



LongChain

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WHITEPAPER

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Legal Aspects

This Whitepaper discloses the LongChain project and the procedure of raising funds to develop a decentralized platform for booking hotels and other services available via the blockchain platform.

Tokens do not represent equity, shares, units, royalties or rights to capital, profit or income in the network or software or in the entity that issues tokens or any other company or intellectual property associated with the network or any other public or private enterprise, corporation, foundation or other entity in any jurisdiction. The token is not therefore intended to represent a security interest.

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Potential buyers of LONG tokens should examine and analyze all and any risks and uncertainties pertaining to cryptocurrencies, the LongChain project, their activity and operations and the LONG ICO. Before buying LONG tokens, make sure you read and understand the Whitepaper and this risk notice. Ensure that you are aware of all risks before purchasing the LONG tokens. The risk notice lists some of the potential risks that you have to account for. You should use third-party financial counsel before joining any business undertaking.

Executive Summary

Problem statement

Hospitality market grows up at a rate of 6-7% per year and achieved \$557 bln in 2017. By 2030 the market shall double and exceed \$1 100 bln. At the same time the share of online bookings shall grow at advanced rates.

Online Travel Agencies – OTAs are highly centralized online booking platforms representing a classic case of market oligopoly. The market force they have enables them to withdraw fees from both hoteliers and travelers. An uncontrolled growth of the fees has resulted in 20-30% of the room rates or \$75 bln received by OTA annually. That is unproductive costs lost by hoteliers they could benefit from and invest in development.

The only value of the OTAs is a large aggregated hotel and apartment database. But fees they take in the line with binding agreements on price parity make them undesirable partner for hoteliers.

Project Goal and solution for the market

Project Goal

Create a global wide blockchain platform on hotel online booking eliminating middleman fees and covering 20% of the hospitality market that will double by 2030 exceeding \$1.1 trillion in volume and thus overtake major rival OTAs.

Key Success Factors

- Advanced IT solution - Blockchain technology;
- No fees – the platform is the cost-leader in the online booking market;
- Rapid expansion – all hotels in the world will be connected to the platform in a short period

of time;

- Strong team – skilled professionals on business development, IT and travel market.

Since pier-to-pier connection (P2P) is in the heart of all BlockChain platforms, LongChain streamlines traveler-hotelier relations and increases hotel chain.

Financial plan

To implement the project it is expected to attract external funding through the preliminary sale to seed investors and interested parties and by means of the ICO instruments (investment funds, relevant legal entities and other participants).

The total amount of funds required for the project is of \$120 mln and consist of the following major items:

- Development of the platform – \$6.5-10 mln;
- Partnership or M&A deals with PMS developers and aggregators to enable exponential growth of the network and rapid market penetration – \$50-55 mln;
- Promotion of the platform – \$30 mln;
- Platform liquidity management – \$28 mln.

It is expected to raise funds in amount of \$5 mln out of \$120 mln at the preparation stage to finance testing of all the solutions and final version of the platform. These funds shall be attracted at the presale stage and shall be used for development of an operational MVP, deployment and start of the online booking platform, R&D and promotion activities.

Evaluation

In the sole opinion of the project team assessment of the expected LongChain platform value in the online booking market shall be around \$30-40 bln by 2030. This valuation is based on a forecasted market share of the LongChain platform and assessment of comparable OTAs' revenues

Problem Solving Approaches – Blockchain Technology Background

Blockchain as a World without Middlemen

The world enters a no-middlemen era. Things and machines are already capable of controlling themselves. And this is just the beginning: in 10 years or so a multitude of transactions and contractual relations could be managed by machines to free up human labor and valuable human time from routine and inefficient operations. The forecasts made at the World Economic Forum in Davos in 2017 support the vision that the blockchain revolution is near. According to these forecasts, by 2027 10% of the world's GDP will be stored on the blockchain. Now everyone who has access to Internet can benefit from blockchain solutions. More and more blockchain-based applications are being developed to lessen the dependency on middlemen in a number of industries and to promote process automation, while preserving comfortable user experience.

Blockchain use case in such industries as hotel booking, ticket purchase, car rental, storage of property title data, etc. is the classic case wherein these solutions can be implemented with high profitability and return on investments, because these industries are heavily influenced by high-margin middlemen.

Blockchain is not a cloud or database. The essence of blockchain is that, instead of physical information (a document), the system stores infallible evidence that such information exists and a history of operations involving this information.

