LGA
Ledger Pay

WHITE PAPER

DISCLAIMER

This document is a technical whitepaper setting out the current and future developments of the Ledger pay Platform and Ledger pay Ecosystem by BlcokTrans Technology Pty Ltd (BlcokTrans). This paper is for information purposes only and is not a statement of future intent. Unless expressly specified otherwise, the products and innovations set out in this paper are currently under development and are not currently in deployment. BlcokTrans makes no warranties or representations as to the successful development or implementation of such technologies and innovations, or achievement of any other activities noted in the paper, and disclaims any warranties implied by law or otherwise, to the extent permitted by law. No person is entitled to rely on the contents of this paper or any inferences drawn from it, including in relation to any interactions with BlcokTrans or the technologies mentioned in this paper. BlcokTrans disclaims all liability for any loss or damage of whatsoever kind (whether foreseeable or not) which may arise from any person acting on any information and opinions relating to BlcokTrans, the Ledger pay Platform or the Ledger pay Ecosystem contained in this paper or any information which is made available in connection with any further enquiries, notwithstanding any negligence, default or lack of care.

The information contained in this publication is derived from data obtained from sources believed by BlcokTrans to be reliable and is given in good faith, but no warranties or guarantees, representations are made by BlcokTrans with regard to the accuracy, completeness or suitability of the information presented. It should not be relied upon, and shall not confer rights or remedies upon, you or any of your employees, creditors, holders of securities or other equity holders or any other person. Any opinions expressed reflect the current judgment of the authors of this paper and do not necessarily represent the opinion of BlcokTrans. The opinions reflected herein may change without notice and the opinions do not necessarily correspond to the opinions of BlcokTrans.BlcokTrans does not have an obligation to amend, modify or update this paper or to otherwise notify a reader or recipient thereof in the event that any matter stated herein, or any opinion, projection, forecast or estimate set forth herein, changes or subsequently becomes inaccurate.

BlcokTrans, its directors, employees, contractors and representatives do not have any responsibility or liability to any person or recipient (whether by reason of negligence, negligent misstatement or otherwise) arising from any statement, opinion or information, expressed or implied, arising out of, contained in or derived from or omission from this paper. Neither BlcokTrans nor its advisors has independently verified any of the information, including the forecasts, prospects and projections contained in this paper.

Each recipient is to rely solely on its own knowledge, investigation, judgment and assessment of the matters which are the subject of this report and any information which is made available in connection with any further enquiries and to satisfy itself as to the accuracy and completeness of such matters.

Whilst every effort is made to ensure that statements of facts made in this paper are accurate, all

estimates, projections, forecasts, prospects, expressions of opinion and other subjective judgments contained in this paper are based on assumptions considered to be reasonable as of the date of the document in which they are contained and must not be construed as a representation that the matters referred to therein will occur. Any plans, projections or forecasts mentioned in this paper may not be achieved due to multiple risk factors including without limitation defects in technology developments, legal or regulatory exposure, market volatility, sector volatility, corporate actions, or the unavailability of complete and accurate information.

BlcokTrans may provide hyperlinks to websites of entities mentioned in this paper, however the inclusion of a link does not imply that BlcokTrans endorses, recommends or approves any material on the linked page or accessible from it. Such linked websites are accessed entirely at your own risk. Ledger pay does not accept responsibility whatsoever for any such material, nor for consequences of its use.

This paper is not directed to, or intended for distribution to or use by, any person or entity who is a citizen or resident of or located in any state, country or other jurisdiction where such distribution, publication, availability or use would be contrary to law or regulation.

This paper is only available onwww.BlockTransTech.com and may not be redistributed, reproduced or passed on to any other person or published, in part or in whole, for any purpose, without the prior, written consent of BlcokTrans. The manner of distributing this paper may be restricted by law or regulation in certain countries. Persons into whose possession this paper may come are required to inform themselves about and to observe such restrictions. By accessing this paper, a recipient hereof agrees to be bound by the foregoing limitations.

