

DECENTRALIZED BLOCKCHAIN LODGING ECOSYSTEM (VER.1.0)

WHITEPAPER

emphy

TABLE OF CONTENTS

Introduction	3
What is Emphy	4
Vision	5
Market issues	6
Availability of technologies	7
Emphy features	8
Emphy architecture	11
Development prospects	15
Economic model	16
Growth forecast	18
ICO campaign	19
Roadmap	20
Conclusion	21
References	22

INTRODUCTION

Short-term lodging industry is prosperous right now and at the moment it's valued at \$100 billion with growth forecast of 168 billion by 2019¹. There are no signs of growth slowing down on the short-term lodging market and in the coming years it can seriously take on the traditional businesses, such as hotels, motels and even hostels.

Distant countries with their culture, exoticism and rich traditions have always attracted tourists from all over the world. However, often traditional travel planning methods are not available for these locations. The reasons for this are the lack of house sharing traditions, security problems, low level of computer skills among the older generation, as well as technical limitations, such as the lack of necessary information and the ability to accept non-cash payments. Thus, such a journey becomes a rather dangerous and unpredictable gamble, an alternative to which can only be traditional and expensive tourism with hotels, guides and tours. Given the development of modern technology, such a prospect seems to be unacceptable to us.

The rapid growth of the number of mobile Internet users as well as smartphone users in virtually all countries opens new opportunities for local residents to earn additional income and to conduct business. We believe that the availability of smartphones and the ever-increasing speed of data transfer, coupled with enthusiasm and ingenuity of the younger generation, will disrupt the short-term rental market even in the most remote corners of our planet. We are confident that Emphy ecosystem with its simplicity and functionality will win the users' hearts and help them to conclude their first lodging smart-contract.

WHAT IS EMPHY

Emphy is a decentralized ecosystem where landlords and tenants meet to conclude short-term real estate rental contracts.

Blockchain combined with smart contracts will eliminate the dependence on the centralized system between the participants of the transaction, and will significantly reduce the commission and help fixing the terms of the agreement (booking and general conditions) between the owner of the property and the guest. Emphy provides innovative approaches, openness, convenience and ease of use. The platform will raise the technology and the process of short-term renting to a new level of development.

The ecosystem will be of interest to landlords, who are engaged in offering real estate properties (rooms, studios, apartments, houses, etc.) for short-term rent, as well as to the guests. Emphy will create the most comfortable and clear conditions for all platform users for achieving their goals. All users of Emphy ecosystem pass the personal identification and in the future receive a unique personal user rating, which is compiled both from a general feedback of the contractors and from the auxiliary data. Thus, Emphy makes it possible to establish trust between the platform users.

First of all, the new ecosystem is oriented on the markets of developing countries that attract travellers / tourists and have a great growth potential (Southeast Asia, South America, Africa, Middle East, Eastern Europe and Russia). We believe that over time Emphy will take a worthy niche both in Western Europe and in the North American market and will seriously compete with the leading companies in this industry.



VISION

Emphy ecosystem most closely matches the expectations of young people of generation Y: more adventures, exciting experiences, fewer formalities and pre-known routes. In the modern world, most travelers choose the idea of "hand luggage" and full flexibility of movement without burdening themselves with limitations. Having a smartphone and access to the Internet, the traveller and the real estate owner will always be able to negotiate and conclude a smart rental contract, and also to make a payment transaction among themselves. It is convenient, simple and reliable for both parties. The use of crypto currency in the transactions along with traditional methods of payment significantly expands the possibilities for both sides.

Generation Y (Millennials) - a generation born after 1981, met the new millennium at a young age, characterized primarily by deep involvement in digital technology. And for this generation traveling is one of life's priorities, higher than, for example, buying your own home or buying a car. 44% of Millennials would spend free money on travels².

Emphy will make it possible to solve and simplify the problems that most of the guests and landlords face. All this will not only save money on rental housing when traveling, but will also open new countries and continents, for people who can not and do not want to spend large sums on expensive group journeys and tours. We expect that our ecosystem will be able to significantly expand the existing short-term lodging market, improve security, establish a high level of trust between users and will promote the development of tourism both within countries and on the international level.

Now it is clearly evident that the generation Y is on the peak of technological innovation. This generation of active young people is the main driving force in determining the vector of development, not only of technology, but also of the future way of life of mankind. With their flair, they choose the technologies of the future and promising ideas even at the moment when those are at the earliest stages of inception.

