



Be No.1 EV × Mobility Platform Company In The World

Company Profile

Company

1. Company General Info

2. Market analysis
3. Mobility business
4. Charging network business
5. Conclusion

さあ、ともに世界を驚かそう。



VISION

Be No.1 EV × Mobility Platform Company In The World
 Building a new social infrastructure by E-transportation and IT technology
 which makes the world more convenient and comfortable

■ **Name** Terra Motors Corporation

■ **Foundation** April, 2010

■ **Overseas**
 Branch : India
 Distributor : Nepal/Taiwan

■ **Address**
 Saiwai Building 9F 713 Room, 1-3-1, Uchisaiwai-cho,
 Chiyoda-ku, Tokyo 100-0011

■ Management

Toru Tokushige (Founder and Chairman)

Akihiro Ueda (Director and CEO)

Masanori Takahashi (Director and CTO)

Kosuke Nakagawa (Director and COO)

Founder and Chairman Toru Tokushige




三井住友海上


TerraDrone

Born in 1970, he graduated from Kyushu University's Faculty of Engineering. Worked on product planning and management planning at Sumitomo Insurance Company. After leaving the company, he gained MBA at Thunderbird Graduate School of Management and was engaged in core technology ventures and provide hands-on support in Silicon Valley. In 2010, he founded Terra Motors which develops EV business, and grow the business to sell 30,000 EVs a year mainly in Asia. Then, in 2016, he set up Terra-Drone, a drone business, to challenge the creation of a globally competitive business.

Director and CEO Akihiro Ueda




After graduating from the University, he joined Sharp Corporation in 2008. After 3 years at the head office, he moved to the United Arab Emirates. After that, he was engaged in expanding the home electronics business in the Middle East and Africa region through his assignment to Saudi Arabia and Egypt. In March 2015, he joined Terra Motors Co., Ltd. As a sales manager, and grow Bangladesh business from 0 to 10 Mil USD. After that, he served as General Manager of the Group's International business in Asia for four countries, and in October 2019 become CEO and Representative Director at Terra Motors Corporation.

Director and COO Kosuke Nakagawa



He graduated from Chuo University School of Law. In 2013, he joined Terra Motors Corporation as an intern. After graduating, he moved to Terra Motors India in 2015. After his appointment, he was in charge of the East India region and worked to build a sales network in the region. He lead the team and created the driving force to achieve 10 times sales in 2017 compared to the previous year.

Director and CTO Masanori Takahashi



He graduated from Shibaura Institute of Technology. During his college years, he became fascinated with the sky and took charge of designing the electrical systems of human-powered aircraft. In 2011, entered Honda Motor Co., Ltd. He joined Terra Motors in 2014, became its CTO (chief technology officer) in 2018, and became a director at the company's headquarters in October 2019.

Market

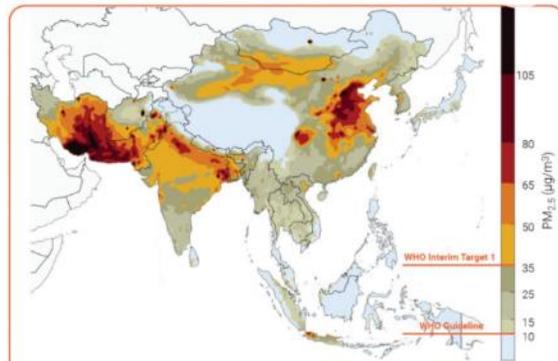
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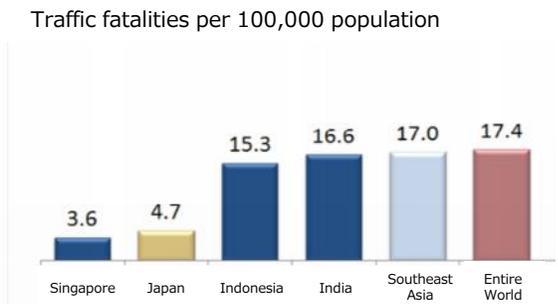
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Pollution caused by PM 2.5 in Asia, especially India



Average time for 100km travel in Asia 1.5-2 hours



High traffic accident rate in Asia

► Hard to solve with current system and product

- India had a trade deficit of 18 trillion yen in FY 2018, of which petroleum is the largest import item amounting to 14 trillion yen.
- India is the world's largest motorcycle market, but its vehicle ownership is lower than other Asian countries, and growth is expected in the future.
- For this reason, the government is strengthening regulations related to gasoline vehicles and accelerating the introduction of EV vehicles.