1.0 BUSINESS AND INDUSTRY OVERVIEW
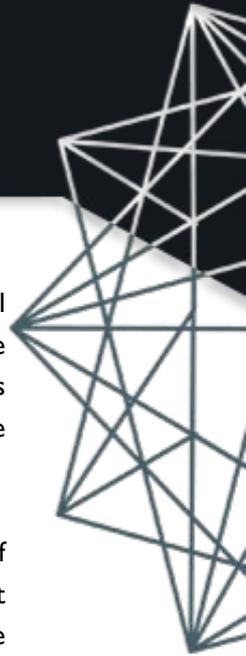
1.1 Innovation of Payment Technology

The wind of change in the payments world is gaining in strength as financial technology's ("fintech") potential to alter how, where and when payments are made – as well as who it is that facilitates them – is further explored and leveraged. This paper explains a newly developed blockchain based fintech in both the consumer/retail and wholesale/corporate payments arenas.

Without a doubt, the "era of fintech" is upon us and we can't merely be mindful of this; the industry must also have a clear plan in place in order to adapt to and benefit from fintech-fuelled changes. While the financial industry is traditionally more "conservative" to change – certainly fast-moving change – any hesitation or ambivalence here could be costly, particularly as new technology introduces not just new solutions, but also potential contenders to financial institutions" long-standing reign as payment processors.

The range of options to choose from is broad and diverse. As the number and type of fintech players, developments and offshoots gather pace, the emergence of new tools and solutions (such as digital currencies and biometric security) are in turn gaining traction and reaching the market with ever-greater speed. To date, the impact of these new entrants has been far more profound in the retail and consumer payments space, yet these new payment capabilities and ideas are already diffusing into the area of corporate payments, as personal preferences influence corporate demand. Furthermore, in the continually-evolving payments sector, the impact of the fintech "revolution" isn't something occurring in isolation. It is important to remember that the corporate and wholesale payments industry isn't static, and that technology is already being leveraged to drive industry-wide improvements with regard to harmonization, standardization, centralization and the development and application of increasingly sophisticated solutions.
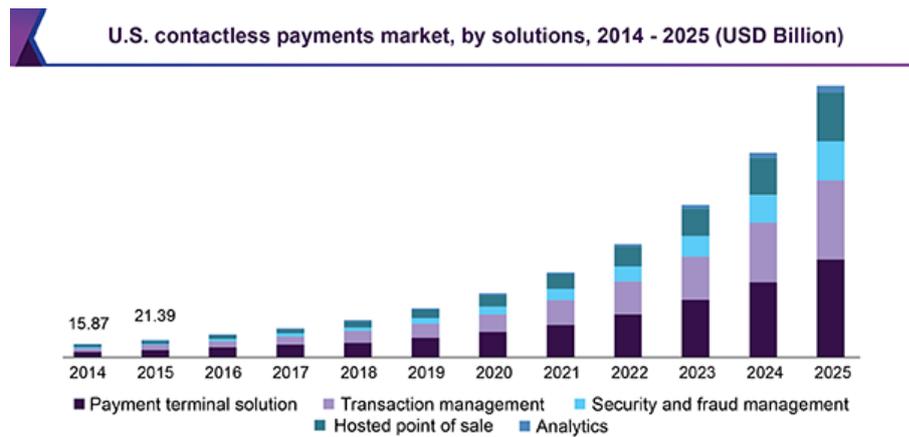
1.2 THE MARKET SIZE

1.2.1 CONTACTLESS PAYMENTS

The global contactless payments market size was valued at USD 207.65 billion in 2016 and is expected to grow at a fast pace over the forecast period. This shift in demand can be attributed to the mass adoption of contactless payments by several sectors, thereby offering convenience to the customers.

This enable transaction to be carried out without any physical connection between a consumer's payment device and point-of-sale terminal. Mobile phone payments, key fobs, stickers, and cards are some of the device, that are used for conducting contactless payments. Contactless payments offer efficient and quick payment solutions through an EMV contactless card, NFC mobile phone, or standard
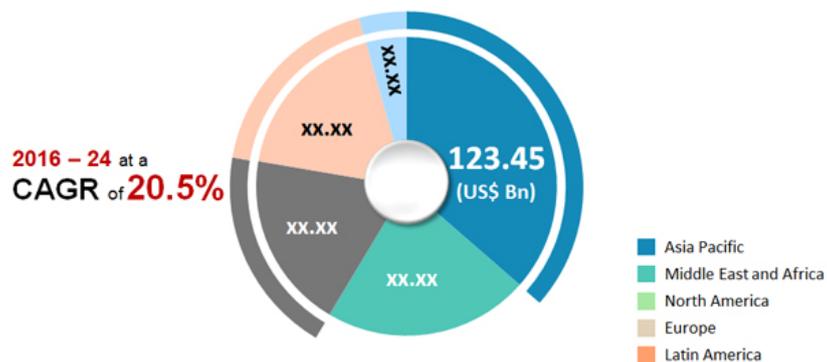
contactless travel card.

