BEATLE MARKET

W H I T E P A P E R

FULLY GLOBAL CRYPTOCURRENCY MARKETPLACE

BEATLE MARKET

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Summary

The Beatlematic team is launching its application «Beatle Market», which is an e-commerce internet application platform with support for cryptocurrencies. Beatle Market recreates the global infrastructure of major e-commerce corporations, such as eBay and Amazon, entirely in code.

Beatle market offers significant advantages over traditional e-commerce platforms and opens up the rapidly growing marketplace to new business and user segments. It allows anyone to make a purchase, to list items for sale or even to set up a complete store with very low fees and high degree of privacy. At the same time, Beatle Market contains powerful tools to facilitate both the user experience and to protect customers and merchants. These tools include instant search, escrow, and customisable filters to screen items illegal in certain jurisdictions. A reputation system is under development.

All buyer payments are made in cryptocurrency, principally in bitcoin (BTC) and ether (ETH), which can be held in an integrated wallet for convenience or, if preferred, in an external wallet. Sellers will be required to use the BEATLE coin in order to post a listing.

Beatle Market is an e-commerce marketplace where everyone can buy and sell goods, and benefit from the significant advantages of the platform's design and technical properties: privacy, freedom, and much lower costs.

1. Introduction: Why BEATLE?

Beetles are natural entities that have always been very prominent in the human culture. They can be collectible items that can be worth thousands of dollars. They are even also beneficial to human economics (by controlling the populations of pests). They are solid bodies that can be found in the millions virtually everywhere in the world.

That's why we came up with the pun name "BEATLE" for the market's official token...

...because we truly aim to create a coin that is:

- Solid and found in the millions everywhere in the world
- Beneficial to human economics
- Seen as collectible items
- Prominent in human culture
- Truly music to your ears...

It is just the beginning.

2. The Beatlematic Team

2.1 Introduction To Beatlematic

The Beatlematic team has the aspiration to enable truly free trade on a global scale. The company envisions a global economy in which all participants can conduct business with each other peacefully and efficiently, regardless of their location and without interference, censorship or prohibitively high fees. The use of cryptocurrencies enables the realisation of this vision. Beatlematic is made up of a team of highly committed individuals with different backgrounds and careers, all of which have led them to the blockchain technology. Some team members are developers who have worked with JavaScript, Angular, and other languages, others have a background in trading on the diverse cryptocurrency markets.

Beatlematic recognises the non-technical challenges of a global marketplace to user adoption, such as the requirement to localise Beatle Market in many different languages, and to tailor and adapt it for the needs of widely varying legal jurisdictions.

All team members believe in the founding ideals of Bitcoin and the blockchain technology and, therefore, strive to redefine e-commerce as a free, efficient and above all private endeavor in the globally connected 21st century.

2.2 E-Commerce

Enabling e-commerce platforms to thrive has been one of the main successes of the internet, by bringing a broader array of goods at cheaper prices to a much larger number of potential consumers. In addition, the ease of use and the consumers' ability to share almost instant feedback on the goods purchased are significant advantages.

But certain fundamental aspects of today's e-commerce market should be improved. They are rooted in the nature of our monetary system and the need for global parties to handle the payment transactions. Beatle Market intends to raise e-commerce to a higher level by eliminating these disadvantages and making the e-commerce market more efficient.

Centralization of the money supply

For the overwhelming majority of history, money has been a physical commodity of one sort or another that was handled in person and used in «peer-to-peer» transactions. Money, as we formally recognise it today, probably arose around 7,000 years ago in the Sumerian temple complexes. At the beginning, money was entirely decentralised; the parties to a transaction would weigh out the (typically) silver pieces at the point of transaction, testing the metal with a touchstone to establish purity. The inconvenience of this approach was mitigated by its complete independence from outside control and interference. Centralisation of the money supply arose in the 6th century BC, with the development of the first coinage. At that point, money came under the control of the state and has remained so ever since. Further centralisation occurred through the rise of the banking system, particularly during the

Renaissance period under the Medici family. Nevertheless, money was still backed by a physical commodity.

Two factors have fundamentally changed the nature of money over the last century. The first is that it became severed from any tangible commodity with the introduction of «fiat» money in the aftermath of the Great Depression. While this enabled national economies to adjust and recover more quickly, it placed ultimate control over the creation of money in the hands of governments and central banks. The second factor is that our payment system has moved progressively into the electronic arena over the past 50 years. Today, the vast majority of payments are made online.

Control over the payments system
As money moved online, it could no longer remain a peer-to-peer system. Because data are easy to copy, it was impossible to ensure that electronic money was only spent once. Trusted authorities were required to keep accounts and make sure that transactions were not fraudulent. This became one of the roles of banks, credit card companies, and payment processors such as PayPal in the financial system. Any online payments required centralisation for accounting purposes, which also entailed trust.

Unfortunately, this trust can be and is routinely abused, whether as a matter of policy or incidentally. Payment processors act as an intermediary between the parties of a transaction and can block or reverse a transfer. This has benefits for customers who have experienced identity theft, but there are implications for merchants, who can be hit with chargebacks. For example, eBay routinely sides with customers in such disputes, unfairly impacting sellers.

Risk of inappropriate surveillance
The fact that third parties are required for online purchases opens the door for surveillance, since there is always someone who holds financial information that can be leveraged in one way or another. This is the case for both customers and merchants, both of whom require payment processing facilities such as PayPal or credit card companies.

