THE FIRST OPEN BLOCKCHAIN PLATFORM FOR CARGO TRANSPORTATION

INDEX

1. ABOUT QUASA

1.1 Idea of the project

The main concept of the project is to achieve a technological breakthrough in logistics by means of creating a transparent system of interaction between all the participants. QUASA decentralized logistic platform offers innovative solutions based on the introduction of blockchain technologies to supply chain management.

The platform will help all the participants to obtain considerable advantages of decentralized service and a unique and transparent economic system based on own QuasaCoin crypto currency.

QUASA is a decentralized system which involves a blockchain and consists of several smart-contracts in the perimeter of the block chain and its own crypto currency. Such an approach takes the development of logistic technologies to a completely new level and ensures total security and privacy in the whole supply chain.

The functions of the system are designed to protect cargo owners and carriers through the blockchain and the smart-contract technology in order to eliminate possible problems related to trust, information barriers, and legal costs. The target audience of the service operates in b2b, b2c and even c2c models.

Logistics is associated with many aspects which are difficult to be taken into consideration in a single IT solution. That is why QUASA platform has helped to attract experts among the leaders in this field in order to avoid drawbacks overlooked by potential competitors.

QUASA platform is a system product created by a consortium of the most powerful, competent, and experienced logistic companies and organizations in Russia, the CIS, and other countries all over the world. These entities are in active cooperation with leading Russian and worldwide logistic organizations, companies and Associations, based on vendor agreements, partner contracts, and memorandums.

1.2 Backstory

A long path had been traveled before the BLOCKCHAIN logistic solution has been invented. First of all, major carriers integrated the tariffs into their ERP systems in order to be able to give quicker responses to delivery requests. Later on they went online while smaller carriers started using forums and information panels for advertizing their services. Finally, UBER-like cargo services appeared. They typically offer truck transportation, so multimodal delivery is not available yet. All in all, centralized platforms cannot manage up-to-date and competitive prices or algorithms which exclude cargo damages, but new technologies could change this state of affairs.

The business strategy of the multimodal application is based on providing customers with absolutely new way of interacting with the logistics market.

1.3 Market

For the launch of the project we have selected the Russian logistics market due to the following particular features.

1. Market volume. The logistics field in Russia accounts for 5.6% of the GDP (comparing to 2.7% in the USA and 2% in China). Russian forwarding services market is estimated to generate $1 bln a year and to account for 5% of the logistics market. A growing net of truck vehicles, a considerable number of ports and a leading role in the international trade will help QUASA decentralized service to make a good start.

2. Absence of special licensing. Unlike in other countries, Russian legislation does not provide licenses for carrier activities. This will enable QUASA team to avoid additional costs and start searching clients for beta-testing and localization in the market as soon as possible.

3. Developed IT infrastructure. In 2015 GLONASS devices were installed in 100% of Russian truck vehicles, and a data collecting system for location identification was introduced. This will help the developers to introduce general online tracking of cargos with the registration of the transfer of ownership in the blockchain.

4. Close partnership. The consortium of companies supporting QUASA platform consists of the most powerful, competent, and experienced logistic companies and organizations in Russia, the CIS, and other countries all over the world. These entities are in active cooperation with leading Russian and worldwide logistic organizations, companies and Associations, based on vendor agreements, partner contracts, and memorandums.

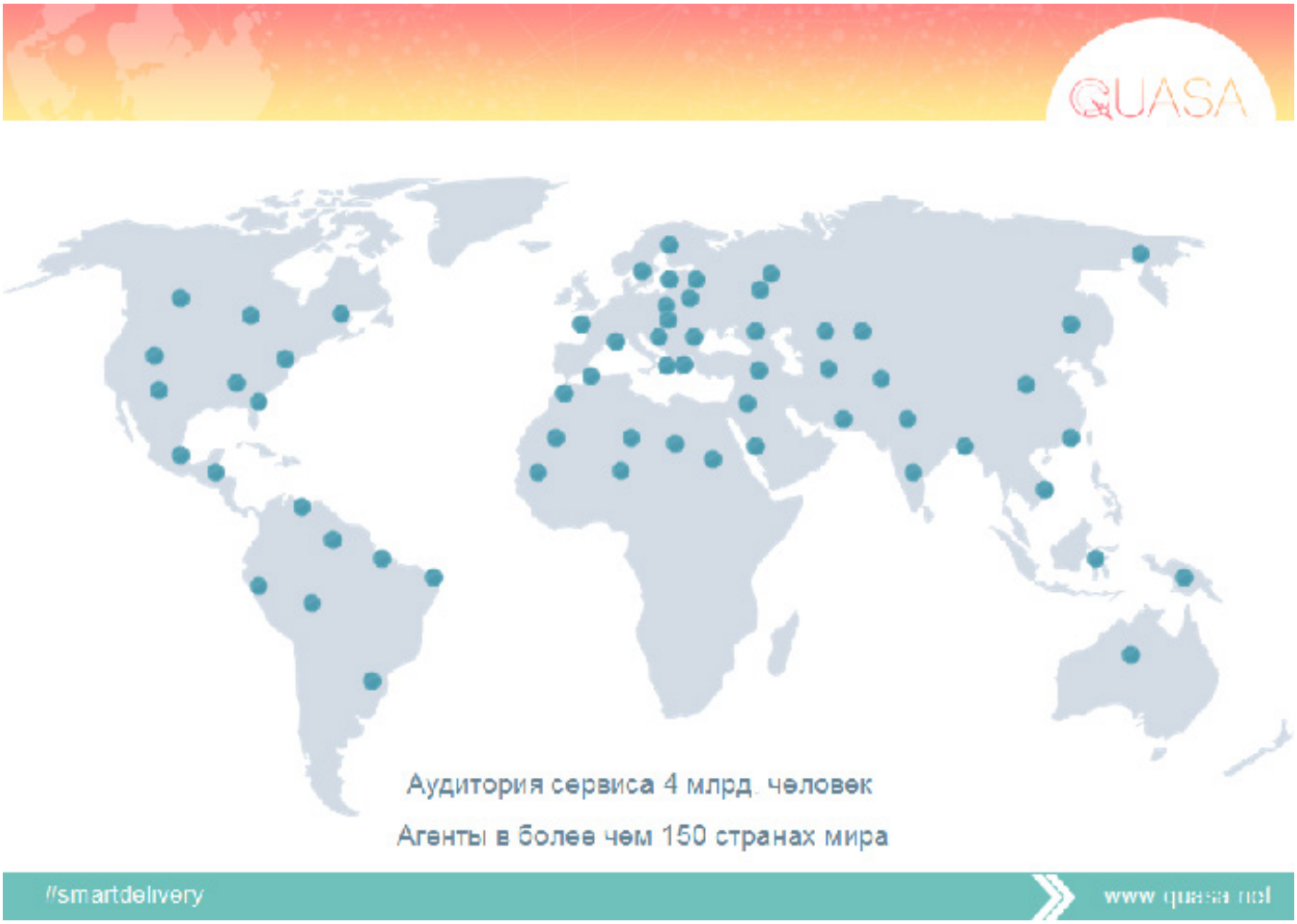
5. Legal status of crypto currencies. As for the legal status of crypto currencies, we can speak about decriminalization of such currencies in Russia, not about their full legalization.

The Federal Tax Service regards operations with crypto currencies as exchange operations. Currently real efforts of law enforcement authorities are focused on suppressing the volume of exchange operations.

We have conducted the expert factor analysis for the estimation of a potential market share.
There are particular conditions for QUASA to obtain a 1-2% share of the world carrier services market. QUASA team intends to achieve this figure after the large-scale launch of the project.

1.4 Market size

There is no dispute about the success of such services like Uber, Gett, or Lyft, and their capitalization is rapidly growing. However, the logistic services market is five to ten times bigger than the taxi market.



World transport and logistic services market

Markets	Population	GDP 2015 ($ tillion)	Transport and logistics expenses, % of GDP	World transport and logistic services market
America	600 mln	18		
Europe	740 mln	20		
CIS	282 mln	5		
Brazil	200 mln	3,2	8-9%	55% share of transport and logistic expenses
China	1000 mln	20		
India	878 mln	8		
Arab world	300 mln	10		
QUASA market	**4 bln people**	**84,2 trillion $**	**8,3 trillion $**	**4,8 trillion $**
World in total	7 bln people	115 trillion $	9 trillion $	5,2 trillion $

According to the experts' estimates, in 2015 the logistic sector accounted for 6% of the world GDP, and its turnover was equal to USD14 trillion. For quite a long period of time the cargo shipping market is going to retain a considerable share in the world economy with CAGR being equal to 3%.

Sector risks are offset by stable growth factors: global and regional differentiation of labor together with population growth.

IT solutions for the automation of the transportation mode selection process are in demand among clients of carrier companies as well as carriers themselves.

The above-mentioned can be indirectly proven by the following facts.

Appetite for investments.

Over the past three years the volume of venture capital investments in IT aggregators was equal to $150 mln (for freight). Over 10 private capital deals were closed in the USA, with China accounting for 2 more such deals and the Western Europe accounting for yet several more ones.

Two carriers (Cargomatic and Freightera) were able to achieve IT-based income equal to $10 mln a year each.

Major segments and structure of the world transport and logistic services market in 2010-2017

Cargo shipping and carrier services	54,00%	2,6 trillion $
Complex logistic services which include storage and distribution services	28,00%	1,34 trillion $
Logistics management including services for the optimization of logistic business processes	18,00%	0,9 trillion $

2. PROBLEMS

Today the cargo shipping market has very much in common with the taxi market before it was conquered by internet companies: it is nontransparent, chaotic and divided between regional companies, not thanks to competition but due to unknown internal reasons and rules.

Not many people realize that transport logistics is a huge field which can be compared to the biggest global industries in terms of size. Yet, despite its volume, this field remains largely fragmented and inefficient, with wide presence of intermediaries and the existence of nontransparent business schemes. This definition can be to a greater a lesser extent attributed to both emerging and developed countries.

Logistics is not only about moving a cargo. It also involves the movement of big volumes of information about shippers and receivers, the nature of the cargo, how to handle and pack it, what should be done with this cargo in the final place of destination, etc. It goes without saying that logistics deals with huge paperwork which makes this complicated industry even more opaque. The end receiver is not able to track the path that had been made by the cargo before it reached the receiver.

All applications and services that have ever been invented in the logistics business were offered by large or small transport companies. Their software has always been the tool for the processes automation.

2.1 The core of the problem to be solved by the project

For the moment the average commission for intermediary services during the transportation is equal to 10-25% of the price of the order. At the same time the breakdown of this amount and its modification cannot be controlled by the customer.

The majority of risks in logistics are related to finances and soft spots in transferring information which can be false or incomplete.

УThe substitution of centralized services with SMARTCONTRACT and BLOCKCHAIN technologies will ensure transparency in the logistics market. The generation of the commission will become clear, and prices for the services will be reduced thanks to open and transparent interaction between all participants of the supply chains. QUASA technologies will considerably reduce time, financial, and labor resources involved in the shipping process. At the same time new markets will open for the carriers while QUASA platform will become a benchmark of the quality of the services offered in the market.

Another problematic process is the opportunity to obtain information on the movement and condition of cargos. Currently this implies using additional resources which, consequently, increases the size of the commission. When using QUASA platform, these data will be inserted in the BLOCKCHAIN while a smart-contract will ensure the fulfillment of all the terms of the agreement and will automatically perform mutual settlement according to the data contained in the Blockchain. Thus, the control over the fulfillment of the agreements will be exercised.

Clients are given the opportunity to interact with the carrier openly and clearly, which will help to solve all the crucial problems of the cargo shipping.

2.2 Problems of the industry

Over 80% of all the cargo shipping is performed by intermediaries.Below are the corresponding reasons:

Problem of trust.

According to the studies, in the US transport and logistics sector total losses caused by economic crimes amount to USD8-30 bln. People are offered to develop contracts with partners and clients from the legal and economic point of view in order to avoid losses in the amount of USD40 bln a year, while 20% of cargos are not yet fully insured. Strategic problems lead to certain risks of opportunistic behavior which are already included in the price of cargo shipping.

Risk of the insolvency of the cargo owner

Final settlement is normally performed after the cargo owner receives the cargo from the carrier. This makes carriers conduct the due diligence analysis of cargo owners and charge premium for the risk of possible insolvency with respect to their obligations. Logistic companies charge the premium of up to 30% and even decline certain deals depending from the reputation of the partner.

Risk of hidden damages.

A cargo can be damaged during the transportation but the carrier can stay ignorant of that. If the cargo owner (or, anyway, the last person in the supply chain) receives damaged goods, then there is no possibility of demanding compensation in court since it is unknown who is responsible for the damage incurred.

Risk of tax evasion.

If the tax regulatory body suspects at least one of the supply chain parties for tax evasion, the cargo will be recalled or suspended.

Exchange risk.

Carriers and shipping agents can fix their prices in currencies other than the current one. In this case the logistic company is forced to modify the contract in order to exclude the depreciation risk. This makes logistic services more expensive.

Insufficient insurance.

Most shipping agents insure only transport losses but not the loss of the cargo or the compensation of the damage

Problem of information barriers and high prices.

Expenses for searching information on tariffs and on transaction costs of the carrier are extremely high due to the market segmentation and the absence of standardized payment algorithms, as well as paper flows, additional services, and taxes. This makes the market less competitive and controllable by the seller. Hence, the cargo owner faces the necessity to know and compare transportation prices beforehand and to conduct certain costly analysis. This problem affects both cargo owners and carriers. For instance, the absence of common information space leads to the lack of efficiency and delays caused by the lack of data on free containers.

Problem of idle runs.

