KMS Token

Decentralized Autonomous Community
Author: Alejandro Criado-Pérez <alejandro@criadoperez.com>

Automotive Blockchain

“Built between all and for all”

Version 0.36 – 7th of October 2019

Executed summary

We are going to capitalize information of the automotive sector. Giving value to underutilized information and increasing the value of already capitalized information.

To do this, we will create a digital information market for all parties in the automotive sector, where we consult information, digitally sign contracts, make payments and deliver data. All this in an autonomous way with no human interaction required. The contracts signed will have legal validity.

It is of interest to any entity in the automotive sector that either buys and / or sells data or simply has information it is currently not exploding, and wished to capitalize its data in a simple legal and automatic way.

It allows you to do business with all parties in the sector, even if they do not know each other.

This will decentralize the power of the information, returning it to its creator.

Why does the industry need this?

The automotive industry generates a big amount of data. Data of different nature, generated by a multiple number of companies. Purchasing and selling data between companies in very common in this industry, however such transactions are currently limited to 1-to-1 agreements and not All-to-All.

An automotive blockchain increases the turnover in the companies that already sell their information by expanding their audience, increasing the uses of their

current clients and increasing the amount of data they can sell. For those companies that have data but do not know how to sell it, it will give them a way to distribute it easily.

This technology also opens new horizons on how you sell the same data you are already selling. Particularly thanks to:

- Share information without revealing it.
- Share aggregated data

Market uses

The uses of this blockchain are very broad and it would be impossible to mention them all. Each of these would require its own case study. However just the mention a few and the most immediate ones we have the following.

Vehicle owners

- A buyer of a secondhand vehicle could buy a report on the history of the vehicle that he is interest in buying. Here we will be able to see all the manufacturer data, registration data from local authorities, number of transfers, auction information, etc. The original source of the data is the one that guarantees and signs its origin and validity and not any intermediary. This report will increase the vehicles value.

Manufacturers

- Manufacturers already sell VIN data to a limited number of companies. Selling this data in a computer-generated grouped format and with All-to-All transactions (instead of 1-to-1) will highly increase the uses of their data, and therefore their revenue.

Insurance Companies

- The insurance company pays for all the parts it purchases for its clients. Manufactures sell them. Multiple studies have shown that there is a great difference between these two numbers, because of the high level of fraud. Now the dealer will be able to prove the insurance company that they did actually purchase the part.

Companies with their own fleets

- With a single call, a company could know the market value of its entire fleet (as a grouped value of individual value to each vehicle). You could for example ask to be notified if you suffer changes above a certain amount of value.

Leasing

- A leasing / renting company could now compare its rates with those of the competition without revealing them, since technically it is limited to each operator being able to see only grouped and non-specific data. Only the renting company will have full access to his own data. This solution was not technically possible until now without involving a third party.

Consultancy companies

- Any consultant or investigator could now read the data available in the blockchain and make specific queries and ways that were not available until now.

Team

This solution requires as many parties in the automotive sector as possible to be involved.

A small team of EOS developers and employees from leading industry companies, including manufacturers, insurance company, leasing, and data specialist companies.

Why now

EOS was born in June 2018. On February 26, 2019, LiquidApps launched the DaaP network. Until very recently, it was not technically possible to create the required infrastructure for this project.

On the other hand, the technology to create a DAC is very recent and as far as we know, there is no business DAC in the EU yet. There have however started to appear in other countries including the USA.

Key points of the solutions

1. **Open source**: The infrastructure is all based on open source technologies and new developments will remain open source.

2. **Money goes to data origin:** Money goes directly to the creator of data without the need of intermediate parties. Each source will be able to choose what data it will share, on what conditions and at what price.

3. **Ricardian contracts:** All smart contract have a parallel contract written in English, declaring its intended use.

4. **Decentralized Information**: The smart contract and the “list” of information available is all stored on the actual chain (RAM). However, the information itself will be stored in vRAM of the DSPs. This way, the information will always be available in decentralized systems.

5. **GDPR**. It will be GDPR (General Data Protection Regulation) compliant. Particularly with the article of “right to forgive”, so you will be able to delete information.

6. **Mistrust among providers.** A provider could write wrong data or data that is non-GDPR compliant and then disappear, poisoning the entire chain. To avoid this, the network will be able to “block” data that violates the constitution or the EUA (EOS User Agreement).

7. **Permissions**. Because of the immutability of the blockchain, no raw data is ever written directly into the blockchain or the vRAM. Instead, with permissions management, every time data is consulted it will first check if such Information is still valid. If the information was revoked, it will be impossible to access such information.

