

January 2018



VLB Tokens

Light Paper

www.vlb.io

PROBLEMS: FROM CAR OWNER TO CAR MANUFACTURER

- The automotive 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 operational and customer service inefficiencies that lead to unnecessary costs and inflated prices for goods and services. Such costs are passed on to individual and corporate car owners, car ridesharing service users, logistic businesses' clients, etc.
- According to reports from LMC Automotive and Technavio, the global new and used car markets are almost equal in terms of number of units sold. Total sales of used cars were estimated at 90 million units per annum in 2016. Lack of trust on the secondary car market is another issue: buyers of used cars feel uncertainty when they buy a used car and spend hundreds of dollars for vehicle inspections even though they do not provide 100% certainty in regard to the car's history.

PROBLEMS FOR BLOCKCHAIN PARTICIPANTS

Car Owner / Fleet Owner / Car Lender / Ridesharing Service Provider

- Lack of transparency regarding the car's history for the would-be purchaser of a used car – inflated prices, plus unpredictable car maintenance and repair costs
- Lack of trust in the outcome of maintenance and repair jobs
- High costs in ridesharing economy

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 manufacturers

Insurer

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

Spare Parts Producer

- Existence of a large market for counterfeit spare parts
- Lack of transparency in warranty monitoring and enforcement

Independent Repair Shop

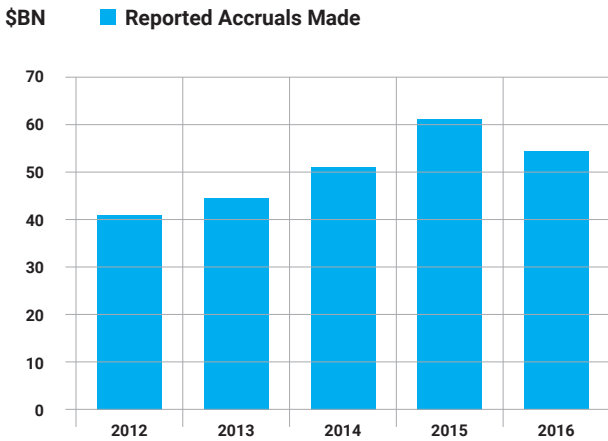
- Underutilized capacity
- Customer retention

KEY POTENTIAL USERS OF VLB ECOSYSTEM

ESTIMATION OF LOSSES FOR KEY INDUSTRY PLAYERS

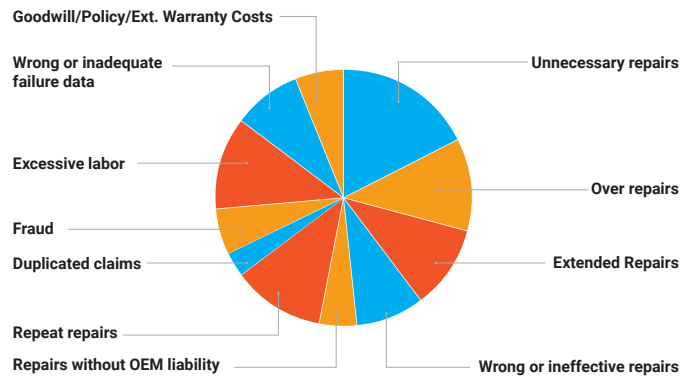
Car Manufacturer

- According to the analysis from Warrantyweek.com* 2016, global car warranty costs amounted to \$56 billion annually in 2016 and were more than \$61 billion the year before.
- 30% of the total warranty cost (almost \$17 billion in 2016) derives from poor practices and processes on the part of dealers.
- The highest warranty costs are in Europe and North America; the lowest are in Asia.