U.S. contactless payments market, by solutions, 2014 - 2025 (USD Billion)

15.87 21.39
2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025
■ Payment terminal solution ■ Transaction management ■ Security and fraud management
■ Hosted point of sale ■ Analytics

1.2.2 MOBILE PAYMENT

Mobile payment technology (MPT) uses a smart phones, tablets or cell phones to make immediate payments for products and services. Increasing adoption of advanced technologies such as near field communication (NFC), wearable devices, and mobile point-of-sale (m-POS) are expected provide a significant impetus to the global mobile payment technologies market in the forthcoming years. The report states that the global According to the research report, the global MPT market is expected to be worth US$1,773.17 bn by the end of 2024 as compared to US$338.72 bn in 2015. During the forecast years of 2016 and 2024, the global market is expected to progress at a CAGR of 20.5%. Currently, the mobile payment technologies market is expanding at a higher rate due to the increasing adoption of smart phones and tablets across emerging economies.

Global Mobile Payment Technology Market
By Geography, 2015 (US$ Bn)

2016 – 24 at a CAGR of 20.5%

123.45 (US$ Bn)

xx.xx

- Asia Pacific
- Middle East and Africa
- North America
- Europe
- Latin America

Source: TMR Analysis, January 2017

1.3 A PAYMENT GATEWAY FOR CRYPTO CURRENCIES

Ledger Pay is a payment gateway powered by blockchain technology to provide crypto currency payment solution for various types of enterprises. LGA Chain is the key component of Ledger Pay platform developed by Blocktrans, based on LGA Chain, Blocktrans may develop and deploy smart contracts for consumer/retail and wholesale/corporate payments.

1.4 WHAT IS BLOCKCHAIN TECHNOLOGY

Blockchain is a software innovation for establishing digital trust between users facilitating transactions of value, over a network.

The blockchain enables trust to be distributed throughout a network, without the need for a central intermediary to track, verify and approve the digital exchange of value. The notion of authorizing trust from a central intermediary currently underpins both private and government institutional structures, however this is proving to be costly, slow, and also vulnerable to attack. The blockchain overcomes these issues by operating as a decentralized distributed database, maintaining a continuously growing list of records called blocks.

Although blockchain technology is still an emergent one, current applications show it can be better, more efficient and more secure than traditional systems, which is why banks and governments globally are beginning to experiment with it.

1.4.1 SMART CONTRACTS

On-chain computer code or "Smart Contracts" are computer protocols that facilitate, verify, or enforce the performance of a contract making a contractual clause unnecessary. Smart contracts often emulate the logic of contractual clauses.

Smart contracts can exchange money, property, shares or anything of value in a transparent, conflict-free way, while avoiding the services of a middleman. Ordinarily, a process would require payment to a middleman, government agency, bank, lawyer or a notary, and then a processing time before the receipt of goods or services. However, with smart contract technology it can all be automated.

Smart contract technology can be compared to that of an automated vending machine. With a vending machine, money is deposited into the vending machine and the desired item drops for collection, provided that the correct amount is deposited.

Comparable to that, with a smart contract, the money is deposited into escrow on the blockchain for receipt of a transfer of a token (e.g. a digital certificate of title for a house), which is instantaneously transferred into a counterparty's control once conditions are met.

Smart contracts not only define the terms and conditions around an agreement in the same way that a traditional contract does, but also provide enforcement of those obligations.

1.5 WHY INDUSTRY NEEDS A PAYMENT PLATFORM THAT SUPPORT CRYPTO CURRENCIES

Everyone is aware of how the cryptocurrency ecosystem has evolved in 2017 alone. Substantial amount of money has entered the world of Bitcoin and altcoins. We have seen additional Bitcoin forks explode in value, whereas established altcoins are separating themselves from the useless clutter. On January 1, the total cryptocurrency market cap was just US$18 billion. Along with money, the number of people who holds crypto currency also increase dramatically.