Is it the same as making your data available to anyone willing? It is a common misconception that if ledgers are public, all information about their contents is public knowledge. It is just the other way round with blockchain. The system stores no private user data and utilizes only the recipient's public address to greenlight a transaction. Even if the data is transferred via a conventional network, users have access to a shared folder and can view its content, including the upload history, but each of them has his or her own set of access rights. It means that anyone can view the files, but only the recipient can download and open them. This ensures privacy of transferred data, but at the same time keeps transparent the information about manipulations with these files, users who performed them, sequence of such manipulations and nature of changes applied. It is a very important feature of blockchain that can be easily and effectively applied for businesses and relationships where there is a lack of trust and a resulting need for middlemen or umpires.

Blockchain is a serverless data storage technology. There is no central node, which means that the system is decentralized. Each participant in the system has complete information about every action of their partners; therefore, even if 99% of all computers are down or hacked, 1% will retain a complete history of all transactions. There is no central storage that could be hacked to steal private data, tamper with or delete ledgers.

A distributed nature of blockchain databases makes it virtually invulnerable to hacker attacks, because hackers would have to get access to the database copies on all computers in the network at the same time. This technology also protects private data, because hashing is an irreversible process. Even if the original document or transaction is changed, there will be a different digital signature to signal to the system that there are incompatibilities.

Blockchain use case in travel and hotel booking. Hotel room price is often the major factor affecting the total cost of travel or business trip, rivaling flight prices. Development of blockchain solutions may bring about direct distribution of hospitality services without affecting user comfort and service quality. This will help to oust OTA and eliminate fees.

The leading business analysts and industry experts are of the opinion that it will be blockchain that will help to resolve the tensions plaguing the industry.

BLOCKCHAIN WILL CHANGE HOTEL BOOKING INDUSTRY

In either case, blockchain technology is poised to impact processes and roles across the travel ecosystem:

- **Transparency:** Blockchain entries are immutable. Blockchain can provide a permanent record of the flow of money through the travel life cycle, bringing more transparency to the process;
- **Settlement:** Blockchain can impact the complex settlement process by automatically executing Smart Contracts and settling with both the buyer and seller within hours versus days;
- **Loyalty:** Blockchain may uncover new ways to utilize loyalty points seamlessly across vendors;
- **Fraud:** The blockchain distributed ledger helps to dramatically reduce fraud, because a change to a single node will be identified quickly if it differs with rest of the ledgers on the blockchain;
- **Identity:** The blockchain platform could be used to store a traveler's identity and enable it to be used across transactions;
- **IoT (Internet of Things):** Blockchain could be used to keep track of any asset, for example, a passenger's luggage or airline equipment at an airport;
- **Overbooking:** Blockchain's ability to prevent double spending could in theory remove the problem of double bookings in the industry;
- **Policy:** Blockchain could help the corporate travel industry improve its ability to track negotiated fares/rates, as they can be auto-executed by Smart Contracts.

LongChain, a decentralized global hotel online booking platform, will be such innovative blockchain-based distribution channel.

Sky is the limit for blockchain projects in this market

OTA and payment processors receive 20% to 30% in fees, or \$75 bln

If the market preserves its growth rates and if online bookings continue to grow as rapidly, by 2030 the amount of fees may triple reaching \$200 bln.

LongChain will help return this wealth to hoteliers and travelers, which means that the platform will be important and widely used by all stakeholders.

Idea

The project's idea is to create the largest global wide decentralized blockchain- based self-governing ecosystem for booking hotel rooms and private apartments owned directly by hoteliers, with value communicated directly between the hoteliers and the travelers. It will be an ecosystem free from fees, license payments, middlemen, where added value will be distributed between hotels and clients.

LongChain is a decentralized hotel room and apartment booking network owned by hoteliers. The network will connect travelers and hoteliers using a series of smart contracts and open source tools with zero fee for in-platform transactions. The network will be powered by its own cryptocurrency.

The project's idea is based on the following principles:

- Create the largest global wide decentralized self-governing blockchain- based ecosystem for booking hotel rooms.
- The platform will be owned by hoteliers.
- The value chain will comprise only the hoteliers and the travelers.
- The LongChain, license payments, middlemen. Added value will be distributed between hotels and clients.
- The network will be powered by its own cryptocurrency - LONG utility token.