Source: www.warrantyweek.com*, Worldwide Automotive Warranty repairs, July 2017

POOR PRACTICES AND PROCESSES BREAKDOWN

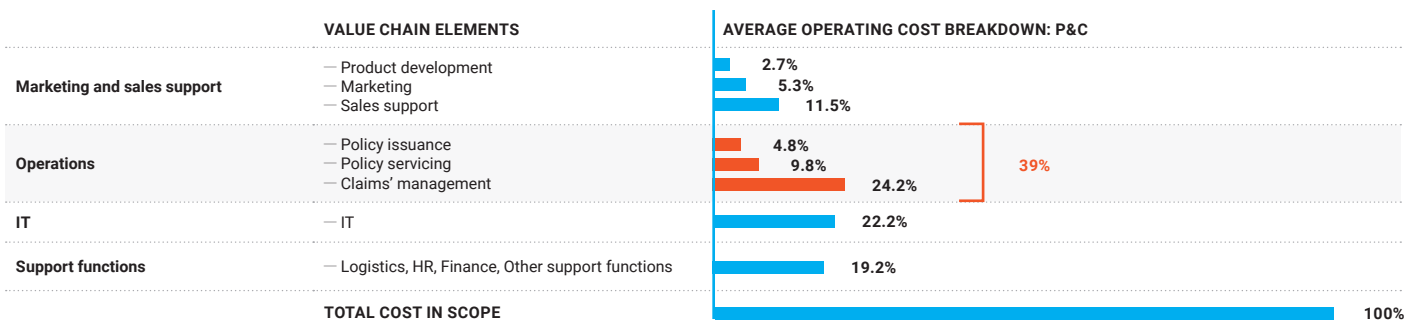


Source: MSXI WARRANTY SOLUTIONS

Insurer

- According to McKinsey & Company*, 5-10% of all claims worldwide are fraudulent. Dishonest insurance customers cause fraudulent damage incidents and conspire with equally dishonest 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 and claim management account for 39% of total insurance costs. Most insurance companies use arcane methods for policy issuance and claim management which results 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

**Source: www.fbi.gov/stats-services/publications/insurance-fraud

Spare parts producer

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

More than \$100 billion of losses are due to warranty costs, fraudulent insurance claims, and counterfeit spare parts

BLOCKCHAIN AS A SOLUTION FOR AUTOMOTIVE INDUSTRY PROBLEMS

Why Use Blockchain in the Vehicle Lifecycle Industry?

Integrity and up-to-date records are the main aspects when dealing with interactions between the participants of the Vehicle Lifecycle Industry.

Accuracy and immutability of records is essential for enforcing real-life contractual relations, maximizing the 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 of business partners, and optimizing insurance. Furthermore, recency of records and the ability to access them in real time opens up optimization opportunities for operations such as more robust inventory management for spare parts' distributors and better capacity utilization forecasting for repair shops.

Poor practices, which amount for 30% of the total warranty costs, could be eliminated by implementing a blockchain for warranty management where all claims, stock keeping units (SKU) for spare parts, and labor hours are recorded. For example, auto manufacturer warranties are contingent on vehicle owners maintaining their cars at certified repair shops that use original spare parts from trusted suppliers. This means that the car owner has an indisputable service record for their vehicle from certified repair shops and is able to demonstrate the origin and the SKU numbers of replacement parts installed. This is critical to being covered by the warranty.

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, all while reducing administrative costs. 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 putting its insurance processes on a blockchain, an insurance company can reduce claims regulation costs by 20-30%.

All of this leads to significant cost and inefficiency reduction for both the consumers and businesses not only in the auto industry, but in any individual human activity or business dependent on auto transportation. VLB will save billions of dollars a year globally and, more importantly, hundreds of thousands of jobs in the auto industry, all while making cars safer and more reliable without the long-term anticipation of automation, electrification, and mobility platform development.

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

BLOCKCHAIN AS A SOLUTION FOR AUTOMOTIVE INDUSTRY PROBLEMS

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

PARTICIPANTS	BENEFITS RECEIVED	BENEFITS ESTIMATION
Auto Manufacturer	<ul style="list-style-type: none"> — Essential decrease of warranty claims costs and car recalls costs — Increase of customers loyalty and brand confidence — Verification of maintenance records in the event of warranty claims and identification of counterfeit spare parts — Control and instant pricing for car maintenance performed by authorized dealers 	\$17 bn
Insurer	<ul style="list-style-type: none"> — Optimization of vehicle insurance policy pricing — Decrease and optimization of claim management costs — Decrease of clients attrition 	\$12 bn
Spare Parts Producer	<ul style="list-style-type: none"> — Decrease of warranty claims against faulty non-original spare parts — Stock management optimization 	\$6 bn
Independent repair shop	<ul style="list-style-type: none"> — Secure repair and maintenance records — New client flow 	n/a
Car Owner / Fleet Owner/ Car Lender/ Ridesharing Service Provider	<ul style="list-style-type: none"> — Trust and confidence in the used car market — Maximization of the vehicle's resale value — Creation of transparent car history — Decrease in costs for individuals and businesses in the ridesharing 	n/a