The pendulum principle accounts for up to 50% of efficiency losses in the logistics sector.
The problem is that the balance of exports and imports is not respected in subregions.
For example, a truck driver delivers a drink from Arezzo to Saloniki but comes back with an empty vehicle because there is nothing to be exported from Saloniki. Thus, charterers usually double their tariffs.

3. SOLUTION

The main task is to make logistics less expensive so that its share in the total price of the good was as small as possible.

Problem of trust.

Control over cargo shipping is exercised on request until the deal is successfully closed. All the actions are registered in the blockchain which excludes trust-lacking relations between the parties. The Smart-contract which is going to be agreed upon in the beginning of the shipment will automatically perform complete mutual settlements according to the data contained in the blockchain.

Risk of the insolvency of the cargo owner.

The authorization of trustworthy suppliers and cargo owners increases the total degree of responsibility. Using contemporary DLT technology, QUASA will provide suppliers with personal licenses. Other organizations will have to receive and verify these data.

Solution for exchange and tax risks.

QuasaCoin is a single virtual currency in which all QUASA settlements will be performed.

Insufficient insurance.

Automatic cargo insurance offsets not only the risk of opportunistic behavior of the partners but also the risk of force majeure damage.

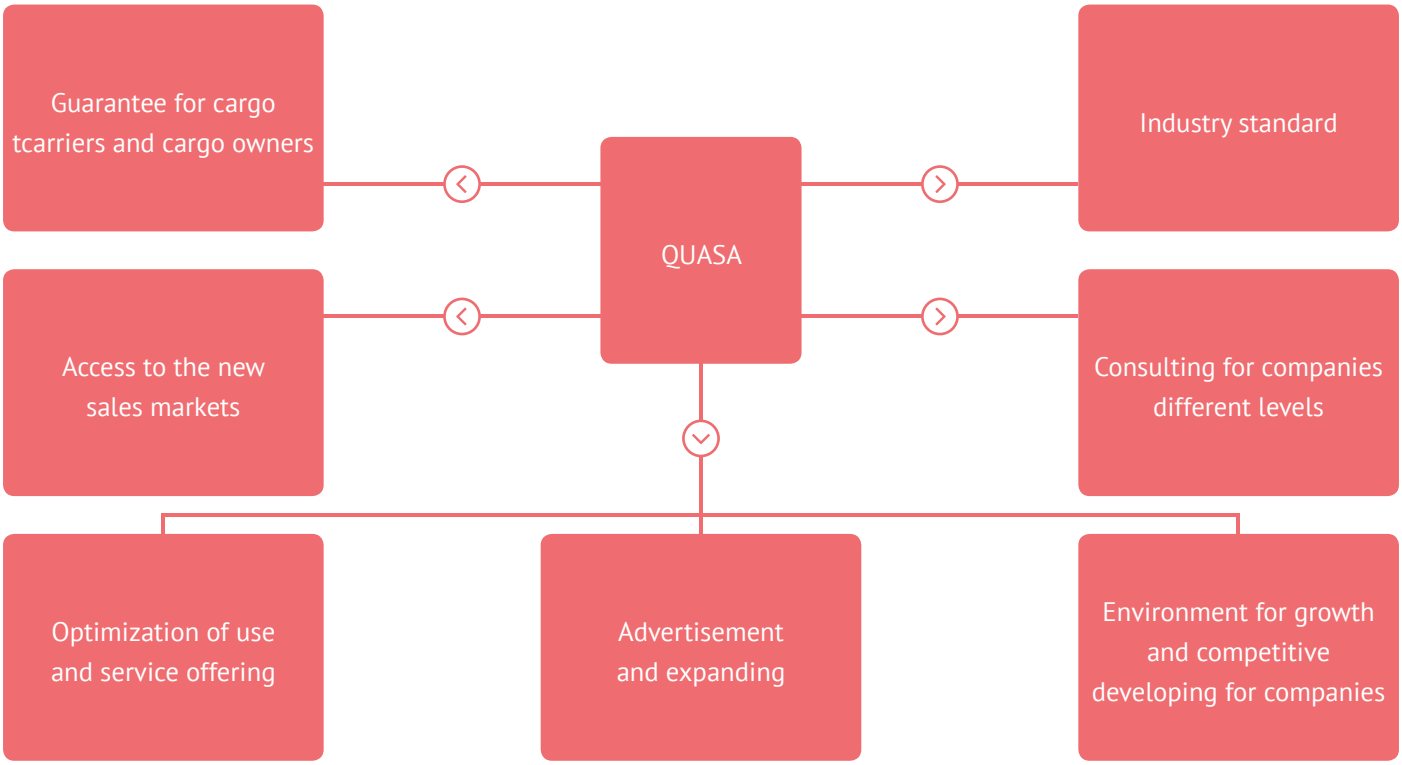
Problem of information barriers and high prices.

A single information system performs efficient data analysis and signals equipment downtime. Thanks to this, delays are reduced considerably while total efficiency is improved. forecasts help to lower ports load and increase the planning horizon while avoiding bottlenecks. The client is able to choose the delivery mode which meets his requirements for price, conditions, and additional services. A relatively low services commission (2-3% against 8-15% for conventional forwarders and 10-25% for brokers) is what makes QUASA different from other field competitors.

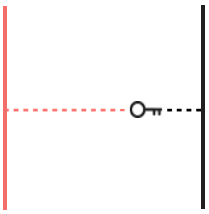
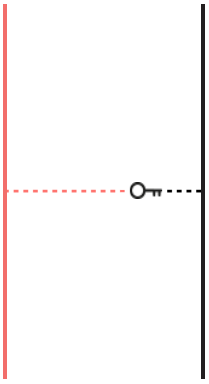
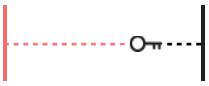
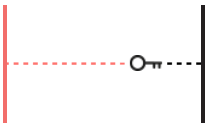
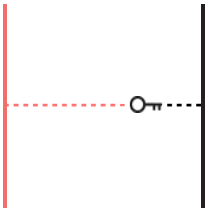
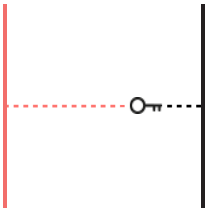
Risk of hidden damages.

Online GPS-tracking of the location and condition of the cargo is performed with the use of blockchain technologies. On the early stages QUASA will be integrated with the existing providers of tracking technologies through its protocols (https, mqtt, etc.). The data will be accumulated and shown to end users.

The introduction of the whole cargo shipping cycle into the functions of a single application will help QUASA to offer valuable services in the logistics market: business processes with the use of QUASA platform are backed with more profitable and safe warranties than direct interaction between cargo shippers and cargo owners.



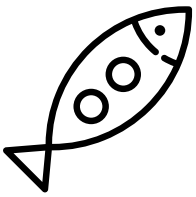
3.1 Solution for clients

Cargo delivery on a certain route		Organization of the system that allows its clients to get service without representative companies
Attention to cargo characteristics and conditions		The form to order service is provided by the platform
Guarantees and insurance		Control of all the terms of the smart contract, compensation of penalties under the terms of the contract from both parties, the service transfers funds according to the fulfillment / non-fulfillment of the terms of the smart contract to the shipper's and freight carrier's accounts in automatic mode
In-time delivery		Guaranteed by following smart-contract conditions
Delivery transparency - cargo location tracking, percentage of completion		In the profile page the user can track the information about cargo location and condition
Choice of the list price according to the measures.		Carriers should provide the service actual data about rates, so the service makes instant calculation of the transportation cost
Payment		Customer's digital money arrives to the smart-contract directly. Smart-contract informs all participants and begins to manage the transportation

The use of the platform by cargo owners

3.2 Solution for carriers and shipping agents

With the development of the service the opportunities for its partners are going to grow as well. The service will create:

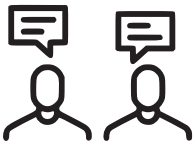


unique environment for the development of the companies and their competition;

trust-based relations between partners and clients, since the service sets standards in the whole supply chain;

transparency, due to general access to the rating based on the smart-contracts fulfilled by the companies;

opportunity to penetrate new markets, since access to such markets is not limited by information or financial barriers, thanks to transparency;



consulting services and the provision of a tested business process model and tools for its implementation.

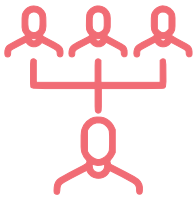
The use jf the platform by carriers / forwarders

3.3 Solution for the market

Solution for the problem of lacking standards and, consequently, for the problem of cumbersome paperwork.

Increased shipping speed due to process optimization and competitive environment of the service.

Improved availability of insurance and broker services.



Increased opportunities for efficient outsourcing.

Safe transportation. As soon as the client selects and confirms his transport contract, QUASA initiates a smart-contract with all the participants of the transportation and with the insurance company. The client's digital money is credited directly to the smart-contract which manages the means of transportation. The smart-contract informs all the participants and starts controlling the fulfillment of the transportation.

Transport services sales. The carrier informs QUASA about the location of the unloaded vehicle. This service includes the transportation by the carrier and creates a proposal for the contract or for the participation to the auction for the shipping contract initiation.

Online cargo monitoring. In QUASA interface the GPS tracking data and the data on technical status of the loading are automatically saved in the smart-contract storage.

Guaranteed payment for services and efficient paperwork. The carrier terminates the transportation of the goods and transfers them to the cargo owner or the next carrier. The cargo receiver makes an electronic mark about the assumption of the responsibility for the goods. Upon receiving this mark, the smart-contract performs a money settlement with the carrier. The smart-contract registers and provides the cargo owner's documents signed in the digital form.

QUASA involves several suppliers and carriers in order to secure step-by-step integration of all the participants of the supply chains into the delivery platform, and this requires a unified register. An open register proposed by Cisco Systems seems a suitable solution. The use of the standardized realization will help to secure smooth integration with other IOT services (Internet of Things which connects the objects with the Internet, thus helping to perform the analysis and obtain data about the object in question). Thanks to the implementation of this register, the data will be transferred to the service in a unified format. With the help of this register our clients will be able to use even more detailed contracts which will enable wider process automation.

Cisco solutions have been successfully used on all the stages of transportation. Cisco technical consultants will be in charge of introducing IOT services for the companies which access the service, which will minimize costs when connecting companies.

Cisco service ensures:

- mass transfer of the object identity between the partners using the supply chain and realizing the so-called «anti fake»;

- the delivery confirmation through automated signing of the object during the delivery by drone or delivery man;

- verification of the evidence of the production chain for trade financing.

With the help of a single smart net infrastructure you can improve your performance and safety as well as obtain valuable information for the automation optimization.

4. COMPETITION

4.1 Indirect competition

The main competitors are national aggregators, cargo exchanges, and local companies. Despite the fact that these market players use obsolete principles and models, they have already taken a secure position in the logistics market. We should definitely create a strong infrastructure which will be able to transform an obsolete logistics into a LOGISTICS 2.0, as well make our platform one of the leaders of the market. Besides, since we take the responsibility to block scum companies and to provide our investors only with the companies which we trust ourselves and which offer not only promises but something that already works, we are going to establish a corresponding division which will be engaged in quality control and product verification before the product is launched.

4.2 What is the difference between our product and already existing solutions

Unlike many other similar projects which have been introduced to the market recently, QUASA is not just a clone created with no regard for the problems of the cargo shipping market, difficulties faced by cargo shippers, or carriers' needs. Instead, QUASA provides end users with a new model for the cargo shipping organization with simple interface and enables making orders under as profitable conditions as possible with just a couple of clicks of the mouse. The product is not going to be used for a «forced» unification of all the processes in the existing and successful companies. Each company is offered to undergo accreditation according to the standards developed by the leaders and experts in the logistics field. Compliance with these standards gives access to all the solutions provided by the service. The company organizes cargo shipping without resorting to intermediaries. Thanks to the established IT solution, QUASA allocates orders so that carriers could use their means of transportation in the most efficient way. Such an optimization helps to increase the efficiency of carriers' activities, thus raising their profits, and at the same time reduce transportation costs for cargo owners. However, QUASA is unique primarily due to its economic system based on blockchain technologies, smart-contracts, and its own QuasaCoin crypto currency, designed to protect cargo owners and carriers. The use of blockchain technologies and smart-contracts will eliminate the problem of trust as well as information barriers and legal costs, which is described in more detail below.

5. PARTNERS AND USERS OF THE SERVICE

A considerable number of partners take part in cargo transportation; all of them have their obligations as well as information and financial flows, and they are involved in the transfer of property rights for cargo obligations. Below is the list of major participants of the QUASA projects:

Participant	Description
Cargo shipper	**Client.** Cargo shipper/representative of the supplier.
Cargo receiver	**Client.** Organization/agent of the organization which should receive the cargo in the point of destination by order of the shipper.
Logistics manager	**Client.** Representative of the shipper.
Logistics operator	**Client.** Provider of logistic services who needs minor contractors (various stages of transportation) for his own business.
Retail supplier	**Client.** Supplier of the retail network who chooses the partner for his own shipments.
Cargo carrier	**Partner.** Cargo carriers engaged in various types of transportation: - Air transportation. - See transportation of consolidated cargos (LCL). - Sea container transportation (FCL). - Truck transportation of consolidated cargos. - Truck transportation - Railway transportation. - Multimodal transportation. - Services at consolidated warehouses. - Project transportation. - Transportation of dangerous goods. - Transportation on any terms (INCOTERMS from EXW to DDP).
Forwarder	**Партнер.** Экспедитор организует транспортировку и стыковку этапов.
Insurance companies	**Partner.** Insurance companies.
Online shops	**Partner.** Websites for selling goods to distant customers.
Groups of delivery services	**Partner.** Performs carrier functions.
Post and delivery services	**Partner.** Performs carrier functions.

6. PRODUCT

The project team which consists of logistics and IT specialists has developed a working prototype of the service. This enabled us to analyze market needs and compare them to the realization of the fully-fledged project.