MARKET ISSUES

In the current situation on the short-term rental market, misunderstanding often occurs between the property owner and the guest. This is primarily due to the fact that the property owner does not publish full information about the property. As a result, when the guests arrive, they may be very disappointed. We cannot change the human factor, but we can improve technical and technological factors and through this make the market as transparent as possible.

The main problems faced by property owners are the difficulties associated with increasing occupancy of facilities by guests, high commissions, security problems, trust, difficulty in billing and linking the transactions with bank cards, as well as difficulties in obtaining the feedback and positive ratings. The real estate owners do not have the ability to fully show the property on a simple photo the way it looks like in reality, and because of this, sometimes they face problems with the guests. This understatement often entails guest discontent, and, as a consequence, a bad review, low rating and poor occupancy.

Difficulties traditionally encountered by the guests are high commissions for services, problems of trust due to lack of feedback, reliability of the contract, security, old and irrelevant photos. The owners have few reviews, if any, and the payment possibilities for accommodation are minimal.

Emphy ecosystem is created to solve most of the existing problems in the industry and to bring the process of real estate rent to a new level of development.

AVAILABILITY OF TECHNOLOGIES

In the modern world, already half of humanity are active users of the Internet, almost the same number of people use mobile Internet (46%)³. North America and Europe remain the leaders in penetration of the Internet among the population, 88% and 84% respectively. Among the regions with the least accessibility to the network can be identified Africa (29%) and South Asia (33%)⁴. In quantitative terms, the situation with active users is quite different. Leading positions here are East Asia (923 million), South Asia (585 million), Africa (362 million), followed by Western Europe (353 million) and Southeast Asia closes the leaders top five (339 million)⁵.

The main driver of such growth is the spread of broadband mobile Internet and its affordable price for the local population. The data for January 2017 show that half of the world's web traffic is via a mobile phone and this indicator has an upward trend⁶. In absolute numbers in East Asia, 1.299 million people already have access to high-speed broadband mobile Internet. In the second place is the region of South-East Asia with 449 million users and Western Europe closes the top three with 404 million users⁷.

We believe that right now, when the broadband Internet has become widely available around the world, our ecosystem will have the greatest success. Then any person with a smartphone and high-speed Internet access can make high-quality photos in 10 minutes and submit an advertisement about the availability of the property. We are in a situation where in the nearest future, in order to run a business it will not matter where you live, whether it is the Amazon rainforest or the fabulous beaches of Southeast Asia. A person always has the opportunity to attract and provide hospitality to travelers, talk about their culture and earn money for their travels. This will allow millions of tourists from all over the world to discover not only the unknown corners of our planet, but also to organize an interesting journey in their home countries.

EMPHY FEATURES

LOW COMMISSION FEES

Existing platforms, which are intermediaries in the renting process, take a fairly high percentage as a commission. Now short-term rental market average total commission (combined commission for guest and landlord) are in the range of 9% - 15⁸. On the Emphy platform, the total commission fees will be 4% (2.0% paid by the guest and 2.0% by the landlord). Thus, we will be able to provide better and more innovative services, and reducing commission 2-3 times at the same time.

THE INCENTIVE SYSTEM OF RATINGS AND BONUSES

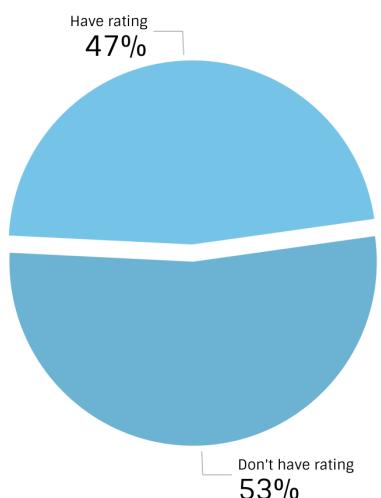
Slightly less than half of active Airbnb listings have rating (47%), but of those who have it, almost 60% have a rating of 5 out of 5. 89.3% of rated landlords have a rating of 4.5 or higher⁹.

Emphy offers a system of bonuses that guests and hosts receive for making certain actions in the system: an identification process, a detailed description of the home, adding photos, writing reviews, etc.

Putting ratings on the economic rails, will allow guests to receive more profitable offers and to save money. The owners, receiving reviews and ratings, will be able to reach the full level of their real load much quicker and thus earn more money, since even lower-rated ads get higher rental loads than those which do not have reviews at all.