Minimum \$35 billion of potential benefits for key market participants from the use of VLB Tokens

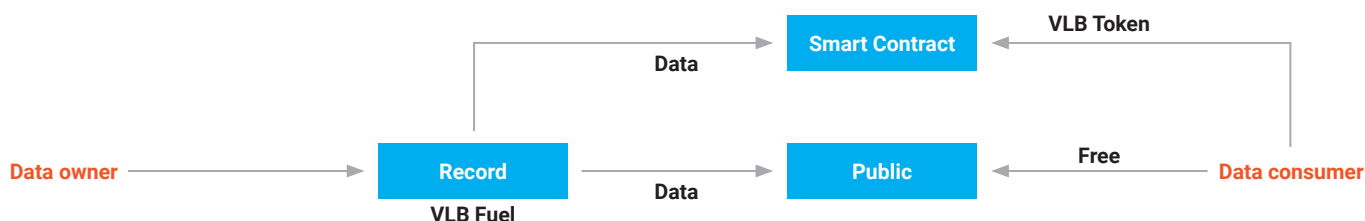
VLB OVERVIEW

With VLB, all car industry participants are data owners with respect to goods and services produced: vehicle production and ownership, warranties and recalls, repair and maintenance records, accidents and damages, insurance history, and so on. They will use the blockchain ecosystem to record and secure relevant data.

Data consumers are individuals or other businesses (including fellow VLB participants) that will use VLB for the purpose of viewing all necessary information in regards to a particular car/driver/spare part/repair shop/etc. with 100% confidence that this information is and always will be accurate and complete.

Data owners will pay small fractions of VLB Tokens to record and broadcast information on the blockchain (VLB “Fuel” – similar to Ethereum’s gas) and receive payments in larger amounts of VLB Tokens for access to this data from data consumers via smart contract or get compensated otherwise in case of freely broadcasted data, depending on their business rationale. Taking into account the benefit of blockchain for participants, the low cost of recording transactions will facilitate the active usage of VLB by data owners, while data consumers will be willing to pay a higher price for the accurate data. The price of the transaction will be determined by the market.

Data owners will have incentive to produce complete data that can be cross-referenced by groups of data owners participating in a single transaction (for example, a car manufacturer, a spare parts producer, or a warranty repair service provider in a transaction covering repair job under warranty). The accuracy and completeness of data will be enforced by VLB protocol, not only financially rewarding the faithful actors, but punishing the inaccurate ones with the loss of their VLB Token stake as well as revocation of the actor’s VLB participant status along with legal and other corresponding “offline” consequences in the real world.



The Vehicle Lifecycle Blockchain will initially be fully implemented within the VLB early auto industry participants’ ecosystem, which includes the CarFix* network of repair shops, test mode for car manufacturers, 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 initial ecosystem.

Blockchain fueled by VLB Tokens has an innate disposition to become 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. We expect that these participants will integrate and distribute VLB globally as soon as they get positive results during the test period.

VLB founders 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. VLB Tokens’ turnover through the system will increase in parallel with the blockchain system development.

Footnotes:

* CarFix is a comprehensive online-to-offline auto repair platform, covering client experience improvement and algorithmic price setting, repair shop capacity management, spare part market optimisation while also providing an end-to-end online transaction capability. CarFix was launched as a start up in April 2016 and is currently comprised of 280 fully integrated independent repair shops (with 500+ onboarded repair shops in total), all key spare parts distributors and dealers of most popular mass-market car brands in the CIS region.

** 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 global spare parts producers are global Super Nodes. Insurance companies are national Super Nodes.

VLB COMPETITIVE ADVANTAGES

CarFix and other Initial Industry Participants' current businesses will act as a testing ground

The existing CarFix and other Initial Industry Participants* ecosystem present a perfect staging ground to develop and deploy the Vehicle Lifecycle Blockchain.

CarFix Ecosystem Indicators

10 spare parts distributors

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's founders have a proven track record of building successful businesses and a deep understanding of automotive industry, having launched successful companies CarFix and CarPrice.

VLB's 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 crypto-technologies, insurance, financial technologies and business development.

