Welcome

As the supply of electric vehicles (EVs) increases, the expansion of charging infrastructure is not keeping pace. While more EV charging operators are entering the market, many are struggling to grow their customer base and sustain profitability. The saturation of providers has led to user fatigue, with EV drivers burdened by the need to register separately, manage multiple memberships, and set up payment methods for each operator.

At the same time, EV adoption is slowing, which has made it even more challenging for charging infrastructure operators to recover investments and scale their operations. Additionally, many consumers now own both electric and internal combustion engine (ICE) vehicles. With a growing number of gas stations installing fast chargers, there is increasing demand for integrated services — including unified payment systems, fuel purchases, and loyalty programs that connect to convenience store at gas stations.

To meet these evolving needs, the VZ platform will expand beyond its original EVZ offering — evolving into a comprehensive mobility ecosystem that unifies services across both EVs and ICE vehicles. This initiative aims to streamline user experiences, optimize operator efficiency, and support the transition toward a more integrated, sustainable transportation infrastructure.

Abstract

Electric vehicles (EVs) emerged around the same time as gasoline vehicles, but it wasn't until the mid-2000s that they gained significant momentum in technological advancement and commercialization. With global concerns about environmental issues, especially global warming, many countries are implementing policies to increase the supply and marketability of electric vehicles. However, this has led to a two to threefold increase in power consumption from EV charging every year. As this trend continues, power providers will have to forecast the supply and demand for this market. Experts predict that for every 100 electric vehicles, 55 charging stations will be needed. However, conflicts between landowners and stakeholders due to location and supply issues have made it difficult to install new charging facilities. These problems complicate the transition from internal combustion engine cars to electric vehicles.

There are two main types of electric vehicle charging

It is for personal and public use. Personal chargers have limited access to the general public, so their utilization rate is low. Public charging stations, which are typically found in parking lots or gas stations, can be difficult to manage because non-electric or electric vehicle owners who take up charging space do not charge for too long. In Korea and other countries, governments have tried to solve these problems through laws and fines. In addition, locations such as apartment complexes, large hotels, and office buildings provide both personal and public functions, and can provide owners, residents, visitors, and other permitted users with shared access to charging stations. This approach can meet the needs of EV users in busy urban centers. As the introduction of electric vehicles spreads from urban areas to outer suburbs, charging stations will naturally expand into these areas.

Currently, charging station operators are using complex methods to provide services, with users registering as members, and operators struggling to install new equipment for payment processing and communication, which leads to higher costs of setup, operation, and maintenance, driving up charging costs.

Manufacturers of electric vehicle charging technology have developed their own operating systems to build various competitive systems. To address this issue, manufacturers and service providers are working to develop industry standards using the Open Charging Station Protocol (OCPP). However, these efforts are complicated by differences in payment processing and additional charges between countries and providers. Electric vehicle users often experience the inconvenience of dealing with incompatible systems and may need to register for multiple services.

Various service methods and user inconvenience of charging operators

Item	Key Contents	Compatibility Obstacles
① payment method	- Pay for a dedicated mobile app - RFID Membership Card - QR code payment - prepaid recharge card - a credit card terminal	- independent payment system - RFID card mutual non-authentication - QR format mismatch

② membership-only benefits	- Points/discounts - a membership rating system - a discount on the hour mark - Affiliate cashback - an exclusive reservation	- Non-standardization of benefit policies - Unable to accumulate/discount when using other companies - Interworking API not provided
③ Provide charging history	- Charging history and carbon saving information - Monthly Report (For Businesses)	- History cannot be linked - No standard data present
④ Location and reservation features	- Provide real-time location/status - App-based reservation	- Lack of third-party reservation duplication prevention - No compatibility standard
⑤ Customer Response and A/S	- Customer Center/App Inquiry - Failure reporting and remote control	- Difficult to identify operators - Absence of integrated fault notification scheme

To promote the expansion of the electric vehicle industry, it is essential to improve the ease of use of electric vehicle owners. The charging station operator must ensure that customers have access to all providers through a single registration, which requires the introduction of a "roaming service." The platform must be simple enough for all providers to adopt, and it must optimize the current infrastructure for smooth and precise data exchange.