The following principles will be hardwired in the LONGchain platform core:

- A social infrastructure for hoteliers (DAO) where the members of the network will control its development and resolve internal industry issues by deploying the development budget consolidated by all members. The DAO members are hoteliers who hold the DAO tokens. They will be able to join forces and to make decisions on important issues related to the development and protection of their business. It will radically change the paradigm of hospitality industry hijacked by OTA and Brands.
- Technical infrastructure, or proprietary blockchain nodes run by hoteliers who act as miners motivated to keep the project running;
- Financial infrastructure, or internal LONG tokens and tools for reducing volatility and increasing liquidity (MMSC bot);
- DAICO model, or Decentralized Autonomous Initial Coin Offering, to establish a transparent and easy-to-understand algorithm for managing the project at each stage of its development;
- Transparent system of ratings of hotels and rooms by real travelers ;
- Rapid deployment of non-staff hotel concept.

Booking market cap was \$557 bln in 2017 and is expected to double by 2030.

The ultimate goal of the project is to take a minimum of 10 to 15% of the global hotel booking market.

The founders and investors of LongChain are motivated to keep the rate of the internal currency growing thanks to its popularity and frequent use for payments within the system. Therefore, the currency price and, respectively, the value of the token will depend on the growth in the number of hotel booking through the LongChain platform.

Technical Concept of LongChain Project– Project Architecture

Our team builds a consolidated decentralized database of travelers, hotel rooms and apartments on the blockchain. The database will contain data on all hotelier offers, all transactions between travelers and hoteliers, a booking and payment system. All in-system transactions will be recorded on the blockchain, while the internal workings of the system will be governed by smart contracts.

- Hotel aggregator to enable a traveler to find a hotel anywhere in the world. The search results of the aggregator will show a LongChain DAO offer along with the offers of other OTA for the selected hotel. The LongChain DAO offer will feature an option to get up to 22,5% of cashback under the loyalty program (at the hotel's choice). Instant booking attribute will also be available for hotels listed in the LongChain database, otherwise, there will be a notice informing a traveler that they have to wait for 3 days.
- If any platform other than LongChain is selected, the user is redirected to the OTA website, and a standard OTA booking procedure is activated. If LongChain is selected, a standard booking and user registration window pops up.
- The user receives by e-mail a booking confirmation and link to the Android app which comprises a personal account, user wallet and booking management tools. The purpose of the mobile app is to get the client to know how to use the LongChain mobile app in line with the project development strategy - to ensure complete decentralization of all functions including search in the future. When a user checks in and presses the check-in button, the app connects to the nearest node (identified using a dedicated algorithm) to finalize the payment and check in. We have foreseen that travelers sometimes don't have Internet access while on route, so they can also check in by entering a special key or QR code generated by the client app into the hotelier's node.
- The system will have pre-installed several demo hotels. There will be an option to add hotels. A marketplace will be made available. All media content will be stored using IPFS technology.

User wallet and algorithm of work with fiat money

The mobile app includes a hot storage wallet for tokens, cryptocurrencies and fiat and supports instant conversion into a required currency by means of the payment aggregator.

Hotel search and booking at the full decentralization stage

The developers have in mind the combination of the following options to facilitate effective search:

Basic option: more and more users migrate from web to mobile apps, mobile apps emerge as the primary booking method, the LongChain system is experiencing explosive growth and is actively used. In this case LongChain is completely decentralized, hotel search and booking are processed through the mobile app, no additional servers and expenses are required.

System requirements

The solution is totally opensource so that the system could later be finetuned (if the DAO so decides) and support third-party functionality.

The LongChain system supports conventional booking functionality familiar to both travelers and hoteliers.

Website

The website will be viewable in the most widely used versions of desktop browsers such as Google Chrome, FireFox, Opera, Safari, Edge, BAT. The website shall also support mobile browsers for 3,5 to 7 inch screens and tablet browsers for 8 to 12 inch screens.

The website must support 2FA.

User mobile app

The mobile app will be launched in two most popular environments, i.e. Android and iOS. Languages – Java/Kotlin and Swift.

The mobile app will support the following functions:

- user registration;
- registered user authentication;
- mobile wallet;
- current token balance;
- transaction and booking history;
- user rating;
- current exchange rate;
- conversion to fiat;
- instant booking, check-in and check-out;
- posting reviews;
- photo and video upload;
- rating;
- smart and extended search;
- selected offer history;
- user ge positioning;
- money topping up/withdrawal.

Smart contracts

The Ethereum standard smart contracts shall be used. The language shall be Solidity.

All LONG smart contracts will be audited by a qualified third-party auditor.

Booking smart contract

The smart contract sets the rules for booking hotel rooms. Requirements to smart contract functionality:

- Storage of data on booking status;
- Transaction status change, update and recording on the blockchain;
- Rating function.