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

Partners

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

Genser
Возможность быть лучшим

 U B E R




Financial Consulting Group

 FLEETCOR®

QIWI Blockchain Technologies


VENTURE PARTNERS

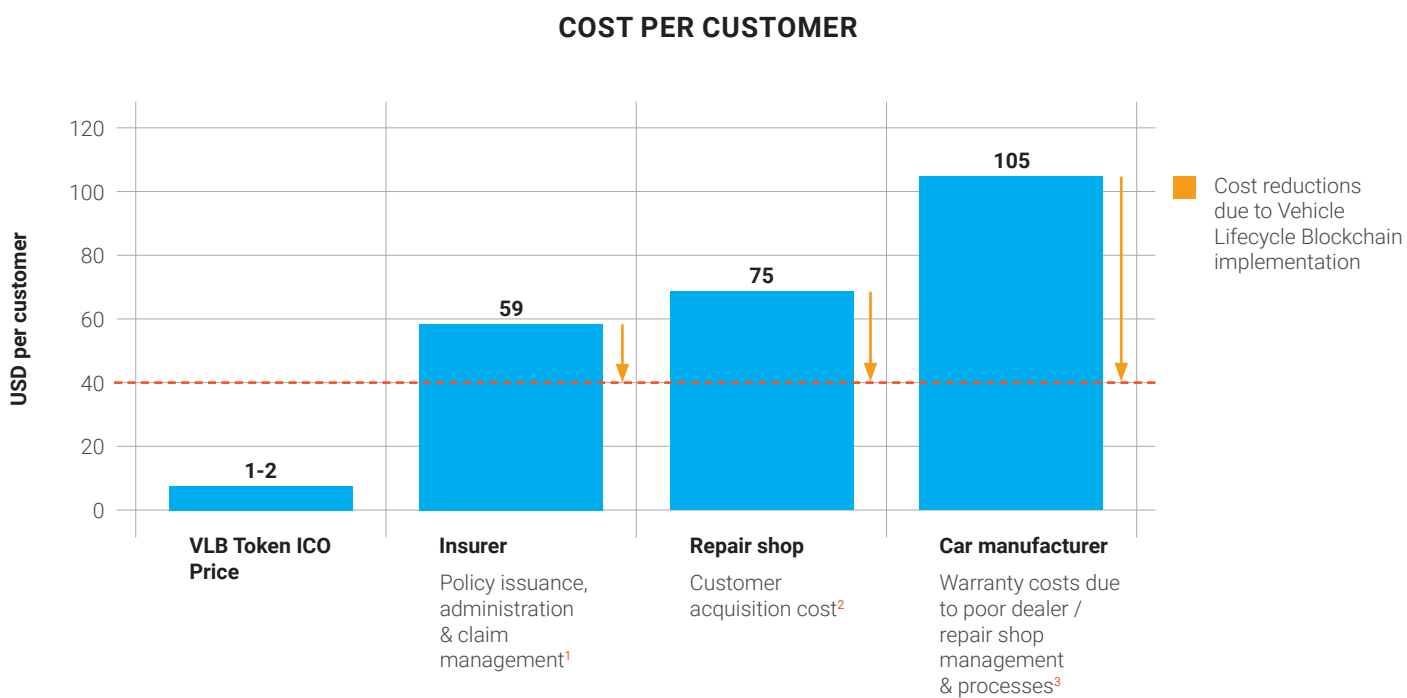




* The VLB team is working on forming new partnerships with auto industry participants from various regions to ensure wider adoption of VLB

EFFECT OF COST REDUCTION

The chart below identifies and quantifies costs that can be significantly reduced by 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);