It is more convenient for charging service providers to focus on the management of charging stations, and to recruit and charge customers, it is more convenient to use a unified platform.

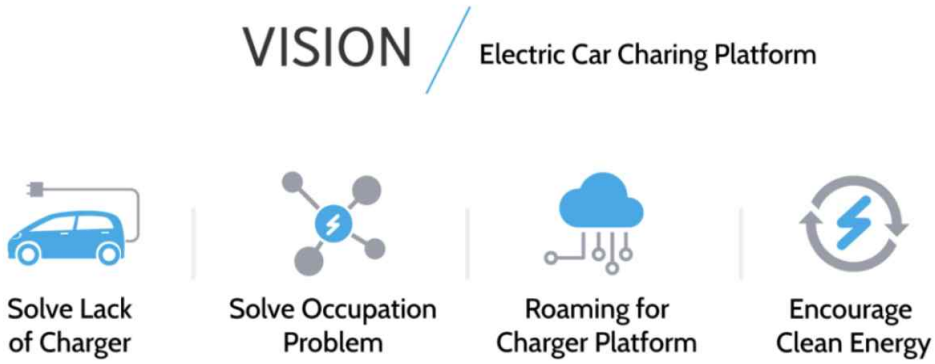
It is most advantageous for users to use all chargers by subscribing to only one charging service provider, and ultimately, it is convenient to expand to gas and convenient store purchases.

User inconvenience cases

Classification	User inconvenience	a concrete example
1. Duplicate Subscription and App Installation	Different charging stations have different apps, requiring multiple apps to be installed and registered as members	Company A, Company B, Company C, etc. need to be installed separately
2. RFID Card Obligations	You can't use your RFID card on the charger of another operator	Have multiple RFID cards for each company
3. Discounts and benefits are not applicable	Membership points and discounts are not applicable when charging other companies	Only Company A can use Company A's points
4. real-time information fragmentation	Difficulty checking the location and status of all charging stations in one app	AMSP operators are linked to only a few operators
5. Reservation function not working	Reservation available only for specific operator apps, no deduplication	Company A's reservation is not displayed on Company B's app, resulting in overlapping cases
6. Charging history disconnected	Charging details are separated by operator, so integration is not possible	Inconvenience in managing the user's driving records
7. Payment method restrictions	Real-time credit card payment is not possible or only certain means are allowed	Presence of an unsupported charger for simple payment, on-site payment is not possible
8. Customer response/disability response	Difficult to identify operators in case of failure, delay in	Need to switch apps or search again on site

confusion	customer center connection	

Blockchain technology can be used to create a linkage system between EV charging stations and traditional gas stations to solve these problems and establish eco-friendly EVs mainstream, as well as to allow more chargers to be installed at gas stations.



Once these steps are completed, gas station owners can easily set up and operate their own EV charging stations, facilitating organic growth.

The first vision is that users of electric vehicles and users of internal combustion engine vehicles use the same platform.

This can be achieved by developing a token economy that distributes financial rewards or penalties to users of charging and refueling to induce positive participation in the ecosystem.

The second vision is to create a platform for gas station owners who have installed chargers to provide roaming services to customers.

Regardless of which charging station the customer visits, it is convenient to use the charger without a separate membership.

Gas station owners can use the coin ecosystem to rious promotions that can attract electric vehicle customers.

To achieve this, it is essential to synchronize the systems of different businesses as closely as

possible to increase accessibility.

The VZ Project is designed to significantly enhance the utilization of existing infrastructure by enabling fast EV charging at gas stations and facilitating the cross-use of services between EV and traditional fuel customers. By bridging the gap between electric and internal combustion engine vehicle ecosystems, VZ empowers gas station owners to generate new revenue streams through EV charging, while maintaining relevance in a transitioning energy market.

This integrated approach not only improves operational efficiency and customer convenience, but also contributes meaningfully to environmental sustainability. By incentivizing the use of eco-friendly transportation options and reducing emissions through greater access to fast charging, VZ supports a more seamless and inclusive transition to a low-carbon mobility future.