For each feedback both guest and the owner will also collects EmphyCoins, which they can use for future trips.

The size of the bonus is determined by both the rating given by the opposite side as a review, and by the number of leased days and nights. Users will be able to receive up to 30% of the commission paid back in the form of bonuses.



IMPROVED SECURITY MEASURES

In order to provide additional security and increase the level of loyalty and trust between the guest and the host, when the guest checks in, host gives the guest the keys and uses the application in his phone to scan the QR code from the guest's phone screen. Thus, the owner receives confirmation that the person who made the booking is in front of him. Also, this action is registered in the system as a check-in. After that, the rent fee for the first day of placement is transferred from the temporary deposit wallet to the host's wallet, and then transfers are made every day for the day ahead.

At the time guest departures from the apartment and returns the keys to the owner, it is possible to repeat this process, confirming the check-out to the system.

AUTOMATED IDENTITY VERIFICATION

According to the LearnAirbnb.com report, almost half of the owners (46.5%) did not have a confirmed ID¹⁰. Completely authorized hosts receive an average of 3 times more reviews than the ones who did not fully complete authorization, which increases the guest flow and the overall loyalty of customers. Our ecosystem will solve this problem by implementing an automatic ID confirmation system using face recognition technology. To confirm their identity, persons will need to take a picture of their face and a document proving their identity.

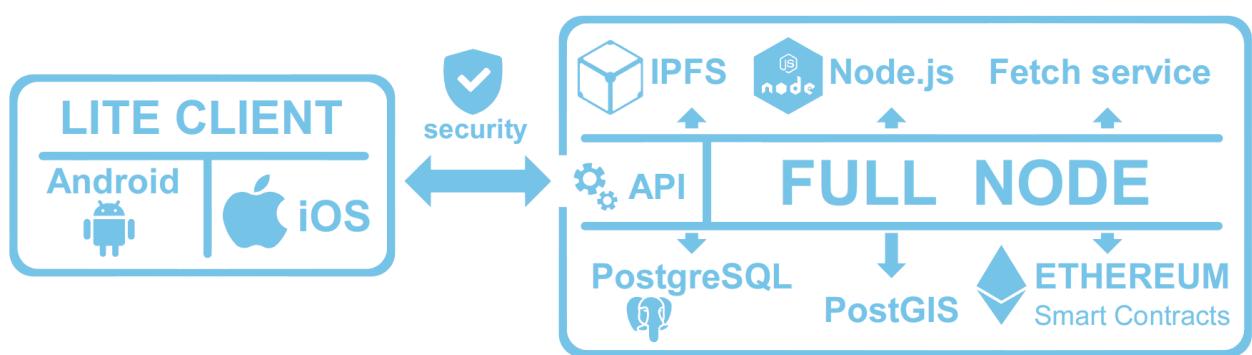
CREATING VIRTUAL TOURS

Typically, the photographer's services are free for the real estate owner, but this service in one way or another affects the size of the commission of the platform and is available only in large cities. Ultimately, this reduces the net profit for the host, and as a result increases the rent cost for the guest. In today's world, where competition in the services market is very high, a decrease in commission greatly affects the loyalty of users.

Emphy platform will provide a function to create colorful and attractive pictures. Panoramic photos at 180 and 360 degrees, will allow you to fully immerse yourself in the atmosphere of the place where the traveler is planning to stop. To do this, it will be enough to have a smartphone with a camera and just follow the prompts to get a better final result. These solutions make it possible to minimize the situation, where a guest going to vacation in a rented apartment, can only recognize it by few fragments and angles. Such new opportunities not only contribute to better visibility and a more complete picture of the property being rented, but also, as a result, improve the relationship and understanding between the owner and the guest. The owners, adding panoramic photos, thereby prove their transparency and the fact that they do not seek to hide any defects in the room from the guest, showing only the most attractive foreshortenings of the premises.

EMPHY ARHITECTURE

Emphy ecosystem is based on Full Node and Lite Client architecture. Full Nodes do all the computational work and connect with Lite Clients. Computational core, based on Node.js meets all the necessary requirements for reliable operation and fast transactions. PostgreSQL combined with PostGIS is used for storing profile information, as well as geographical locations. Using Fetch service provides quick access to required information. IPFS protocol is used as a storage system for pictures and virtual tours of the rented properties. API interface, provided by Full Nodes is used to connect Lite Clients with Full Nodes. Lite Clients are mobile apps, for smartphones and tablets. Two platforms, supported by ecosystem are Android and iOS. The combination of these time - tested technologies along with Ethereum based smart contracts provides the overall reliability and speed of the entire Emphy ecosystem.