Additionally, the platform used for the sale itself (e.g. eBay or Amazon) will collect further information and will likely host the products and stores of thousands of merchants. The involvement of these third parties has eroded the privacy we enjoyed in the case of simple cash transactions. Our online footprint is tracked, analysed, and monetised at every turn, with personal data sold to the highest bidder. Even when we consent to this (tacitly or explicitly), and even when it is used for legitimate purposes, these data are attractive for a wide range of purposes and are frequently stolen, leaked, or sold to malicious entities.

Beatlematic improves the e-commerce market
Beatlematic will address these deficiencies with the creation of a global e-commerce platform and use cryptocurrency for customer purchases and merchant listing fees. By using Bitcoin as Beatle Market's own currency, the project eliminates the need for third parties that have previously been essential to hosting and payment processing.

One important consequence of its global design is that Beatle Market will further enhance user privacy. Not only can cryptocurrency payments offer a strong element of privacy, but there will be no third parties collecting user data. Beatle Market itself does not need any personal data, working in a permissionless manner and performing no monitoring. A user needs only Beatle Market application and a small amount of BTC to get started and operate. The overhead of running a traditional payment processor e-commerce store is eliminated. Beatlematic essentially recreates the infrastructure of an e-commerce store using cryptocurrency as payment method and is therefore in a position to pass on the savings to the users in the form of extremely low fees.

Special topic: the market potential of the «un-banked»
Existing e-commerce models work well in countries that have a good digital infrastructure and monetary stability. But what about the two billion people who live in countries which do not provide such infrastructure, where there is no monetary stability, or who are otherwise excluded from access to a stable environment for financial transactions? In other words: what about the «un-banked» people of the world?

How can the e-commerce industry navigate around these challenges and gain access to this untapped potential? What are the available technologies that can lead to financial inclusion, change trading habits, and create new exchange dynamics? We, at Beatle Market, believe that the cryptocurrency technology may achieve all of that. While multiple options exist in the cryptocurrencies market space, Beatle Market simplifies the overall experience from the point of views of both the buyer and seller:

· First, its clean and intuitive interface will be familiar to anymore who shops online. The presence of a managed escrow system and the integration of Beatle Market's wallet are just two of the features that will facilitate better adoption.
· Beatle Market has put a lot of emphasis on privacy, allowing transactions to take place in a completely automated and secure way.

Third-party application integration will be added in time, with the goal of creating a full-fledged ecosystem which prepares a new generation of users for e-commerce 2.0.

3. Beatle Market

3.1 Overview

Beatle Market is a completely new kind of blockchain-based e-commerce application with the advantages of a global architecture. It must both compete with popular online shopping sites and prevail against existing monetary and payment systems. While technical features are key to maintain its advantages of privacy, freedom, and cost, user experience is the driving force to ensure its broad appeal. Therefore, it has a simple, user-friendly interface that is free from advertisements.

Beatle Market's mobile app versions for iOS, Android and Status.im are currently under development. As Beatle Market is intended for global commerce, it will be launched in 20 languages, with further languages to be added in the future.

Bitcoin (BTC) is the «gas» that powers Beatle Market and it will also be the native currency. Bitcoin is used for making payments between customers and merchants, and items for sale are listed at a price quoted in BTC. The buyer pays in bitcoin, and the vendor receives bitcoin as payment – ensuring the most frictionless solution for internal payments. The users may convert bitcoin to other currencies at their own discretion.

Beatle Market includes an internal wallet for every user. All payments for goods and services are made in bitcoin from this wallet because the respective funds need to be withdrawn and sent to an escrow contract at the time of purchase. The internal wallet can be funded from an external wallet. At present, this requires Bitcoin (BTC) or other cryptocurrencies, but a solution is planned for converting national currencies such as US dollars or euros directly into Bitcoin. Funds can be withdrawn from the internal wallet anytime and be sent to an exchange or external address. The internal wallet is fully global, and any bitcoin stored there remains in the user's control. The wallet is secured with a user-generated passphrase that must be created before the app can be used. Support for multiple wallets within the app is planned.

3.2 Privacy Features

One of the main reasons for the creation of Beatle Market is the inherent lack of privacy on traditional e-commerce platforms. Beatle Market offers different levels of privacy and protects the privacy of users who want to remain safe. At the same time, Beatlematic objects to the sale of illegal items. As a global protocol, Beatle Market will be available in many different jurisdictions. Before a user is granted access to Beatle Market's functionality, they must first agree to the terms of service, which require that all users act in accordance with the laws of their jurisdictions. Compliance with local laws is the individual's own responsibility.

Concern for the users' privacy and the ability to trade freely are built into every element of Beatle Market. This is reflected in numerous features:

Spam email prevention
E-commerce companies collect their customers' email addresses, which are used for the registration process and to administrate their accounts. This email database represents a substantial marketing resource, and emails announcing deals, discounts, or invitations to return to the site are sent out with intense frequency. Most of these emails are unsolicited and unwanted. Beatle Market does not require any personal information from buyers or sellers. Beatlematic will not send any advertisements to its users as a matter of policy.

Account creation
Creating a new identity to use Beatle Market is a simple process. Beatle Market does not require any information that could be used to identify buyers and sellers. Both merchants and customers can set up accounts for free, and no advertising or in-app purchases exist. In the future, the user will be able to choose an alias for Beatle Market. This is a string of characters and could even be an Bitcoin address.