Needs for EV

Air Pollution

- Eliminated serious air pollution and complied with international standards of emission regulations.

Elimination trade deficit

- To solve the trade deficit caused by huge oil imports, it is necessary to control gasoline vehicles

Promote EV industry

- Using EVs as a starting point, the government aims to attract investment in the manufacture of mobility

Push for EV

Tax incentive

- 28% for gasoline vehicles and 5% for EV

Regulations on gasoline vehicles

- From 2025, 2w under 150 cc can only be sold as EVs.
- Gasoline regulations were tightened to BS6 from BS4

Subsidy for EV

- Subsidies are provided for locally assembled lithium battery.
- The current budget for EV promotion is about 150 billion yen. (FAME Phase 2: April 19 to March 22)

EV adoption is lead by two & three wheels in the light mobility market in India



E-Rickshaw Market

Size: Approx 100,000 (EV only)
Application: 5km (public move)
Speed: Max 25 km/h
Distance: 100 km/charge



Auto 3 wheel market

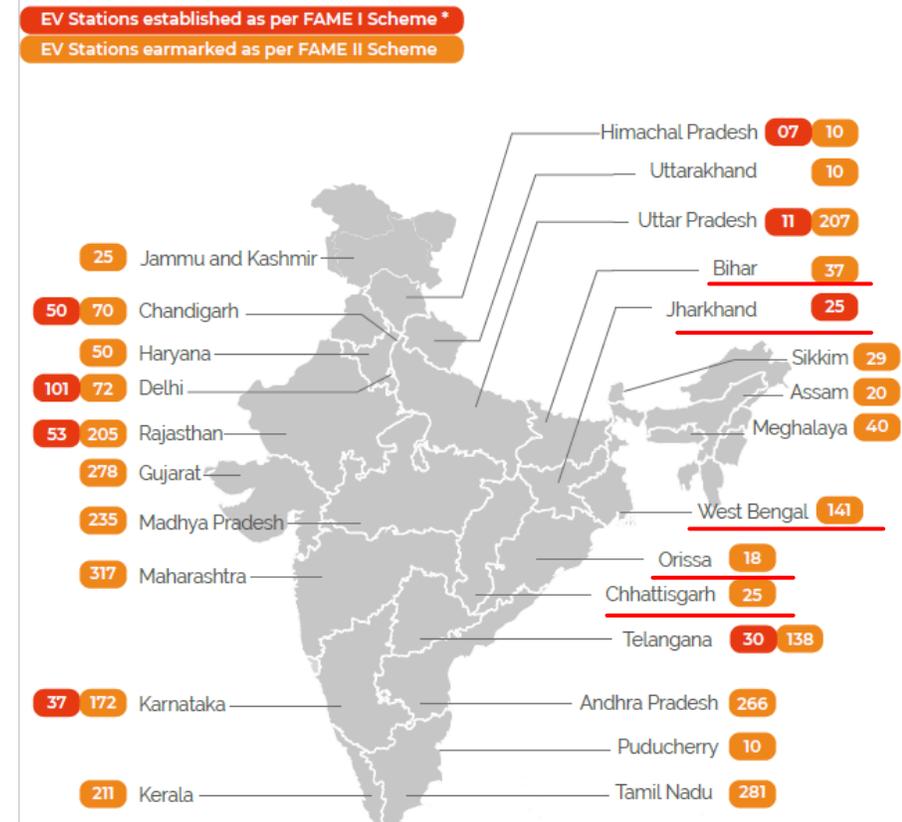
Size: Approx. 600,000 (Gasoline)
Use: Medium Distance (Public)
Speed: 50 km/h
Distance: 130 -50 km (Gasoline)



EV 2Wheel Market

Size: Approx. 20 million (Gasoline)
Use: Medium Distance (Private Use)
Speed: 50 -80 km/h
Distance: 80 km, -100 km

Egg and Chicken Problem in EV Promotion



Citation :Evolving EV Charging Infrastructure in India
JMK Research & Analytics 2021 p.13

- Not enough charging spots are installed near the dealer locations we have relationships with
- There is a lack of charging infrastructure not only around our dealerships but throughout the Indian country.

