

Piod Token Lite paper

A blockchain-based approach to designing a scalable automotive data ecosystem

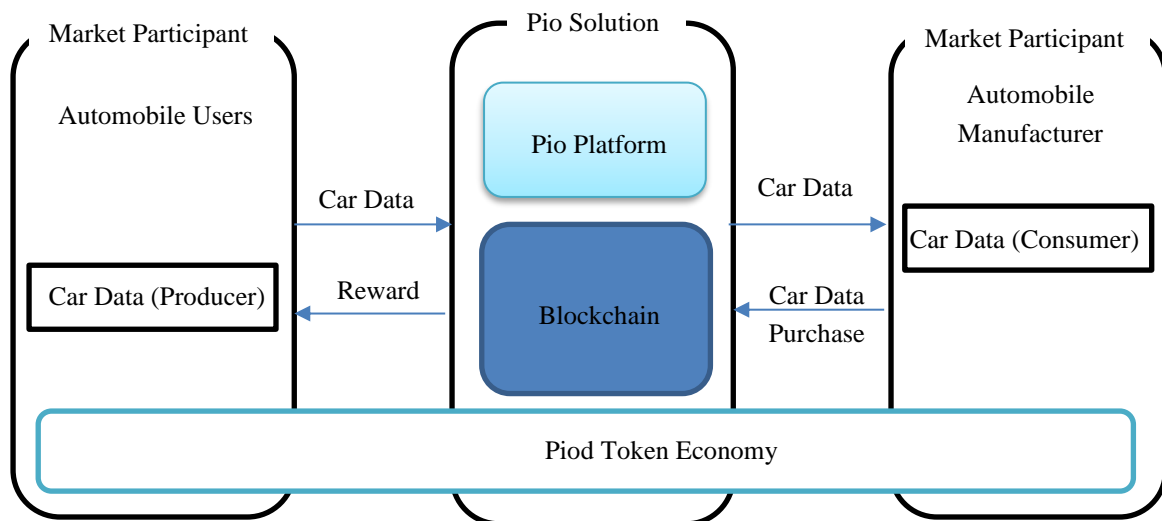
Introduction

Connected cars, autonomous vehicles, and shared mobility ecosystem as three main megatrends in the automotive industry are leading to an unprecedented explosion in car-generated digital data, with significant implications in automotive and allied industries such as Insurance, Telecom, Semiconductor, etc. In 2020, for instance, 64 million cars were equipped with internet connection and connected capabilities, with each car generating around 200 to 300 MB of data from their telematics unit alone. By 2025, the number of connected cars will grow to over 250 million, with each telematics unit generating over 500 MB of data. With the proliferation of data, monetizing this data collected from cars has become a key theme mainly for the automotive OEMs, as well as Telematics & Mobility players.

With the rapid development of connected cars, electric vehicles (EVs), autonomous cars, and smart cars, there is a need for a decentralized, open marketplace for transactions in the automobile industry. Piod solution will support the exchange of data between all stakeholders.

Participants in the Piod solution are all stakeholders within the automobile industry be it car users, automobile manufacturers, or automotive service providers. They participate in Piod solution simultaneously as data producers and consumers in a cycle of value sharing and creation. A technology-enabled economic system, Piod solution is built on the Blockchain and supports the fair valuation of data and distribution of rewards. Accounting for adjustments in supply and demand, payouts and purchases are made with Piod Token. Car data is no longer limited to narrow use by a select few, but with the express consent of data, owners become a shared asset that benefits other participants in the Piod solution. When service providers or manufacturers want to access car user data, proper authorization is brokered with data owners, and even then, all information and sensitive data is protected using cryptography.

Ultimately, Piod solution aims to create an environment where car data and information are no longer used and held by a few select companies but are used and shared through legitimate and secure processes and transactions. As a result, car data will become a public asset and return more valuable and optimized services enjoyed by those involved.



Problem

An automobile generates a diverse collection of data throughout its journey from start to finish—beginning at the car manufacturer and ending at the scrapping facility. The data reflects the lifecycle of the car and could be used to improve the state of car manufacturing, car rental, car sharing, insurance, and vacation industries. However, no commonly agreed-upon standard or system currently exists for the systematic collection, storage, and use of this data. On occasion, car data may be utilized by independent service providers, but oftentimes they overlook the potential of generating further value from the car data and fail to make full use of it.

- **Unsystematic collection of data**

The problem is that the format of collected car data varies by vehicle manufacturer and service provider. In most cases, the data is technically incompatible with other systems and cannot be shared. Since there is no public protocol for gathering data, it is impossible for participants to be properly informed about how their personal information is being used and whether agreed boundaries for data use are being respected.