Encrypted messaging
During the purchase process, encrypted messages can be included with the transaction. The buyer's address and details about the shipping method are stored as an encrypted message. When the seller approves or declines a sale, he or she has the option to send an encrypted message with additional information to the buyer. Messages required by the purchase process are stored as encrypted messages, whereas encrypted chat facilities are also provided.

Image hosting
Beatlematic has developed a system to automate private image hosting. Images are an important part of online commerce, and private image hosting is a critical requirement for a truly private marketplace.

HTTPS and private key encryption
Beatle Market uses HTTPS exclusively for all external services such as the BTC exchange, exchange rate queries, and image uploading. Private keys are stored encrypted, using AES-128 encryption together with a salt and 10,000 rounds of SHA-256 hashing.

3.3 Escrow And Arbitration

Existing e-commerce platforms require centralised payment platforms to process transactions, such as PayPal. In the event of a dispute, customers or merchants can appeal for arbitration to those companies. On a global cryptocurrency e-commerce platform such a solution is not possible. Thus, Beatlematic has developed a new approach to escrow.

The option of arbitration, in the case of a dispute between buyer and seller, will be included in Beatle Market. Payment for the item is held in an escrow and will be only released to the seller if both parties indicate that they are satisfied, or if a given period of time has passed without the buyer having opened a dispute. If a dispute is opened, the arbiter system will be granted control over the escrowed funds and must determine whether they should be returned to the

buyer, transferred to the seller, or to both in some ratio. Over time, some sellers will gain a positive reputation for their great service. All communication between buyer and seller is encrypted using the session key, which is generated when a buyer purchases an item. This session key is encrypted with the buyer's private key and the seller's public key using elliptic curve25519 encryption.

Example for arbitration
The following sequence illustrates arbitration on Beatle Market:
· The buyer buys an item. Money moves from the wallet to the escrow system.
· The seller ships the item to the buyer and indicates to the escrow system that he or she has completed their part of the sale.
· The buyer receives the item.
· At this point, the buyer can finalise the sale or open a dispute. If the sale is finalised, then the money moves from the escrow system to the seller. The transaction is settled.
If the buyer opens a dispute, two things can happen:
1) The seller agrees with the dispute, and the money moves from the escrow system back to the buyer's wallet.
2) The seller also wants to open a dispute.
· At this point, the arbiter system gains control of the escrowed money, and it can determine to send the money only to the buyer, or only to the seller, or to both in a ratio that he or she chooses.

3.4 Other Key Features

Reputation system
In addition to the arbitration service, Beatle Market will offer its users protection through a reputation system. Every seller and buyer will have a reputation rating derived from their conduct and the quality of their products during and after every transaction. Users with a low or negative reputation score may be filtered out, in order to protect all sellers and buyers from fraud and wasted time. This reputation system is currently under development and will encourage legitimate merchants and customers to act honestly and to build up a solid reputation.

Illegal Material
In the interest of providing a marketplace that is attractive for all users and comply with local laws, Beatle Market will contain a filtering system, which will be maintained by the Beatlematic team and which will be turned on by default in the effort of filtering any illegal material or morally objectionable items. Filters that are tailored for different jurisdictions will help users to comply with local laws while maintaining access to the global market.

Instant search
Many e-commerce sites provide powerful instant-search tools to help customers find what they are looking for quickly, and to browse the site smoothly and easily. Beatle Market offers the same. Buyers will be able to use a search engine-like functionality by simply entering the

desired item. As they type, they will receive a constantly updating list of matching products in real time. To conduct a search, no login is needed, making it possible for everyone to browse Beatle Market without registering. The chat function is only enabled after log in. Potential buyers can engage privately with merchants to ask questions and clarify sales policies, prices, and shipping.

Ongoing development and roadmap
Beatle Market will remain under constant development for the foreseeable future. A series of new features is planned for inclusion in the platform, but the team also relies on the community to suggest new elements and improvements. New functionality may be requested from within Beatle Market application using the feedback tool or by emailing Beatlematic directly at feedback@beatlematic.net.

Key features that are currently under development include:
· Internal reputation system,
· Pricing in national currencies,

The app is currently in beta testing. The development team welcomes feedback from both testers and end users after the initial launch. Regular releases of new beta versions will allow Beatlematic to address any bugs discovered during this process as well as to integrate new features in response to suggestions and market needs.

3.5 Technical Description

Beatle Market utilizes encryption to list items for sale, to organize the purchase and sales processes, to hold escrowed funds, and to allow communication between buyers and sellers. Encryption enables a transparent and safe trading process.
Beatlematic does not use encryption to promote trade in illegal items or to foster a scam ecosystem, but reflects the lessons learned from the mass violations of privacy that have occurred in recent years. A global cryptocurrency e-commerce platform is less prone to theft of personal information. But it needs strong cryptography to protect that data.

Beatle Market uses the elliptic curve Curve25519 for private-public keypair generation. On a high- level summary, each Curve25519 user has a 32- byte secret key and a 32-byte public key. Each set of two Curve25519 users has a 32-byte shared secret used to authenticate and encrypt messages between the two users. For a more detailed, medium-level view, the following picture shows the data flow from secret keys through public keys to a shared secret.

Advanced encryption standard (AES) is used for data encryption, and one-time private keys are generated for the purchase session. One-time keys allow the buyer and seller to share their communication with a third party, e.g. the arbiter system, without revealing their private keys.

