veDrive

Drive safely-to-earn platform that rewards drivers for responsible driving

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Contents

Project Description.....3
What problem does it solve?.....3
How do we tackle it?.....3
Stakeholders:.....4
Business Model:.....4
Tokenomics:.....5
Operational Strategy.....5
Go to market/how to get to 5k users?.....5
Funding:.....5
Competition:.....5
Technical explanation.....6
Architecture:.....6
Product Roadmap / Development plan:.....6
Sources:.....7

Project Description

What problem does it solve?

Road car accidents are responsible for a significant portion of emissions, congestion and material losses in automotive industry:

- 25% of congestions arise due to automotive accidents in the UK
- 2.2 megatons of CO2 emissions are emitted in congestions London only (15% of total car emissions), per year
- Materials losses/waste amounting to ~3% of GDP globally (~$300bn)
- 1.2m of lives lost

While the future is self-driving electric transportation, the present is still dependent on combustion engines driven by error prone humans, and something must be done now to reduce the impact of this emissions while making roads safer.

Our proposal is to start by reducing the deadweight loss in the automotive industry by preventing road accidents: If we can reduce road accidents by only 10% by incentivizing individuals to drive more responsibly, we can save up to 0.3% of global GDP in waste and est. 48 megatons in emissions for repairs and replacement, while making our roads safer and less congested!

Less accidents -> less congestions -> lower emissions & higher safety

How do we tackle it?

We developed a dApp that rewards users for driving safely and sustainably, incentivizing them to be responsible drivers and thus preventing avoidable road car accidents and inefficient operation of the vehicles.

1. Our app uses collects telematics and mobile phone data from each drive and uses and AI algorithm to score each drive. Examples of the datapoints analysed:
   - Mobile phone gyroscope and accelerometer data, to measure acceleration, breaking, turning
   - GPS and maps data to measure speed, efficient routing and traffic rules
   - Sound and telematics data to analyse engine revolution and efficiency
   - Mobile phone usage data to ensure the driver is not distracted by their phone

2. Our app uploads average and peak parameters to the Vechain, and our in-chain algorithm scores the drive in both efficiency safety. Examples of parameters being scored:
   - How many times the driver went above the speed limit
   - How aggressive under acceleration/breaking
   - Average engine revolutions and travel speed above the efficient range
   - Compliance with local traffic rules
   - Crashes detected

3. A smart contract is established in Vechain, certifying the que score of the ride and the driver in exchange for an amount of VET

Stakeholders:

Many stakeholders benefit from a reduction in road accidents and from the driving data, so we envisage a win-win contract where benefiters would contribute directly to the compensation of responsible drivers:

1. Drivers:

Drivers are rewarded for their responsible driving in VET, benefit from extra safety in the road and fuel savings from efficient driving

2. Insurance companies:

Every year there are >100k car insurance claims amounting to >$20bn USD in value globally, most of them caused by incident and road accidents. A reduction in the accident rate would represent a significant excess profit for car and life insurance companies; naturally, insurance companies would be willing to rewards the policy holders for their safe behaviour, given the opportunity to enhance economic profits by reducing incidents and consequently insurance claims rate/value

3. Taxi and ride hailing apps:

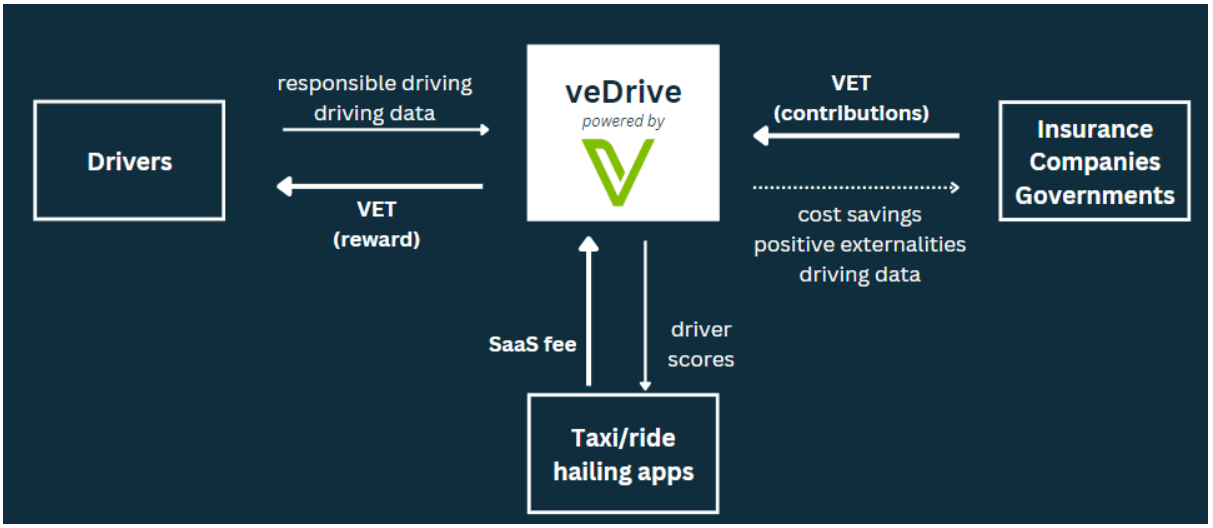
Safety is a key criteria to enhance trust in professional drivers; we want to productize our algorithms and sell the scores to ride hailing and taxi apps and a SaaS subscription, where their users could see the safety and sustainability scores of the drivers in advance, providing comfort and trust in the driver service

