December 2017

VLB Tokens

The Ultimate Blockchain Technology for the Vehicle Lifecycle Industry

White Paper

www.vlb.io

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DEFINITIONS

CarFix Ecosystem
All participants and the process of their interaction within the Vehicle Lifecycle Blockchain system

Commission Fee
Fee paid by Paying Participants to Proof-of-Stake Nodes

Coin-Age
Length of time a node has held the coins without use

Industry Participant
Participants in the Vehicle Lifecycle Industry associated with any stage of car lifecycle:

- Car owners
- Corporate vehicle fleet management companies
- Auto repair shops
- Spare part producers (OEMs)
- Spare part distributors
- Vehicle manufacturers
- Insurance companies
- Auto lenders
- Government agencies

Initiator or CarFix
The company initiating the ICO: VLB OU

InstaCar
Software that facilitates the interaction between car owners and repair shops; at the heart of the software is a dynamic algorithm that instantaneously determines a fixed fair price for any repair job, allows car owners to sign up for services and arranges delivery of respective spare parts

InstaFix
Software that facilitates interaction between repair shops and spare parts distributors; its essence is a tool for repair shop capacity management and inventory optimization

MSRP
Manufacturer's Suggested Retail Price

Network Development Tokens
VLB Tokens (see the definition below) held by CarFix after the ICO for the purpose of rolling out the Vehicle Lifecycle Blockchain within the CarFix ecosystem

DEFINITIONS

Non-Paying Participant
Participant that does not have to pay for hashing transactions that it participates in. This category includes car owners, corporate vehicle fleet management companies and government institutions that register ownership rights

OEM
Original Equipment Manufacturer (spare part and component producers)

Paying Participant
Participant that has to use VLB Tokens to pay for validating and recording on the blockchain the transactions that it participates in. This category includes car owners (when buying vehicles), corporate vehicle fleet management companies (when buying vehicles), auto repair shops, spare parts producers (OEMs) and distributors, vehicle manufacturers, insurance companies and auto lenders

Proof-of-Stake (PoS)
Type of algorithm by which a blockchain aims to achieve distributed consensus. Blockchain's base coins are utilized by PoS Nodes for the purpose of validating blocks (i.e. Ether within Ethereum, VLB Tokens within Vehicle Lifecycle Blockchain). PoS Nodes lockup the base coins, thus "staking" significant value to validate new blocks in exchange for rewards denominated in base coins that are similar to a "commission fee" associated with the value of a block being validated. In the event a PoS Node validates a false block, it will loose the coins that it "staked" on making the validation. In a PoS blockchain no new coins are emitted during validation

Proof-of-Stake (PoS) Node
A node on the blockchain that has a sufficient number of coins above a minimum Coin-age that is eligible to validate blocks and participate in the blockchain's consensus algorithm

Proof-of-Work
Process of using computing power to solve a hash function to attach blocks to the blockchain that uses the previous block's output hash as the current block's input hash. In a PoW blockchain new coins are emitted as a reward for solving the hash function

Proof-of-Work Node
Nodes on the blockchain that are able to create new blocks through Proof-of-Work. Such Nodes are compensated by newly emitted tokens / cryptocurrencies. Vehicle Lifecycle Blockchain will NOT have Proof-of-Work Nodes

DEFINITIONS

VLB Tokens
Vehicle Lifecycle Blockchain Tokens are “utility tokens” that will be required for industry constituents to record transactions on the Vehicle Lifecycle Blockchain and to “finance” commissions as compensation paid to PoS Nodes

SKUs
Stock Keeping Unit (SKU) is a distinct type of item for sale

Super Node
Node on the Vehicle Lifecycle Blockchain that has an inherent ability, due to the nature of its business, to propagate the creation of VLB Token fueled ecosystem in new geographies. Car manufacturers and OEMs are global Super Nodes. Insurance companies are national Super Nodes

Vehicle Lifecycle Industry
A term coined by the CarFix founders, which unites all sectors and industry players that play their respective roles from the time a vehicle comes off the production floor and until it is recycled in the junkyard

Vehicle Lifecycle Blockchain or VLB
Vehicle Lifecycle Blockchain is a comprehensive decentralized registry where information about vehicle ownership, insurance history, repair and maintenance records will be recorded through the use of VLB Tokens

Vehicle Lifecycle Blockchain Consensus Algorithm
Vehicle Lifecycle Blockchain will use a Proof-of-Stake consensus mechanism to validate new blocks with Paying Participants attaching VLB Tokens to their respective transactions to be used as compensation for PoS Nodes

EXECUTIVE SUMMAY

CarFix is launching an ICO in order to build a blockchain for the Vehicle Lifecycle Industry, leverage CarFix's existing business model to achieve critical adoption rate among Industry Participants and ultimately make the Vehicle Lifecycle Blockchain open, independent of CarFix and propagated globally.

The industry players that form the Vehicle Lifecycle Industry are faced with operating and customer service inefficiencies that lead to overestimated price of services and unnecessary costs, which are estimated at $100 billion p.a.

Integrity and recency of records is the main aspect of interactions between the participants of the Vehicle Lifecycle Industry. Linking transactions and relationships between the automotive production industry, the auto insurance industry, the spare parts industry, the auto repair industry and beyond creates a single cohesive ecosystem that reveals tremendous opportunities to increase profits by rewarding efficiency, transparency, quality and by discouraging price manipulations and market abuse.

Vehicle Lifecycle Blockchain (VLB) is a comprehensive decentralized registry where information about vehicle ownership, insurance history, repair and maintenance records will be recorded through the use of VLB Tokens. VLB Tokens are utility tokens that will be issued in accordance with the ERC-20 standard. VLB Tokens will be used by Paying Participants to record transaction entries in the blockchain by Industry Participants and to "finance" commissions as compensation paid to PoS Nodes and Super Nodes.

Vehicle Lifecycle Blockchain will be deployed in two stages:

- Deployment within the controlled environment of the CarFix ecosystem with CarFix acting as a moderator to achieve the critical mass of Industry Participants and the critical technology penetration level
- Deployment of blockchain beyond the CarFix ecosystem Industry Participants with CarFix ceasing its moderator role and opening up the blockchain to decentralization and public consensus

Vehicle Lifecycle Blockchain will create a seamless decentralized platform of all records related to Vehicle Lifecycle from the production floor to the junk yard. We estimate that market participants will have more than $35 bn of potential benefits p.a. from the use of VLB Tokens

EXECUTIVE SUMMARY

CarFix current business will act as a testing ground

The existing CarFix ecosystem and software systems present a perfect staging ground to develop and deploy the Vehicle Lifecycle Blockchain. CarFix's current business model, which is driven by the notions of transparency, efficiency and fair pricing, will be further empowered by the blockchain's core premises of decentralization and immutability of records.

CarFix Ecosystem Indicators

10 OEMs	500 + Repair shops	50,000 + Customers	250,000 + Repair jobs done

Elaborate validation process

Before entries become eligible for inclusion in blocks they will go through several layers of real world validation processes:
— Arm's length counterparty verification
— Node identity confirmation
— Cross-identity acceptability
— Proof of payment

Leadership Team

VLB founders have a proven track record of building successful businesses and a deep understanding of automotive industry having launched CarFix and CarPrice startups.

VLB core team consists of high-level professionals with technology, blockchain development, business development and general management expertise

Advisors

The Advisory Board is comprised of influential leaders in the areas of blockchain and cryptotechnologies, insurance, financial technologies and business development.

Nitin Gaur (Director at IBM Blockchain Labs), Sergey Solonin (CEO and Founder of QIWI Group), David Drake (Founder and Chairman LDJ Capital), Hannes Shariputra Chopra (ex-CEO of Sberbank Insurance), Alexey Arkhipov (Director for cryptotechnologies at QIWI Group), etc.

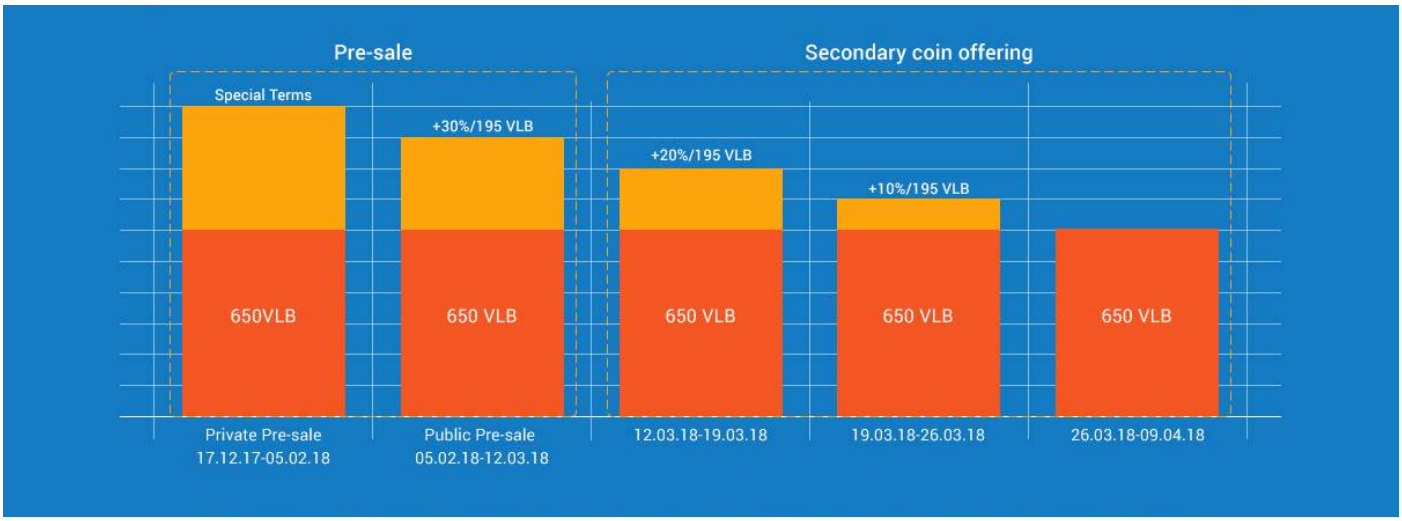
Partners

VLB project is supported by strong partners from automotive, blockchain, legal and venture capital industries.