Beatle Market shares private keys for encrypted communication. The private key is stored in the user data folder in JSON format, encrypted with the user's password.

Interestingly, AES performs all its computations on bytes rather than bits. Hence, AES treats the 128 bits of a plaintext block as 16 bytes. These 16 bytes are arranged in four columns and four rows for processing as a matrix. In contrast to data encryption standard (DES), the number of rounds in AES is variable and depends on the length of the key. AES uses 10 rounds for 128-bit keys, 12 rounds for 192-bit keys, and 14 rounds for 256-bit keys. Each of these rounds uses a different 128-bit round key, which is calculated from the original AES key. The following illustration shows the schematic AES structure:

The store itself is a super list of events. Each event is a new listing. Anyone can add new listings to the store by paying the listing fee. Additionally, each listing provides escrow functionality and safely holds the funds until the purchase process is finished.

The escrow system is provided by the listing itself. Funds paid by the buyer stay inside the platform and await confirmation from the buyer. If the buyer says YES, the money is sent to the seller. If the buyer says NO, the money is locked up in a disputed state. At this point, the seller should choose YES or NO to either send the money to the buyer or to require arbitration. If both parties say NO, the money is locked and the arbiter system will choose whether to unlock the money to the buyer, to the seller, or to both in some ratio.

Each product for sale has a history of buys and sells, known as orders. Each order contains useful information about the action, timestamp, any attached encrypted message, and information about the message sender. Encrypted messages are decrypted automatically by the backend if the user is logged in and is either the buyer or the seller.

When the app loads the orders, they are grouped by the purchase order so each item may have multiple purchase orders and each purchase order may have multiple related orders. A purchase order can be understood as a buying session and it has some session-related fields attached: a session key for encrypted communication, a buyer's public key, a buyer's account, a purchase and a received payment amount, a message from the buyer with shipping info, and other useful information.

HTTPS

All connections will be organised via HTTPS, external image hosting, BTC/USD exchange rates, geth nodes, caching nodes, and any other external services.

HTTPS protects against Man-in-the-Middle (MitM) attacks and against traffic analyzers. MitM attacks allow the attacker to change any data received by the client, such as the item description. Traffic analyzers allow the attacker to identify that Beatle Market platform is being used and to possibly block the traffic. Implementation: deploy HTTPS proxy on geth nodes, turn on HTTPS on caching servers, hardcode HTTPS URLs for external services, and filter all non-https image URLs.

4. Business Model

4.1 Overview

Beatle Market's revenue model differs fundamentally from those of traditional e-commerce platforms. Traditional e-commerce platforms typically charge a commission on the sale price, sometimes in combination with a flat fee. Buyers may also have to pay fees to PayPal or other payment processing solutions.

In contrast, Beatle Market charges customers (buyers) zero fees, and merchants (sellers) are not charged a commission on the sale price of their products. The only costs imposed by Beatle Market are payments for the service of listing an item. This takes the form of a flat fee, approximately equivalent to $0.75, which is paid in Beatlecoin (BEATLE). The listing fee will be $0.75, regardless of the value of the product for sale.

While BTC naturally fluctuates in value against fiat, the listing fee within Beatle Market will be regularly adjusted to track $0.75.

The price of BBT will vary over time, based on a number of factors:
· Organic growth of user demand,
· Speculative demand, and
· USD/BTC exchange rate.

BEATLE tokens can be purchased directly within the app, or from other BEATLE holders on external markets (cryptocurrency exchanges, OTC, etc.). Beatlematic is making these tokens available ahead of Beatle Market's launch at a low initial price in a crowdsale (see chapter 5.2 «The token sale structure»). The long-term value of BEATLE will reflect Beatle Market's adoption and its active user base. Early participants who purchase BEATLE during the token pre-sale will receive the tokens at a steep discount, and they will have the opportunity to participate from the start from Beatle Market's traction and growth.
The price of BEATLE might grow through the market acceptance of the platform as an e-commerce solution. As Beatle Market grows in popularity, and more merchants join the platform, higher revenues will allow the completion and release of new features that are already in development. This will further increase the appeal of the platform and lead to higher transaction volumes on Beatle Market.
Once BEATLE have been paid as a listing fee, these tokens will be continuously recirculated into the market by selling them on exchanges. Beatlematic needs these funds for marketing and continuous development. Recirculating BEATLE tokens at market price helps to raise their value while engaging the user community.

4.2 Business Strategy

Regarding the business strategy, Beatlematic will follow a two-stage approach. In the past, e-commerce players such as Amazon have introduced innovative peer-to-peer (P2P)

market solutions, disrupting the status quo. However, their success was often limited due to network effects and the high quality of the services offered by the incumbents. In particular, the network effect – large numbers of users lead to a superior utility of the platform – is the major hurdle for entering the e-commerce space.

The **first stage** of the business strategy will have a cryptocurrency user niche market focus:
The global consumer-to-consumer (C2C) niche market is occupied by people familiar with cryptopayment alternatives such as bitcoins and ether. This market niche provides the ideal size to continue the development of the platform and to obtain support and feedback from the user base. As cryptocurrencies gain broader acceptance, this user base will grow and represent a truly global community of like-minded people. The top three cryptocurrencies have reached a market capitalisation of $80 billion, and their importance as a mean for capital transfers and payments has grown rapidly.