- **Inefficient and uncompensated data provision**

Access to car data opens up new business opportunities for service providers to offer customized services to car users. However, because there isn't an equal relationship in data transactions between car users and service providers, there is also no means of rewarding car users for their provision of data

- **Insufficient data security and privacy protection**

Car data that includes personal information must be collected and stored in a manner that provides adequate privacy protection in accordance with the rights of the data subjects. In particular, any distribution of such data must follow protection protocols and processes.

Drivers are concerned about sharing private data

The reasons motorists don't want to share data



- **Lack of ecosystemic approach**

So far, many efforts have been made to properly manage automotive data, but due to the lack of an ecosystem and platform approach, the platform for the participation of all actors in the automotive data value chain has not been provided. Two of the five main reasons for not developing a comprehensive solution till now – the do-it-alone mindset, and the existence of conflicts of interest between actors – are evidence of this claim.

Automobile data stakeholders



The Piod solution to the problems

The vision of Piod is to create a secure and reliable environment for sharing car data that builds upon our expertise in the automobile industry. The first step in achieving this is to solve the current problems in the automobile data industry as explained in detail above.

- **Online, continuous and standardized collection of automotive data**

To solve the problem of non-standardized, low-quality, and fragmented data collection systems, a range of hardware and software data collectors should be developed under specific standards. These include a hardware data collector, a mobile application as an interface among driver and data collector devices and service providers, software embedded into a car's telematics systems, and a software data collector for V2X devices.

- **Compensation System for Data Provision**

Piod provides users with the data and application market, a blockchain-based car data market, which is an environment that facilitates exchange between data producers and consumers. The Piod Market solely provides the environment for trade and does not assume data ownership rights. Car data becomes a commodity, and data producers and consumers contribute to determining the value of car data. Any market-based value transaction involving the provision of car data and service fees will be rightfully compensated with Piod Tokens.

- **Applying Data Security and Privacy Protection to the Blockchain**

The car data which users have agreed to share will be stored on the data hub infrastructures (IPFS), and its proof on the Blockchain, along with other relevant information about the transaction, data ownership rights, and data usage rights

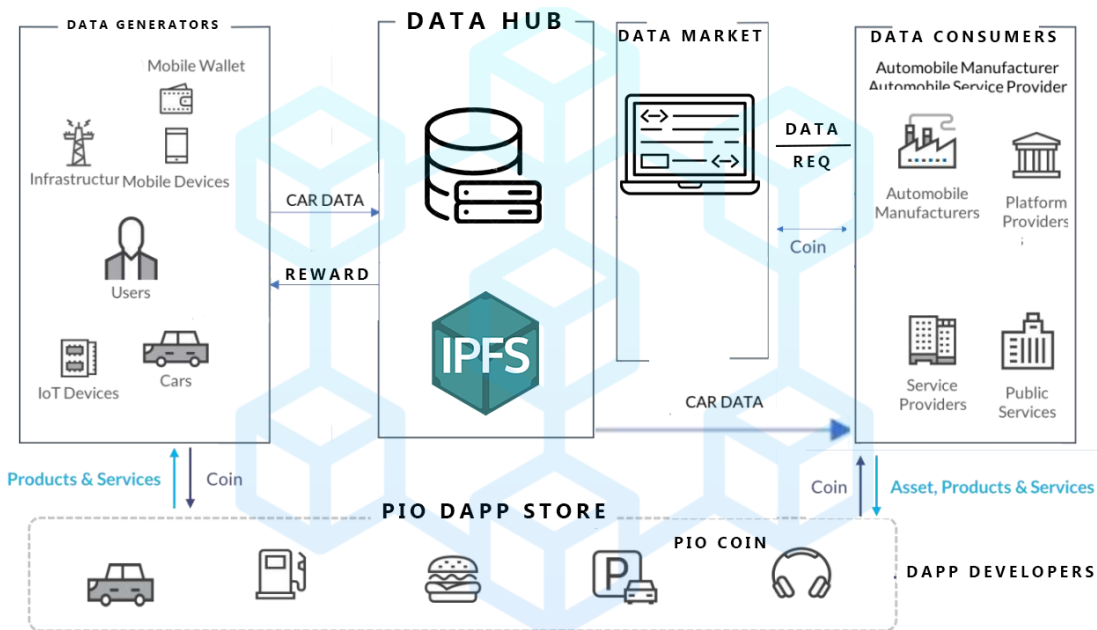
The data in distributed storage is delivered in a secure channel on request of the data buyer, only with the authorization of the rightful data owner. This process of verifying credentials and permissions is facilitated by the Piod Platform. However, Piod Platform is only involved in making the peer-to-peer connections and retains absolutely no access to the data.