Genser Возможность быть лучшим · UBER · @mail.ru group · fcg Financial Consulting Group · FLEETCOR · QIWI Blockchain Technologies · SMILE VENTURE PARTNERS · kima ventures · MAGNUSSON

VLB TOKENS ICO OVERVIEW

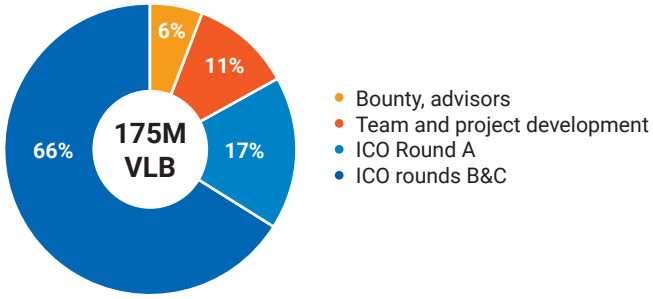
ICO PRICING



soft cap $4 mln **hard cap $12 mln**

TOKEN ALLOCATION

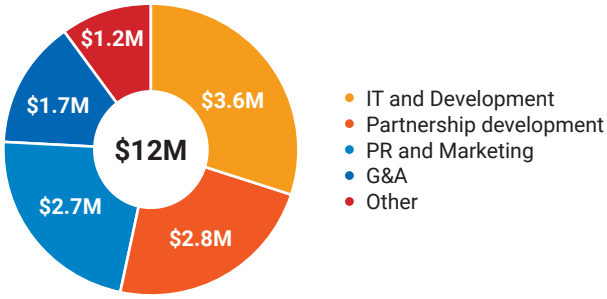
- Bounty, advisors 10M VLB
- Team and project development 20M VLB
- ICO Round A 30M VLB
- ICO rounds B&C 115M VLB



USE OF PROCEEDS

Proceeds from ICO will be used for:

- Design, development and programing of blockchain algorithms
- Industry Participant blockchain interface software development
- Integration of partners in Russia and abroad
- PR and marketing, mainly in Europe and the US
- Other costs, which include G&A and ICO round B costs



PROBLEMS: FROM CAR OWNER TO CAR MANUFACTURER

- Auto industry is one of the most sophisticated and technologically advanced industries in the world with innovation ranging from electric motors to self-driving cars to IoT integration
- At the same time, the industry players that form the Vehicle Lifecycle Industry are faced with operating and customer service inefficiencies that lead to unnecessary costs and overestimated price of goods and services for the car owners
- Lack of trust on the car secondary market is another issue: buyers of used cars feel uncertain when they buy a pre-owned car and spend hundreds of dollars for a car inspection although it does not give them 100% transparency of the car history

PROBLEMS FOR INDUSTRY PARTICIPANTS

KEY POTENTIAL STAKEHOLDERS

Car Manufacturer

— Huge warranty claims costs
— Enforcement of recommended maintenance and repair prices on the dealers
— Customer attrition due to car dealers violation of recommended maintenance prices set by car manufactures

Insurer

— Arcane and costly claim management methods
— Inaccurate customer-tailored policy pricing
— Lack of oversight over the quality of collision repair

Spare Parts Producer

— Existence of large counterfeit spare parts market
— Lack of transparency in warranty monitoring and enforcement

Independent Repair Shop

— Underutilized capacity
— Customer retention

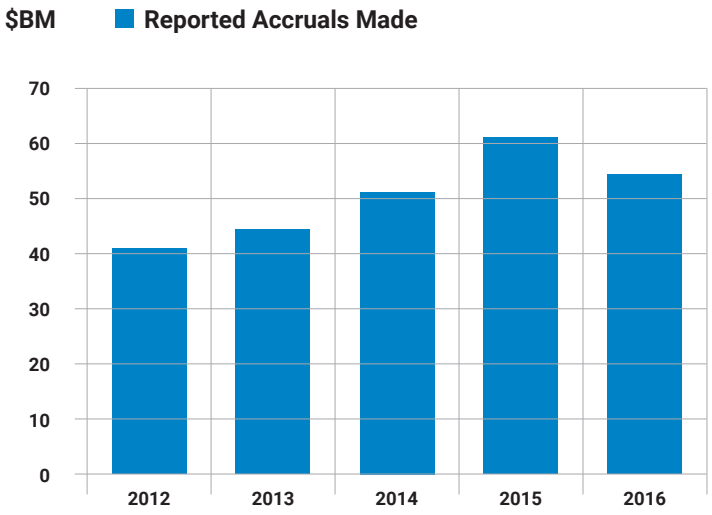
Car owner / Fleet owner

— Lack of transparency in car history for the purchaser of a pre-owned car
— Overestimated price and unpredictable car maintenance and repair costs
— Lack of trust in the outcome of maintenance and repair jobs

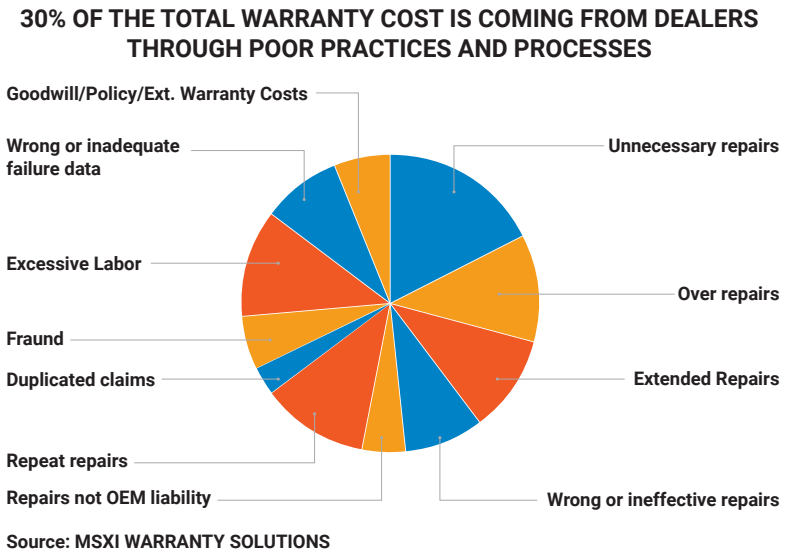
ESTIMATION OF LOSSES OF KEY INDUSTRY PLAYERS

Car manufacturer

- According to the analysis of Warrantyweek.com 2016 worldwide, annual car warranty costs amounted to $56 billion in 2016.
- Last year, after the eventual cost of the diesel emissions scandal was discoverd, VW accrued a huge loss — 12.2 billion euro, or $13.5 billion — to pay for the clean-up.
- The highest warranty costs are in Europe and North America, while the lowest are in Asia.



Source: Warranty Week



Source: MSXI WARRANTY SOLUTIONS

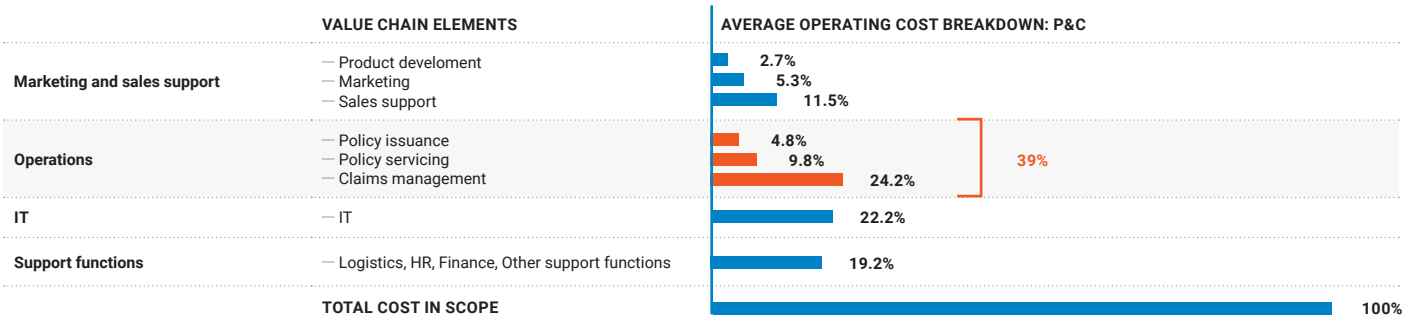
ESTIMATION OF LOSSES OF KEY INDUSTRY PLAYERS

Insurer

- According to McKinsey & Company*, 5 to 10 percent of all claims worldwide are fraudulent. Dishonest insurance customers make fraudulent damage accidents, conspire with knavish repair shops to get compensation. According to the FBI, this costs US non-health insurers more than $40 billion per year.

- Policy issuance and servicing, claim management account for 39% of total insurance costs. Most of insurance companies use arcane methods for policy issuance and claim management which result in operational cost inefficiencies.