4. Governments:

Road accidents are responsible for loss of lives, pollution, population distress, and public costs. Naturally, reduction in accidents creates many positive externalities that improve quality of life and eases strain in the governments. So we expect governments to be highly incentivized to participate in our scheme and contribute to financing the rewards of responsible drivers

Business Model:

We envisage that governments and insurance companies will finance the rewards of responsible drivers with a portion of the costs savings directly generated by reduction in road car accidents.



Tokenomics:

The tokenomics of VeDrive is sound as insurance companies, governments etc. are incentivised to add VET to the “safe”, and users are incentivised to participate in drive-safely-to-earn since they can earn VET. The distributed amount will depend on the amount of VET in the safe, and so the supply of VET to earn is never depleted.

Operational Strategy

Go to market/how to get to 5k users?

- Address professional drivers first (uber, taxi) because these people have more incentive to enhance return on their driving and lower CAC (i.e. easy to identify and target)
- Partner with Uber and other ride hailing and use our technology as a safety feature as well (At first this would be financed with seed capital)
- Later, using the pilot data, our relationship managers would approach car insurance companies and would develop a product together in which the insurance company would contribute to the reward, given the lower insurance claim costs
- At this stage insurance companies and ride hailing apps would be financing the rewards as they would reap the benefits of a safer product and lower insurance claim costs

Funding:

- Pre-seed: ~1.25m
    - 1st year salaries for a team of 10 – 750k (3 founders, 2 software developer, 1 telematics engineer, 1 actuarial, 1 marketing, 1 relations manager, 1 product manager)
    - 1st year cost of integrations, subscriptions, testing – 500k
- Seed: ~2m
    - Acquiring first 5k users – 75k (CAC=15)
    - Initial funding to run the pilot – 600k (10% of average car insurance premium in the UK for 5k participants, ~12/month [x] VET)
    - 2nd year of salaries for a team of 15 – 1.25m (original team + 1 relationship manager, 2 digital marketing, 2 customer support)
- As soon as the pilot is validated and the insurance companies, ride hailing apps and government validate the value of the technology, the funding strategy would need to be reassessed. The company should assess monetization and scale up strategy.

Competition:

Drive to earn:

- Token (DTE) reward to last mile logistics drivers (i.e. delivery apps riders)
- App launched 4Q23
- Coin available on Bytrader
- Contract standard: ECR-20
- Blockchain: Layer 2

- ECR-20 tokens are generated through a Layer2 system powered by Polygon
- **Does not reward safety and sustainability**

Meta drive

- Mobile phone application that uses phone data to score efficiency in driving
- Rewards users with NFTs in Solana blockchain
- Branded to car tunning enthusiasts
- **Does not have proper GMT and does not cater to the overall drivers population**
- **Does not integrate with maps, digital wallet nor insurance companies**

Technical explanation

Architecture:

We provide this cross platform. The app uses Angular, while also leveraging capacitor and ionic to transpile into native iOS and Android code to make this possible. It runs in the background to collect driving data, and the user controls when to submit this data to a smart contract and be rewarded in VET.

The frontend then has javascript callbacks that integrate with the veChain sdk to call smart contracts that we deployed from solidity bytecode. In particular we used vechain/sdk-core and vechain/sdk-network to interact with smart contracts on a local testnet from javascript.

The smart contract itself employs the owner model and consists of a “safe” storing the pool of VET, and the “controller” that controls distribution to users that supply data. Once the safe and controller smart contracts are created, isOwner of controller is removed, and the owner of safe is changed to controller. Hence safe and controller are then in a closed system with no external tampering possible.

Product Roadmap / Development plan:

- Extend generative AI capability to provide more insightful action points on how to drive safer and sustainably
- Richer data analytics AI for safe driving and fuel efficiency
- Integration with navigation apps (Waze, Google maps)
- Integration with multiple insurance company policies
- Add currency conversion
- Integrate with more digital wallets for seamless transactions

Sources:

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- Road traffic injuries (who.int)
- UK car insurance statistics: Average cost and number of claims (finder.com)
- Car pollution facts: from production to disposal, what impact do our cars have on the planet? | Auto Express
- Global Claims Review: Annual Report | Allianz Commercial