- Calculation of tariffs from 18 international carriers.

- Calculation of air companies' tariffs received through API or from own database.

- System of personal areas, including partner areas.

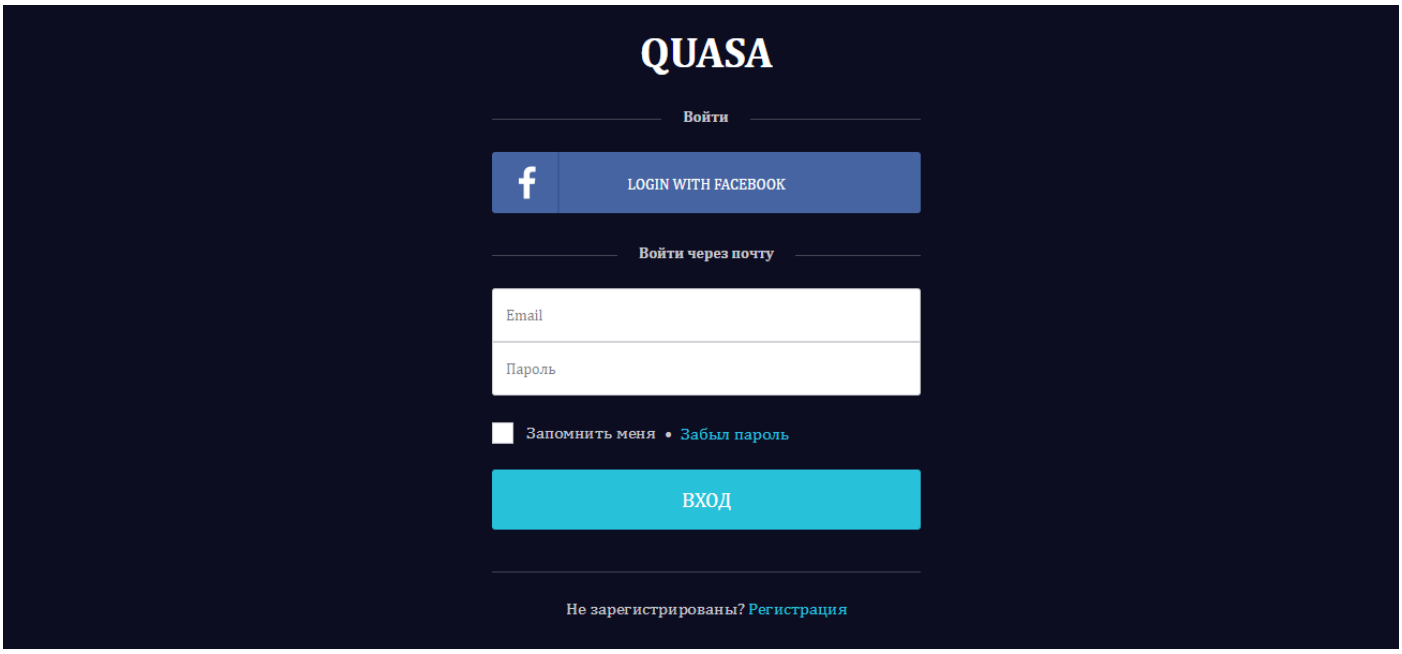
- Cargo exchange.

- Administrative panel.

The price is calculated with regard to all cargo parameters selected by the user.

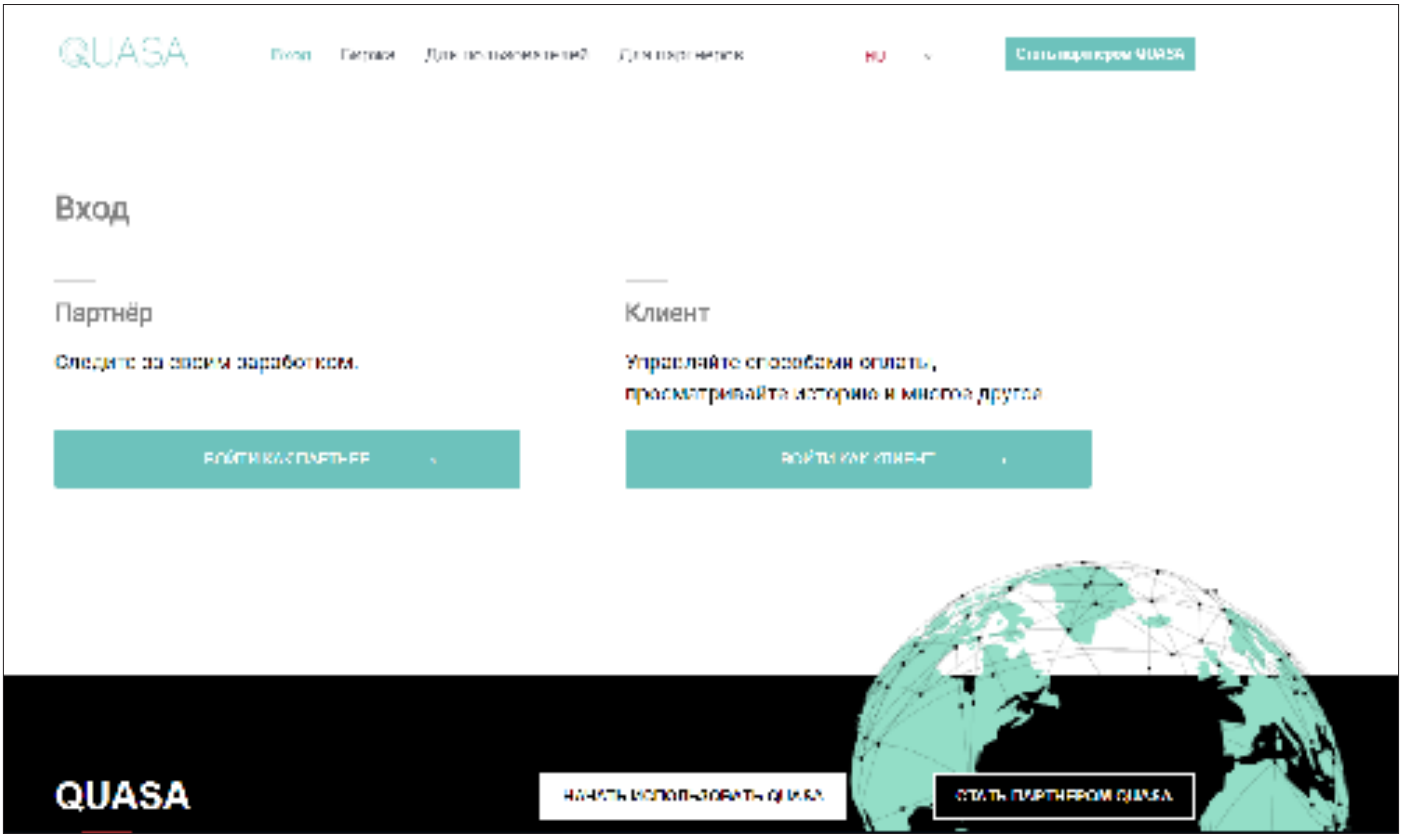
The prototype includes basic functions of a QUASA cargo owner, which will be available in Q2 2018 already. Later on these functions will be complemented by modules designed for involving other participants of the logistics network.

The work with the platform starts with the access page. Here each member of the system has to insert his login and password obtained during the registration process.



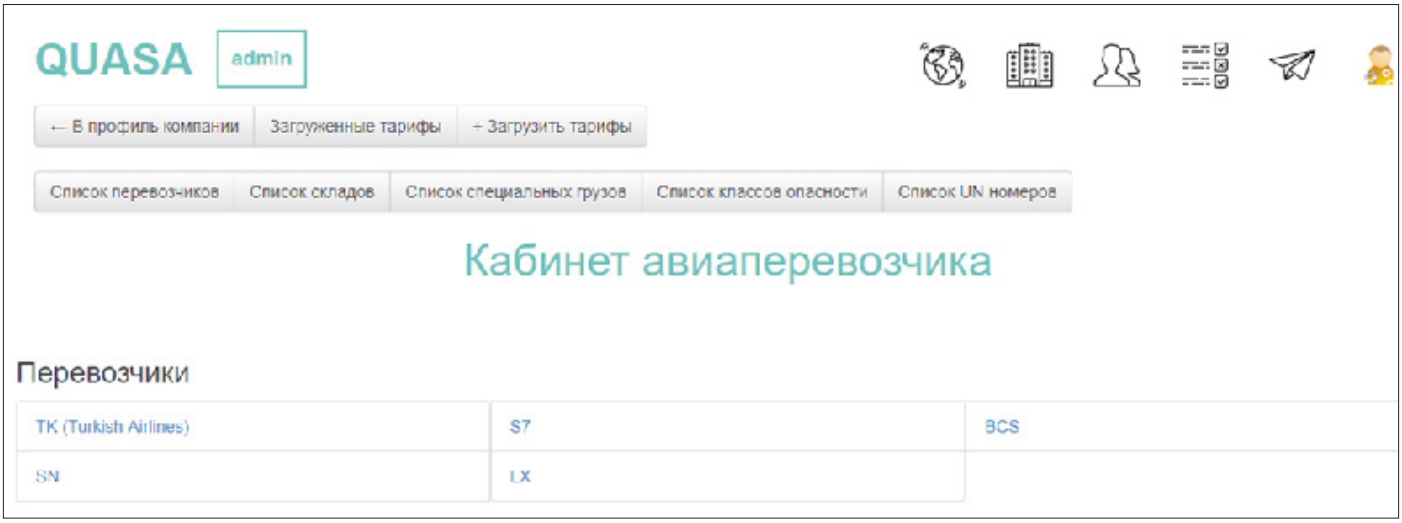
The interface of the program includes a standard menu that contains orders, requests, and several types of reports. In the future the structure of the menu will be modified.

The user may access the system as a client or a partner.

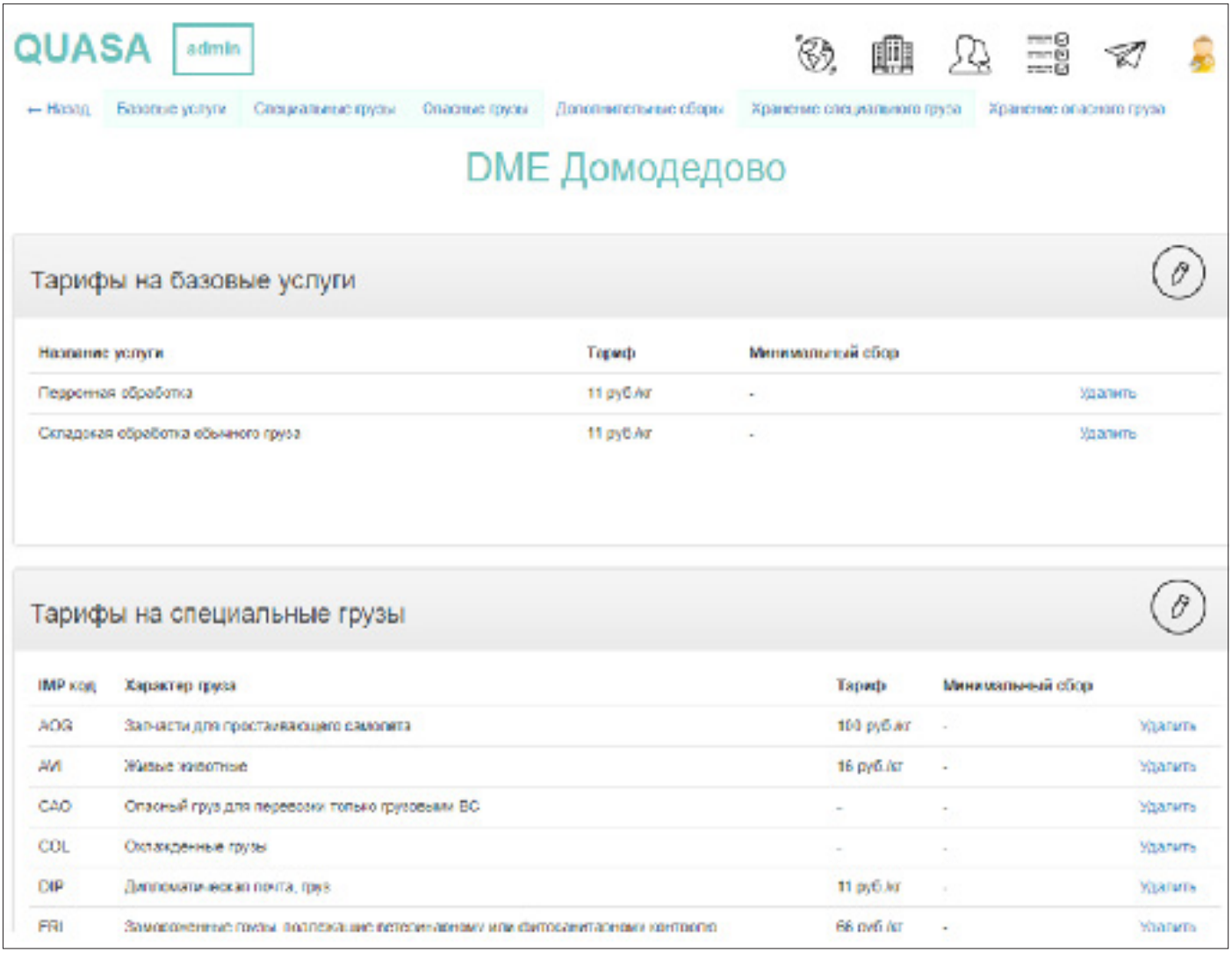


The system provides personal areas for partners and clients. The interaction between the carrier and the client is performed in the personal area.