Mobility

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E-mobility business

**EV3W
(E-rickshaw)**

**EV3W
(e-Auto)**

EV2W

Provide more economical and environmentally friendly
means of transportation towards mid-class market segment in Asia

Connected E-mobility business

**Microfinance
(IoT × Fintech)**

**Last one mile
(MaaS) business**
**Advertisement business
(IoT × AdTech × Mobility)**

Structure of the entire industry by utilizing the digital service
to bring new value to mobility industry

Launch of new business to increase business value in addition to existing E-Mobility business

	Business domain	Basic info for terra in this domain	Target customer
E I M O B	 EV 3-wheel (E-rickshaw) Business	We have about 400 dealers mainly in East India where EV3w is originated, and it is the current main business which keeps the top share from 2019.	Mainly low-income people earning less than \$5000 a year. Transfers from farming households in rural areas and migrant workers in urban areas.
	 EV 3-wheel (e-Auto) Business	It is expected to replace the annual gasoline 3 wheel market of about 600,000 vehicles, and the scale in FY21 will be about 5,000 vehicles. Development is under way and our launch of this will be in FY 2023.	Low and middle income workers with annual incomes of between \$5000 and \$8000, migrant workers in urban areas and workers in rural cities.
	 EV2W Business	We are currently developing a high-spec vehicle which can replace gasoline instead of the low-speed vehicle.	Businessmen earning more than \$8000 a year, or workers working in taxis, food delivery, etc.
N E W	 Microfinance business IoT x Fintech	Started business in fiscal 21 with the aim of further growth of EV business. We use IT tech such as Fintech, IoT for more value of business.	Terra EV purchaser, Start with a \$5000 annual income customer range.
	 Advertising business (IoT x AdTech x Mobility)	In large cities where outdoor advertising is expensive (Delhi, Mumbai, etc.), a new advertising platform business with Iot by utilizing our E-mobility network.	The first step is to start sales with the buyers of terra EV (3 wheels). We plan go for other segment also.
E I M O B	 Last mile (MaaS) Business	This is a platform business to improve convenience and economy for drivers, society and passengers by utilizing the partnership with Metro and its own mobility, advertisement and digital payment. ,etc.	Terra EV drivers and Metro customers.

1

E-Rickshaw(EV3w)



Speed: 25 km/h
Usage: Taxi within 5km
Market: 100,000 units/year

Dominate niche markets
Make stable cash generating business

Market size: **\$100 Mil USD**

2

E-Auto(EV3w)