Electric Vehicle Charging Trend

Fast chargers are expanding based on gas stations and rest areas, along with the purpose of revenue from charging sales

We are installing and expanding chargers to attract customers to increase sales at convenience stores located at gas stations.

Slow charging is currently the most common means of charging an electric vehicle. Electric vehicle owners with access to a dedicated chargeable parking space can charge overnight, which is not only convenient, but also generally affordable electricity bills while still relatively low in demand.

However, the reality is that it is difficult to expand chargers due to competition in the use of chargers due to the increase in plug-in hybrid vehicles and limitations in power facilities in buildings.

In addition, charging in parking lots is becoming increasingly difficult due to the increasing number of electric vehicle fires.

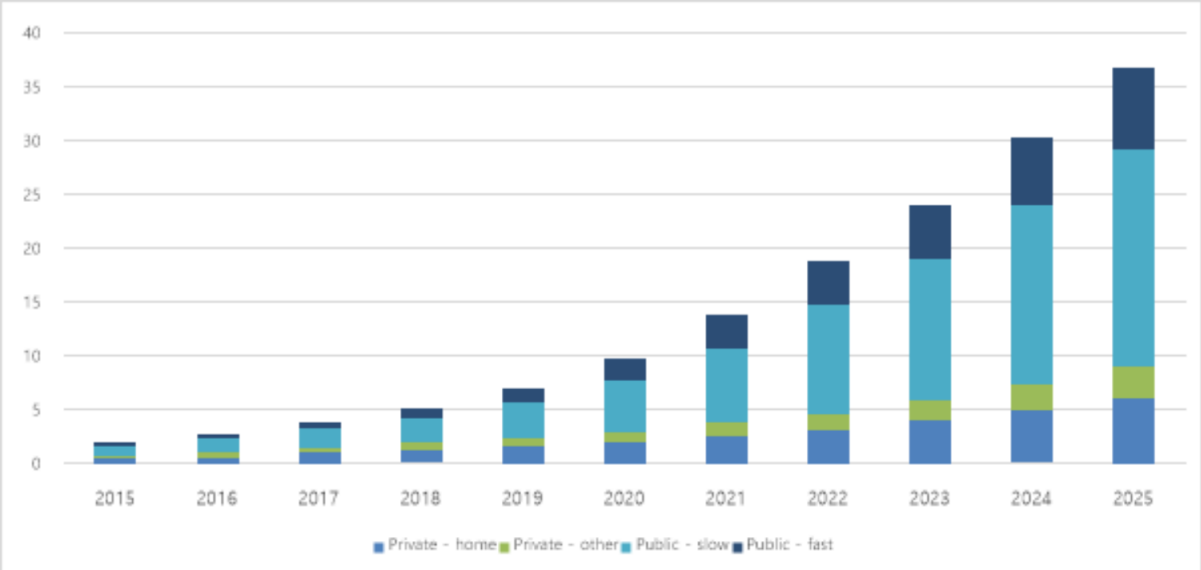
In dense cities, most people live in multi-family homes, which makes home charging more restricted and electric vehicle owners rely more on public charging.

As a result, the expansion and use of rapid chargers based on gas stations and their convenience

stores are expected to increase.

In particular, the U.S., which stopped subsidies for electric vehicle charging infrastructure, is on the rise due to a lack of chargers, and Southeast Asia, such as Indonesia and Thailand, is also experiencing rapid charging infrastructure expansion due to the increase in electric vehicles.

This is the area you need.



Public and private installation light vehicle charging stations by power rating and type, 2015-2025, IEA

The government is stepping up support for fast charging infrastructure.

Although more private chargers are becoming available, the interoperability and accessibility of public charging infrastructure are key factors in ensuring broader acceptance and equitable use of EVs.In 2024, public charging inventories were up about 35% year-over-year, and growth rates for fast chargers remained higher than slow chargers. The expansion of government investment and private cooperation have further accelerated the spread of public chargers in 2025, with fast chargers accounting for more than 37% of the total charging infrastructure.