The **second stage** of the business strategy will focus on C2C in emerging markets:
In emerging markets, users started to adopt e-commerce in the form of C2C-oriented models. Also in the later stages of development, the share of C2C e-commerce remains significant. In China, for example, C2C amounts to 42% of the e-commerce market. This provides vast opportunities. After the initial penetration of the crypto niche segment, Beatle Market will therefore expand into the C2C sector in emerging markets.

The market opportunity in the C2C segment in emerging markets is huge, both in terms of size and growth rates. China is likely to remain the largest single e-commerce market (see chapter A.2 «The e-commerce market»), already generating a sales volume of $750 billion. However, other developing markets are growing even faster. In 2016, India, Russia, Brazil and Mexico generated approximately $94 billion. Since 2015, the annual growth rate of e-commerce in these countries reached 57%, a growth trend that is expected to remain in this range as internet and mobile coverage continue to expand. Assuming the target of a market penetration of 2%, by 2020, **Beatle Market could generate an e-commerce volume of around $6 billion** p.a. in these countries alone.

5. The Token (Beatle)

Beatlematic's main source of initial funding will be the Beatlecoin token (BEATLE), which is used to list items on the global e-commerce platform. Beatlematic will hold a token sale to collect funds to finance the completion and the release of the first version of Beatle Market.

The role of the token in Beatle Market
All transactions within Beatle Market will take place in Bitcoin (BTC), Ethereum (ETH) and Beatlecoin (BEATLE), using the personal wallet integrated in the app.
For the listing of items on Beatle Market marketplace, Beatlecoin tokens (BEATLE) will be used. Beatlecoin tokens do not indicate ownership of a company, will not pay dividends, and BEATLE holders will not earn any interest. The token is an integral part of Beatle Market's economy, and its value will reflect the degree of penetration and activity within the platform. The more merchants listing items for sale on Beatle Market – and thus driving customer adoption –, the greater the demand for BEATLE will be. Effectively, holders of BEATLE will act as sellers of listing power. As Beatle Market's popularity grows and more merchants join the platform, new features will be released, which will further increase the interest among buyers and sellers. Participants in the upcoming token sale have the opportunity of gaining access to the marketplace at a significantly lower cost by pre-paying for the service in bulk, i.e. by acquiring many tokens in advance. These early token owners will be key figures for the future growth and operation of Beatle Market.

5.1 Token Supply And Specifications

A total of 15 million Beatlecoin tokens (BEATLE) will be issued. **These tokens will be the only BEATLE ever issued.**

Of this total:
· 1 million BEATLE (6.7%) will be sold in the forthcoming token pre-sale. Subsequent token sales will be made at significantly higher prices.
· 9.5 million BEATLE (63.3%) will be reserved for the main token sale and for future token sales and activities (see below *).
· 2.4 million BEATLE (16%) will be reserved for the founding team and partners.
· 0.9 million BEATLE (6%) for employees.
· 0.6 million BEATLE (4%) allocated for company reserve.
· 0.45 million BEATLE (3%) for external consultants.
· 0.15 million BEATLE (1%) for marketing and bounty campaigns.

* As stated, 9.5 million BEATLE will be reserved for the main token sale. If part of these tokens are not sold during the main token sale, they will be used for future funding rounds and will be locked for a minimum period of one year. By that time, the platform is expected to be fully functional. The purpose is to maintain confidence in the project and to ensure that these tokens

cannot be sold. These remaining tokens will be sold at a significantly higher price than the initial pre-sale tranche of 1 million and the main-sale tokens. They may specifically be used for:

1. The continuous business development of the Beatlematic ecosystem after the launch of Beatle Market, including introducing strategic or business users, or token swaps with other blockchain and distributed ledger projects.
2. Legal fees, compliance, accounting and consultancy expenses necessary to ensure that Beatlematic continues to operate in a lawful and commercially sound manner.
3. Various marketing and promotional activities for Beatlematic, such as media exposure, events, and PR.

Details about future asset sales or related joint ventures to fund the development of Beatle Market's advanced features will be announced in due course. The global promotion of the platform will be addressed at a later time, when all features outlined on the roadmap are implemented.

5.2 Token Sale Structure

Beatlematic will fund the further development of Beatle Market and the marketing activities to promote the platform by holding a crowdsale of Beatlematic tokens.

1 million BEATLE will be sold for bitcoins (BTC) and ether (ETH) during the pre-sale. The pre-sale will last 7 days.

Pre-sale price per token

1 nov 2017 – 7 nov 2017 **1 BEATLE = $0.25**

If not all 1 million tokens will be sold during the pre-sale, the remaining tokens will be sold during the main token sale time at the respective main token sale price, and there will be a tiered bonus structure to the benefit of earlier token buyers. The price of BEATLE in BTC and ETH will vary in accordance to the exchange rate at the time of purchase.

Sale price per token

08 nov 2017 – 17 nov 2017 **1 BEATLE = $0.45**

The price of ETH and BTC will be adjusted relative to the accurate exchange rate one day before the start of the pre-sale and the main token sale respectively. All tokens will be distributed and released after the end of each token sale.