To be introduced in 2023

Speed: 45 km/h
Purpose: Taxi within 15 km
Market: No EV market

Replace the gasoline market

Market size forecast: **\$1 Bil USD**

3

EV2w



Speed: 45 km/h
Purpose: Individual travel
Market: 150,000 units/year

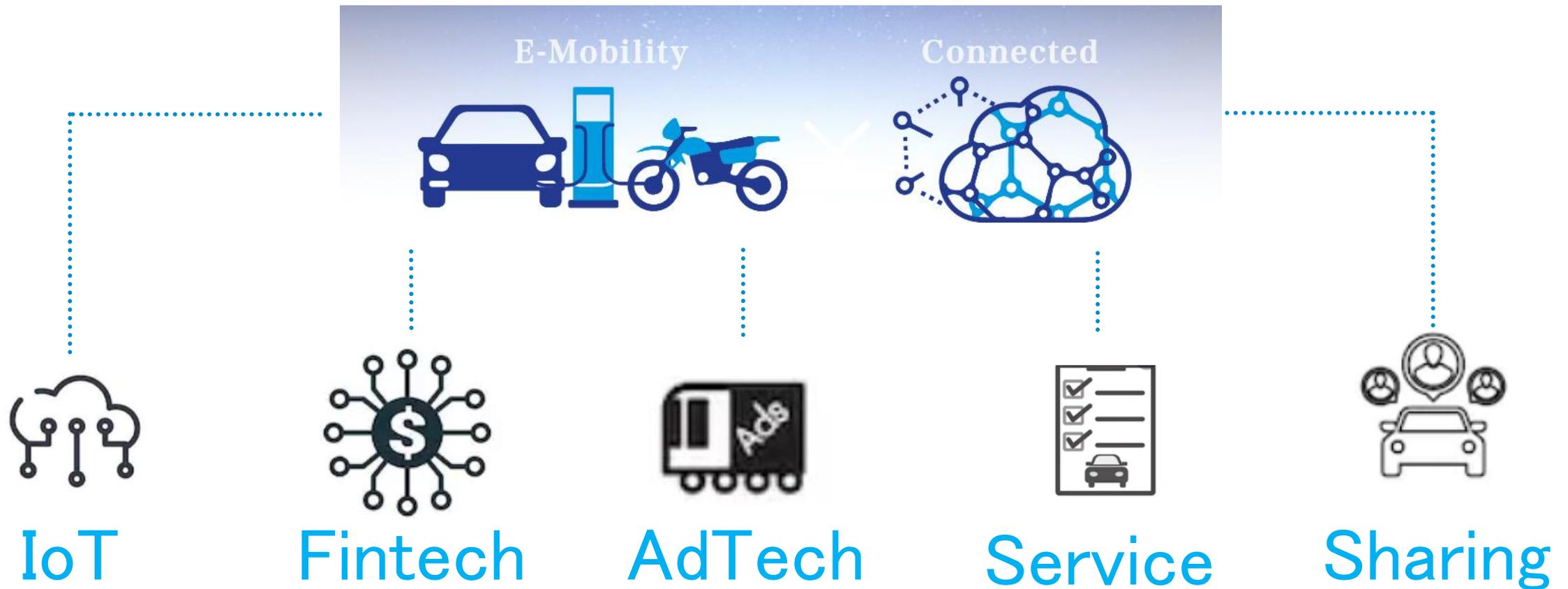
Using the brand established by EV3w
aim to build a brand prior to others

Market size forecast: **\$6.8 Bil USD**

* In April 20, gasoline regulations were tightened from BS4 to BS6, and gasoline two-wheeler at low segment price increased by \$200 or more.

Aiming at early establishment of brand in **EV \$8 billion USD market in India** by light EV (2/3 wheels)
which does not require infrastructure for running

Connected E-mobility Concept

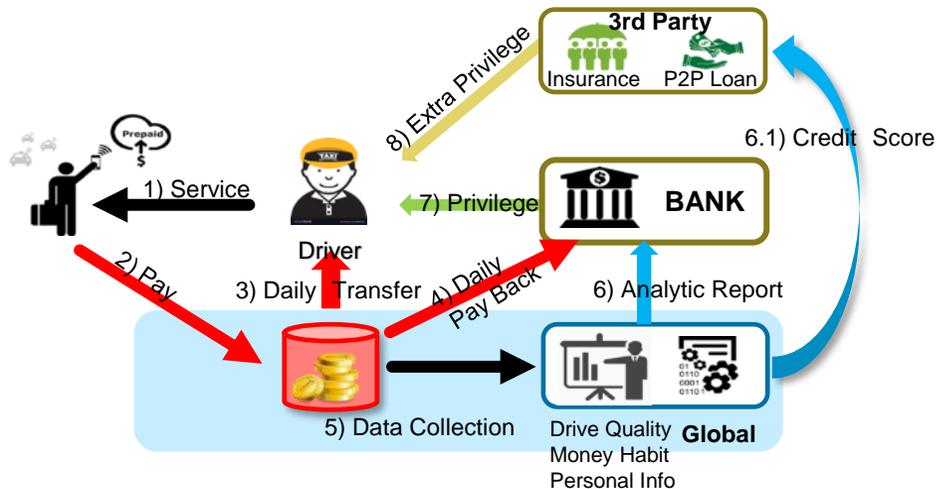


Challenges for Low-Income People's Microfinance

- High risk and high interest rates
- Take a lot of time to collect monthly installments
- Generally high default rates

- Most of low incomes people cannot get a loan.
- It takes time to collect the vehicle when it default.