Electric Vehicle Charging Prospects

Recharge Soongyong tea

Fast charging could increase sixfold by 2035, helping mass market consumers transition to

electricity

The large-scale introduction of electric vehicles depends on the simultaneous release of accessible and affordable charging. Those who introduced electric vehicles early tend to live in detached houses that are affordable and convenient to use home charging. As a result, most of the charging so far has been done behind closed doors (at home and other private locations). At the same time, fast chargers tend to be installed in urban areas where utilization is more likely. However, in the future, fast chargers should be installed outside urban areas for continued adoption beyond cities and suburbs.

According to the EU Alternative Fuel Infrastructure Regulation (AFIR) Regulations, DC fast charging (minimum 150 kW) must be installed every 60 km along the EU Trans-European Transport Network (TEN-T) from 2025. So, the share of fast chargers is expected to increase from about 15% in 2023.

Large Vehicle Charge

As more and more buses and trucks become electrified, charging capacity is expected to increase 20 times by 2035.

In most business buses and trucks, the route and time are set, and accordingly, they move by base by charging, accommodating, and eating.

In the case of business electric vehicles, large-scale power facilities and space are required because they have a long mileage and apply ultra-fast charging to shorten charging time.

Places like gas stations and logistics warehouses, truck parking lots, and truck rest areas are the places where these facilities can be built.

Installing and operating chargers in places with this infrastructure is a place-holder.

They need services for operation management and settlement management after installing the charger.

the need for blockchain

In order for various charging and gas station operators to provide better services to users

We need a platform that analyzes, manages, and serves customer usage data.

However, it is difficult for various operators to obtain consent from customers and collect information, and there is also competition among operators, so it is practically difficult to operate on one centralized platform like today.

In the case of the gas station system, it is necessary to introduce a blockchain platform to improve customer service.

The motivation behind this is not clear, so we still use old-fashioned marketing solutions such as coupons for each gas station.

Recently, however, electric vehicle chargers have been installed, the need to link customer service is increasing, and the demand for efficient and safe charging infrastructure is increasing. We are facing problems such as security vulnerabilities in existing systems, lack of transparency, and complex billing processes. Blockchain technology could provide a potential solution to these problems, revolutionizing the electric vehicle charging industry and customer service at gas stations and gas station convenience stores.

Improve the efficiency of the billing process

Billing for EV charging costs can be complicated by the involvement of multiple stakeholders and various price structures. Blockchain technology simplifies this by providing accurate claims in real time. Charging data is recorded automatically and is easily accessible to the parties involved, simplifying adjustments and reducing administrative burden. Furthermore, the integration of smart grids and blockchains enables dynamic pricing, which can optimize charging based on supply and demand.

In addition, roaming interworking for the use of other members among charging operators is a service that provides power and rental of the charging network rather than a payment agency, which can increase work efficiency and increase sales among charging operators.

The charging service provider provides charging to customers of other charging service providers and receives roaming settlements from other charging service providers.

This structure is easy when there are a small number of charging operators, but a unified platform is required to work with a large number of charging operators.

In addition, a collateral is required for settlement between business operators.

The VZ is used as collateral for these B2B settlement measures between charging operators, which can help more charging operators participate in roaming networks and make charging easier for electric vehicle owners.

It can also be applied to gas stations to extend the settlement of oil payments to oil spot transactions between gas stations, extending them to B2B refueling services of large logistics companies.

Even now, the logistics company is still trading volume-oriented to the gas station network, which implements a method of settling oil in terms of quantity rather than the amount of gas per gas station.

In other words, a logistics company recruits a network of gas stations to refuel its trucks, and pays the network of gas stations at a price according to the volume, such as 1,000 liters.

Accordingly, each gas station does not bill based on different gas rates for their specific gas station, but rather on the amount according to the total amount of the network.

Even in these transactions, VZ is used as collateral, and platforms such as electric vehicle charging stations are applied based on blockchain.