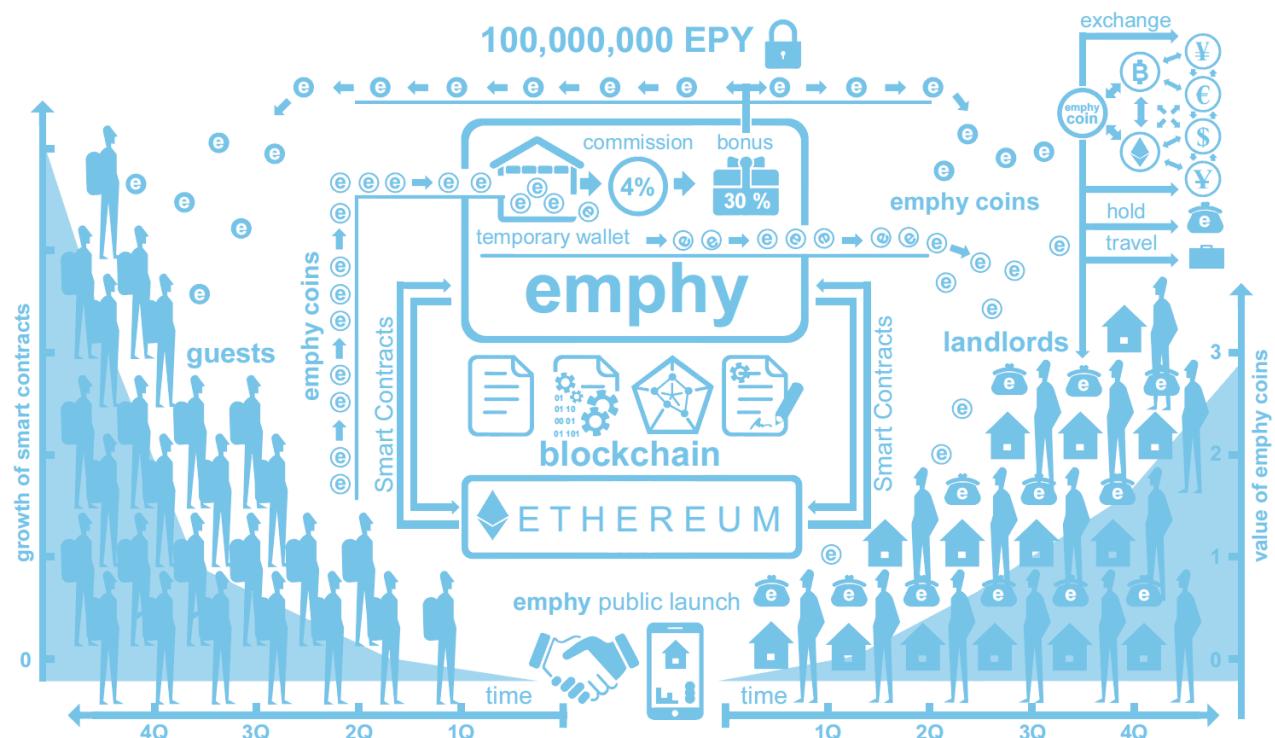


PRINCIPLE OF EMPHY OPERATION

Guests and real estate owners meet in the Emphy ecosystem. The guest transfers the full amount of the lease in EmphyCoin to a temporary wallet. The parties conclude a smart contract for a short-term lease (on Ethereum) with the entry and its confirmation in the blockchain.

Emphy ecosystem receives 4% of the amount of a smart contract as a commission. 30% of the commission paid is returned in the form of bonuses to the guest and the property owner. Thus, the real commission is 2.8%. The real estate owner receives transactions for rent in EmphyCoin from a temporary wallet (every day for the day ahead).

The real estate owner can exchange received EmphyCoin for BTC, ETH and fiat money (USD, EUR, JPY and CNY). EmphyCoin is available in a limited edition of 100,000,000 EPY. As the number of rental smart contracts increases, the stable demand for EmphyCoin among guests increases, thus the coin price starts to grow actively. This growth and value are secured by the unique opportunities that the Emphy ecosystem provides to all its users.