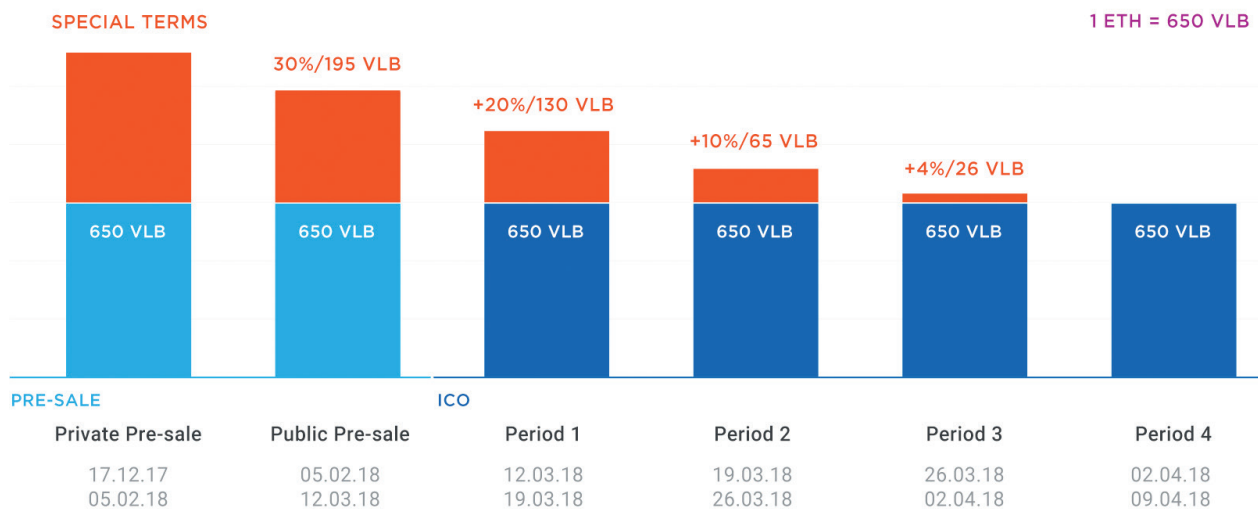
³ www.warrantyweek.com/archive/ww20160107.html

PROJECT TIMELINE

DATE	MILESTONES	FUNDRAISING PLAN
April 2018	VLB FUNDING ROUND A (ICO)	
2H 2018	PROJECT DEVELOPMENT – Alfa and Beta versions of the Vehicle Lifecycle Blockchain	\$4-\$12m
1H 2019	VLB FUNDING ROUND B (PRIVATE, INSTITUTIONAL INVESTORS) STAGE 1: PROJECT TESTING – Achievement of a certain critical mass of data owners and data contributors and recorded transactions – Entry into new markets	\$15-\$30m
2H 2019	VLB FUNDING ROUND C (PRIVATE, INDUSTRY PARTICIPANTS) STAGE 2: PROJECT DECENTRALIZATION AND EXPANSION – Connection of key project participants to the system: car manufacturers and insurance companies – Permissionless access to the Vehicle Lifecycle Blockchain for Industry Participants – Decentralized development of applications for a broad range of business needs	\$20-\$40m
2021	DISRUPTION OF VEHICLE LIFECYCLE INDUSTRY	

ICO OVERVIEW

ICO PRICING

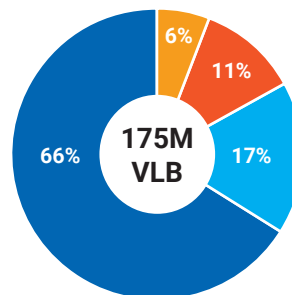


soft cap \$4 m

hard cap \$12 m

TOKEN ALLOCATION

- Bounty, advisors 10M VLB
- Team and project development 20M VLB
- Funding round A (ICO) 30M VLB
- Funding Rounds B&C (Private, base price > 650VLB = 1ETH) 115M VLB

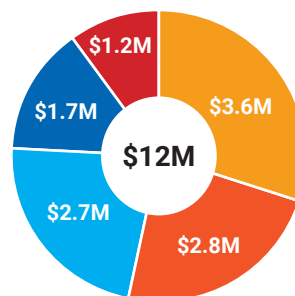


- Bounty, advisors
- Team and project development
- Funding round A
- Funding rounds B&C

USE OF PROCEEDS

Proceeds from the ICO will be used for:

- Design, development, and programming of blockchain algorithms
- Integration of Industry Participants
- PR and marketing
- General and administrative (G&A)
- Other costs, including preparing and organizing further rounds of funding



- IT and Development
- Partnership development
- PR and Marketing
- G&A
- Other

APPENDIX: USE OF FUNDS

12M Scenario

VLB cost budget, USD (thousands)	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					
Region 1	10	10	10	10	40
Region 2	53	53	53	53	212
Region 3	41	41	41	41	162
TOTAL	104	104	104	104	414
PR and Marketing					
Region 1	100	100	150	150	500
Region 2	250	250	300	300	1,100
Region 3	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 (thousands)	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					
Region 1	6	6	6	6	24
Region 2	35	35	35	35	141
Region 3	27	27	27	27	108
TOTAL	68	68	68	68	274
PR and Marketing					
Region 1	50	50	50	50	200
Region 2	50	50	50	50	200
Region 3	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