Improved collection efficiency through digital settlement (planned to be introduced)



Substantial use of IOT technology for vehicle bodies (introduced)



- Digital payment digitizes flow of money and manages the flow by terra
- By redistributing them, we can reduce collection time and default risk.
- Use visualized repayment history and income as collateral to consider interest reduction/loan increase

- The IOT is installed in the vehicle, and the tracking function is also added.
- This system makes it possible to provide unsecured loans to low-income borrowers



- Established a loan business alliance since 2017
- Terra has received about 2000 loans to date

- Weakening Competition (decrease in loans)
- Easing of loan screening requirements for Terra
- Provision of financial know-how



TERRA MOTORS



- Collecting support by all team members (Sales)
- Launch more attractive products
- Support risk management by providing IOT tech



- Providing loans for Tera EV users
- Business efficiency through digital utilization

- Development, manufacture, and sales of small EVs
- Maintenance and after-sales service
- loan collection support

Charging network

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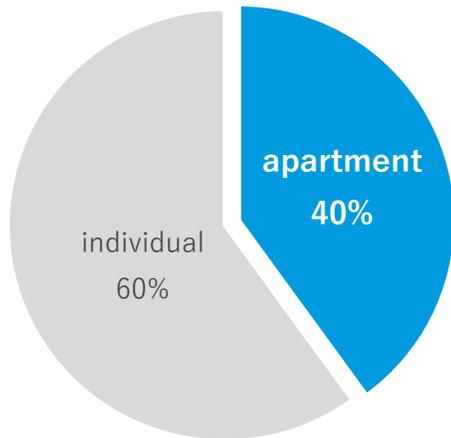
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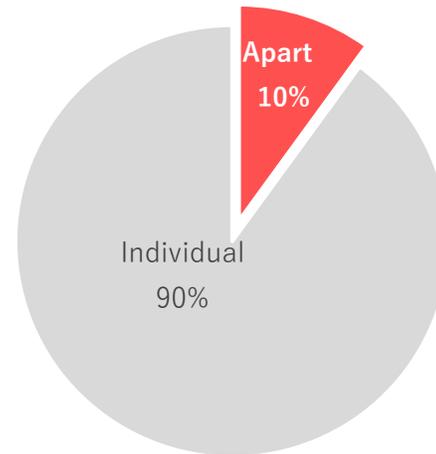
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[Japan housing status]



[Actual EV owner]



40% of Japanese housing units are apartment buildings.