With so many different cryptocurrencies hitting all-time highs over the past year, it was only a matter of time until new milestones were reached. Expect for the investment value, the liquaty, the spread are also significant enough for online business and internal settlement to consider embrace crypto currency.
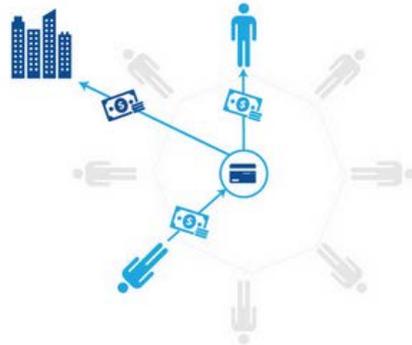
Current payment systems require third-party intermediaries that often charge high processing fees ...

... but machine-to-machine payment using the Bitcoin protocol could allow for direct payment between individuals, as well as support micropayments.

1.6 THE LEDGER PAY PLATFORM

The Ledger pay Platform (Platform) is an efficient, secure and universal crypto currency payment that enable your customer to use crypto currencies like BitCoin to buy goods online, receive invoice payments from your customers or enable shopping cart checkouts. Businesses that accept crypto currencies are seen as innovative and customer focused.

Ledger Pay is providing Crypto Currency Payment services for Merchants, Consumers and for fundraisers. The Ledger pay Token is the fuel of the Ledger pay Ecosystem that cover the cost of exchange other currencies into flat money, also act as a foundation of deploy smart contracts for different business.
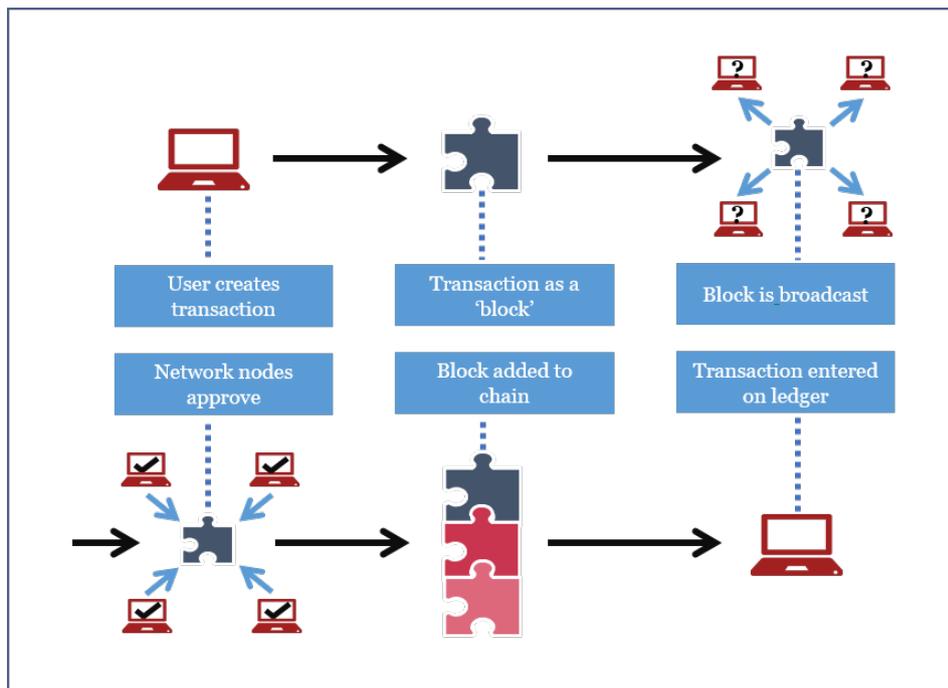
2.0 PLATFORM APPLICATIONS

The Ledger pay Ecosystem supports a growing number of payment and settlement trading applications. The key classes of Platform Applications developed by Ledger pay are listed below, with some already operational, and others in advanced conceptual design or in development.

2.1   P2P TRADING

This class of Platform Application gives retailers the ability to empower consumers (or in an unregulated environment, the consumers themselves) to simply trade with one another and receive payment in real-time from an automated and trustless reconciliation and settlement system. There are many immediate benefits to allow customers trade with each other in one P2P market, receive payment, benefit from transparency of all trades on a blockchain, and very low-cost settlement costs.

2.2   NEO-RETAILER

This class of Platform Application provides Neo-retailers with smart demand and supply management, along with almost instantaneous remuneration and payment settlements while managing consumer exposure to the risk of non- supply.

2.3   WHOLESALE MARKET SETTLEMENT

This Platform Application class offers rapid low-cost and transparent dispatch optimization and management, data aggregation, reconciliation, and settlement for wholesale marketplaces.