Media content storage smart contract

The storage smart contract sets the rules for storage and recording on the blockchain of hashes and hash sums applicable to the media content uploaded by both users and hoteliers. This contract verifies the data and sets the rules for replication.

Participant smart contract

This smart contract determines the status of the platform participants (hoteliers, auditors, users) and sets the rules for adding new participants, imposing penalties, providing incentives and defining trust level. Here is a procedure for adding a room.

1. The hotelier invokes the Add New Room function in the smart contract and specifies the parameters of the new room;
2. The hotelier sends a required amount of tokens to the smart contract address;
3. The auditor validates the transaction and records it on the blockchain;
4. The validated room data is transferred to the LongChain network. The room is then featured in search results and the web service.

Decentralized Autonomous Organization

A public blockchain is based on the principle of decentralization, or transfer of power and authority from a control center to the community of members, elimination of hierarchy. A decentralized system has no sole owner or manager, it is the property of each member who have equal rights and responsibilities. It is a very attractive idea that brings to mind the visions of freedom and unlimited opportunities that were unavailable before. Freedom from decisions imposed from above is the thing that most people always wanted and strove for!

Freedom manifests itself sometimes as refusal to work for corporations or through all-powerful middlemen, from rigidity of corporate standards, job descriptions, conditions imposed from above or by OTA.

With the emergence of self-employed people, entrepreneurs, private investors, private hoteliers and hotelier networks seeking to break free from the middlemen, a new multipurpose working model of mutually beneficial self-governance and cooperation became a priority, so that these people could compete with the current system and develop. This model is a reality and it can be brought to a new level by the blockchain technology. This is the DAO model of cooperation.

Conclusion

Subtitle

While developing the LongChain project, we aspire not only to create a familiar market place with hotels and rooms, but also to offer unique solutions and opportunities implemented on a free of charge basis thanks to the capabilities of blockchain technologies. At the same time, the LongChain aspire to return billions of dollars to the hospitality industry that are currently unproductively spent for advertising competition between the OTA.

Blockchain is an emerging technology far enough from the maturity stage. But over the past few years, it has leapt forward and made it possible to implement ambitious projects that address everyday economic inefficiencies and create conditions and momentum for the development of traditional industries, including the travel one.

We see a huge potential of blockchain technology, especially its application for the hotel booking. The case described in this Whitepaper shows how the platform works, how it can work and what benefits it can bring to the participants.

We propose you to consider this project and support its implementation in various ways and methods, which will eventually create a better and convenient platform for travel arrangements with family and on business.

Risk Statement

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You can obtain all relevant information and recommendations about legal requirements and legal considerations, currency restrictions and control and other aspects necessary for making an informed decision to join the project described herein.

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Therefore, none of the contents of this Whitepaper serves as an invitation or inducement to engage in any sort of investment activity. LongChain tokens are utility tokens to be used within the LongChain platform and cannot be regarded as an investment instrument.

Glossary

DAO – Decentralized Autonomous Organization; a self-governing organization without a common owner or a central governing body

Crowdfunding is a method of joint funding of projects by voluntary contributions. It can be held in the form of ICO.

Fiat (or fiat money) is a currency declared as legitimate means of payment by government despite its having no intrinsic value and not being backed with gold, or any type of everyday money.

Hash – the value of hash function. Hashing is conversion of random length input data set into a bit string of a pre-defined length using a specific algorithm.

ICO is a method of raising funds by offering investors a fixed amount of new cryptocurrency units (tokens) minted by way of one-time or accelerated issue. Funds raised during ICO are used by the team for the purpose of project development and implementation.

MVP is a minimum viable product that makes it possible to obtain meaningful feedback from users to understand what users need, so that creators could avoid making a product that is not interesting for users and that users are not ready to pay for.

Node (Latin – Nodus) – any computer connected to a blockchain network. Nodes within a decentralized system connect to one another via P2P protocols to exchange information on blocks and transactions. Depending on its type, a node stores a portion or the whole of the blockchain.

OTA – online travel agencies (booking.com, expedia.com, etc).

Pre-ICO or **presale** is the token sale event that blockchain-based platforms run before the official crowdsale or ICO campaign goes live. Presale allows investors to buy tokens before the official crowdsale begins.

Token – a unit representing digital balance of an asset, or, in other words, money substitute in a digital world. A token is an entry in a ledger distributed in the blockchain. A token can be accessed via apps that use electronic signature or its combinations.