Operations and IT account for around 60% of a typical insurer's cost base



*Source: McKinsey&Company Johannes-Tobias Lorenz, Björn Münstermann, Matt Higginson et. al, "Blockchain in insurance – opportunity or threat?". July 2016, McKinsey.com

Spare parts producer

- The Federal Trade Commission estimates the market for fake car parts at approximately $12 billion a year.
- Besides the warranty claims of cars manufacturers, which are the largest in developed countries, counterfeit spare parts dominate in developing countries.

More than $100 bn losses due to warranty costs, fraudulent insurance claims and fake spare parts

BLOCKCHAIN AS A SOLUTION FOR AUTOMOTIVE INDUSTRY PROBLEMS

Why Use Blockchain in the Vehicle Lifecycle Industry?

Integrity and recency of records is the main aspect of interactions between the participants of the Vehicle Lifecycle Industry.

Accuracy and immutability of records is essential for enforcing real life contractual relations, maximizing resale value of vehicles, ascertaining the authenticity of spare parts, achieving more accurate and cost effective insurance claim management, monitoring the adherence to various recommendations to business partners, and optimizing insurance. Furthermore, recency of records and ability to access them in real time opens operations optimization opportunities such as more robust inventory management for spare parts distributors or better capacity utilization forecasting for repair shops.

Poor practices, which amount for 30% of the total warranty costs, could be eliminated with implementation of the blockchain in warranty management where all claims, SKU of spare parts and labor hours are recorded. For example, auto manufacturer warranties are contingent on the vehicle owners maintaining their cars in certified repair shops that install original spare parts from trusted distributers. This means that for the car owner having an undisputable record of servicing his or her vehicle in such certified repair shop and being able to demonstrate the origin and the SKU numbers of the installed spare parts are critical to being protected by the warranty.

The blockchain technology also offers potential use cases for insurers that include innovating insurance products and services for growth, increasing effectiveness in fraud detection and pricing, and reducing administrative cost. A distributed ledger can enable the insurer and various third parties to easily and instantly access and update relevant information (e.g., claim forms, evidence, police reports and third-party review reports). According to McKinsey & Company by digitizing its insurance processes, insurance company could reduce claims regulation costs by 20 to 30 percent.

BLOCKCHAIN AS A SOLUTION FOR THE INDUSTRY PROBLEMS

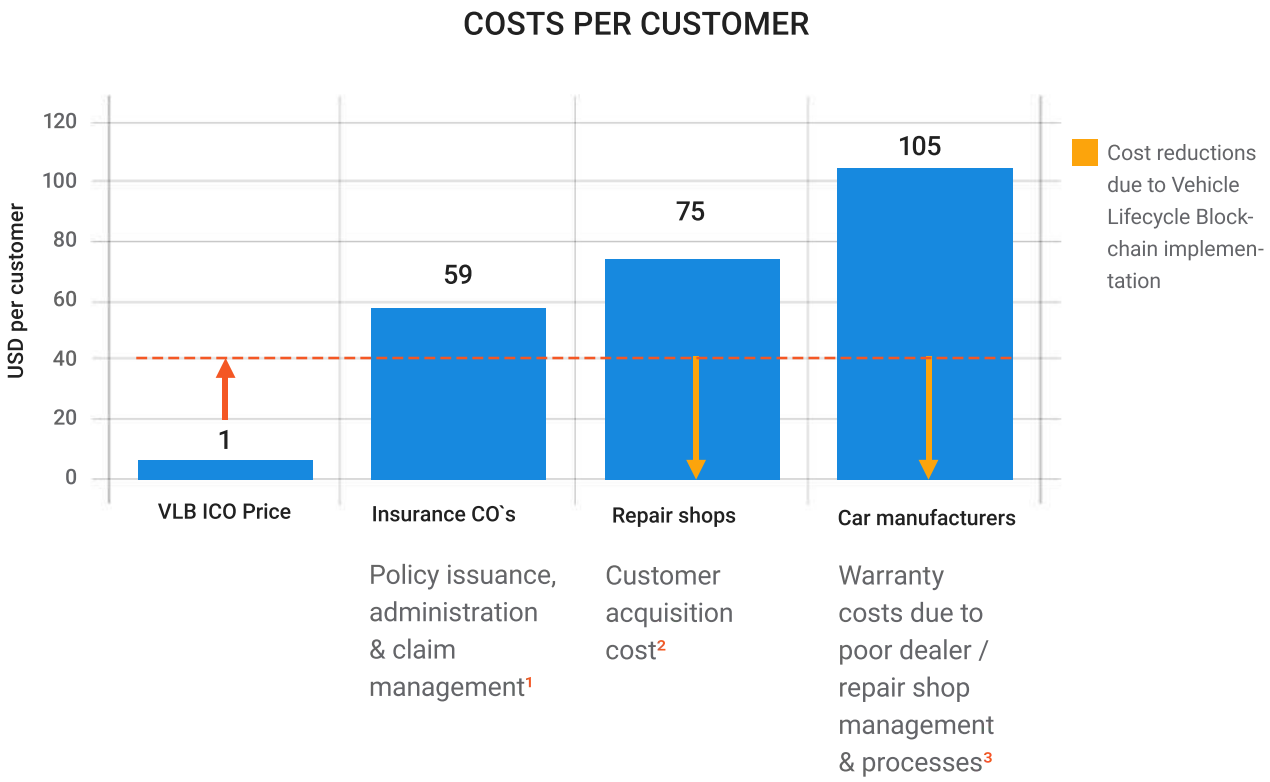
Vehicle Lifecycle Blockchain will create a seamless decentralized platform of all records related to Vehicle Lifecycle from the production floor to the junk yard and will encompass the following benefits for industry participants.

PAYERS OF VLB TOKENS	BENEFITS RECEIVED	BENEFITS ESTIMATION
Auto Manufacturer	— Essential decrease of warranty claims costs and car recalls costs — Increase of customers loyalty and brand confidence — Verification of maintenance records in events of warranty claims and identification of count feitspare parts — Control and instant pricing for car maintenance performed by authorized dealers — Strengthen competitive advantage	**$17 bn**
Insurer	— Optimization of vehicle insurance policy pricing — Decrease and optimization of claim management costs — Decrease of clients attrition	**$12 bn**
Spare Parts Producer	— Decrease of warranty claims against faulty non-original spare parts — Stock management optimization	**$6 bn**
Independent repair shop	— Secure repair and maintenance record — New clients flow	
Car owner / Fleet owner	— Trust and confidence in the used car market — Maximization of resale value of the vehicle — Creation of transparent car history	

$35 bn of potential benefits for the key market participants from the use of VLB Tokens

EFFECT OF COSTS REDUCTIONS

The chart below identifies and quantifies costs that can be significantly reduced by the respective Industry Participants



Footnotes:

[1] McKinsey, European Insurance & Asset Management

[2] www.cars.com, AAA (based on 15% commission paid on average repair cost in US of $500);

[3] www.warrantyweek.com/archive/ww20160107.html

VLB OVERVIEW

Vehicle Lifecycle Blockchain Overview

Vehicle Lifecycle Blockchain is a comprehensive decentralized registry where information about vehicle ownership, insurance history, repair and maintenance records will be recorded through the use of VLB Tokens. VLB Tokens are “utility tokens” that will be required for industry constituents to record transactions on the Vehicle Lifecycle Blockchain and to “finance” commissions as compensation paid to PoS Nodes and Super Nodes*

VLB Tokens will be used as utility tokens within the Vehicle Lifecycle Blockchain. Vehicle Lifecycle Blockchain is self-contained system with VLB Tokens circulating within it.

Each Paying Participant that is providing inputs into a specific transaction that gets formulated as a Vehicle Lifecycle Blockchain ledger entry will be required to attach VLB Token to the respective ledger entry. Once several ledger entries get compiled into a block and the block is validated through Proof-of-Stake, the node that validates the block will be paid all VLB Tokens that are attached to all ledger entries in the block (“Commission Fee”). Therefore, the more complicated the transaction with more Paying Participants** involved, the higher the Commission Fee.

Vehicle Lifecycle Blockchain will be initially fully implemented within the CarFix*** network of repair shops, testing mode of a Car Manufacturer insurance companies, spare parts distributors and fleet management companies. However, the true mass-market potential of this blockchain lies in its decentralized deployment beyond the CarFix ecosystem. Blockchain fueled by VLB Tokens has an innate disposition to becoming global through the facilitation of expansion by certain nodes. Car manufacturers and spare parts producers are global Super Nodes and insurance companies are national Super Nodes that can rely on their successful experience inside the CarFix ecosystem to create similar VLB Tokens fueled business environments with other Industry Participants in other geographic markets.

CarFix will dedicate a sales and business development team to work with Super Nodes to promote the independent and decentralized use of the Vehicle Lifecycle Blockchain through the utilization of VLB Tokens.

Car Manufacturers and insurance companies are the most important participants of the Vehicle Lifecycle Blockchain. We expect that these participants will integrate and distribute VLB globally as soon as they get positive results during the testing period.

VLB Tokens turnover through the system will increase in line with the blockchain system development. Eeach Paying participant shall be required to spend VLB Tokens on each transaction.