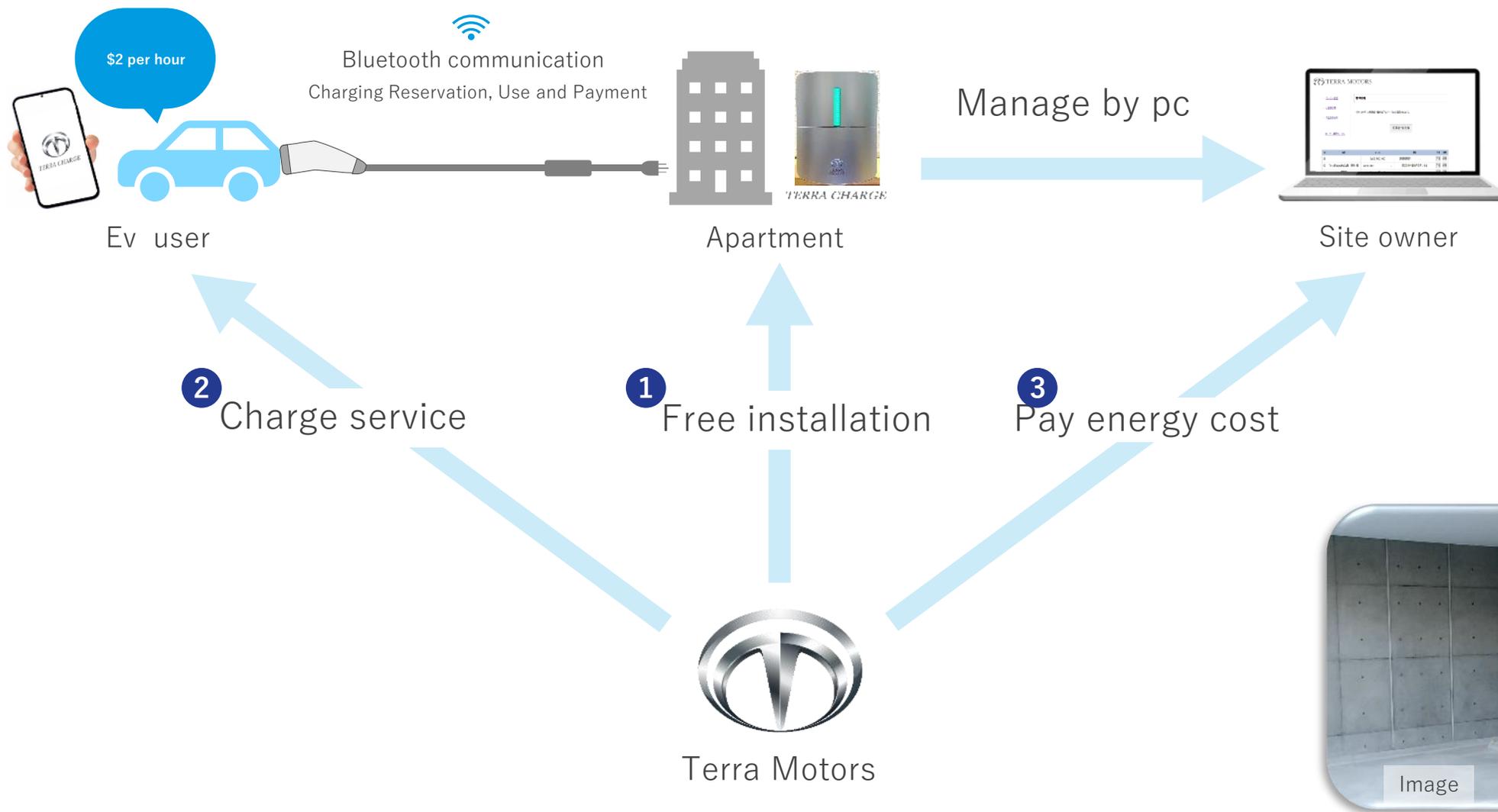
However, especially in condominiums, it has been difficult to build consensus for the introduction of EV charging facilities.

As a result, 90% of EV users live in detached houses, making it difficult for condominium residents to consider purchasing an EV.

Terra Charge concept

A major factor preventing the shift to EVs in Japan is the lack of charging infrastructure. In particular, the expansion of basic recharging is important to realize home refueling, which is one of the advantages of EVs.

At Terra Motors, we see the difficulty of building consensus, especially in condominiums, as a challenge. The project is being developed based on the concept of creating an EV charging infrastructure that is "easy to reach consensus on anyway."



Terra IoT charger



Lock function

While charging lock function is there



App connected

Booking payment location search
All will be app based



Safe and convenient

Quality and operation will be secured by
Japanese quality standard

Software is also provided. There are two types of software: one for the administrator and one for the EV user (recharging user).

Managers' PCs (For management associations and condominium owners)