5.3 Allocation Of Funding

All proceeds collected from the Beatlematic token sale will be used to finance the continuous development and marketing of Beatle Market. The approximate allocation of

the funds will be as follows: Research and Development (30%), marketing and promotion (40%), operation costs (20%), and platform security (10%).
Major expenses include:

- Salaries for the Beatlematic development team,
- Development outsourcing expenditure,
- Salaries for administration and other supporting staff,
- Cost of servers, office, tools, and software,
- Marketing and promotion expenditure,
- Fees for advisors related to the project, and
- Overhead.

In the first phase of the project, the majority of Beatlematic's costs will be related to the completion of the beta version with all features outlined in the roadmap, payments for caching servers, operations, and all infrastructure necessary for testing. Additionally, funds will be required to expand Beatle Market's user base through marketing, promotion and business relationships, as well as for providing a legal contingency fund.

6. Conclusion

With Beatle Market, Beatlematic aims to realise the vision of a completely global e-commerce platform, powered by cryptocurrency payments. Such a global marketplace has significant advantages over traditional platforms in terms of freedom, privacy, and cost. It can never be shut down, can never go offline, and listing information cannot be lost. Users remain private, if they wish to do so. Beatle Market can never be censored, and users cannot be prevented from buying or selling. Payments are processed without the interaction – and therefore the costs – of centralized payment platforms.

At present, there exists no global e-commerce platform that provides these properties. Beatlematic has worked on a solution to this challenge for three years, and now has a functional beta version that is ready for release, testing, and further development. Beatle Market achieves a balance between cryptocurrency payments, and maintaining user safety and

security within a global marketplace. This is engineered via escrow system, filters, and a reputation system.

Ease of use and accessibility are the major drivers for widespread adoption. In terms of user experience, Beatle Market scores well compared to existing e-commerce platforms, offering a clean user interface and powerful instant-search tools. Everybody can join the marketplace, and there are no entry barriers. It is not necessary to be an experienced cryptocurrency user. BTC for customer payments and BEATLE for listing fees can easily be obtained from within Beatle Market's integrated wallet.

7. Disclaimer

This document is for informational purposes only and does not constitute an offer or solicitation to sell shares or securities in Beatlematic, Beatle Market, or any related or associated company. Any such offer or solicitation will be made only by means of a confidential offering memorandum and in accordance with the terms of all applicable securities and other laws. None of the information or analyses presented are intended to form the basis for any investment decision, and no specific recommendations are intended. Accordingly this document does not constitute investment advice or counsel or solicitation for investment in any security. This document does not constitute or form part of, and should not be construed as, any offer for sale or subscription of, or any invitation to offer to buy or subscribe for, any securities, nor should it or any part of it form the basis of, or be relied on in any connection with, any contract or commitment whatsoever. Beatlematic expressly disclaims any and all responsibility for any direct or consequential loss or damage of any kind whatsoever arising directly or indirectly from: (i) reliance on any information contained in this document, (ii) any error, omission, or inaccuracy in any such information or (iii) any action resulting therefrom.

Risk disclosures will be made available at http://www.Beatlematic.net/legal/ prior to the beginning of the token sale.

Annex

A.1 Internet, Blockchain And Ethereum

Without doubt, the internet has revolutionized how humans live, communicate, think, and shop –how they live their everyday lives. It has turned their very existence upside down. Today, most humans take the internet for granted and cannot even imagine their lives without it. The internet was born nearly five decades ago, and since then, technology has rapidly advanced by huge leaps. About 15 years ago, only 12% of all people owned mobile phones. Now, more than six out of ten persons worldwide use a mobile phone. About 15 years ago, one third of the population in developing countries lived in extreme poverty, compared to less than 15% today. Facebook, which now has nearly 1.5 billion users, had not even been launched then. In another fifteen years' time, who knows how much technological innovation and developments society will see, and what changes this will bring?

Cryptocurrencies offer a fundamentally different way of approaching money and conducting online commerce. The development of blockchain-based money solves a number of problems inherent in the current financial system. While it is not a panacea, a properly implemented e-commerce platform with integrated cryptocurrency payments has extensive advantages.

Bitcoin

The first cryptocurrency was the bitcoin. Articulated in Satoshi Nakamoto's 2008 white paper, Bitcoin deals with the «double spending» problem through the use of a shared ledger that is maintained by a large number of network nodes. By contriving a system in which it is computationally expensive to add a block of transactions to the ledger, but easy for anyone to verify it, Bitcoin makes it unlikely for any member of the network to succeed in submitting a fraudulent transaction – and it is expensive to try to do so. Thus miners – those tasked with upholding the security of the network – are better off acting honestly and maintaining the integrity of the ledger.

Financial independence

Nakamoto's implementation of his white paper effectively removed the need for a trusted third party to act as a middleman in online transfers. This enabled real peer-to-peer transactions online for the first time ever: a remarkable breakthrough, and a task that many experts had believed could not be achieved. Money, which had been centralised for millennia in seigniorage, and for decades in terms of the payment system, could once again become purely a tool of commerce rather than a way to extract value and exert control. Because Bitcoin transactions take place directly – from sender to recipient, and without the involvement of a centralised third party – they cannot be censored. Once a transaction has been accepted into the ledger, there is no way of reversing it. This has a simple but powerful implication: if you want to send someone money, you can. There is no authority that can block or reverse the transfer. Bitcoin's financial system restores full autonomy to its users.