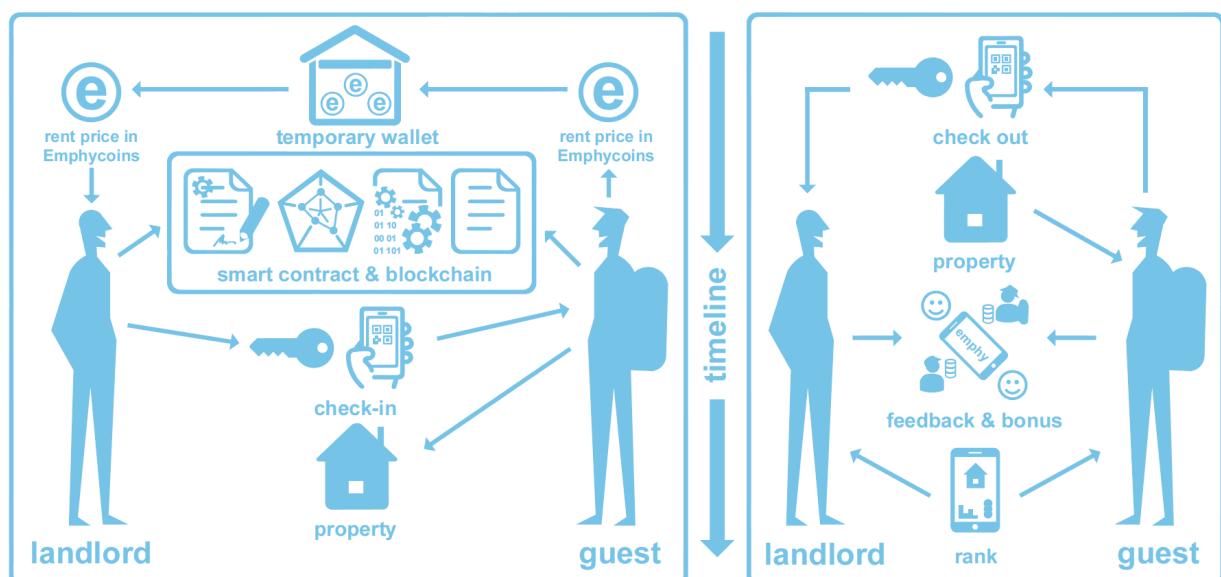
EXAMPLES OF PROCESSES

1) Reservation and check-in of the guest.

The guest finds a suitable accommodation option in the Emphy ecosystem and pays for a reservation in EmphyCoin. Coins are transferred to a temporary wallet. A smart contract containing all the terms is concluded between the guest and the property owner. Upon check-in, the host gives keys to the guest and uses the application in his phone to scan the QR code from the guest's phone screen. The system perceives this as "check-in" and EmphyCoin are transferred from a temporary wallet to the wallet of the property owner. The guest receives the right to use the property for the duration of the contract.

2) Check out of the guest and feedback.

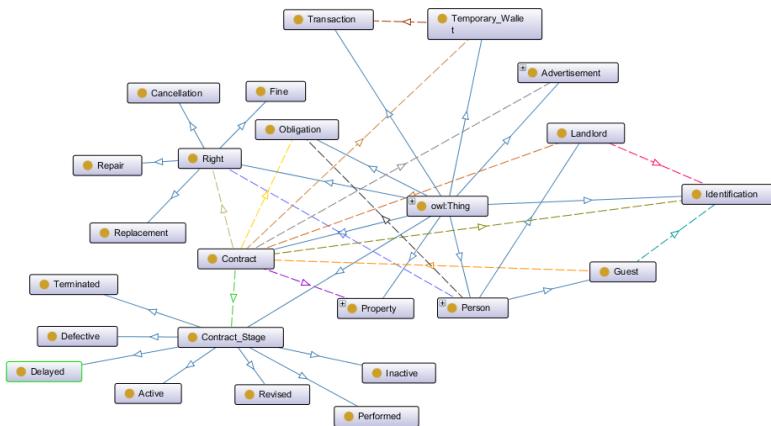
When a guest leaves the rented property, the host, using the application in his phone, scans the QR code from the guest's phone screen and receives the keys back. The system sees this as a "check out". Guest leaves the rented room. The property owner and the guest leave feedbacks for each other. Both sides get bonuses in EmphyCoin from Emphy ecosystem for leaving feedbacks. The platform generates user ratings based on reviews and related data.