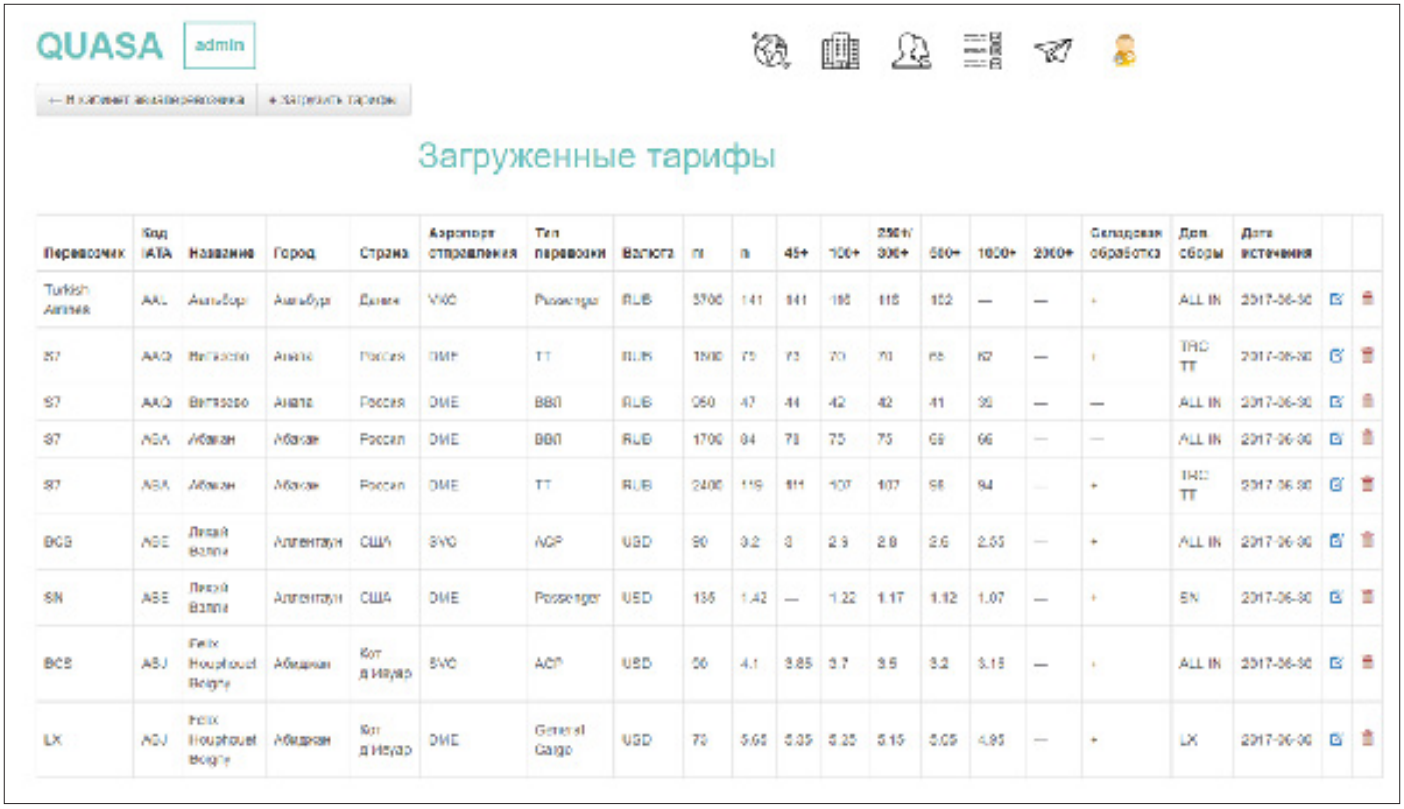
In his personal area the carrier inserts data on his company as well as necessary documentation and tariffs.



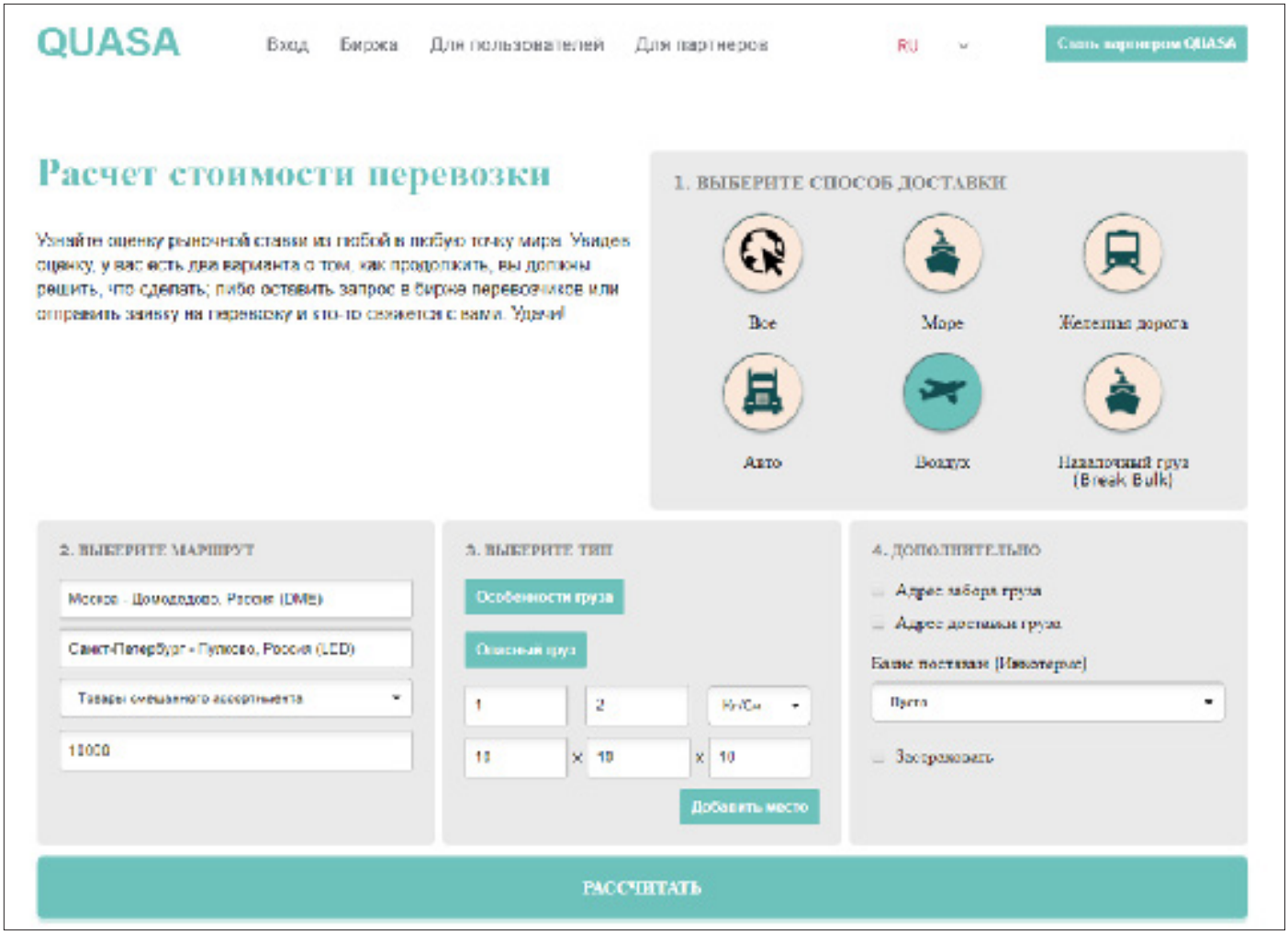
Personal areas provide also for terminal services.



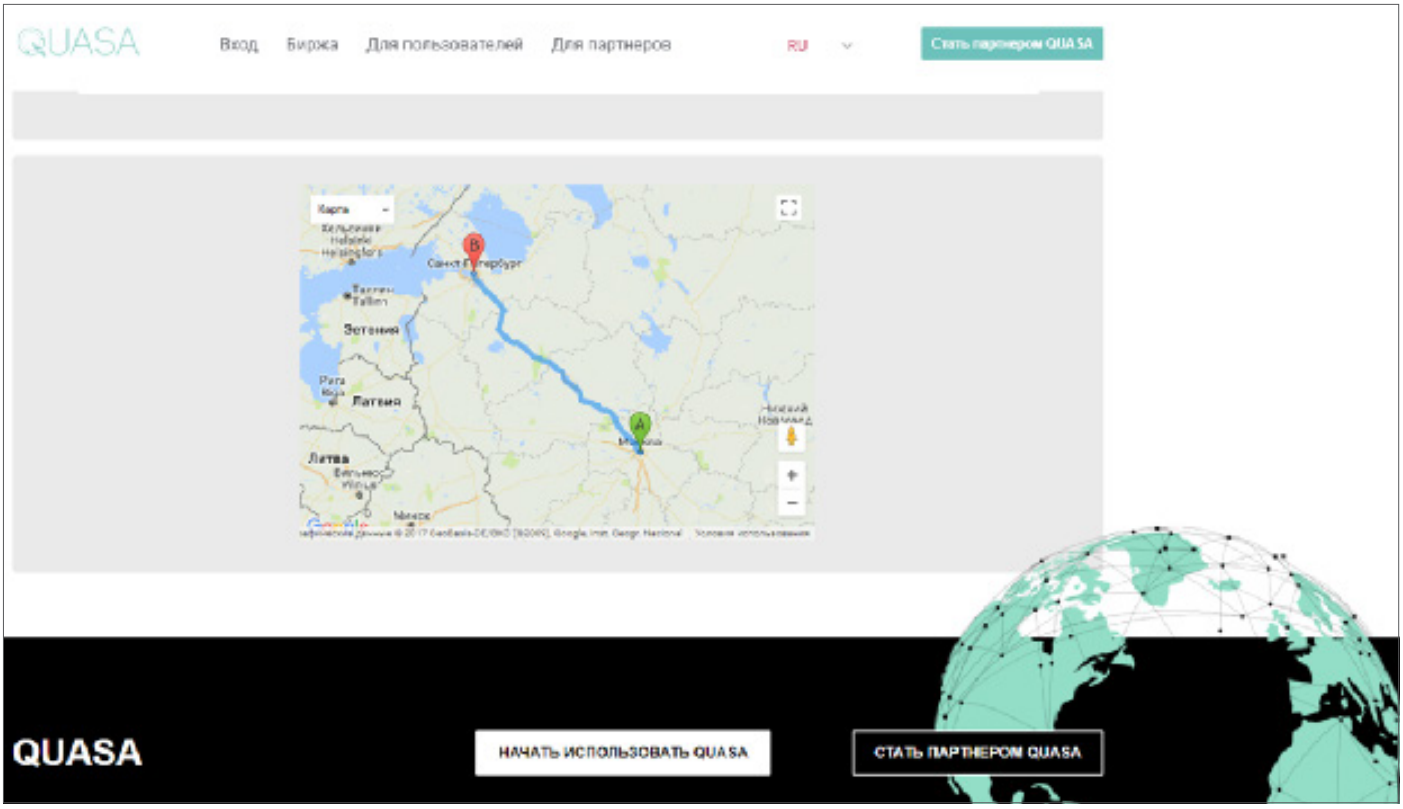
The service verifies the inserted information. Responses on user requests are formed according to the provided data.



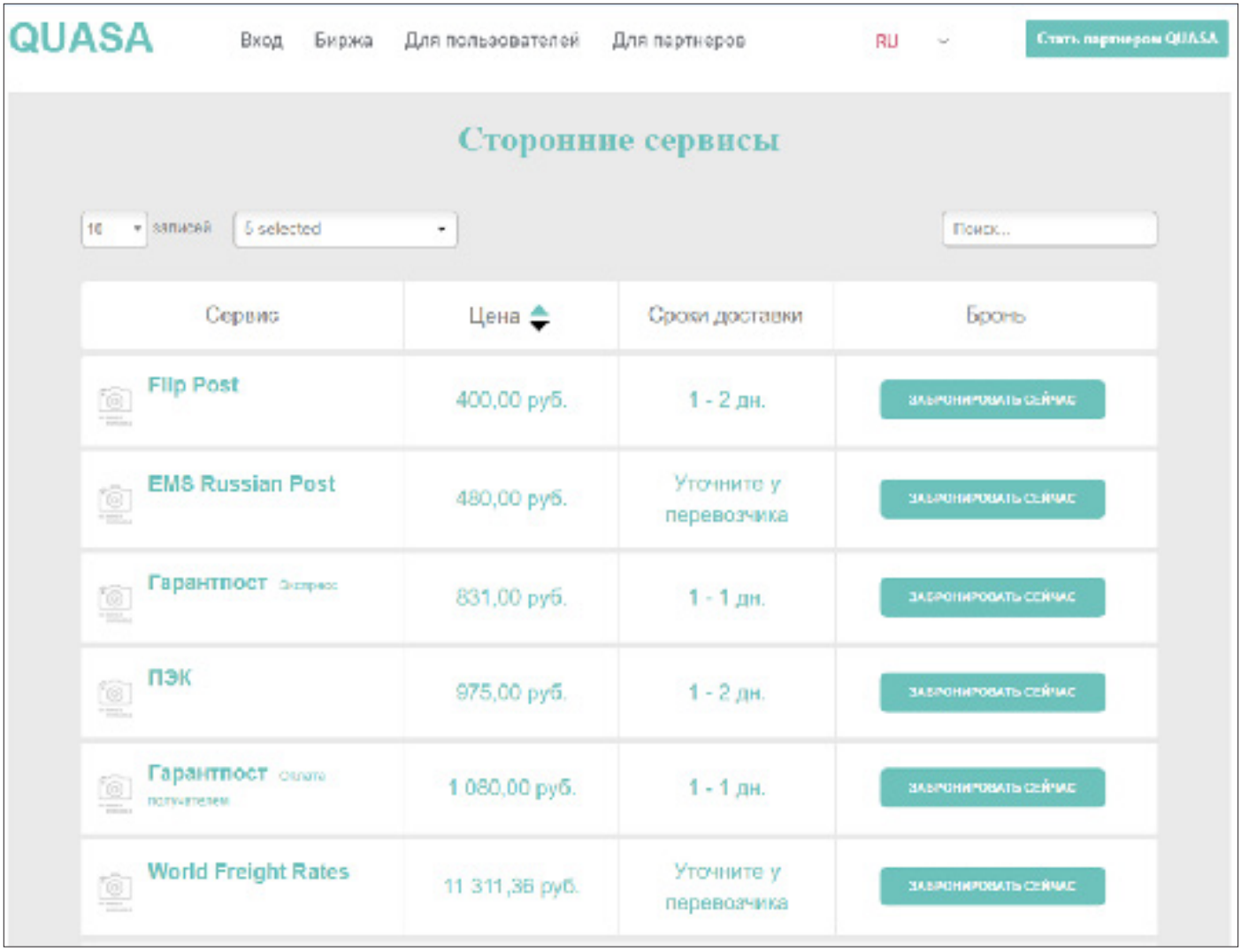
The work in QUASA system is based on requests. At the creation of a new request the system enables to select the type of the cargo and its particular features, to indicate the initial and the final delivery places, and to include insurance in the price of the order.