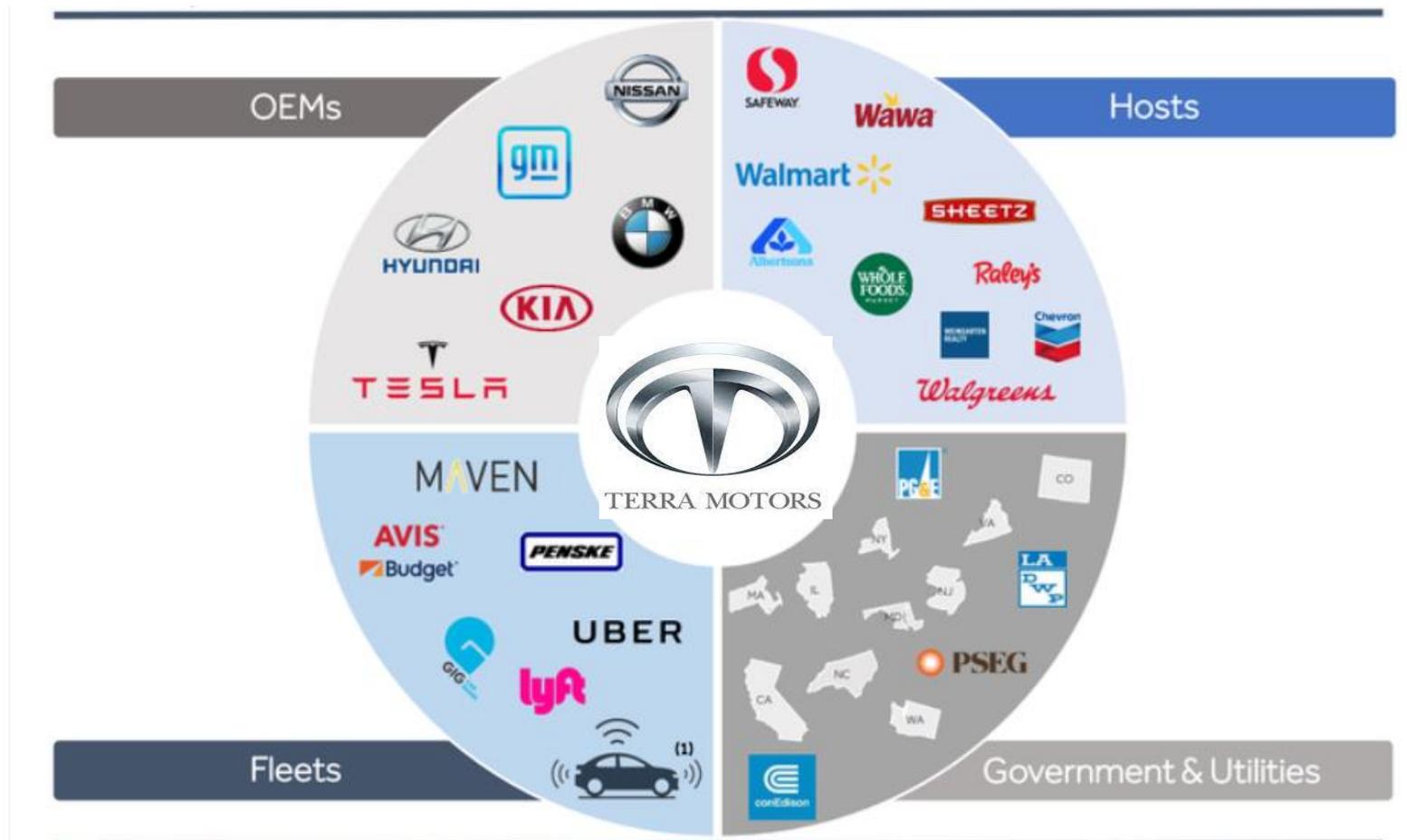


- Charging Status Management
- Management of recharging services
- Checking the amount of recharging usage, etc.

EV User Smartphone App



- Search and reservation of charging facilities
- Control of charging start and end times
- Payment of recharging fees
- Checking charging status and history, etc.



We will make Relationships with OEMs, Fleets, Site Hosts, and Governments

	Smart Plug	Standard charger (SC1)	Standard charger (SC2)	Rapid charger	Charger with digital signage
Image					
Main usage	Shared Home Charging	Home & Destination Charging	Destination Charging	Destination / Route Charging	Destination / Route Charging
Charging capacity	AC 3.3kW	AC 7.6kW	DC 30kW	DC over 60kW	AC / DC over 7.6kW
Type	Bharat AC001	CCS 2	CHAdEMO / CCS 2 / GBT etc.		CHAdEMO / CCS 2 / GBT etc.
Regulations	N/A		IEC 61851-1, IEC 61851-23, IEC 61851-21-2		
Communication (Internal/External)	Yes (NA/Wifi·GMS)		Yes (CAN·RS485/Wifi·GMS·Ethernet)		TBD
Charging network	OCPP / API for each application				
Product Launch target	May 2023		July 2023		September 2023

Parking model

Parking service + solar



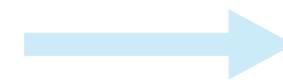
Getting power



EV charger



Charging service



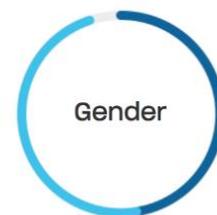
OEM/End user



Digital signage model



entertainment, and more. Volta's audience includes:



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Terra Motors aims to become a driving force in the overall EV industry by expanding its charging infrastructure while establishing its brand in the light EV sector, where there is real demand.



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Thank you very much for your attention!