VLB DEPLOYMENT

TWO STAGES

1 DEPLOYMENT OF VEHICLE LIFECYCLE BLOCKCHAIN INTERFACE ACROSS THE EXISTING CARFIX ECOSYSTEM OF REPAIR SHOPS, AUTO DEALERS AND INSURANCE COMPANIES

CarFix will utilize Network Development Tokens to issue to Paying Participants of the blockchain until a certain critical mass of Paying Participants and recorded transactions is achieved

Following the achievement of such critical mass, Paying Participants will have to purchase VLB Tokens from VLB Token holders on leading crypto exchanges to pay for validation of their entries in the Vehicle Lifecycle Blockchain by Proof-of-Stake Nodes

Stage 1 will be undertaken by CarFix in Russia and USA

2 DECENTRALIZATION OF VEHICLE LIFECYCLE BLOCKCHAIN AND IMPLEMENTATION OF PUBLIC CONSENSUS MECHANISM

All Paying Participants will be required to purchase VLB Tokens to record transactions in the blockchain and reap their respective benefits

CarFix will provide access on open source basis to its blockchain interface software to Industry Participants beyond the CarFix ecosystem

Super Nodes will serve as springboards for the creation of new ecosystems in new geographic markets that unite local Industry Players to use VLB Tokens to obtain access to the decentralized Vehicle Lifecycle Blockchain

BLOCKCHAIN SYSTEM PARTICIPANTS

VLB Token holders that will have bought VLB Tokens in the CarFix ICO will be able to sell tokens to the following industry constituents that will reap the following value from the Vehicle Lifecycle Blockchain:

1. **Car manufacturer:**
   - Will be able to instantly and reliably verify maintenance records in events of warranty claims from vehicle owners
   - Will leverage Vehicle Lifecycle Blockchain to ensure that MSRPs are observed by manufacturer-authorized repairs shops with respect to pricing of the repair and maintenance jobs
   - Will have access to real-time data about original spare part demand by region and by specific SKU# and will be able to plan geographic supply chains with greater precision, efficiency and granularity down to specific repair shops

2. **Insurer:**
   - Will be able to rely on the driving and accident repair records in the registry to increase policy pricing accuracy
   - Will be able to decrease claim management costs
   - Will be able to cross-market insurance services to other users of the Vehicle Lifecycle Blockchain

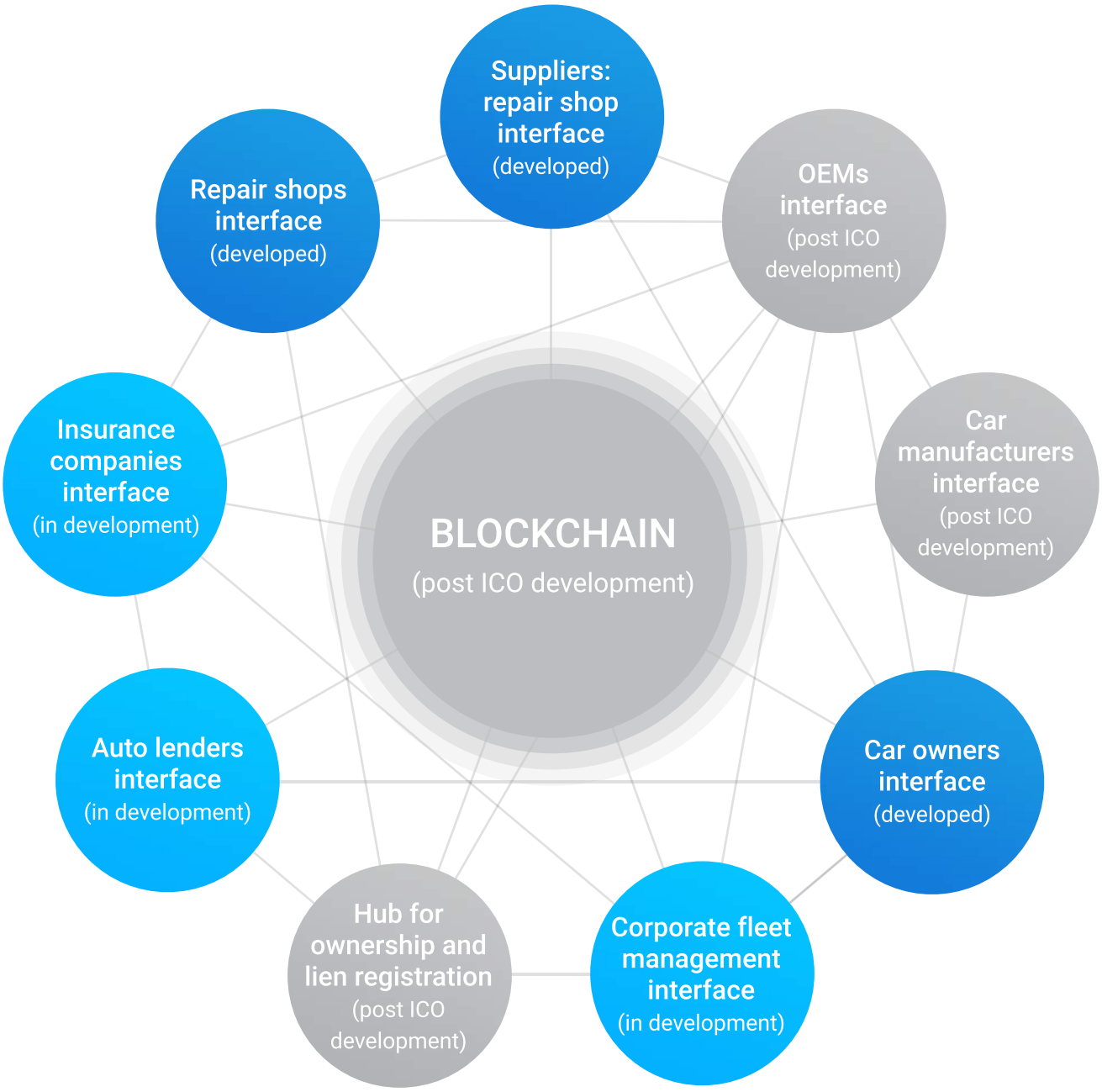
3. **Spare parts producers:**
   - Will use Vehicle Lifecycle Blockchain to access records related to warranty claims against faulty non-original spare parts; Vehicle Lifecycle Blockchain will link specific SKU#s with vehicle ID Numbers (VIN) and specific repair shops that performed the installation
   - Much like the vehicle manufacturers, will be able to forecast inventory demand and manage supply chains with greater accuracy and efficiency

4. **Repair shops:**
   - Will use VLB Tokens to pay CarFix for the use of CarFix repair shop franchise, gain access to CarFix customer flow and to access the Vehicle Lifecycle Blockchain and become eligible to work with insurance companies that have access to Vehicle Lifecycle Blockchain

5. **Car Owners:**
   - Will have free access to the information about their vehicles on the blockchain
   - Will only need to buy VLB Tokens when recording a car acquisition transaction; auto dealers will be able to provide VLB Tokens in lieu of car owner

INTERFACE DEVELOPMENT FOR THE VEHICLE LIFECYCLE BLOCKCHAIN

CarFix ecosystem and interface software was created with a vision of integrating its real life processes into a blockchain platform, which will be the true disruption impetus to the Vehicle Lifecycle Industry. Most of the blockchain gateways are already developed and implemented into operations.



REAL WORLD CARFIX PLATFORM OVERVIEW

CarFix History

CarFix was founded in April 2016 by Oskar Hartman, Pavel Nazarov and Vladimir Lupenko. The founders have more than 30 years of cumulative entrepreneurial experience with incorporation more than 20 companies worldwide.

CarFix was founded with the mission to disrupt the $ 1.8 trln Vehicle Lifecycle Industry. Lack of transparency and trust permeate the relationships between market participants. Car owners do not have confidence in the fairness of prices that they pay to repair shop for labor and parts, the quality of which they have no way of ensuring

Insurance companies have to rely on arcane methods for claim pricing and management. Used car buyers have to undertake detective style investigations to uncover hidden damages, ascertain maintenance records and verify mileage. These are just some basic examples of the idiosyncrasies that this massive B2B and B2C industry is riddled with.

CarFix, just after 18 months since creation, has already brought a significant degree of order and transparency into the industry. CarFix has developed and implemented software that establishes algorithm based final fixed prices for all key repair and maintenance works. In real time and based on the big data of car repairs the software identifies the most appropriate spare part SKUs, finds them amongst suppliers that cover a particular geography, establishes a fair retail price, places a warehouse order and organizes delivery to a specific repair shop. CarFix software, in addition to making the car owner experience transparent, client friendly and efficient, optimizes the relationships between suppliers and repair shops and manages capacity and inventory at repair shops.

REAL WORLD CARFIX PLATFORM OVERVIEW

Business Model Description

The CarFix technology and business processes serve as a core for transparent and fair relations for all participants. Currently CarFix earns its revenue in the form of 15% commission on the total check from each repair job (labor and parts).