After the order is placed, the system almost immediately finds several proposals among which the user can choose the best one in terms of price, itinerary, carrier, etc. Once the option is chosen, it is added to the list of ready orders to be tracked.



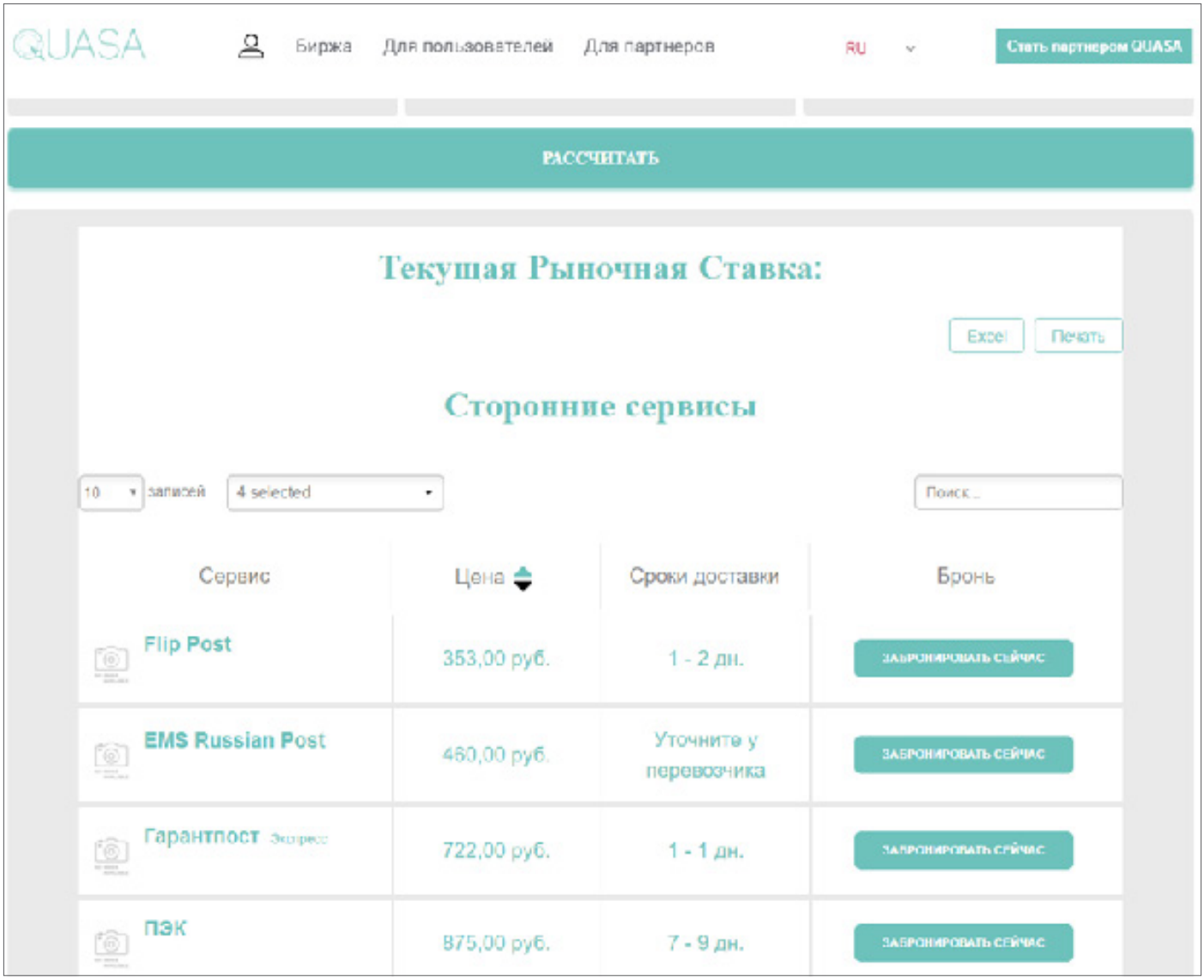
All the requests are included in a single list in which various parameters may be used for sorting: service, price, delivery time, and status at the exchange.



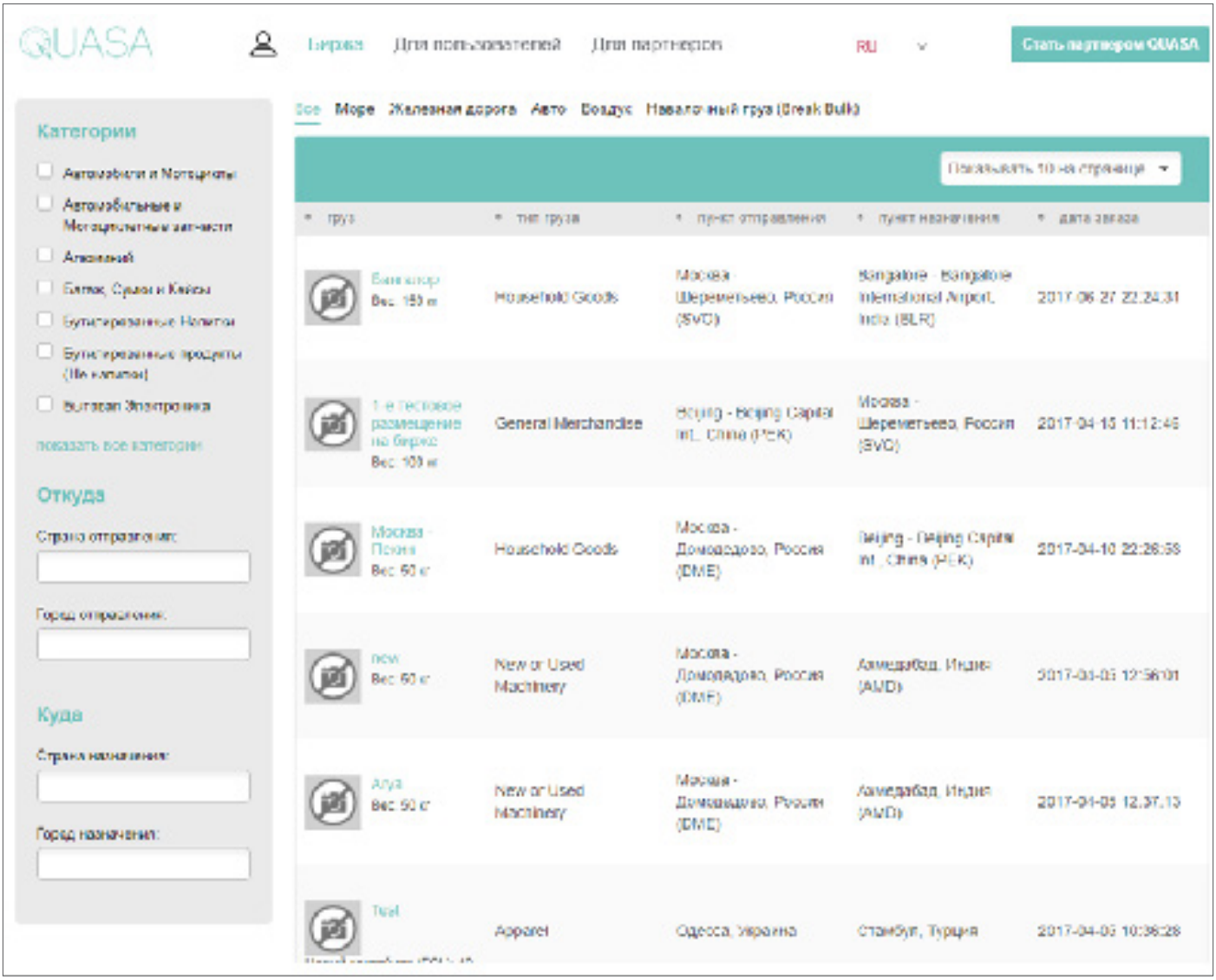
Requests for which action owners have been found become orders. Main functional interface contains the list of the user's current orders with the specification of each order, as well as itinerary maps of cargos with the possibility to perform online tracking.

QUASA system uses Google Maps but in the course of its adjustment other public maps may be added which are more popular in certain regions (Yandex for the CIS countries, MapWorld for China, etc.). The main condition is that these maps must support algorithms for developing itineraries.

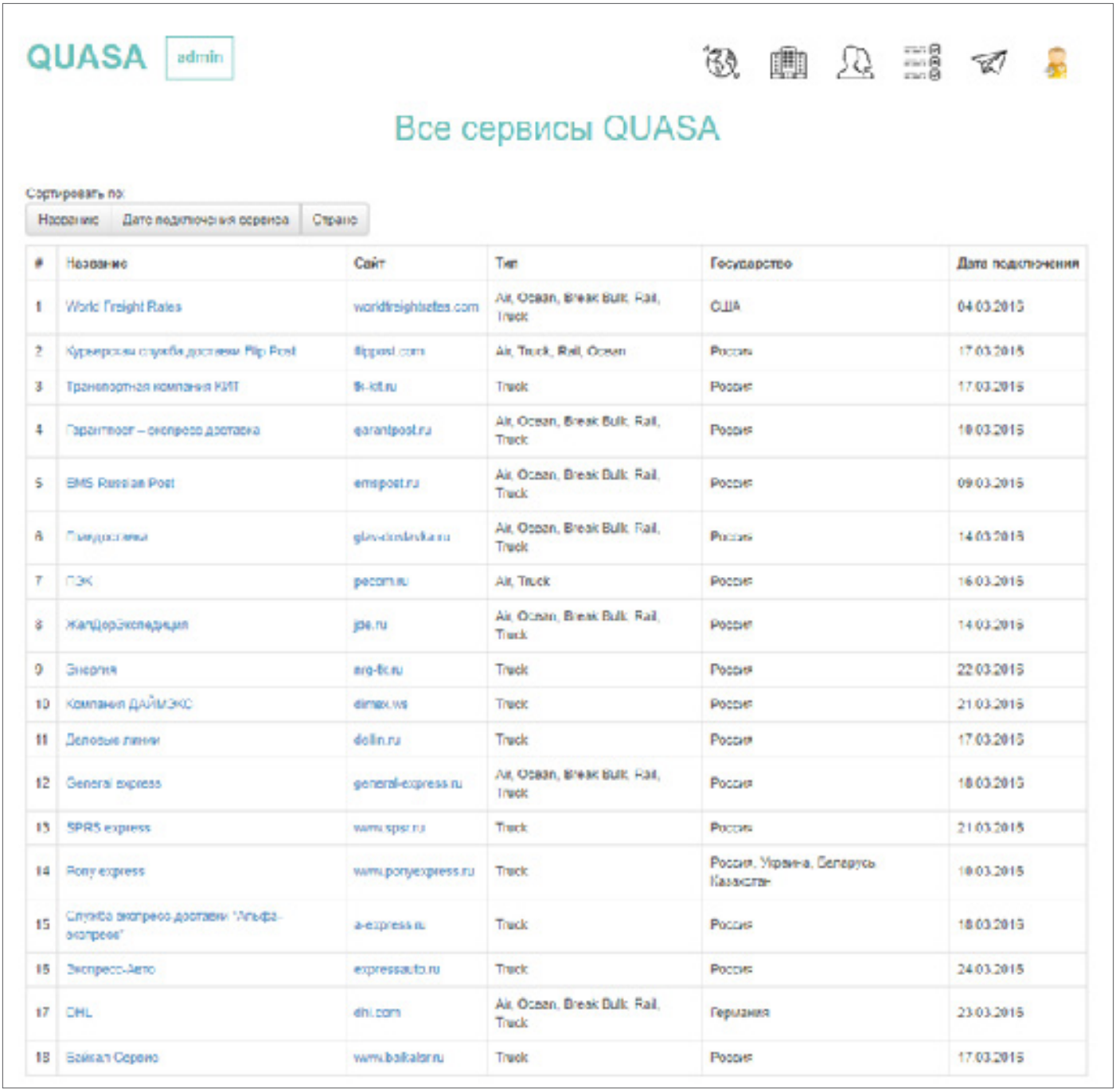
The system is complemented with the opportunity to export order lists in MS Excel, which makes it easier for the clients to use the system.



Besides, users can place orders at the exchange with the possibility to receive automatic email notifications.