CLASS EXAMPLES

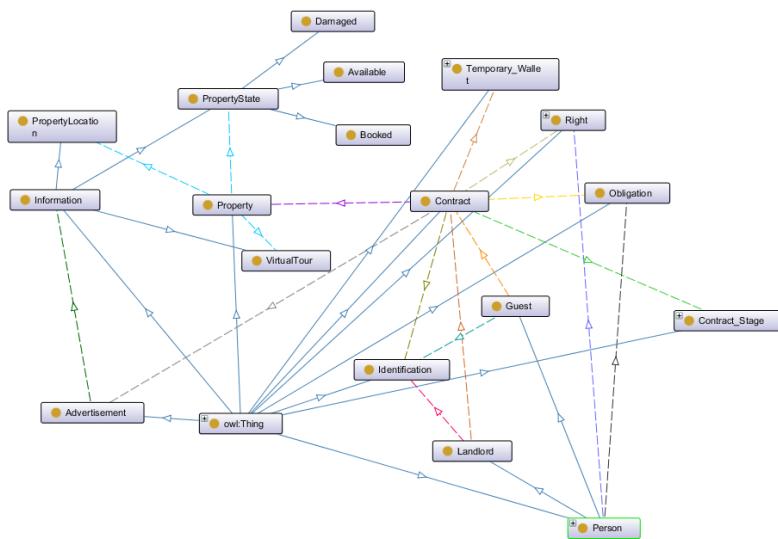
Contract Class

Figure below illustrates the *Contract Class* and its related classes. *Contract* has *Contract_Stage*, that can be *Active*, *Defective*, *Delayed*, *Inactive*, *Performed*, *Revised* or *Terminated*. *Contract* is created by *Landlord* and accepted by *Guest*. Each *Contract* contains *Right* and *Obligation* related both to *Guest* and *Landlord*. *Temporary_Wallet* is created in the scope of a specific *Contract* and is removed after *Transaction* is performed. *Contract* includes *Property* that is provided by *Landlord*. *Identification* process is a part of a contract.



Property Class

Figure below illustrates the *Property Class* and its related classes. *Property* is described by *Information* such as *VirtualTour*, *PropertyLocation* and *PropertyState*. *VirtualTour* provides visual descriptive information about property. *PropertyLocation* contains geographical coordinates of a *Property*. *PropertyState* describes the condition of a *Property*, such as *Available*, *Booked*, *Damaged*. *Property* is the main attribute of a contract that also includes *Advertisement* containing the *Information* about *Property*.



DEVELOPMENT PROSPECTS

Our team is interested not only in creating a popular decentralized ecosystem for short-term lodging, but also for the EmphyCoin owners to receive direct economic benefits both at an early stage of contribution and in the future. EmphyCoin is the currency unit between all users of the Emphy platform, also being the crypto currency with practical value, functionality, increased demand for it and a stable interest from ordinary users of the system. The limited release of tokens and stable demand for them due to the growing number of concluded rent smart contracts will increase their market value (exchange), and the real possibilities of using them will help to stabilize the volatility of the crypto currency rate.

Landlords fix the price of real estate rent in EmphyCoin, at the same time the ecosystem shows them total equivalent in USD / EUR / CNY / JPY, BTC and ETH, at the current exchange rate in BTC/EmphyCoin; ETH/EmphyCoin; or cross-exchange rate in BTC/USD; BTC/EUR; EUR/JPY; EUR/CNY; USD/CNY etc. To reduce the risk of volatility of EmphyCoin, the landlord can link the rent price to the most attractive and stable currency of his selection, for example, USD or BTC. Before the conclusion of the rent contract, the price for the surveyor in EmphyCoin may vary on different days depending on the exchange rate of the BTC / EmphyCoin and BTC / USD pairs, but after concluding the smart contract, the price and terms are finally fixed. Also the platform will provide a framework of contract insurance system using a temporary depositary wallet.

According to our forecasts, after the Emphy platform will reach 1000 contracts per day and higher, the EmphyCoin course will become more and more stable. Thus, only due to real contracts there will be demand for EmphyCoin in the amount equivalent to \$100,000 per day and above plus stock trading. This gives some confidence that with time, the more real contracts are concluded per day on the platform, the less impact of speculative nature EmphyCoin itself will be exposed to, which is in our direct interest.

ECONOMIC MODEL

The economic model of Emphy is based on the constant circulation of EmphyCoin in the system, as well as the stable demand for crypto currency from users side. The received commission, first of all, should cover the company's operating expenses, ensure development and stimulate active expansion in the market.