8. **Local and Internationa**l. The solution will work and any country and development will be multi-country from the beginning. However, as every country has its own particularities, the solution will be realesed for the Spanish market first as a starting point.

9. **Fully autonomous cycle**. Any data provider will have the possibility of having the entire sale process automated. This means, from the moment

the provider publishes his data, the listing, sale, payment and data transfer can be doing in a completely automatic process.

10. **Grouped data**. You will be able to query individual data of a vehicle or group data of multiple vehicles. For example, ¿What percentage of diesel vehicles with leather seats have 5 doors?

11. **Free data**. Any provider can voluntarily publish free data in the network without any cost to the consumer.

12. **FIAT friendly**. A data provider will be able to establish the price of his data in different FIAT currencies (EUR, USD, etc.) or in KMS tokens.

KMS.PLUS – Entity Structure

kms.plus will be a DAC - Decentralized Autonomous Community.

The details of governability of the organization will be stated in the Constitution or the EUA, but in the simplified version, they are as follows.

Users

The users of the system will have KMS, equivalent to the stocks in a company. The KMS can be used as votes to make decisions in the community. The users will be able to vote themselves or delegates to votes to third parties (proxies).

Any user will be able to propose changes through a referendum.

Users will be able to propose and do all sort of activities, like assist to conventions, forums, or do any tasks the organization needs, including doing the changes approved in the referendums. These activities (jobs) are compensated with the agreed KMS.

Once a task is approved, the agreed amount of KMS will be locked in the GOF (General Operational Fund) and the selected user can start doing the activity. Once completed, the council will confirm the user has completed the tasks and the funds will be transferred from the GOF to the users.

Finance

The organization is financed by generating inflation. However we do allow to a specific user to add his own funds to a budget to do a specific task. This can be justified for example when one company has much more interest in doing a specific task than the community.

The first year we will have an inflation of 20% to promote the first activities.

The second year we will have an inflation of 10%.

The third year we will have an initial inflation of 5%, however the final amount will be voted with a maximum of 1% and a minimum of 7%.

The inflation will be executed daily in the appropriate proportion.

The KMS generated by inflation will be distributed daily in the following accounts:

- GOF (General Operations Fund). 85% of the inflation. Fund to finance all the operations of the organization.
- CF (Committee Fund). 5% of the inflation. Funds to pay the salaries of the executive committee.
- RF (Reserve Fund). 10% of the inflation. Funds that can be used by the executive committee for extraordinary reasons. To access these funds the committee needs to first consult the users are receive more than 50% of users votes.

Executive Committee

The organization will be managed by an executive committee of 5 users (can be physical people or entities), that are votes by the users with locked KMS.

Any user can offer himself to be an executive committee member, but first he must lock a fixed amount of KMS (50.000 KMS) to guarantee that the candidate will to his best to defend the general interests of the organization.

The candidate will also indicate the amount of KMS per cycle he expects to receive in the form of payment, but will never be able to exceed the maximum amount stated in the constitution.

Legal

It is important to notice that a DAC is still not recognized as a legal entity in current legislation, so having KMS does not legally give you ownership of the organization by itself. It simple allows a way so the involved parties can operate.

However, we are currently investigating legal ways to link a token (KMS) to a stock of a company. If this can be accomplished the legal ownership problem would be solved.

To comply with current European Cryptocurrency laws, on December 31 of every year we will register the total amount of KMS each user has and the equivalent value in Euros they have at that time. The objective of this is so each user can declare their own stock value and pay their local country taxes if they are applicable.

Membership platform

The users will be able to do all the tasks related to governability of the organization through the member's website (members.kms.plus) including:

- Signing the constitution
- Present themselves as candidates and vote candidates
- Make job proposals, referendums and vote
- Organize virtual meetings with other members.

Voting system

The executive committee cycle lasts 15 natural days. At the end of each cycle, the system pays the executive committee and recalculates the votes. This way the committee is updated automatically. Either the same committee will stay in place or new members will come in as others leave.

Type of actions of the committee

The actions of the committee can be of 3 different types, depending on their risk. Therefore, the requirements to execute them can vary.

High risk

To execute a high-risk task you need the signature of all the member of the committee expect one.

These tasks are: (*pending to add more*)

- Make changes in the Constitution
- Expel a member of the executive committee (for justified reasons or not)

Medium risk

To execute a medium-risk task you need the signature of the majority (>50%) of the executive committee.