- **DAO as Governance Model**

To avoid PIOD monopoly in the governance and decision-making process for the automotive data solution, the decision-making process will be left to a DAO. In this DAO, eligible members can vote for the future of the system and participate in its governance process.

Piod Solution Components

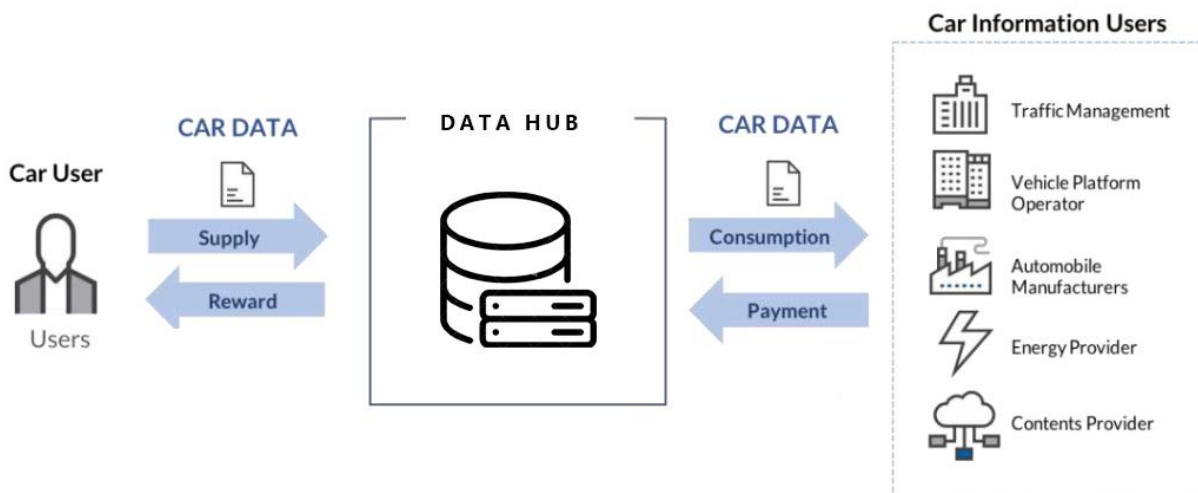
The Piod solution utilizes blockchain technology to improve the current automobile ecosystem that consists of numerous stakeholders. The core feature of the Piod solution is clean automotive data providing, searchable data, an ecosystemic approach that allows participation of all members, voluntary provision, and appropriate compensation for car data. Car users, manufacturers, service providers, and all other participants in the automobile industry will be able to provide car data and receive appropriate compensation for their contribution according to market value.



The Piod solution consists of the Blockchain and its supporting features, Data Generators, the Piod automotive data market, Piod Dapp Store, data hubs, Piod Token, IT Infrastructure providers, Dapp developers, data consumers, and transmission operators.

- Data generators

With the Piod data collector device that can be easily attached to a vehicle's OBD-II port, together with the Piod mobile smartphone application, car users are able to collect car data for sharing on the Piod solution. The car data that car users have agreed to share is then stored on the datahub in exchange for the defined data hub reward which can be in Piod tokens, any free car application, or any compensations according to the value of the data provided.



- Piod data hubs

The generated vehicle data will be processed and stored by a data hub. Each data generator is free to select one data hub at a time based on the data hub reward system. Also,

users can change their data hub by their own decision. All communications are encrypted and any transaction details, data ownership, and usage rights are stored and managed together by the datahub. Raw data which includes automotive information is encrypted before storage in the data hub.

Data hubs can also develop a number of automotive data applications to attract more data generators, and provide the apps for free or at a discount. All financial transactions between Piod solution participants must be done through Piod tokens.

- Automotive data market

The automotive data marketplace is an open platform through which data hubs can sell automotive data to consumers. Consumers of automotive data submit their requests to the market along with their financial conditions, and data hubs respond to requests by evaluating and searching for data on their servers. If the data request of a data consumer can be fulfilled by several data hubs, a data hub that responds sooner will be selected and the key(s) to access that data will be sent to the data consumer through a secure channel by the selected data hub.

Other automotive data market terms and conditions will be announced later.

- DApp developers

DApp developers can develop automotive distributed applications for data consumers and data creators, and place them on the Piod DApp Store for free or for a fee. These DApps should be compatible with the Blockchain network smart contracts.