For buyers and holders of EmphyCoin, the economic benefit is formed by the price growth of the token, which has real application, value and is the currency unit in the ecosystem. The price growth of the token will occur primarily as the number of ecosystem users increases. The limited availability of tokens will help to support the rate of the crypto currency. Tourists and travelers will always need our tokens to pay the rent, these people will be the driving force that has a constant demand for EmphyCoin.

The company provides the turnover of EmphyCoin in the ecosystem, so we initially do not intend to accumulate EmphyCoin received as a commission and keep it to create a deficit in the market. At the first stage after the platform enters the market (June 2018), the company will track the number of offers for the "sale" of EmphyCoin. Stabilization fund formed from 10% of the received commission will be directed primarily to stabilize the supply and demand of EmphyCoin. This artificial measure will exist for a short time, until EmphyCoin gets stronger as a crypto currency having practical application. This fund can not exert any real large price fluctuations, as its aggregated volume will not exceed 1.0% of the total issue, but in case of a large deficit it will be able to offer the market EmphyCoin at a fair price. This measure will be applied in case of sudden growth or currency rates. After the day trading turnover in EmphyCoin on exchanges and in the system itself reaches the equivalent of \$10,000,000, this stabilization measure will be completely canceled and EmphyCoin will go into free float.

COMMISSION DISTRIBUTION

The Emphy ecosystem commission is 4% for the conclusion of rent smart contracts. This will ensure a stable development of the platform, help in financing marketing programs to attract new users and increase the loyalty of existing ones.

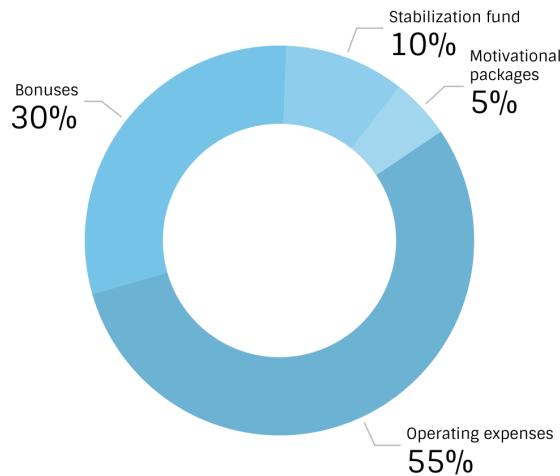
Commission distribution in Emphy ecosystem:

55% of EmphyCoin received as commission is used by the company for employee salaries, marketing, developing new solutions and supporting existing ones.

30% of the commission received from a bonus fund for users of the Emphy platform (promotions, bonuses, drawings, etc.)

10% of the commission will be accumulated in the stabilization fund

5% of the commission will be sent to long-term motivational packages to employees of the company