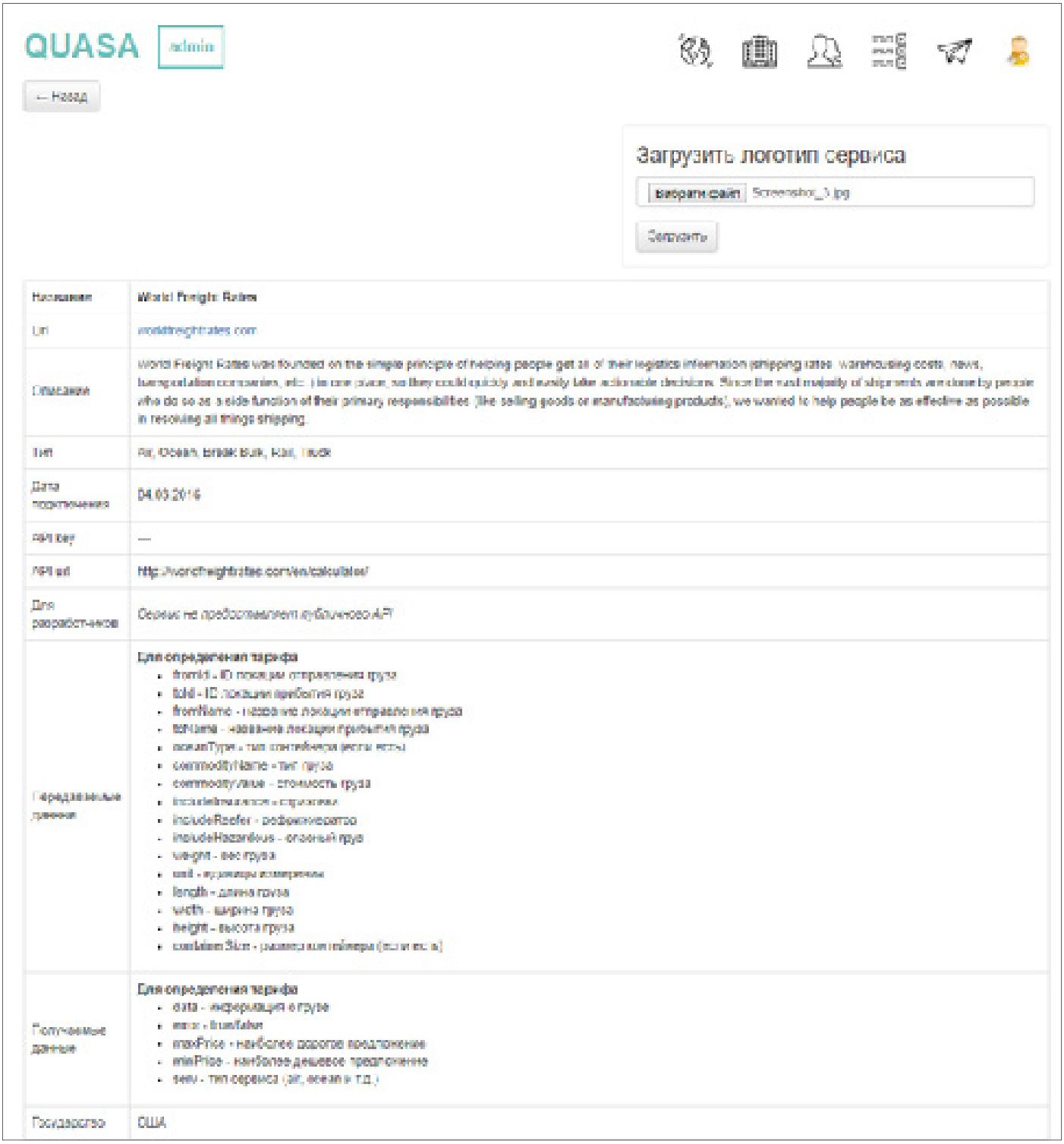


When the system is active, a huge array of data about transportations is being accumulated, which will help to introduce analytical tools to the system.



#	Название	Сайт	Тип	Государство	Дата подключения
1	World Freight Rates	worldfreightrates.com	Air, Ocean, Break Bulk, Rail, Truck	США	04.03.2015
2	Курьерская служба доставки Flip Post	flippost.com	Air, Truck, Rail, Ocean	Россия	17.03.2015
3	Транспортная компания КИТ	tk-kit.ru	Truck	Россия	17.03.2015
4	Гарантпост – экспресс доставка	garantpost.ru	Air, Ocean, Break Bulk, Rail, Truck	Россия	19.03.2015
5	EMS Russian Post	emspost.ru	Air, Ocean, Break Bulk, Rail, Truck	Россия	09.03.2015
6	Глобалсервис	globalservice.ru	Air, Ocean, Break Bulk, Rail, Truck	Россия	14.03.2015
7	ПЭК	pecom.ru	Air, Truck	Россия	16.03.2015
8	ЖелДорЭкспедиция	jde.ru	Air, Ocean, Break Bulk, Rail, Truck	Россия	14.03.2015
9	Энергия	erg-tk.ru	Truck	Россия	22.03.2015
10	Компания ДАЙМЭКС	dimex.ws	Truck	Россия	21.03.2015
11	Деловые линии	dellin.ru	Truck	Россия	17.03.2015
12	General express	general-express.ru	Air, Ocean, Break Bulk, Rail, Truck	Россия	18.03.2015
13	SPRS express	www.sprs.ru	Truck	Россия	21.03.2015
14	Pony express	www.ponyexpress.ru	Truck	Россия, Украина, Беларусь, Казахстан	19.03.2015
15	Служба экспресс доставки "Альфа-экспресс"	a-express.ru	Truck	Россия	18.03.2015
16	Экспресс-Авто	expressauto.ru	Truck	Россия	24.03.2015
17	DHL	dhl.com	Air, Ocean, Break Bulk, Rail, Truck	Германия	23.03.2015
18	Байкал Сервис	www.baikalsr.ru	Truck	Россия	17.03.2015

Each authorized service has its own authorization passport.



Hence, even at its prototype stage QUASA system is a unique IT solution for the logistics field.

7. BUSINESS-MODEL

7.1 Revenues

QUASA revenues are made up as follows:

1. Commission charges for any financial transaction in the perimeter of QUASA – 0,5% (by default).

2. Commission charges received from service providers – 0,1-5% or, on average, 3,0% (depending on the type of services to be provided).

1. Revenues from the first type of monetization – 0,5% (by default) for any financial transaction in the perimeter of QUASA.

Note. By 2023 QUASA is planning to account for 1-2% of the world cargo shipping operations. Hence, the volume of financial operations of QUASA users for purchased logistic services is believed to amount to 1% * $1 trillion = $10 bln a year.

QUASA revenues: 0,5% from the above-mentioned transactions = $50 mln a year.

2. Revenues from the second type of monetization – commission charges for the services authorized by providers at the rate of 0,1-5%.

QUASA platform unites all the interested parties in a single supply chain.

The platform is going to get:

- commission from carriers;

- commission from forwarders;

- commission from insurance companies;

- commission from 3PL operators;

- payments for paperwork services;

- payments for consulting services;

- other side and in-built commercial services.

QUASA revenues: On average 3.0% from the amount of the operations = $300.0 mln a year.

The price for the services will be fixed in QUA tokens by the time the platform is launched.

The whole list of profit-generating QUASA services is described in «Appendix 2. List of commercial services».

On the whole, the turnover of QUASA platform will amount to at least $300 mln a year.

1 token will give the opportunity to purchase more and more services. In order to get access to all QUASA modules and functions, each authorized company will have to use the set of services provided by the platform. Hence, the price of QUA tokens is going to rise in parallel with the number of users. The use of QuasaCoin token will be the necessary condition for working with the platform.

Our financial goals are defined by both the elaboration of new modules and the development strategy.

The development plan includes gradual elaboration and introduction of new modules. QUASA will perform the step-by-step implementation of the following modules: “air”, “sea cargo”, “truck”, “railway”, «bulk load», and «warehouse».

- First of all, by the end of 2018 the air module is going to be launched.

- Then, truck and sea cargo modules are going to be introduced in the end of 2018 since they present the best trade-off between high demand for multimodal contracts and low difficulty of realization.

- In 2019 the company will expand the range of its services by adding customs services and introducing the opportunity to organize delivery of bulk load cargos.

- Together with the launch of new modules, state-of-the-art warehouse modules are going to be developed – the authorization of the companies which offer services based on logistic outsourcing (warehouse services and terminal operations).

- QUASA railway module will be added in the end of 2020.

Strategy of regional development

- QUASA service will be launched in the cargo transportation market in 2018.

- Between 2018 and 2021 the services will be expanding, and the overall presence of the platform will embrace more than 200 cities across the world.

QUASA basic investment goal is to achieve capitalization equal to $100 mln by December 31, 2018.

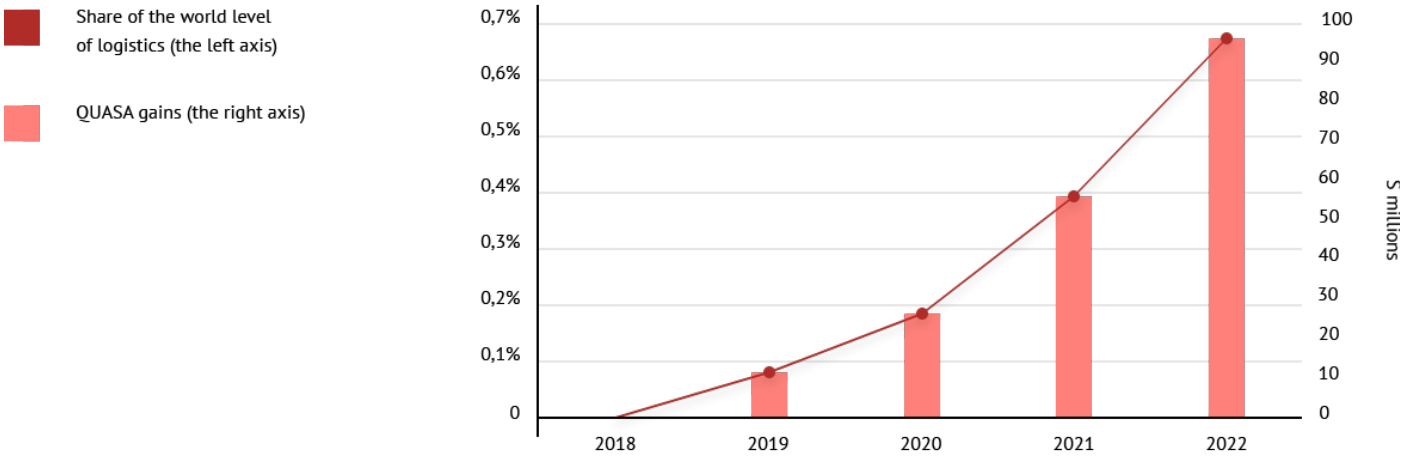
The first operational goal is to launch the application and to achieve net income in the amount of $1 mln by the middle of 2019.

The second operational goal is to expand the application by means of introducing sea and client modules and to achieve net income equal to $10 mln by the end of 2020.

The third operational goal is to add warehouse and forwarding modules and to achieve income in the amount of $25 mln by the end of 2021.

The fourth and the fifth goals will be to ensure the turnover growth of the platform, increase the number of its users, and achieve income equal to $50 mln and $100 mln in 2022 and 2023, respectively.

QUASA, gains and goals



7.2 QUASACOIN

Tokens will become the necessary condition for using the service. Paying services with tokens helps to obtain a 5-10% discount. This applies both to transportation services for cargo owners and consulting services for shippers.

Token owners will be able to choose the direction for the development of the service. In other words, they have the right to make proposals and vote for the realization of new functions in the service. Besides, token owners will get a discount for using their tokens depending on the share of their contribution to the development of new functions. QUA tokens sold at ICO are planned to be purchased back from their owners at a market price.

Monetization of QUASA services takes place in the form of a payment at the last stage of each successful delivery and immediately increases the demand for tokens.

We have different ways to influence the growth in the value of QUA: each connected company is an information guide, every successful one is an even larger, louder information guide. Each time some company starts using QUA is positive news. We are planning to connect many such companies, and hence there will be a lot of positive news. We will always be the subject for discussion and thus will be able to influence the rate.

The value of our currency will be backed by real services offered by QUASA platform which is going to change the world's perception of cargo transportation.

That is why we have absolutely no doubt that everything is going to be great. It can be proved by our decision to freeze our own QUA for half a year from the date of preICO.

We settle the rules of circulation which will stimulate the demand due to unique services and privileges for the users, excluding the limited emission.

8. CROUDFUNDING SCHEME

QUASA issues 262.445.870 QUA tokens.

After the termination of ICO, additional tokens will be automatically given to Founders, Team, and Bounty members.

The volume of the raised funds (ETH, USD) is ETH 15623 = (USD 18 747 500 at the rate of USD 1200 / ETH).

For convenience and due to constant ETH fluctuation, the rate has been chosen at the level of 1 ETH = $1200 .

From the total amount of 62.445.870 QuasaCoin (QUA) tokens intended for the general emission QUASA will submit 50.769.000 tokens for the sale through ICO at various price levels. Below is the description of these price levels:

Stage	QUA	ETH	$
Private stage	3 000 000,00	300	360 000,00
preICO, 15 Jan.	3 600 000,00	600	720 000,00
ICO, 15 Feb.	176 675 000,00	14723	17 667 500,00
Total	44 169 000,00	15623	18 747 500,00

Stage	Discount	1 ETH = QUA	1 QUA = ETH	1 QUA = $	Benefit
Private stage	80%	10000	0.0001	0,12	x50
Pre-ICO, 15 Jan.	66%	6000	0.00016	0,19	x30
ICO, 15 Feb.	33%	3000	0.00033	0,4	x15
Launch	0%	2000	0.0005	0,6	x10
First year	0%	1000	0.001	1,2	x5
Second year	0%	200	0.005	6	x1e

The Founders' tokens are intended to be given after the termination of ICO and blocked for 4 months with the help of smart-contract function.