Car owners

Quality growth & reduction

Car owners know exactly which spare parts are required and exact cost of repair, this information is provided within seconds online

OEM's & Distributors

Narrowing of the # of preferred spare parts SKUs

CarFix creates a steady pull-through of a narrow number of SKUs in high volumes

Auto Repair Shops

Capacity utilization & bottom line growth

Repair shops increase their capacity utilization and income due to consistent customer flow provided by CarFix. Simultaneously repair shops reduce costs since they are not involved in spare parts selection and supply, management & marketing

Insurance companies & banks

Insurance companies get access to big data accumulated by CarFix in the area or repair costs and with assistance of CarFix platform are able to process claims faster. Banks have reliable access to high quality borrowers looking for consumer loans for large checks for car repair. Banks are also able to provide W.C. financing to repair shops

REAL WORLD CARFIX PLATFORM OVERVIEW

CarFix Prominent Results

KEY CARFIX INDICATORS

Requests processed with the aim to show transparent and fair car repair price	250 000+
Cars visited CarFix repair shops for car repair and maintenance services	50 000+
Repair shops in Moscow and Saint Petersburg inspected by CarFix team	2 000+
Repair shops onboarded to CarFix platform	500+
Largest OEM distributors fully integrated in CarFix platform	10

Contracts with the leading insurance companies and banks were executed

InstaCar

InstaCar software was developed (instant automatic selection of spare parts and labor hours, establishment of fixed and user prices)

InstaFix

InstaFix software was developed (interface for car repair shops and distributors with online notification of car repair booking, fixed repair cost, breakdown of required spare parts and time schedule which have to be delivered by distributor to repair shop within CarFix platform)

REAL WORLD CARFIX PLATFORM OVERVIEW

CarFix Operations Overview

CarFix mission is to make car repair fully transparent. In the first 18 months CarFix reached this objective. Today more than 70% of the most popular car repair and maintenance services are processed automatically without human involvement. Implementation of online car repair booking software with fixed price calculation was the result of CarFix strong efforts on deep integration of partnering repair shops and OEM spare parts distributors based on revolutionary new contractual obligation designed by CarFix team.

All CarFix partner repair shops have ranking based on customers feedback. Repair shops with higher ranking get more customers, bad performers get disconnected from the system. There is no competition on prices, CarFix offers a single price for all repair shops, which is 30% lower than market average. Attractive labor and spare parts prices are based on high volume orders of spare parts and customer visits to repair shops.

Transparency was the underlying principle of CarFix business model

CarFix ecosystem as a testing ground for blockchain deployment

We strongly believe that with the development of Vehicle Lifecycle Blockchain we will boost our expansion and make car repair industry even more transparent and convenient for all participants

Due to advance development of CarFix in the real world we have an outstanding testing site in the form of existing business model which will be used as a springboard for Vehicle Lifecycle Blockchain implementation

Already today we process 30 000 requests for car repair per month. From day one of Vehicle Lifecycle Blockchain development we will generate blocks based on CarFix customers to facilitate blockchain development. We expect to reach a critical point in Vehicle Lifecycle Blockchain expansion within CarFix ecosystem in one year

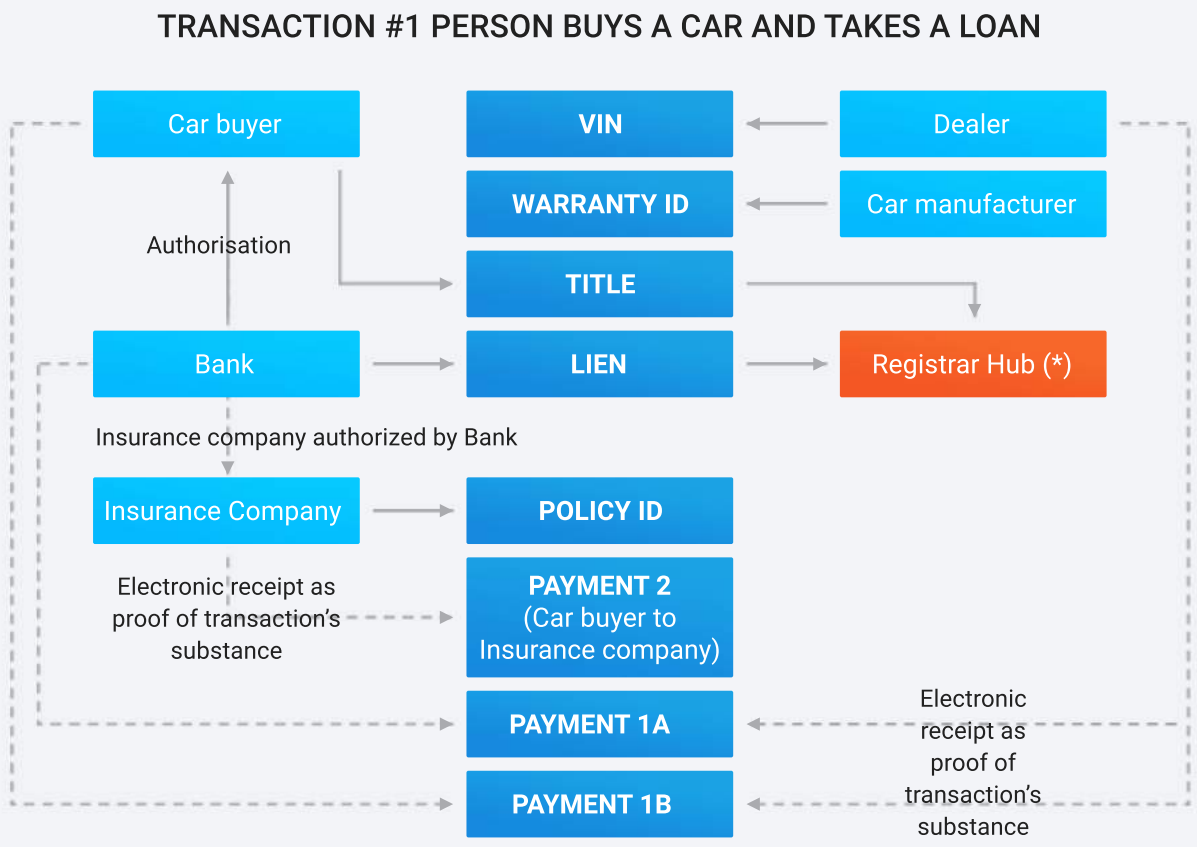
After reaching the critical mass of transactions within the blockchain CarFix ecosystem, the blockchain will be made available to the broader market

VEHICLE LIFECYCLE BLOCKCHAIN FUNCTIONALITY DESCRIPTION

VLB Token Turnover as a Driver for VLB Token Value

As the use of VLB Tokens to extend the number of records in the Vehicle Lifecycle Blockchain grows, their turnover through the system will increase, which is expected to be the underlying driver of value of VLB Tokens above their ICO selling price.

To illustrate this notion of value, first, consider the following two transactions, which depict their respective entries into the Vehicle Lifecycle Blockchain.



In summary, the car manufacturer via the dealer provides the VIN and the warranty ID. The car buyer will provide his or her personal data to be included in the title. The bank will impose a lien on the title and will provide the respective input into the entry. Finally, the insurance company will provide a policy ID to record the insurance policy taken out by the new car owner.

Typically, lenders are very sensitive about the credit quality of insurance companies that insure the assets that they are lending against. Therefore, once the insurance company reference associated with the policy ID and the bank reference associated with the lien are input into the blockchain entry, they will need to be "acceptable" to one another before the blockchain entry becomes "approved for payment".

VLB Tokens earned as compensation for encrypting blocks may be used on the blockchain again, if the P-o-S Node is a Paying Participant, or they may be sold to Paying Participants on an exchange.

VEHICLE LIFECYCLE BLOCKCHAIN FUNCTIONALITY DESCRIPTION

Transaction #1 highlights

In Transaction #1 the following constituents will provide inputs of relevant record information into the blockchain entry via the CarFix software interface: car manufacturer, dealer, car buyer, bank, insurance company. These inputs are depicted in solid black lines in Figure above.

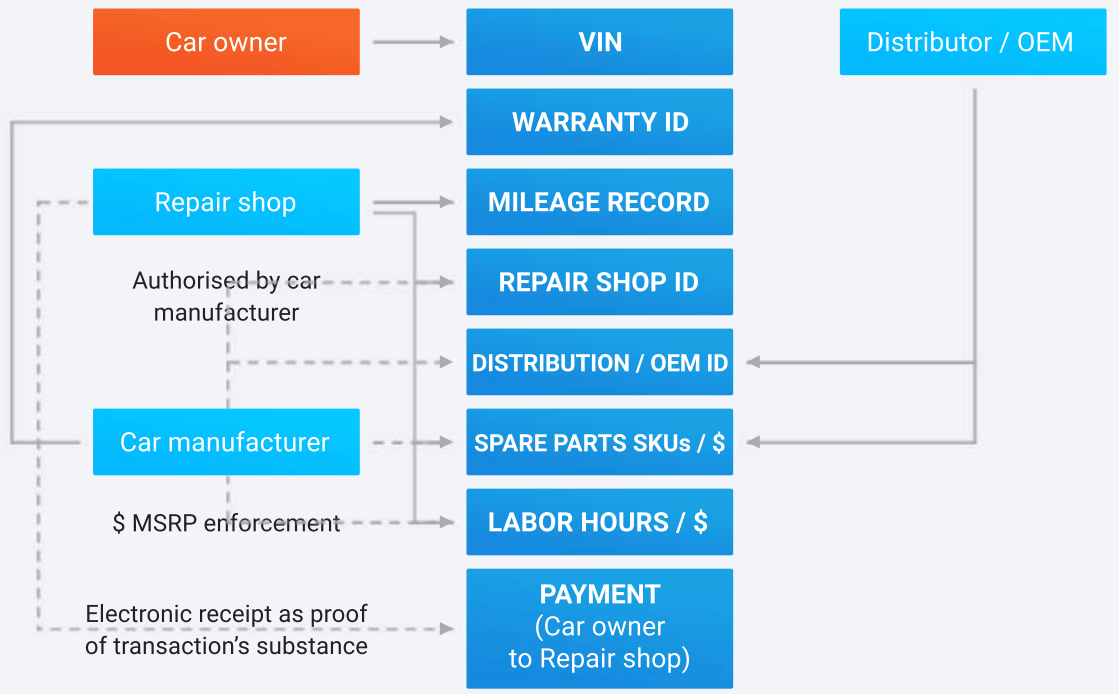
Furthermore, the dealer, the bank and the insurance company will provide inputs in the form of electronic fiscal receipts to demonstrate that the fiat money has indeed exchanged hands thus validating the blockchain entry and making it eligible to be included into the next mineable block. Electronic fiscal receipts are the same electronicdocuments that are uploaded to tax authorities through electronic registers to demonstrate sales. Over time, as the ubiquity of cryptocurrencies expands, these electronic fiscal receipts will be substituted with cryptocurrency payments. These validation inputs are presented by dark dotted lines.