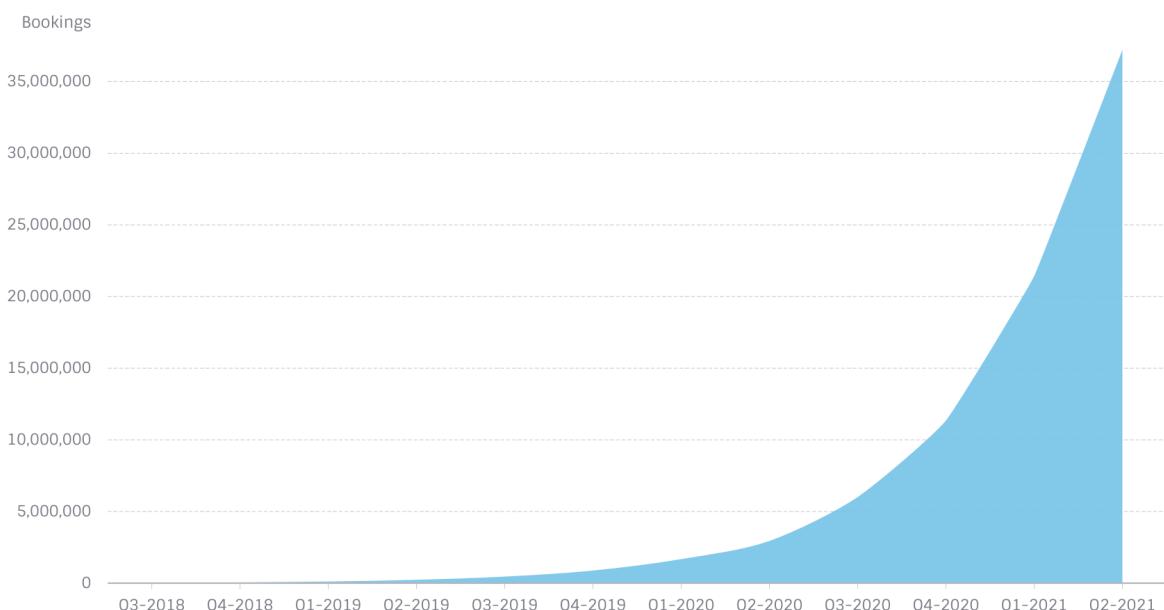
BUYBACK

The company reserves the right to partially buy tokens back on the exchange. The maximum volume of buyback can not exceed 10% of the total volume of tokens per quarter (3 months). The company will report on the made buyouts in quarterly reports or in separate press releases published on the company's website and in social networks.

GROWTH FORECAST

When preparing the forecast for the growth of the reservations, we first and foremost rely on the fact that Emphy will conduct an active marketing campaign to attract and stimulate the interest of new users. When forecasting, it was important to take into account both the readiness of the market and the ability of new users to learn new methods of crypto currency use .

We focus on the fact that by the end of the first year of operation Emphy ecosystem will reach 415,000 smart-contracts and 5,955,000 smart-contracts in the second year. Now cryptocurrency is gaining more and more popularity not only among IT professionals, but also among general public. News about the world of cryptocurrencies can be seen in serious business publications, in the yellow press as well as discussions on the talk shows. Such a massive agitation and warming up in the media space leads to the fact that a huge number of new users open accounts in the crypto currency, begin to learn and actively dive into cryptocurrency world. Development and consumption of services using cryptocurrencies is the next step in a huge number of new users. In this situation, the Emphy ecosystem will be able to maximize its potential, ensure the growth of the concluded smart contracts and increase the liquidity and rate of EmphyCoin.



ICO CAMPAIGN

EmphyCoin (EPY) – ERC20 token with a limited release

Blockchain: Ethereum

Every EmphyCoin can be split 100,000,000 pieces.

1 EPY (ICO) = \$0,10

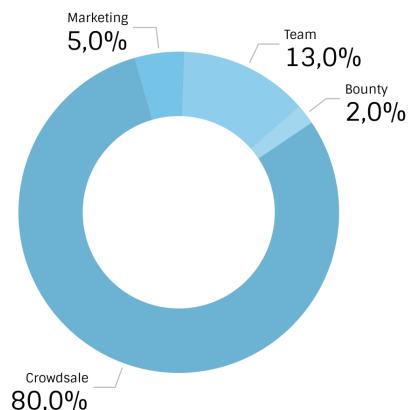
Total EPY: 100,000,000 (100 mln.)

Hardcap \$7,260,000

Accepted forms of payment: BTC & ETH

The amount of EPY tokens reserved for:

- Crowdsale – 80,0% (80,000,000): 2% for PRESALE and 78% for ICO
- Marketing reserve for promoting the platform - 5,0% (5,000,000)
- Emphy team – 13,0% (13,000,000)
- Bounty – 2,0% (2,000,000)



0-2 mln. EPY	2-20 mln. EPY	20-40 mln. EPY	40-60 mln. EPY	60-80 mln. EPY
Price				
• \$0,06	• \$0,08	• \$0,09	• \$0,095	• \$0,10
Discount				
• 40%	• 20%	• 10%	• 5%	• 0%

ROADMAP

1. March 2017 - Initial of creating an Emphy platform. Development and study of the conceptual ecosystem model and its technical features.
2. June 2017 - Writing the first Whitepaper versions, consulting with broker companies, as well as the initial open discussion of the idea in a narrow circle of specialists.
3. October 2017 - Start of Emphy ICO
4. June 2018 - Release of the platform beta version and testing. Revision of the platform based on test results and test group analysis.
5. August 2018 - Public launch of the platform and entry into a market. End-user involvement and work on increasing the number of offers in the database.
6. November 2018 - Expansion and active promotion of the platform on a market, marketing campaigns, presentations, presentations on forums and in publications.



CONCLUSION

Developed by us Emphy ecosystem, will raise the technology and the process of renting the real estate to a new level. Innovative approaches, openness, convenience and ease of product use are our team motto. Emphy will be a good alternative to existing solutions on the market, and by a set of features, capabilities and its simplicity will be much ahead of competing platforms. As the technological innovations, the blockchain and crypto-currencies are moving ahead into the broad masses, Emphy will rapidly gain momentum, promoting the development of international tourism around the world.

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