2.4   DISTRIBUTED MARKET SETTLEMENT MANAGEMENT

This Platform Application provides optimized metering data, the collection of transaction data, right to access and dispatch of assets (crypto currencies), rapid transaction settlement, frequency management for distributed markets settlement. A serious de-centralized market may keep the consistency of each individual settlement node.

3.0 TECHNICAL OVERVIEW

3.1 INTRODUCTION

The Ledger pay Platform creates deposit and withdraw mechanism for crypto currencies based on blockchain technology. Powered by self-developed Quantitative Transaction Engine, calling API from Top Tire Crypto Exchange, Ledger Pay build an efficient crypto currency payment system. Meanwhile, Ledger Pay (LGA) will be used as fuel and acceptance for payment system.

BlockTrans offer crypto currency payment system installation and integration services. Crypto currency holders may send cryptos into the deposit address provided by payment system. The result will be confirmed by blockchain search result. When customer initiated payment request, the crypto will be sent into exchange and convert into flat money. Merchant may also choose to hold the cryptos.
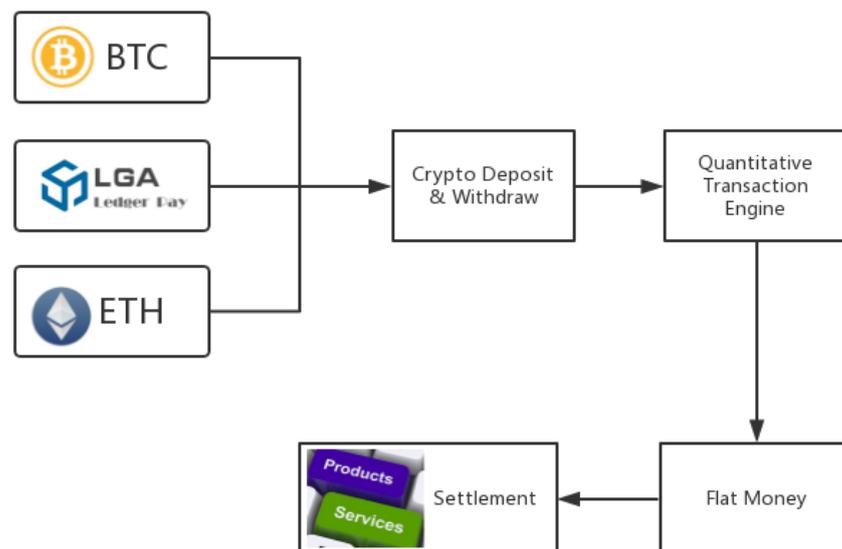
3.2 LGA

The LGA will serve as the fuel of the Ledger pay Ecosystem.
LGA interact with the Ecosystem through:
- Providing governance and consumer protection through Smart Contract technology
- Facilitating access to use the Platform
- Create LGA different tokens for different retail and wholesale/corporate entities.
- Consumed as fuel for LGA and tokens transaction.

3.3 LGA TOKEN ECOSYSTEM

LGA tokens are priced, issued, and can be purchased with the local currency of the Platform Participant, and can be used as credit to payoff participator's goods and

services.

For Each participator, Ledger Pay may deploy different tokens that contains the smart contract specially designed for that participator. The tokens are based on LGA chain, LGA itself can be purchased and consumed as fuel of token transfer and other application based on LGA chain.

4.0 TECHNOLOGY APPLICATION

Public Blockchain: Anyone with an internet connection can set up as a node that is then synced with the entire blockchain history. Each transaction is verified and synced with every node affiliated with the blockchain before it is written to the system. This redundancy makes public blockchain extremely secure.

LGA Chain is a on the public blockchain modified from Ethereum technology and a fee- less blockchain that handle the high transaction volume of P2P energy trading.

4.1   LGA BLOCKCHAIN - PUBLIC LAYER

The LGA Public Layer utilizes and modify the Ethereum blockchain and create its own genesis Block.

The Public Layer operate independently and are the foundation of Ledger pay Ecosystem's control and provide the most advanced security and decentralization available to create ERC20 standard tokens.

The Public Layer provides a mechanism for interfacing and transacting with the Consortium and Application Layers through the LGA tokens.

