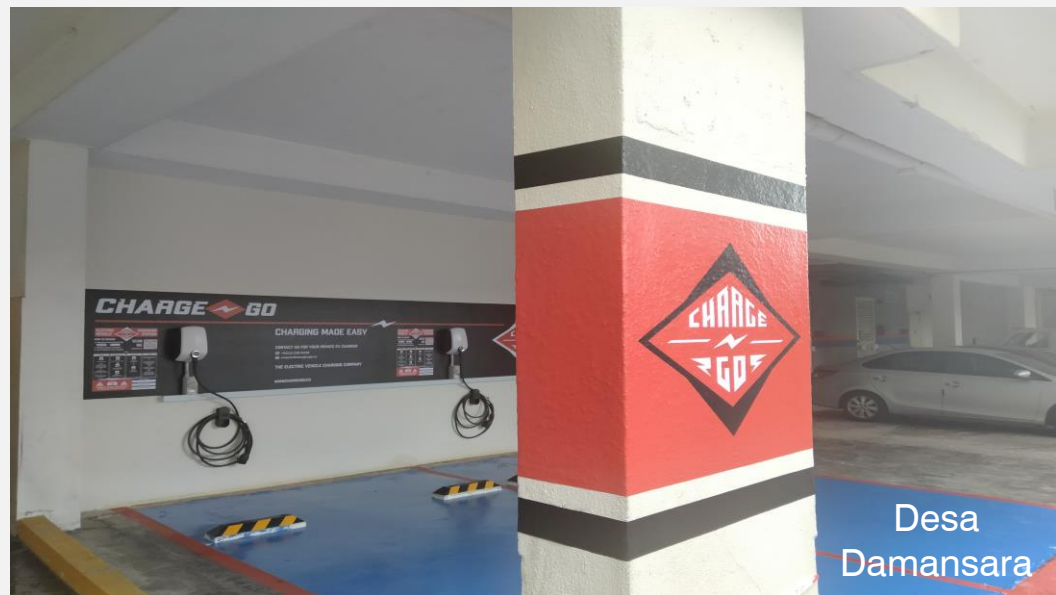


Service Models

Model	Charger Owner	EV Cabling Infrastructure	TNB Account Holder	Billing and Management	Charger Location
 Private Charging	EV User	Charge N Go	Charge N Go	Charge N Go	EV User's parking Lot
 Shared Charging	Charge N Go	Charge N Go	Charge N Go	Charge N Go	Common Area
 Managed Services	Site Owner	Site Owner	Site Owner	Charge N Go	Common Area



ChargeN'Go *Deployments*





Thank **YOU**



Thank you for the opportunity

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