Overcoming Challenges and Adoption Obstacles

Blockchain faces challenges for widespread adoption. We need to address scalability and performance issues to handle the growing charging transactions. Interoperability and standardization efforts are required to ensure compatibility between various charging networks and blockchain platforms. In addition, regulatory and legal frameworks must be established to manage blockchain-based charging systems and protect stakeholder rights. Cooperation efforts among industry stakeholders, governments, and technology providers are essential to overcome these obstacles.

A step-by-step expansion strategy is needed to extend these verified services to gas station customers.

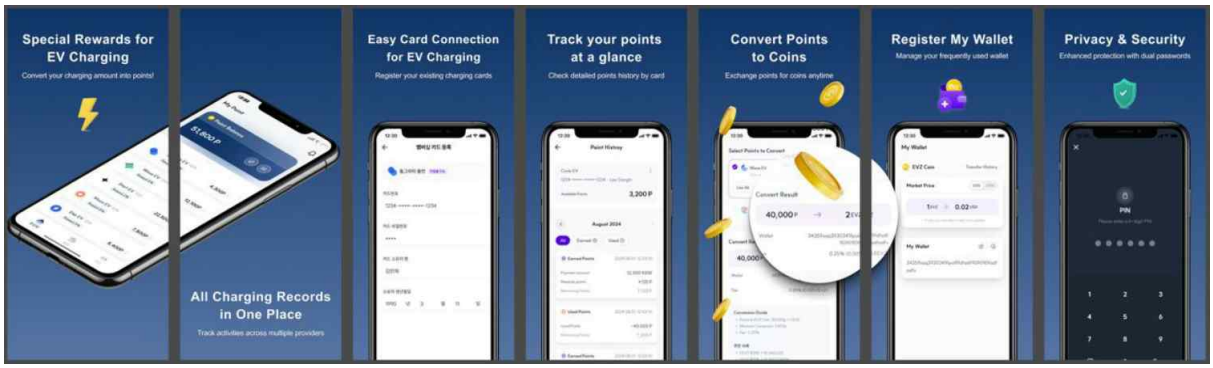
There are challenges in expanding EV charging to extend proven business models and platforms to gas station models.

Conclusion

Blockchain technology has the potential to revolutionize the EV charging industry by enhancing security, transparency, and efficiency in charging transactions and billing, and based on this, it can revolutionize the gas station where charging stations are installed.

Its decentralized and immutable properties address the limitations of existing charging and gas station systems, ensuring safe transactions and accurate billing. Collaborative efforts among stakeholders are critical in overcoming challenges and facilitating the widespread adoption of blockchains in automotive ecosystems. The sustainable future of automobile-powered electricity and fuel is just around the corner through blockchain technology.

VZ Point App



1. Electric Vehicle Charging and Refueling - Use Pay Point (WATT) as a reward

Use Reward Points (WATT) payment is a system that provides points as rewards when users use a particular service or perform activities. This feature is intended to encourage user engagement, motivate activities, and promote continued use of the service.

1. Points Payment Terms

Use the service: Activities such as APP download, login, charging electric vehicles, etc

You can participate in certain events such as advertising, campaigns, and surveys.

2. Point payment method

Real-time payment: Accumulated points (WATT) immediately after EV charging, refueling is

completed.

3. How to Use Points

> It is used for electric vehicle charging and electric vehicle charging priorities, gas, and gas station convenience store. =You can convert VZP (WATT) into coins.

If enforcement is restricted by each country's laws and regulations, item 2 of the main flow ("Use Point Services") will be adopted.

4. User Benefits

Improve user satisfaction by providing additional benefits.

Increase loyalty as a reward for service use.

2. Coin → Point conversion → use

Coin → Point Switching → Use is a system that allows users to convert their coins into points at a specific rate and then use them for various purposes. This feature combines digital assets and point systems to increase user convenience and promote user engagement. (Points cannot be exchanged for cash.)

Key Flows:

1. Coin → Point conversion

Set conversion ratio: Clearly define how many points are converted per coin.

Example: 1VZ = 10WAT.

Conversion conditions: Set minimum conversion amount, fee, etc.

Example: You can convert at least 10 coins.

Conversion process: Convert coins held by users into points through the Conversion menu.

2. Using Points

Use

It provides rechargeable goods or services for convenience.