4.2   LEDGER PAY CORE

The Ledger pay Core layer is the public smart contracts layer which provides a trustless and open-sourced implementation of the key components of the LGA token Ecosystem:
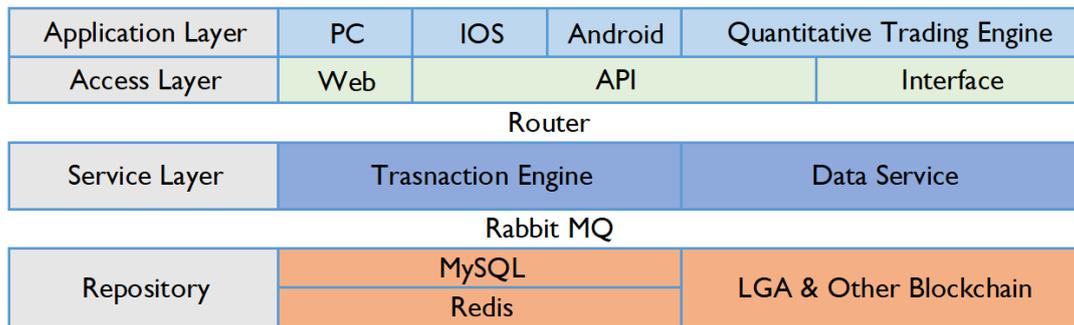
- •   LGA/Token Exchanger and Smart contract for Application Hosts;
- •   Delegated Proof of Stake (DPOS) is the fastest, most efficient, most decentralized, and most flexible consensus model available

Queued Delegated Proof-of-Stake
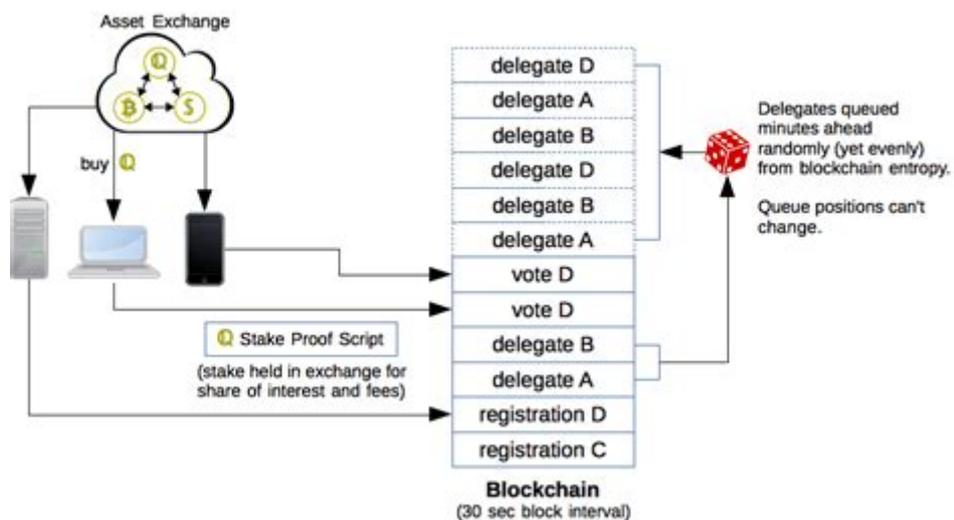
4.3　LEDGER PAY PLATFORM STRUCTURE

Ledger Pay platform structure is shown as follow:

Application Layer	PC	IOS	Android	Quantitative Trading Engine	
Access Layer	Web	API		Interface	
Router					
Service Layer	Trasnaction Engine			Data Service	
Rabbit MQ					
Repository	MySQL		LGA & Other Blockchain		
	Redis				

The application layer allows PC, IOS and Android to intergrade Ledger Pay services, and the quantitative trading engine bring Crypto Currencies into exchange to convert into flat money. RabbitMQ supports multiple messaging protocols that connect the Repository with Services layer. Redis is an in-memory data structure store, used as a database, cache and message broker. For each Ledger Pay platform, a node is created for both LGA chain and other blockchain within the Repository.

5.0 ROADMAP & MILESTONES

The development funds will be allocated towards meeting the following milestones:

5.1   Q1 2018

LEDGER PAY PUBILC CHAIN DEVELOPED.

This will allow real investor access public chain also provide a tech demo for Ledger Pay gateway system customers.

5.2   Q2 2018

LEDGER PAY GATEWAY SYSTEM COMMERCIAL READY

Customers may receive detailed tech specification for gateways system deployment.

5.3   Q2 2018

LEDGER PAY TOKEN RELEASE

Customers may create their own token carrying smart contract designed for their business operation.

5.4   Q3 2018

LEDGER PAY SYSTEM OFFICAL OPERATIONAL