These tasks are: (*pending to add more*)

- Change inflation for the next cycle
- Make payments to third parties in euros or KMS (not users)
- Assign a task to a specific user

Low risk

To execute a low-risk operation you will only need the signature of one member of the committee.

These tasks include (pending to include more):

- Mark a task as completed. This action will release the reserved funds of the tasks and make the appropriate transaction.

Technical infrastructure

The solution is developed on EOS where the smart contracts are stored. The potential shared information will be stored in DSP.

We contemplate the option of using vRAM for the airdrop instead of RAM (reducing costs by a factor of 6).

We contemplate the option of using vAccounts for final users to reduce costs of new EOS accounts.

The initial partner’s platform to manage the DAC can be stored in Google Cloud, more specifically in its Datacenter in Brussels.

The website for the final user (kms.plus) will be stored in a public git repository and published to the hosting services automatically.

General Design

We use a public blockchain, specifically the mainnet of EOS.

The following tokens are used:

- EOS. For the payment of RAM, CPU, “Bandwidth”, execution of code and storage of smart contracts.
- DAPPs. For the payment vRAM AND vCPU in the different DSPs.
- KMS. Exchange token that execute the contracts and make payments.
- bitEUR, bitUSD and other smart coins to store value in the different FIATs.

When a user pays some KMS to consult certain information, these KMS are distributed among all the providers that have provided that information.

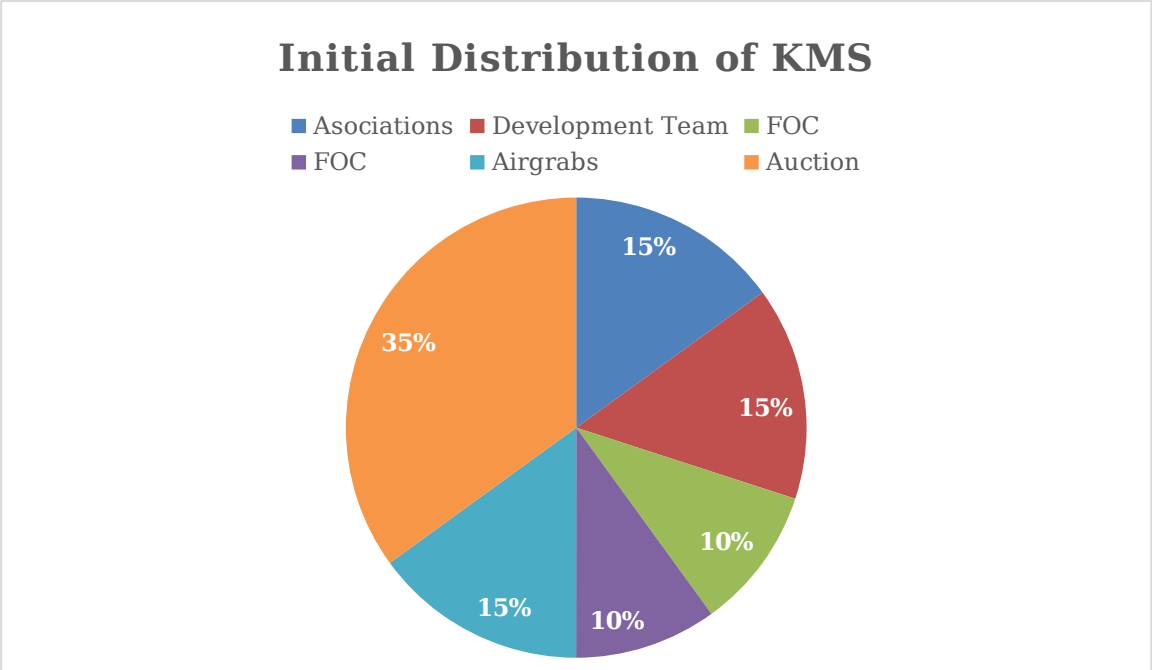
If a user has established a fixed price in euros for a specific data, the buyer will be informed of its equivalent price in KMS. This way when the providers recive the KMS they will be able to transform them to a smart coin in euros, like for example bitEUR.

Usage example:

A private user wants to consult the Information of vehicle where he only know his license plate number. For this, he makes a free request to view what information is available for that vehicle. The system replies with a list of providers that have information of this vehicle and a list of possible reports that contain some or all of this information at different price levels. If the user decides to buy a report, he will be able to pay in euros or KMS, depending on his access platform. If the user pays in euros, these euros transformed immediately to KMS to be able to operate in the network.