3. User Benefits

It gives you the opportunity to actually utilize your digital assets.

You can experience various services through converted points.

token economy

Inside the VZ platform, two kinds of payment and incentive systems are built: VZP (WATT) and VZToken (VZT). VZP (WAT) can be obtained from the VZ platform by performing qualifying activities. VZP (WATT) and VZToken (VZT) will play an important role in driving EV charging demand in the VZ platform ecosystem.

VZP(WATT)

Equivalent to the real currency within the VZP (WATT) platform. 1 VZP (WATT) has a fixed value of US$0.1 (10 cents), and the value of VZP can be expressed in other real currencies, such as the won. VZP is only available as a payment for charging on the VZ platform, and is not listed or traded on the market. Anyone who wants to get a VZToken (VZT) can purchase a VZP (WATT) by credit card or cash. VZToken (VZT) has no right to obtain VZP (WATT) or any other rights other than to use it as a payment method on the VZ platform. Therefore, VZP (WATT) cannot be obtained by converting and exchanging VZToken (VZT).

VZ token (VZT)

ERC-20 token standard cryptocurrency that operates on the system as an alternative means of paying for services. It can be used in any cryptocurrency marketplace that makes VZT payments, and its value is determined by the strength of the market. A limited number of VZ tokens (VZTs) may be issued as rewards that qualify users for transactions and activities on the VZ platform. For example, when a user makes a payment with a VZP (WATT) on a VZ platform, that user may receive a certain amount of VZToken (VZT) in exchange for making a payment transaction. If users choose VZT instead of VZP to pay for charging sessions, additional incentives will be provided to create demand for VZToken (VZT) use.

- Purchase and hold VZT for roaming platforms.

As an intermediary that mutually lends the charging infrastructure of various charging operators, VZToken (VZT) is provided to each operator first, and charging infrastructure roaming between operators is performed with this as collateral.

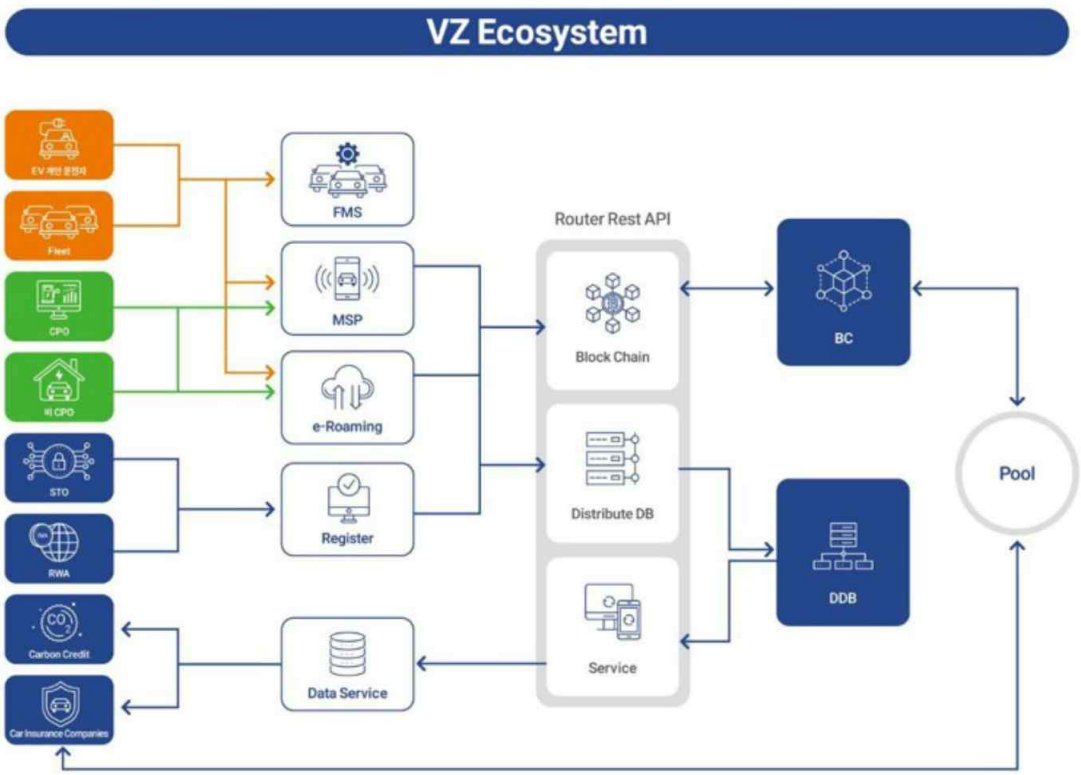
Each charging business operator uses VZToken (VZT) to attract and retain customers.