The final step is payment. The car buyer pays to the dealer and the insurance company, while the bank also pays directly to the dealer for the portion of the car price that is financed with the auto loan. Once these payments are processed the copies or references to electronic fiscal receipts will be uploaded to the blockchain entry by the dealer and the insurance company, thus, demonstrating that the transaction described in the blockchain entry has indeed taken place in the real world and is now eligible to be mined. In order to incentivize the Proof-of-Stake nodes, all Paying Participants (marked in blue) attach one VLB Token each to the entry. Therefore, once this entry is included in the block (assuming that there is only one entry in the block) and the encryption code is found for it, the node that encrypts the block will receive compensation equal to 5 VLB Tokens.

The registration hub in Figure above receives an output from the blockchain with respect to title and lien. Overtime, subject to regulatory environments of the countries where Vehicle Lifecycle Blockchain is implemented, the blockchain itself will serve as a trusted registry of titles and liens.

VEHICLE LIFECYCLE BLOCKCHAIN FUNCTIONALITY DESCRIPTION

In the example in Figure #2 below, the same person takes the same car to a repair shop for routine manufacturer mandated maintenance



Key business issues in this transaction are:

- For continuity of manufacturer warranty, is the repair shop, that the car owner uses, authorized
- to perform routine maintenance on cars of this make and model? Are the spare parts and materials used in the maintenance job acceptable for the car
- manufacturer to continue to support the warranty? Are the prices for spare parts and labor that the repair shop charges consistent with the car manufacturer's MSRP (Manufacturer's Suggested Retail Price)?

Transaction #2 highlights

When the car owner brings the vehicle to the repair shop, he or she thus provides the VIN as the key input into the blockchain entry. The VIN pulls through the reference to the warranty ID that was attached to the VIN in Transaction #1.

The repair shop will provide the following inputs: repair shop ID, mileage record on the car, labor hours & cost and cost of spare parts.

VEHICLE LIFECYCLE BLOCKCHAIN FUNCTIONALITY DESCRIPTION

Spare parts distributor / OEM will provide distributor/OEM ID and spare parts SKU#s. While the manufacturer does not provide any direct inputs into this transaction entry, its role is critical for the integrity of the blockchain ledger. In this transaction, the manufacturer's warranty ID will contain data about the acceptability of the following inputs for the purposes of the manufacturer continuing to stand behind the warranty: mileage record, repair shop ID, distributor/OEM ID, spare parts SKU#s. For the purposes of the manufacturer's commitment to the car owner with respect to the car's lifetime ownership costs, the manufacturer will be able to enforce its MSRPs on labor and spare parts through ascertaining that the following inputs match MSRP requirements: labor hours & cost and cost of spare parts.

Similarly to Transaction #1, electronic fiscal receipt from the repair shop will serve as proof of payment and will verify the validity of inputs into the transaction entry. Finally, for the encryption of Transaction #2 into the blockchain Paying Participants (labeled in blue) need to use VLB Token as a verification fee.

Vehicle Lifecycle Blockchain Consensus Algorithm

There are two transaction authenticity issues that CarFix will need to contend with in the course of developing the blockchain:

— Algorithmic authentication that the information included in the transaction entry is correct and that the underlying transaction did indeed occur.

— Consensus based validation of blocks containing authenticated transaction entries

Furthermore, the vehicle lifecycle ecosystem created around the blockchain will need to address adverse behavior of industry constituents to prevent perverse incentives to act deceitfully and minimize moral hazards.

Transaction Entry Authentication

How can it be ascertained that a transaction between several industry constituents did in fact take place and that the entry to be included in the block that will be forged onto the blockchain is valid? For example, in Transaction #2 described in the previous section, how can the vehicle manufacturer trust the blockchain that the regular mandated maintenance was indeed performed by an authorized repair shop? Can the manufacturer in this case with thet utmost certainty rely on the blockchain to stand behind its vehicle warranty? The blockchain's VLB based smart contracts will rely on the pairing of public ID and private keys to establish identities of participants in a transaction entry. In the example at hand, the authorized repair shop will provide its public ID to the smart contract; that ID will match the list of public IDs of repair shops acceptable to the car manufacturer; and the repair shop will "sign" its part of the smart contract by a private key, thus, verifying that entry is made

by an authentic blockchainnode designated as “repair shop authorized my manufacturer X to maintain vehicles under warranty”.

Authenticity of spare parts used in Transaction #2 will be established in a similar fashion. The repair shop will provide SKU numbers of spare parts used in the repair and the public ID of the distributor that supplied them. The distributor that supplied the spare parts to the repair shop, in turn, will authorize the use of its public ID and the SKU numbers traced to this public ID through the application of its private key to “sign” the respective entry into the smart contract.

The principle of public ID references authenticated by private keys of the respective parties is consistent with transaction and identity verification protocols employed by the most prominent of blockchains: Bitcoin, Ethereum and others.

To verify that Transaction #2 did conclude successfully, the evidence of money exchanging hands will need to be provided to the smart contract. This task will be immeasurably simplified once cryptocurrencies become adopted as a means of payment. In the meanwhile, the smart contract will rely on electronic payment register receipts (in some jurisdictions, they are referred to as “electronic cash registers”). In Russia and many developed markets, when a transaction is processed by a merchant, an electronic record is generated, buffered and uploaded to the respective tax or other regulatory authorities.

At the very core, such electronic payment records contain the amount and the reference to the goods or services sold. References to goods and services may be made congruous to the relevant inputs into the smart contract. In the Transaction #2 example above, the proof of payment provided by the repair shop will contain the reference with SKU numbers, number of labor hours and relevant costs.

Once the identities, cross-identity acceptability and the proof of payment have been ascertained by the smart contract code, such transaction entry becomes eligible to be included in the next block for validation and forging.

VEHICLE LIFECYCLE BLOCKCHAIN FUNCTIONALITY DESCRIPTION

Consensus Based Validation of Blocks

During Stage 1 of blockchain trial and deployment, CarFix will act as a moderator and the only node on the blockchain to validate blocks. However, in 2019, once the blockchain is made available to parties beyond the CarFix ecosystem, validation of blocks will be performed through Proof-of-Stake consensus. Validators will be selected based on the combination of VLB Tokens balance and Coin-Age.

PoS Nodes will lockup certain VLB Tokens deposits for a pre-determined period of time in order to be able to validate blocks by putting value of their deposits at risk to preclude malicious behavior.

In the Vehicle Lifecycle Industry, malicious behavior may include attempts to delete certain insurance related claims, or falsify warranty related maintenance record, or delete a lien on a car before selling it.

Sequencing of records on the Vehicle Lifecycle Blockchain is as critical as it is to prevent the “double spending problem” on Bitcoin blockchain. CarFix development team will continue to assess various proof-of stake-algorithms. However, we believe that a chain based proof-of-stake algorithm may be the most suitable for Vehicle Lifecycle Blockchain consensus. Chain based PoS algorithm requires the validating PoS Node to tie the current block to the most recent block in the blockchain in order for the current block to be valid and in order for the PoS Node not to loose its VLB Tokens deposit, which exponentially outweighs any benefits that dishonest behavior may garner.

Proof-of-Stake Issues that Will Need to Be Addressed in Developing the Vehicle Lifecycle Blockchain

While the PoS consensus algorithm is conducive to rolling out blockchains that utilize a finite number of tokens and do not employ new token emission mechanisms, it poses a number of issues that may expose vulnerabilities to the integrity of such blockchains. For example, “51% attack”, “nothing at stake”, “censorship fault”, cost and motivation of forking are all potential shortcomings to the consensus and the integrity of the blockchain. They will need to be addressed when the Vehicle Lifecycle Blockchain is sufficiently developed and propagated within the CarFix ecosystem and is ready to be decentralized and opened to the industry at large.

We anticipate that we will rely on existing PoS protocols and ones that are currently actively researched by Ethereum and other smart contract or multi-signature contract blockchains.

VEHICLE LIFECYCLE BLOCKCHAIN FUNCTIONALITY DESCRIPTION

When Real World and Vehicle Lifecycle Blockchain Converge

As described in the Transaction Entry Authentication section, before entries become eligible for inclusion in blocks they will go through several layers of real world validation processes:

— Arm's length counterparty verification
— Node identity confirmation
— Cross-identity acceptability
— Proof of payment

In real life each transaction assembles parties with either opposing or unrelated interests. For example, parties with opposing interests include: buyer and sellers, insurers and the insured, borrowers and lenders, repair shops looking to have freedom in establishing retail prices for their services and spare parts and vehicle manufacturers looking to enforce their recommended retail prices. Parties with unrelated interests inside the same transaction include, but not limited to, lenders recording a lien on ownership rights and vehicle manufacturers recording the date on which the warranty starts; or a spare parts supplier recording an installation of a certain SKU# in order to subsequently rely on the blockchain to forecast demand for specific SKUs in a specific geography and a repair shop recording the related repair job for the purposes of compensation by an insurance company. Such purpose driven subjectivity and self interest of Industry Participants creates an environment of inputs into a single transaction, which, as inputs, may be untrustworthy on stand alone basis but, when combined together, underscore the authenticity of the transaction's commercial rationale.