Low-cost transfers

Because Bitcoin and other cryptocurrencies use a blockchain to secure transactions, there are no middlemen to keep accounts, and therefore, there are no single entities that can charge fees for the service. Miners collectively process transactions and are rewarded for verifying a block with both new coins (block rewards, currently set at 12.5 Bitcoins per block) and the smaller fees incurred with each transfer. Unlike the legacy banking system, Bitcoin does not recognise geographical borders. Transferring funds to a neighbour on the other side of the road is as fast and efficient as sending money to the other side of the world. While banks and remittance services tend to charge significant flat fees as well as unfavourable exchange rates between currencies, Bitcoin's fees are fixed and low by comparison. Other blockchain protocols tend to charge even lower fees.

Privacy

Bitcoin's use of a shared ledger to facilitate peer-to-peer transactions also has implications for privacy. The Bitcoin ledger is fully transparent by design, meaning that anyone can trace transactions from one address to another, right back to the block in which the coins were first created. However, because addresses are essentially strings of random alphanumeric characters, it is not inherently obvious to whom the address belongs. Bitcoin is, strictly speaking, pseudonymous rather than anonymous. While data may be leaked in a variety of ways that associate a Bitcoin address with other personal information to reveal the owner's identity, by using best practice it is possible to use Bitcoin privately. The lack of a trusted intermediary means that no information need to be registered to use a Bitcoin wallet. There is no administrative authority to control transactions or to collect user data.

Ethereum

Bitcoin offers a huge leap forward in the fields of online financial privacy and independence, but it is limited in its scope. Bitcoin does one thing very well: it transfers value securely. Although the bitcoin is the largest cryptocurrency, adoption has been limited, and a large part of the ecosystem's economic activity is accounted for by roles that support the currency itself, such as mining and trading. Relatively few merchants have taken the step of integrating Bitcoin payments. This is partly because they do not believe the disadvantages of status quo are grave enough to switch to something viewed as experimental that still has a significant technical overhead, and partly because a broad user base does not exist yet. Bitcoin has been adopted on the dark web, where its relative privacy and freedom from intervention have made it the currency of choice for online drug markets. However, Bitcoin only addresses one side of the e-commerce transaction: the buyer's. Online stores require the involvement of a third party, which holds a database of products, merchant information, and transaction histories – with all the coupled risks for privacy.

The Ethereum platform [www.ethereum.org] has the potential to disrupt e-commerce at least as extensively as Bitcoin has, and probably much more dramatically. While BTC acts as an ideal medium of transfer, Ethereum opens up the possibility of a computer that performs operations across its global network [https://github.com/ethereum/wiki/wiki/White-Paper]. This has the potential to decentralise not only the means of payment, but also the infrastructure for the e-commerce platform itself.

Smart contracts
Developed by the Ethereum foundation, a Swiss non-profit organisation, Ethereum upends the traditional approach to offering services on the internet. Instead of building server farms across the world – staffing them, maintaining them, and securing them – Ethereum makes it possible to build a global computing infrastructure by using a type of coding called «smart contracts». These contracts allocate computing resources across the blockchain and reward those who use their own hardware to support the calculations required. With the right skill and hardware, anyone can join this effort by creating an Ethereum node and be compensated for their contribution, all without a central coordination authority. Ethereum works in a fully decentralised manner, just as the Bitcoin blockchain does. Smart contracts are pieces of code, whose execution is ensured by the network as a whole, in the same way that Bitcoin's transfers and records of funds are policed by the whole network. This means that applications that run automatically can be built, and the reliability of the services they offer is guaranteed because there is no single point of failure.

Ethereum's smart contracts therefore offer the possibility of an e-commerce platform that has unique properties: privacy for both the buyer and the seller, complete freedom from censorship and interference, and very low fees for users.

A.2 The E-Commerce Market

The internet has radically changed the way business is done, and this change is most dramatic in commerce. Previously, shopping was predominantly done in person and on-site, or by using slow and inflexible mail-order systems. Supply was limited, too. Today, efficient e-commerce platforms offer a formerly unthinkable variety and transparency of goods – and reach vast customer segments, even if they exist in remote or under-developed areas.

Although the first online stores were rudimentary and static, offering a very poor user experience, online shopping gained strong momentum. The e-commerce sector is rapidly growing and far from mature in various respects. E-commerce came of age in the early years of the 21st century, but remains a high-growth sector – at least partly due to the opportunities offered by the proliferation of mobile devices.

The new middle class
E-commerce mainly relied on developed markets in its early stage, but business patterns show a new form of consumers appearing. With disposable incomes on the rise in many emerging markets, the world of electronic commerce is poised to be driven by the expanding and increasingly wealthy new middle class. While internet access rates across developed markets are well above 80%, emerging markets have yet to catch up. Applying the same average access rate to emerging markets would lead to an additional 1.1 billion people who have access to e-commerce. So the industry's growth outlook remains very positive.

The ease of use

These days, online shopping can be done on smartphones and tablets, making it a proper on-the-go activity. The «mobile-in-the-home» capacity allows consumers to literally shop anywhere and anytime, thanks to their Wi-Fi networks as well as untethered mobile devices. Consumers now have access to a wider array of products and services, more sellers, product reviews and price comparisons, and can even provide their own feedback on products and services. Credit card processing software and payment applications such as PayPal have also made today's online shopping much more convenient compared to visiting a physical store.

Sector overview and statistics

E-commerce is a huge and rapidly expanding sector. In 2016 global sales for products and services purchased via the internet totalled approximately $1.9 trillion, representing around 8.7% of all retail spending. By 2020, online retail sales are expected to have grown to $4 trillion – with a compound annual growth rate (CAGR) of well over 20%. By that time, electronic commerce will make up about 14.6% of total retail sales.