This is sufficient for charging and refueling operators to meet the staking requirements of the VZ platform

If you don't have a VZ Token (VZT), you'll need to earn more VZToken (VZT), which is saved in a personal wallet on the VZ platform. The VZ platform maintains a certain amount of VZ Token (VZT) for companies to participate in the platform.

You have to hold a stake. If a business fails to comply with the relevant terms and conditions with respect to participation in the platform, the VZToken (VZT) in which the business owns an interest may be incinerated. Operators can use VZToken (VZT) or cash as a means of payment for the service.

Ecosystems



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application layer

- This is the hierarchy in which services are implemented for each participant.

- The VZ platform provides an interface that can work with service components, depending on

the participants' applications.

- For individual vehicle drivers or vehicles, receive driving records to the FMS by interfacing with the vehicle manufacturer's service server or by providing interfacing with the vehicle's own operating application.

- CPO or non-CPO can access charging information and use charging through each operating platform and the interface provided by e-Roaming.

Service and Component Hierarchy

- It provides real services related to each participant.

- Store the information received from each participant in the blockchain and distributed DB.

What is electronic roaming?

e-roaming is a technology and service concept that enables electric vehicle (EV) users to seamlessly utilize various charging networks. Promote infrastructure expansion by connecting participating CPOs and non-CPOs with MSPs to allow users to use multiple CPOs.

By lending mutual chargers between charging operators, it is ultimately a service that allows members of other charging companies to use chargers from other companies, which is the same as a service that leases the network.

We are expanding it from electric vehicle charging to roaming services.

Interconnection and data exchange between EV charging station operators and service providers ensure compatibility and integration between charging station networks.

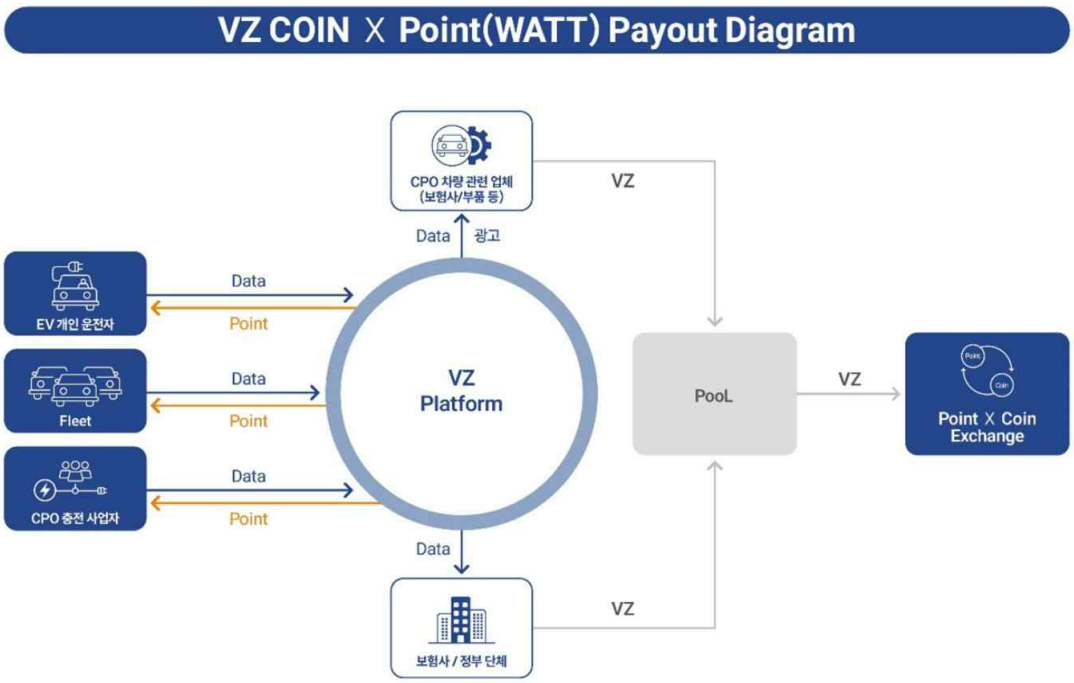
Interwork with existing e-roaming systems for each country or with participating CPOs according to standard e-roaming protocols.