Node identity confirmation and cross-identity acceptability are encoded smart contract functions that may either make a transaction ineligible for the purposes of block inclusion or may serve as decentralized and readily accessible proof for the purposes of real life contractual obligations. For example, a repair shop trying to issue an insurance policy will make the transaction ineligible PoS validation inside the next available block. However, an unauthorized repair shop performing a maintenance job on a vehicle under warranty will still create an eligible transaction but will demonstrate to the vehicle manufacturer proof that the warranty attached to the vehicle in question may now be rendered void.

VEHICLE LIFECYCLE BLOCKCHAIN FUNCTIONALITY DESCRIPTION

VLB — When Real World and Vehicle Lifecycle Blockchain Converge (continued)

Integrating proof of payment into the transaction entry validation is the final step in authenticating the validity and accuracy of the information being recorded in the blockchain. This is the crossover step from real world into the world of Vehicle Lifecycle Blockchain and VLB Tokens utilization. As described previously, proof of payment occurs when a reference to the relevant electronic receipt is sent to the smart contract behind each transaction. In this crossover step, fiscal regulators in respective geographic markets act as moderators to confirm that the money behind transactions with authentic commercial rationale indeed exchanged hands. Every electronic receipt containing the substance (with relevant IDs used on the Vehicle Lifecycle Blockchain) and price is the basis for levying taxes and can be verified.

To solidify the four-pronged block inclusion eligibility authentication, we will develop smart contract templates for each type of transaction that can occur in the vehicle life cycle industry. These templates will form an essential part of Vehicle Lifecycle Blockchain. The number of these templates will be finite and will cover such transactions as the following (these are just examples and not a comprehensive list):

— Car purchase with a loan
— Car purchase without a loan
— Insurance renewal
— Insurance cancelation
— Loan repayment, lien cancellation
— Maintenance job on a car under manufacturer’s warranty
— Maintenance job on an older car with no warranty
— Collision repair for the purposes of insurance recovery
— Others

A NOTE ON PRIVACY

A natural question with respect to the development of the Vehicle Lifecycle Blockchain is that of privacy. How do you ensure that while the blockchain ascertains the authenticity of transactions, parties that provide inputs into the blockchain can manage privacy and accessibility to their data?

For example, an auto lender may not want to disclose its commercially sensitive list of acceptable insurance companies that meet the credit quality requirements for insuring its encumbered assets. Or a specific repair shop may not want to make public the information about the number of customers it serves per day. Likewise, commercial terms of insurance contracts need to remain private between a car owner and an insurance company. These are just some of the examples that CarFix will need to contend with in developing the blockchain protocol.

Maintaining privacy of information while ensuring its authenticity through decentralization will be key to making the blockchain a success.

Unfortunately, there is no ready-made solution to achieving equilibrium between privacy and decentralization. Some excellent solutions, such as indistinguishability obfuscation, are too computation-heavy to be practical in the current technological environment. Others may involve storing significant bits of information outside of the blockchain and may necessitate an oracle, which hampers the concept of decentralization.

CarFix will commit a significant portion of the resources raised during the ICO to implementing a privacy protocol, which would be conducive to maximizing the number of users of the CarFix developed blockchain while securing private and commercially sensitive information.

BLOCKCHAIN ROADMAP

DATE	MILESTONES	FUNDRAISING PLAN
April 2018	VLB ICO ROUND A	ICO round A $4-$12m
2H 2018	**PROJECT DEVELOPMENT** — Alfa and Beta versions of Vehicle Lifecycle Blockchain — Development of the current Carfix Ecosystem and testing mode of a Car Manufacturer	
1H 2019	**STAGE 1: PROJECT TESTING** — Achievement of certain critical mass of paying Participants and recorded transactions — Sounth Africa and US markets entry	ICO round B $15-$30m
2H 2019	**STAGE 2: PROJECT DECENTRALIZATION AND EXPANSION** — Connection of key project participants to the system: car manufacturers and insurance companies — Permissionless access to Vehicle Lifecycle Blockchain for Industry Participants — Decentralized development of applications to a broad range of business needs	ICO round C $20-$40m
2021	**DISRUPTION OF VEHICLE LIFECYCLE INDUSTRY**	

LEADERSHIP TEAM

Founders

OSKAR HARTMANN
Co-founder

Notable startup experience: KupiVIP (Largest off-price fashion retailer in Russia and CIS), CarPrice (co-founder), Aktivo (co-founder), Similie Venture Partners — Investment Fund for early stage start-ups within the Consumer Internet and Digital Media sectors in the emerging markets (co-founder), Lesara — Largest cross boarder ecommerce company in Europe (co-founder), Zaodno — Single price retail chain (co-founder)

Corporate Experience: BMW (Kuala Lumper, Malaysia), Boston Consulting Group (Moscow, Russia).Houlihan Lokey (middle market investment bank)

Education: WHU (Berlin, Germany), MBA, University of Hawaii

PAUL NAZAROV
Co-founder

Notable startup experience: AloeCure.com (co-founder, responsible for business development), FCG (co-founder, transaction service and valuation advisory)

Corporate Experience: Macquarie Group (infrastructure fund management), Mubadala Development Company (sovereign wealth), NRG Capital (middle market private equity), Houlihan Lokey (middle market investment bank)

Education: Stern School of Business at New York University

VLADIMIR LUPENKO
Co-founder

Notable startup experience: FCG (co-founder, managing partner), CarPrice (co-founder), Aktivo (co-founder, ex-CEO, real estate crowd funding platform), Raketa (co-founder, innovative mass market gym chain)

Corporate Experience: KPMG (transaction advisory)

Education: Plekhanov Finance Academy, Vienna University of Economics and Business Administration, ACCA certified

LEADERSHIP TEAM

Core team

MAXIM MANTUROV
CTO

Previous experience: Over 17 years of experience as a programmer, software development manager and CTO. He worked at such notable companies as Lukoil, Rostelecom and Redmadrobot, the leading third party software developer. In his role as a CTO he was responsible for developing and launching Bringit — an online food delivery platform in London

SOFTWARE
Head of product development

Experience: CarFix boasts a team of 28 programmers, developers and computer scientists with an average experience of 8 years. This team builds software applications, platforms and products that become the primary driver of innovation and revenue growth for CarFix's existing business. The team has extensive expertise in designing and implementing products and solutions using Java, HTML5, AJAX, WebServices, SOAP, REST, SQL and various cloud computing technologies. This team will further be strengthened and will continue to be focused on the development of the interface software for the Vehicle Lifecycle Blockchain.

PETER KALAMBET
Development Team Leader

Experience: 16 years of programming and systems engineering. Most prominent experience includes 4 years at IBM Science and Technology Center, where Mr. Kalambet developed various blockchain pilots and distributed payments systems. Peter is a member of Qiwi Blockchain Technologies team. He holds a graduate degree in Computational Mathematics and Cybernetics from Moscow State University and a post-graduate degree from Institute for System Programming at the Russian Academy of Science.

LEADERSHIP TEAM

BLOCKCHAIN
Development team

Experience: Blockchain development will be undertaken by the team of leading specialists in blockchain and distributed systems. A team of 10 developers will be headed by Alexey Arkhipov and will be managed by Peter Kalambet.

ILYAS TAITSENOV
Head of business development

Previous experience: BCG and Uber (Russia), where he was responsible for providing management consulting services in the automotive supply chain and for developing the supply side of the Uber business model in key Russian cities, respectively

DENIS TANAEV
Head of product development

Previous experience: Denis has broad experience in product and project management in large companies. During his work at Yandex he built Yandex.Music into a#1 online music service in Russia. He also held Head of Product positions at Ostrovok.ru and Mail.ru where he was responsible for online hotel booking services. In his most recent role as the Head of IT Project Management he managed the development of all back and front office systems

LEADERSHIP TEAM

ALEXANDER KUCHEROV
Head of Sales

Previous experience: AutoMotoClub (subsidiary of ADAC, COO)

Education: Novosibirsk State University of Economics and Management, High Business School at the Ministry of Economics (MBA)

SERGEY LUSHIN
Deputy CEO

Previous experience: NRG Capital (middle market private equity), Hi Capital (Russian fund of mezzanine financing), X5 Retail Group (M&A Department)

Education: National Research Nuclear University MEPhI, RANEPA

LIUBOV GOROKHOVA
Head of CarFix university

Previous experience: Liubov has 7 year experience of training & development. Managed complex T&D projects at European Pension Fund, Investbank. Participated in the implementation of the Mentoring system (Sberbank)

Education: Russian Foreign Trade Academy (MBA)

OUR PARTNERS

Top 3 Russian car dealer with USD1 billion annual turnover

Uber Technologies Inc. is an American private hire company headquartered in San Francisco, California, United States, operating in 633 cities worldwide

Mail.Ru Group is a Russian Internet company. The company is in the top 5 of largest Internet companies, based on the number of total pages viewed controlling the 3 largest Russian social networking sites

Simile Venture Partners provides hatch, early, and seed stage funding for internet startups worldwide with a focus on consumer market

FCG is a leading corporate finance advisor in Russia and CIS. Member of Eight International Group

Sberbank Insurance specializes in life insurance program (which includes corporate insurance), endowment and investment insurance

A leading global provider of fleet cards and specialty in payment system

Subsidiary of QIWI (listed on NASDAQ, ticker QIWI). Leading innovator, developing blockchain solutions

The most active Business angel in the world

Magnusson Law,one of the leading legal firms in the ICO space. Select ICO experience includes: Polybius and Mothership Foundation.