At the first stage of the launch of the platform we accept only ETH crypto currency, but shortly other crypto currencies are going to be accepted as well. Later on (supposedly in May 2018) we will also accept USD, EUR, and other fiat currencies. The introduction of fiat money will considerably expand the audience of the project, and it is especially true for small logistic companies whose clients have not yet got used to using crypto currencies or do not simply know how to do that. Hence, we lower the threshold for the arrival of new people significantly, and at the same time each new company helps us to develop the logistics market and the crypto currencies market.

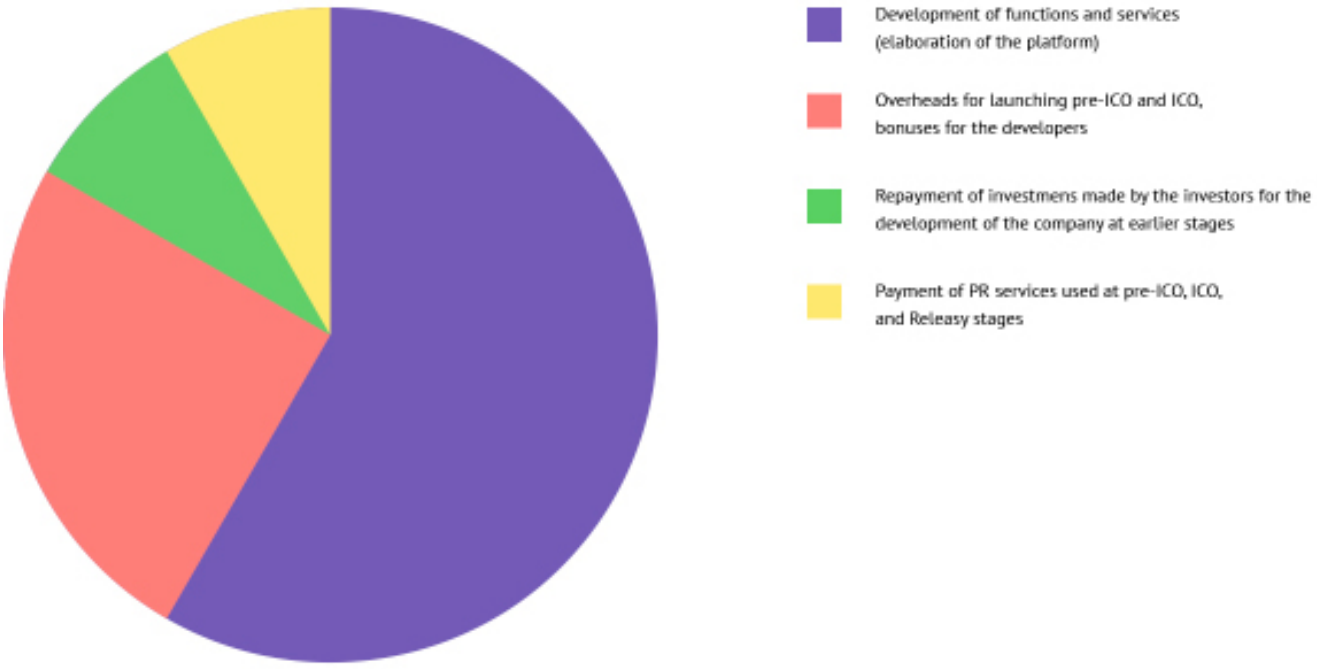
Use of gains:

- **65%** development of new functions and services described in the previous section;
    - hiring of new employees and bearing the expenses related to the development;
    - elaboration of the infrastructure for developing a logistics market 2.0 as well as developing the member community;

- **17%** overheads for launching preICO and ICO, bonuses for the developers
    - legal costs and other bureaucratic expenses;
    - bonuses for the founders and for the developers of the platform;
    - repayment of borrowings used for creating the platform;

- **10%** repayment of investments made by the investors for the development of the project at earlier stages;

- **8%** payment of PR services used at preICO, ICO, and Release stages.

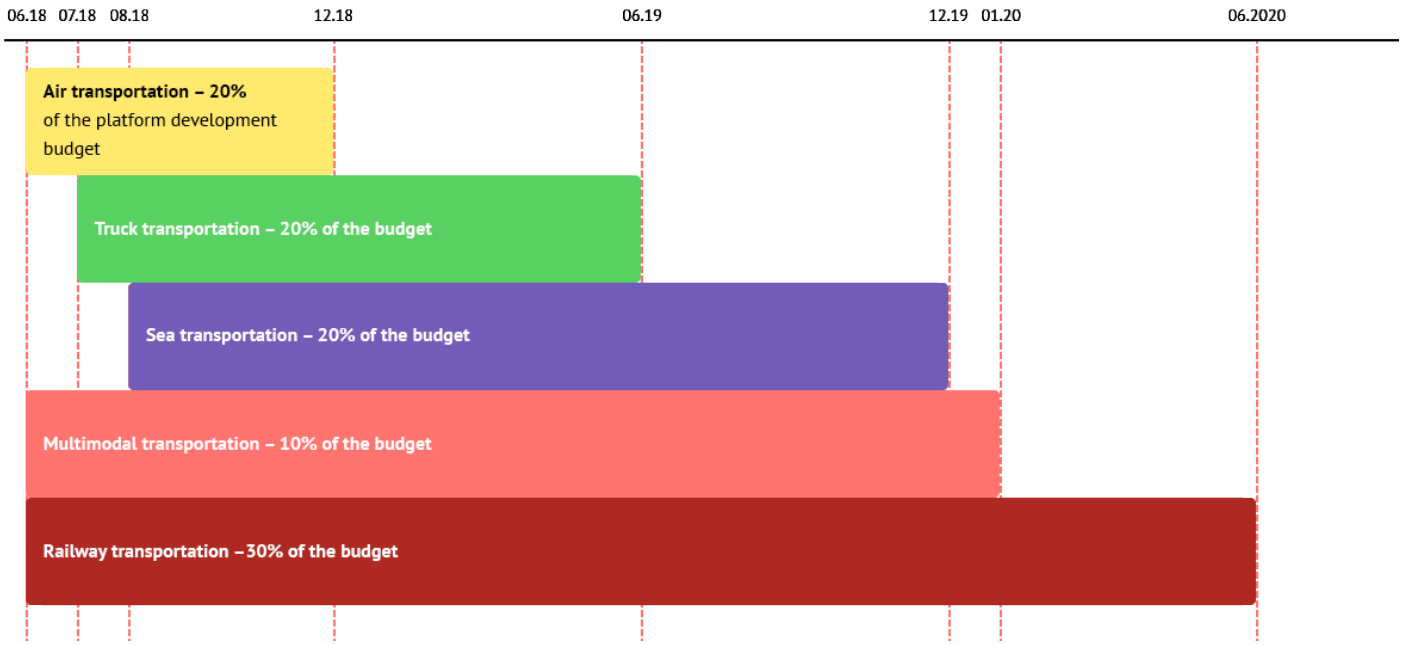


In order to avoid the collapse of QUA prices due to mass sales of the currency after the termination of ICO, all pools are frozen till the end of the campaign and will be subject to gradual defrost. Hence, QUA will be released to exchanges and markets gradually and their price will not collapse, unlike what has happened with many even big companies. The founders' pool is frozen for the longest period of time – till March 7, 2018. This is how we show that we are making long-term plans and are not going to dispose of QUA as soon as possible. The freezing would have been even more massive but we presume that we may need QUA for making settlements and paying bonuses which cannot currently be foreseen. Below is the schedule of the defrost:

Funds which are frozen till	(GMT +3, Moscow time)
Closedround	30 Mar. 2018, 12:00
Pre-ICO	30 May. 2018, 12:00
ICO	30 June. 2018, 12:00
Founders' funds	7 July. 2018, 12:00
Advisers' funds	30 Mar. 2018, 12:00
Bonuses fund	1 July. 2018, 12:00
PR fund	30 June. 2018, 12:00

9. STAGES OF THE PROJECT REALIZATION / ROADMAP

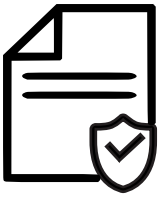
The stages of the project realization are in line with the plans for launching new modules.



Each module for a specific type of transportation undergoes a single elaboration cycle which includes several stages:

Standardization of the process of placing orders,
which includes the elaboration of the technical solution for this process in the blockchain and the elaboration of a preliminary smart-contract.

Standardization of the process of closing deals,
which includes the elaboration of the technical solution for this process in the blockchain and the elaboration of actual (real) smart-contract.



Standardization of the process of providing insurance services,
which includes the elaboration of the technical solution for this process in the blockchain.

Standardization of the process of providing additional services,
which includes the process of connecting carriers to the service.

In other words, the full complex of services is foreseen for all the transportation modules. Standardization activities are being performed simultaneously with its technical realization.

Process		Result
Standardization of the process of placing orders	Elaboration of the technical solution for this process in the blockchain	Standardization of the database nomenclature for the carriers (insertion of the data on warehouses as well as types and parameters of cargos) in a single format designed for the carriers of this type, taking into account all possible features of logistics in the directions. The single format of the provided information which includes: 1. Information necessary for shippers. 2. Information necessary for carriers. 3. All necessary preliminary interaction processes till the deal is closed. 4. Elaboration of the documentation based on real data on cargos at the initiation stage. 5. Format of the request for placing orders at the exchange.
	Preliminary smart-contract	- Insertion of all the data provided for the cargo in the smart-contract.

Process		Result
Standardization of the process of closing deals	Elaboration of the technical solution for this process in the blockchain	Standard of quality control over the carrier's work: 1. As soon as the client chooses and confirms his transport contract, QUASA initiates a smart-contract with all the participants of the transportation and with the insurance company. The smart-contract informs all the participants and starts controlling the fulfillment of the transportation. 2. Obtaining information on the condition and movement of cargos. The movement of the cargo, its condition and the use of terminal warehouses (terminal services and operations). 3. Registration of the information on the movement and condition of cargos in the blockchain. 4. Registration of the information on the condition of cargos in the blockchain. 5. Control over timely and full execution of the smart-contract, compensation of penalties to both parties according to the terms of the contract. The service automatically credits funds to the account of the shipper or the carrier according to the fulfillment / non-fulfillment of the contract. 6. Online cargo monitoring. In QUASA interface the GPS tracking data and the data on technical status of the loading are automatically saved in the smart-contract 7. Payment of the transportation. The client's digital money is credit directly to the smart-contract. 8. Guaranteed payment of services and efficient paperwork. The carrier terminates the transportation of the goods and transfers them to the cargo owner or the next carrier. The cargo receiver makes an electronic mark about the assumption of the responsibility for the goods. Upon receiving this mark, the smart-contract performs a money settlement with the carrier. The smart-contract registers and provides the cargo owner's documents signed in the digital form.
Стандартизация процесса осуществления сделки	Actual (real) smart-contract	- Insertion of the data in the blockchain in order to keep operations and deals in public access. This will ensure transparency of the system.

Process		Result
Standardization of the process of providing insurance services	Elaboration of the technical solution for this process in the blockchain	- Automatic insurance based on the data of a digital cargo contract and the terms of transportation. The data on insurance conditions is kept in digital contracts in the blockchain together with the data on the logistic service. - QUASA verifies documents checked by the parties in order to eliminate the risk of their substitution. - All contractual events are kept in the blockchain storage, including third parties data – itinerary (status update) and confirmation. - The interested party may contact the insurer through QUASA and report about the occurrence of loss. Such claims are registered in the blockchain together with other events событиями. - The insurer's decision is registered in the blockchain. -Basing on this decision, calculations are made, including those which go through QUASA clearing service, if this is provided for by the insurance contract.
Standardization of the process of providing additional services	Elaboration of the technical solution for this process in the blockchain	- The service offers the user identification mechanism. QUASA intends to use Sovrin identification system as a reliable register. This technology allows to ensure the principles of transparency and legal authorization, as well as to reduce the influence of the human factor in the whole process. - Blockchain will be used as an array of reliable data in the presence of unreliable participants. The project will privately use Ethereum platform as one of the most well-known, often used, and established blockchain solutions which support smart-contracts. - Proof of Authority (PoA) network consensus has been chosen for reducing delays and operational costs. In order to ensure unchanged, immediate review of the status of the private network will be available in the public network. - QUASA can grant personal licenses for services, carriers, or insurance companies. QUASA will have the right to withdraw previously granted licenses. - Consulting and advertisement services are provided to carriers directly by the platform, and their order is performed and controlled in the user's client area.

Process		Result
Process of connecting carriers to the service	Process of connecting carriers to the service	1. Service connection request. 2. Provision of the data on the processes of placing orders, preparing cargos for transportation, preparing and closing deals, and providing additional services. 3. Verification of the compliance of all carriers' processes with the standards. 4. Test connection to the service which helps to verify the compliance with QUASA standards (carriers' contracts with QUASA, the service for verifying data exchange – test contracts). 5. Identification of errors and correction of the interaction between carriers and the service. 6. Purchase of the initial QuasaCoin package for authorized work with QUASA platform. 7. Carriers' access to mass consumer (certification). 8. System of penalties in tokens for the non-fulfillment of smart-contracts between companies and the platform.