This roaming service of electric vehicle charging will be applied at the gas station to expand to the B2B sales solution of oil to logistics companies.

Distributed Database (DDB).

DDB stands for **Distributed Database**, a database system that is distributed across multiple computer systems and stores data. These systems store and manage data on servers or nodes distributed across the network in multiple geographic locations. Distributed databases are commonly used to improve data availability, performance, scalability, and fault tolerance. Data related to related use is stored in the DDB based on smart contracts recorded on the blockchain.

VZ COIN×POINT (WATT) Payment Diagram (Charger Operator Application)



Coin (VZT)->Point (WATT): Points should be given to charging users such as CPO (Charging Point Operator) or coins should be purchased for those points as a promotion to enable non-CPO charging.

When you purchase a coin, it is converted to points through the pool, and points are given to the user when charging.

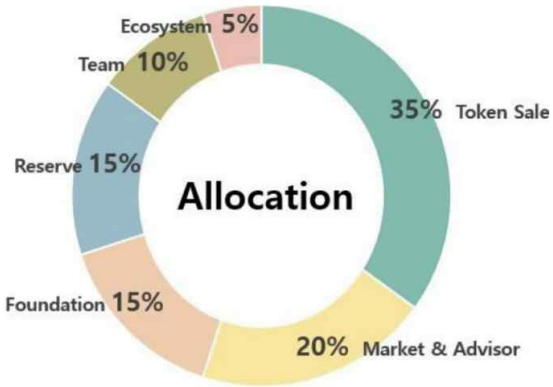
Another is to pay for user information such as insurance companies or vehicle-related companies to purchase coins, which are converted into points through the pool and then give points to the person who provided the information.

Points (WATT) -> Coin (VZT) users can convert to coins when they earn a certain number of

points.

Token Distribution

Token allocation



Total quantity: 8,304,504,456 EVZ (TGE:10,000,000 EVZ, Incineration: 1,695,495,544 EVZ) Contract: 0x7a939bb714fd2a48ebb1e495a9a74ba9fa68 (ERC-20)

Coinmarketcap: https://coinmarketcap.com/currencies/electric-vehicle-zone/

Item	Distribution ratio	Purpose	Besting
sale (Token Sale)	35% (3,500,000,000EVZ)	It is used to invest in EVZ's business or to facilitate transactions.	Unlock
Marketing & Advisors (Market&Advisor)	20% (2,000,000,000EVZ)	Used for marketing and airdrops and paid to those who contribute to the EVZ business to encourage participation.	Unlock
Creating an Ecosystem (Ecosystem)	5% (500,00,000 EVZ)	Used for charging ecosystems and ecosystems used for services.	2021.02.20 - Release of 2,000,000 units every month

Reserve (Reserve)	15% (1,500,000,000 EVZ)	It is used as a reserve fund in situations of need.	Unlock
Foundation (Foundation)	15% (1,500,000,000 EVZ)	The foundation and the company are used according to the needs of the business.	2021.08.20~ 2024.07.20 (Unlocked)
Team (Team&Partner)	10% (1,000,000,000 EVZ)	It is a reward for the participation of key contributors responsible for the development and business of the EVZ ecosystem.	2020.10.20~ 2024.11.20 (Unlock)

- The distribution of tokens is subject to change depending on the situation.

Let's introduce ourselves

Team & Advisor

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Partnership

TEK & LAW