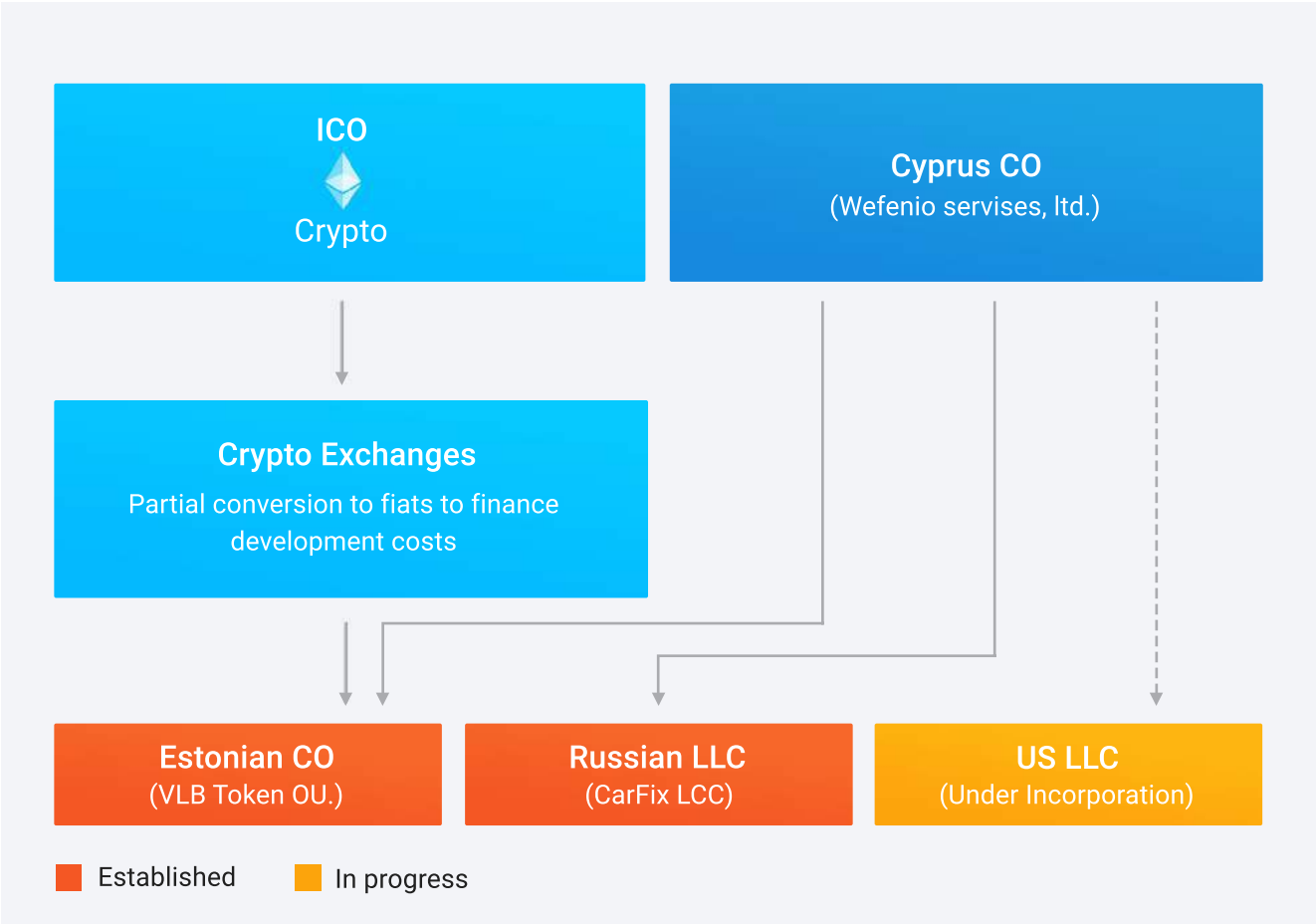
Estonia, Tallin, Roosikrantsi 9-5 tokensale@carfix.ru

GET IN TOUCH WITH THE TEAM

Twitter Telegram Facebook BitTalk

Github Medium

APPENDIX B: LEGAL STRUCTURE



The legal structure for the ICO was developed by Magnusson Law, one of the leading legal firms in the ICO space. Select ICO experience includes: Polybius and Mothership Foundation. Magnusson Law is at the forefront of working with Estonian banking sector and regulators to develop sound legislation that would govern the crypto to fiat conversion mechanisms.

www.magnussonlaw.com

APPENDIX B: INDUSTRY PARTICIPANT COST-BENEFIT ANALYSIS

Below is a table that outlines the usage of VLB Tokens by Industry Participants versus the benefits received from having access to the Vehicle Lifecycle Blockchain. Appendix A quantifies these benefits from the standpoint of the impact on the Industry Participants' income statements.

Reciprocity of token usage and blockchain benefits is the essential principle of token economics for Industry Participants:

- Industry Participants use VLB Tokens to record transactions onto the Vehicle Lifecycle Blockchain
- **Each usage of VLB Token** to record a transaction grants the respective **Industry Participant one specific benefit**

If there is a situation when an Industry Participant has "used" fewer VLB Tokens than the number of "benefits" that it wants to obtain from the Vehicle Lifecycle Blockchain, then such Industry Participant shall be required to buy additional VLB Tokens. The Industry Participant will be able to obtain a limited number of "benefits" in exchange for committing (i.e. locking) to use the purchased VLB Tokens in the future.

The longer the blockchain and the more accurate the inputs – the greater the benefits that are garnered by Industry Participants from having access to it.

Industry Participant	Actions that require VLB Tokens	Actions that are "free" as a result of using VLB Tokens	Business value of benefits received
Vehicle manufacturers	• Record warranty ID during sale-purchase transactions • Record warranty related repairs	• Access to VLB for information mining: car repair, maintenance & ownership history, repair shop & dealer performance, SKU usage and inventory data, etc	• Verification of maintenance records related to warranty claims • Transparency in warranty claim repairs • Ensuring MSRP adherence by repair shops & dealers • More granular inventory management • Targeted recalls (in conjunction with manufacturers' corporate blockchains)

continuation p.42

APPENDIX B: INDUSTRY PARTICIPANT COST-BENEFIT ANALYSIS

Industry Participant	Actions that require VLB Tokens	Actions that are "free" as a result of using VLB Tokens	Business value of benefits received
Insurance company	• Record policy issuance • Record damage claims • Record collision repair jobs and damage coverage	• Access to VLB for information mining: driving history, collision repair costs, repair shop performance, etc.	• Increased accuracy of policy pricing • Decreased costs of claim management
Spare parts producers	• Record repair transactions when respective SKUs are utilized	• Access to VLB for information mining: location of spare part installation, SKU usage & inventory data, etc	• Verification of installation records related to spare parts warranty claims • More granular inventory management
Repair shops	• Record repair jobs	• None	• Customer flow from i) consumer apps and ii) insurance companies • VLB Token usage represents pay-per-order customer acquisition cost
Car owners	• Record car purchase transactions • Access to VLB records for ownership data	• Access to VLB for information mining: specific car ownership, repair & maintenance records	• Transparency in used car transactions

APPENDIX C: USE OF FUNDS

12M Scenario

VLB cost budget, USD 000	Q2 18	Q3 18	Q4 18	Q1 19	TOTAL
IT					
Interface development	279	273	273	315	1,134
Blockchain development	150	150	300	600	1,200
Intergation with partners' interfaces	175	175	291	291	931
IT support	94	94	94	94	376
TOTAL	692	692	958	1,300	3,641
Partnership development					
Russian team	10	10	10	10	40
US team	53	53	53	53	212
Europe team	41	41	41	41	162
TOTAL	104	104	104	104	414
PR and Marketing					
Russia	100	100	150	150	500
USA	250	250	300	300	1,100
Europe	250	250	300	300	1,100
TOTAL	600	600	750	750	2,700
G&A	338	379	449	555	1,721
Integration of partners	100	500	750	1,000	2,350
Advisors and partners	250	50	0	100	400
ICO Round B			300	500	800
TOTAL EXPENSES	**1,734**	**1,774**	**2,260**	**2,709**	**12,027**

4M Scenario

VLB cost budget, USD 000	Q2 18	Q3 18	Q4 18	Q1 19	TOTAL
IT					
Interface development	105	105	105	105	420
Blockchain development	90	150	150	150	540
Intergation with partners' interfaces	58	97	97	97	349
IT support	24	24	59	59	165
TOTAL	277	376	411	411	1,474
Partnership development					
Russian team	6	6	6	6	24
US team	35	35	35	35	141
Europe team	27	27	27	27	108
TOTAL	68	68	68	68	274
PR and Marketing					
Russia	50	50	50	50	200
USA	50	50	50	50	200
Europe	50	50	50	50	200
TOTAL	150	150	150	150	600
G&A	55	89	97	110	351
Integration of partners	50	100	250	400	800
Advisors and partners	100	20	0	40	160
ICO Round B			100	250	350
TOTAL EXPENSES	**550**	**683**	**726**	**739**	**4,008**