- Data Consumers

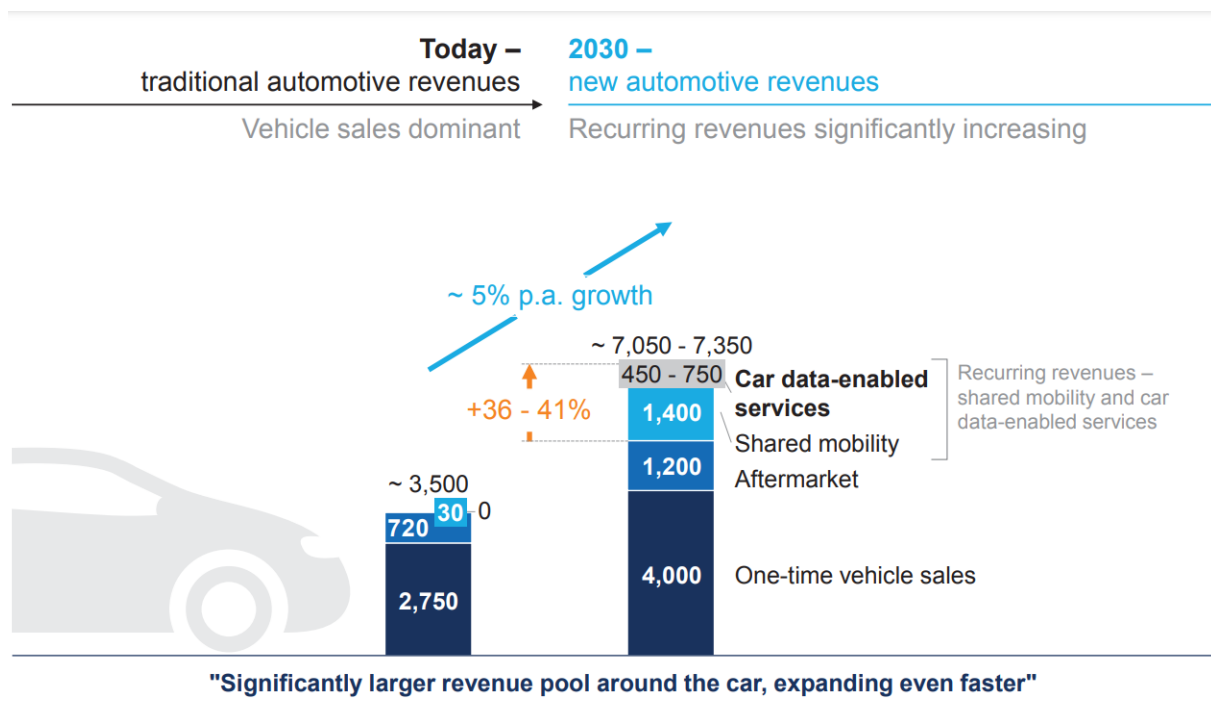
Data consumers can purchase the car data recorded in the data hubs in order to provide up-to-date service to car data users for research or any other purposes.

- Piod DApp Store

Developed applications based on automotive data and compatible with the Blockchain network are placed in this store. Data generators can either buy these dApps using Piod tokens or use these dApps for free or at a discount in exchange for providing their data to a data hub.

Market review

The big data market in the automotive industry was valued at USD 3,607.47 million in 2020, and it is expected to reach USD 8,929.37 million by 2026, registering a CAGR of 16.81% during the period of 2021-2026 and the global revenue pool from car data monetization could be as high as \$750 billion by 2030.



Piod token in detail

The Piod token is a blockchain-based token used as a payment token, the main utilities of which are as follows:

- To purchase Dapps from the Dapp Store
- As compensation to incentivize data generators to share their data
- To buy data sets from data hubs
- For airdrop and marketing campaigns
- In DAO as a voting power metric
- As a staking mechanism

Piod token as the Piod platform native token is a blockchain-based token with a maximum supply of 400.000.000 units. The main purpose of Piod Token is to distribute the economic benefits of the Piod solution, the governance of the Piod platform, and to establish effective communication between businesses related to the automotive industry and other potential customers.

The Piod Company will always try to create an upward growth value trend for its tokens with the help of conventional tools in the world of cryptocurrencies and by increasing the usability of Piod tokens through new partnerships, but if the value of the Piod token fluctuates and falls under its price at initial token offering (ICO), the Piod Company guarantees that it is ready to deliver the Piod device to the token holders at ICO price. In this way, the price floor of the token is always guaranteed and, as a result, the risk of buying and investing in tokens is minimized for token holders.

Token Name	PIO
Token Symbol	PIO
Total Supply	400,000,000 PIO
Division number	8
Token type	
Blockchain Network	BSV
Max Initial circulating supply	137,200,000 PIO – 34.3%
Fully diluted market cap	\$60M USD
Max Initial Market cap	\$16.08M USD
General Emission Type	Fixed Supply