But the most powerful market dynamics are observed in the emerging markets, where the share of consumers shopping online has more than doubled since 2011. China continues to dominate the e-commerce market while other countries such as India and Tukey are catching up. Online spending per capita across most of the emerging world remains well below levels seen in developed countries, creating good growth opportunities going forward. The Credit Suisse 2017 Consumer Survey estimates that online «retail» spending in emerging markets may exceed $2.5 trillion by 2025.

Globally, Asia-Pacific (APAC) continues to dominate the e-commerce market, with more than $1 trillion in e-commerce sales in 2016. Due to the growth of the purchasing power of its emerging middle class, internet coverage and penetration of mobile devices, as well as improving infrastructure and strong internal competition, the Asian-Pacific region will see continued growth and will account for e-commerce sales of more than $2.7 trillion by 2020. China alone represented almost $900 billion in e-commerce sales in 2016 – some 47% of all worldwide online sales. The aggregated number of the selected countries below shows a total online retail sale above $800 billion for 2016.

North America constitutes a thriving part of the e-commerce market and experienced 15.6% growth in 2016 to top $423 billion in sales. North America will retain its position as the second largest e-commerce market in the coming years, with similar levels of growth forecast through 2020 as online retail is further normalised and expands into new areas – notably the grocery market (witness Amazon's recently announced intent to acquire the food retailer Whole Foods). In Europe, 84% of individuals aged 16 to 74 had used the internet in 2016, with 66% buying goods or services for private use. Compared with 2007, online purchases by internet users increased by 16 percentage points.

B2B (business-to-business)

The B2B market is dwarfing the business-to-consumer (B2C) e-commerce market and has very different properties and needs. Rapidly changing distribution channel dynamics are redefining

wholesalers' business models across a broad spectrum of product and service areas. Like manufacturers, wholesalers have to go beyond competing on price and availability to provide excellent omni-channel customer experiences. In addition, growth drivers of B2B e-commerce will include globalisation of procurement and cost advantages. These market factors and more are driving B2B e-commerce platforms. In the United States for instance, B2B e-commerce platforms are expected to post double-digit growth figures through 2020.

A recent Forrester study showed that 74% of B2B buyers in the United States will research about half or more of their work purchases online before buying. The same study found that about 30% will make half or more of their work purchases online today, while 56% expect to make half or more of their work purchases online in three years. These dynamics will eventually take hold also in other regions, including emerging markets, which for which most still rely on traditional channels of commerce.
As well as serving B2C customers, Beatle Market will squarely target B2B e-commerce in both its design and its marketing, recognising that the growth of this sector represents a key opportunity for adoption.

C2C (consumer-to-consumer)
Buoyed by the success of online marketing platforms such as eBay and Taobao, online C2C transactions as a major e-commerce form have become popular. These platforms have made it extremely easy for both sellers and buyers to purchase and sell goods and services. When looking at China's online shopping market, the C2C segment represents a very large portion of the gross merchandise value (GVM), estimated at 45% in 2016. This model is being quickly replicated across the globe as barriers to entry are close to zero. Emerging markets have become the focus of such platform types, with wealthier buyers opting to choose an online B2C marketplace.

A.3 Competitive Environment

Tomorrow's industry leaders might not be known today. Industry competition is often thought of as a continuous battle between the same set of key players. But as history shows, things are far more dynamic. According to R «Ray» Wang, founder of Silicon Valley-based «Constellation Research», 52% of the Fortune 500 companies have been merged, acquired, gone bankrupt, or fallen off the list since 2000. The impact of digital disruption is real. However, it's not the technologies that drive this change. It's a shift in how new business models are created.

Global e-commerce is such a growth industry, which poses huge challenges to the world of traditional retail channels. For many consumers, especially in the developed world, e-commerce has become the top choice when it comes to shopping, threatening the existence of old brick-and- mortar retail shops. It is also creating huge ripples in emerging markets, especially since e- commerce shops can enter the market quite easily.

The barriers of entry are relatively low and the initial capital requirements are small. Using the technology available today, e-commerce shops can acquire a reach far beyond any initial

expectations. Many platforms operate in the market, offering similar products from a variety of suppliers that have little bargaining power and are looking for the widest exposure possible to maximize their sales potential.

A number of darknet markets exist that provide unfiltered listings – typically for drugs and other illegal items –, and accept Bitcoin due to the irreversible and relatively private nature of blockchain payments. However, these are simply ordinary, centrally-administrated collections of merchants who cater to a particular segment of the market. A number of mainstream peer-to-peer markets exist, which are built on the blockchain and are more directly comparable to Beatle Market. Nevertheless, there are critical differences that set Beatle Market apart from its immediate competition.

From a consumer point of view, brand loyalty is limited while access to global vendors is virtually unlimited. Price is often the key factor when making a purchase, but other innovations such as payment methods and distribution channels are equally important. Today, the e-commerce industry is dominated by a handful of well-established enterprises. Their dominance varies from region to region and their business models are similar. Auction-price and fixed-price sales are generally handled through an escrow account system, which is usually managed by a third party payment service provider. In summary, the exhibit below analyzes the level of competition in the e-commerce industry today, according to Michael E. Porter's «Five Forces Analysis».

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