Financing the project

They will be an ICO (“Initial Coin Offering”), of 100.000.000 de KMS.



The distribution will be gradual and over a period of 12 months.

They will be distributed among the participants of the project depending on their level of implication and their weight in the market (details to be defined).

We are considering different options like delivering the first tokens to dealers, insurance companies and other parties in the industry. The amount they receive can be their market share multiplied by a factor that will depend on their level of implication in the project during the duration of the ICO.

Phase 1a - Airgrab

During the first 3 months or the first 5000 users (whatever occurs first) we will deliver 100KMS to any EOS user that registers for free (Airgrab of 500.000KMS).

The KMS that are not distributed at the end of the period will be destroyed.

Phase 1b – Financial Auction

At the same time, during the first 12 months we will distribute 5.718.388 KMS in monthly auctions (the last day of the month). These are decreasing auctions, falling 15% each month, distributed in the following way:

Auction Number	KMS to distribute	Percentage of the auction
1	1.000.000	17.5%
2	850.000	14.9%
3	722.500	12.6%
4	614.125	10.7%
5	522.006	9.1%
6	443.705	7.8%
7	377.149	6.6%
8	320.577	5.6%
9	272.490	4.8%
10	231.616	4.1%
11	196.874	3.4%
12	167.343	2.9%
TOTAL	5.718.388	100%

The KMS of the monthly auction are distributed between all payers in that month in proportion to the amount they paid over to total received. For example, if one month we receive 100 EOS in payments and one specific user paid 5 EOS, this user will receive 5% (5 / 100) of the KMS distributed that month.

This encourages interest parties to get involved as soon as possible because the cost of joining in increased every month, as less KMS are distributed and more players are competing for them.

Phase 1C - Associations

During the first 3 months, we will allow the creation of a free account to the following associations in the automotive industry (AER, AEGFA, GANVAM, FACONAUTO, etc).

To each association we will deliver a certain amount of locked KMS. These KMS can only be used to vote in the organization but cannot be transferred to anybody except its own associates. They will have a period of 6 months to transfer to their respective associates the proportional amount (normally by the weight they have in the association, market share, or the same to each one). The KMS that are not transferred to the associates at the end of the locked period will be transferred to the GOF (General Operations Fund). When this happens, the association itself will receive an additional 20% of the total KMS it has managed to transfer to its associates (KMS already unlocked).

This will promote the associations to distribute KMS because they have an economical incentive for themselves and their associates.

Phase 2

In case of needing more resources to operate, we contemplate the option of doing Stakemining (when EOS users lend their tokens to us to use them as CPU and NET in exchange of KMS).

Permissions management

We need to differentiate between the provider data and the owner of the data, because they do not necessary need to match.

The account kmseosguards will have the following permissions:

- owner: With a required threshold of 5
  - cuentadueño01@active (+1)
  - cuentadueño02@active (+1)
  - cuentadueño03@active (+1)
  - cuentadueño04@active (+1)
  - cuentadueño05@active (+1)
  - cuentadueño06@active (+1)
  - cuentadueño07@active (+1)
  - cuentadueño08@active (+1)
  - cuentadueño09@active (+1)
- active: With a required threshold of 5

- kmseosguard@eosio.code (+5)
- cuentadueño01@active (+1)
- cuentadueño02@active (+1)
- cuentadueño03@active (+1)
- cuentadueño04@active (+1)
- cuentadueño05@active (+1)
- cuentadueño06@active (+1)
- cuentadueño07@active (+1)
- cuentadueño08@active (+1)
- cuentadueño09@active (+1)

We have a registry chain of “revokeddata”. The “revokeddata” will have to be signed by the provider of the data or the kmseosguard to be valid.

Before any data can be access, kmseosguard needs to verify there is no registry in the “revokedata” for that data. If there is, then the transaction will not be able to be completed, and the data will not be accessible.

This way to access data you will need permission of the guard and of the information provider. Any of the two could revoke an access with the objective of “eliminating” access to the data, of the data owner requests it in the future.

To prevent cyberattacks we could have delays of a few seconds before processing any payment (or some payments) so the “Automated External Validators” can verify the transaction is not a fraud.

Dates (draft)

1. Q1

   Creation of a workgroup that will involve as many parties in the industry as possible, define the general design, rules to apply and create the first prototypes.

2. Q2

   Launch of the DAC into Jungletestnet

   Second phase of development.

3. Q3

   DAC launch into the mainnet.
   ICO start

4. Q4

   Launch of first reports