Timeline

06.2018 - 30.12.2018

Termination of ICO

- Compliance with all air transportation standards
- Preparation of cargos for transportation
- Work with the exchange
- Signing of smart-contracts based on all the provided data on cargos as well as additional conditions
- Insertion of the data in the blockchain

- Compliance with all transportation standards
- Preparation of cargos for transportation

06.2019

- Registration of information on the movement and condition of cargos in the blockchain
- Automatic payment according to smart-contracts

- Signing of smart-contracts based on all the provided data on cargos as well as additional conditions
- Insertion of the data in the blockchain

- Compliance with all sea transportation standards
- Preparation of cargos for transportation

07.2019

- Realization of insurance, consulting, and advertisement services
- Test connection to the service of air transportation module

- Registration of information on the movement and condition of cargos in the blockchain
- Automatic payment according to smart contracts

- Signing of smart-contracts based on all the provided data on cargos as well as additional conditions
- Insertion of the data in the blockchain

08.2019

- Realization of insurance, consulting, and advertisement services
- Test connection to the service of truck transportation module

- Registration of information on the movement and condition of cargos in the blockchain
- Automatic payment according to smart-contracts
- Provision of insurance, consulting, and advertisement services
- Test connection to the service of sea transportation module

09.2019

- Compliance with multimodal transportation standards

- Preparation of cargos for transportation

- Work with the exchange

- Signing of smart-contracts based on all the provided data on cargos as well as additional conditions

- Insertion of the data in the blockchain

12.2019

- Registration of information on the movement and condition of cargos in the blockchain

- Automatic payment according to smart contracts

- Provision of insurance, consulting, and advertisement services

- Test connection to the service of multimodal transportation module

06.2020

- Registration of information on the movement and condition of cargos in the blockchain

- Automatic payment according to smart contracts

- Provision of insurance, consulting, and advertisement services

- Test connection to the service of railway transportation module

- Compliance with all railway transportation standards

- Preparation of cargos for transportation

- Signing of smart-contracts based on all the provided data on cargos as well as additional conditions

- Insertion of the data in the blockchain

Introduction of partner programs

Introduction of bulk load cargos

Introduction of customs services

10. COMPONENTS MODEL

QUASA provides a convenient tool for managing and delivering cargos with the use of various modules for a logistic 2.0. The platform is based on the micro-architecture of the service. Some services can be provided by third parties.

Approximately 30 different duties and extra charges are based on the average freight rate which may seem rather cumbersome. Certain duties are hidden till the last minute.

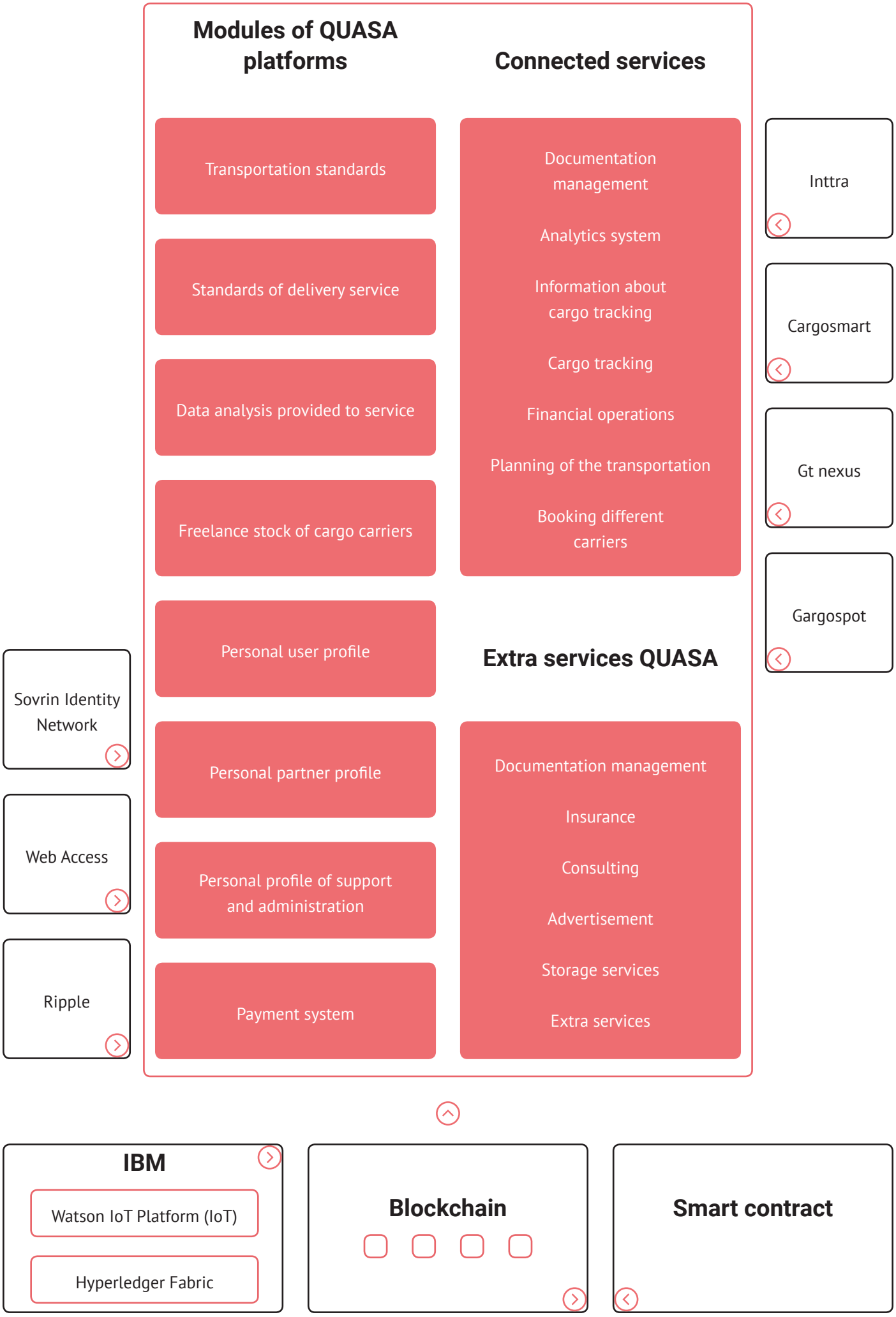
Since QUASA is engaged in facilitating deliveries, our rates include all expenses related to cargo services. This means that our rates include loading price, paperwork, and any other expenses related to the movement of your goods.

Besides, you can reject other related duties. For example, if you do not pay customs duties or you want to insure your cargo, you can choose the corresponding parameters in your menu, after which the chosen duties will be added.

During the whole process our cargo transportation specialists will be supporting you so that you could find the correct rate. They are also ready to answer all your questions during the shipment process.

In the presence of several in-built operational modules you will not have to pay more than you should. This helps to ensure the best price-quality ratio.

The chart below shows the existing modules which are present in the system:


Modules of QUASA platforms
Connected services
Transportation standards
Standards of delivery service
Data analysis provided to service
Freelance stock of cargo carriers
Personal user profile
Personal partner profile
Personal profile of support and administration
Payment system
Documentation management
Analytics system
Information about cargo tracking
Cargo tracking
Financial operations
Planning of the transportation
Booking different carriers
Extra services QUASA
Documentation management
Insurance
Consulting
Advertisement
Storage services
Extra services
Inttra
Cargosmart
Gt nexus
Gargospot
Sovrin Identity Network
Web Access
Ripple
IBM
Watson IoT Platform (IoT)
Hyperledger Fabric
Blockchain
Smart contract

Each level corresponds to different business processes. QUASA unites various services on one single platform and offers a single tool for initiating, tracking, and delivering cargos. QUASA innovative and contemporary identification methods reduce costs and economic inefficiency which are present when all the participants have to collect, store, and protect the same type of personal data. Such a solution makes QUASA a flexible and open platform for the integration with many other subsystems in order to ensure safe and high-quality service.

QUASA suggests that Sovrin identification system should be used as a reliable register which is very simple for distribution. This technology allows to avoid system safety drawbacks and to increase transparency, reliability, and mobility of the product. Sovrin is a distributed blockchain and, therefore, there is not a single organization which keeps clients' data. Besides, clients control their private data and can share the verification status in the system.

The use of INTTRA, CARGOSMART, and GTNEXUS will help to store all data on the whole logistics cycle in one single place, and will also speed up the work while administrating and tracking several shipments of different carriers at the same time. INTTRA, CARGOSMART, and GTNEXUS technologies ensure:

- cargo tracking;

- paperwork;

- financial operations;

- shipments planning;

- booking shipments with different carriers.

Connection to a widely used system of managing cargo transportations (Cargospot) which provides carriers with full complex control over sales, use, and management of cargos, will help to ensure smooth interaction between forwarders, air companies, land operators, sales agents and other participants of the industry community.

Industry standardization takes place simultaneously with other field leaders, including IBM. In order to be able to transfer data about the condition and movement of cargos, Watson IoT Platform will be integrated which allows adding such types of information as device positioning coordinates with the use of radio modules, as well as readable bar codes, or data obtained from the devices. IoT gadgets will be able to work with distributed blockchain registers for updating and signing contact data. Internet of Things (IoT) connects objects with the Internet, thus helping to perform analysis and obtain data which was previously unavailable.

Hyperledger Fabric will be integrated for managing documents and authentification, managing KYC / identification, ensuring transparency of the supply chain, tracking origins, performing correspondent bank operations, and managing cases of resorting to the central bank.

11. PROJECT TEAM

We believe that a great idea is just a part of the success of any project. Without a team of highly qualified specialists even the most unique and promising project may come to nothing. This is why we invited the specialists who have knowledge in all the fields used by QUASA. We would also like to note that our team has vast experience in launching projects and ensuring successful results.

Viacheslav Vasipenok

Founder

Company: ACEXGROUP.NET. The First International Russian Logistics Alliance
Position: Business developer

Achievements: Global coverage of the international freight market by the members of the ACEX Alliance

Company: GEO- GARANT.RU, Engineer technologies
Position: Founder, CEO

Achievements: Clients IKEA, OPIN, RDI

Company X-PAY.RU, Payment system “X-PAY”, Network on trade in computer accessories and telephones “SETEVOY.RU”
Position: Founder, CEO

Achievements: Creating a payment system for receiving mobile payments, Retail network - 15 stores.

Stanislav Sorokin

The solution architect and the leading developer of smart contracts

- Co-founder and technical director KB Kontakt.

Achievements: More than 13 years of experience in solutions architect and lead developer. Has been working with blockchain technologies since 2013.

Simon Cocking

Adviser to the Board of Quasa

- Simon will work as a member of the QUASA advisory council, to help in marketing, media, PR and strategy. With the ability to use its digital footprint, 117,000 subscribers to Twitter (31% in the US) and 22,000 on LinkedIn.

Simon Cocking is Senior Editor at Irish Tech News, Editor in Chief at CryptoCoinNews, and freelances for Sunday Business Post, Irish Times, Southern Star, IBM, G+D, and other publications.

He is also a business mentor and advisor working with 20+ successful ICOs to date. He also been named on 10 global Twitter influencer lists in the last 12 months.

He is an accomplished public speaker at events including TEDx, Web Summit, Dublin Tech Summit, and overseas in Dubai, Singapore, Moscow, Tel Aviv, Madrid, Tbilisi, Riga, Porto, Dublin and Helsinki in the last 12 months.

Ratko Stambolija

Marketing specialist

- Ratko is a Blockchain marketing specialist with strong background in IT. He studied computer engineering at the Belgrade College of Electrical and Computer Engineering and proceeded to work as a freelance technical writer.

- Passionate about innovative technologies, he became an active member of the Blockchain community. He held four different marketing-related roles during the years and now serves as the CMO in different token sale projects.

Alejandra de Gaustad

Adviser to the Board of Quasa

- Founder and CEO of Orocrypt Inc.

- Adviser to the Board of MyWish

- 30+ years of investment & banking experience at money centre and public infrastructure banks like Manufacturers Hanover Trust (Merchant Banking), Natwest Investment Bank (County Bank) and DePfa Grouppe

Fabio Silva

Adviser to the Board of Quasa

- Fábio Silva is CEO of Latœx, the first tokenization and asset trading platform in Latin America in blockchain. Elected in 2016 by the French portal Techfoliance as one of the 30 influencers of the Fintech market in Brazil.

- Specialist in: Blockchain, Innovation, Venture Capital, Startups, Strategy, Finance, Marketing and Human Resources. Graduated in Business Administration and Postgraduate in Strategy from FGV, he has more than 11 years of experience in companies such as Syngenta, Philips and Whirlpool, leading strategic projects in Latin America, USA, Europe and China.

Alexandr Surkov

Adviser to the Board of Quasa

- Microsoft MVP, IoT expert, Blockchain developer, Moscow IoT community co-leader

- More than 10 years of experiance in microcontroller firmware development.

- During 6 years he was CTO of comany where he headed process of creation fence defence system.

- Has experiance in CCTV and Video Analytics development.

- Now he leads and advises some IoT, VR and Blockchain projects

- Experianced speaker and article writer

- Conference organizer

- Has Microsoft MVP status since 2016

Kseniia Morozova

Graphic designer / brand manager

- Building brands from scratch. Branding for start-ups:

Achievements: Giftery - First Luxury Gifting Concierge Service. In Motion Fashion group - Model Agency, Russia

- Indian employee:

Achievements: Holistic Training Solutions - branding and marketing of one of the best international training company, New Delhi. Digitally Inspired Media - best advertising agency on the south, Chennai. Participant in exhibitions, book publications. Explorer, learner, doer.

Bogdan Maslesa

Adviser to the Board of Quasa

Bogdan Maslesa is currently the CEO & Founder of UniversalCrypto.org, an educational blockchain consultancy business that has a mission of enlightening, empowering and elevating the Blockchain scheme in Cyprus.

In addition, Bogdan has also launched Bitcoin Club Limassol (BCL), with the mission of organising monthly events, to get the community members together and have a chance to listen, meet and network with influential individuals from the Blockchain industry.

Young, charismatic and energetic individual, with an ethnic background from Ex-Yugoslavia. Growing up in Limassol, Moscow and later London, where he completed his BSc in Business Management and a MSc in Luxury Brand Marketing. Bogdan has as an extreme passion for the luxury sector and the Blockchain industry. He has a wide range of skills consisting of marketing, analytical thinking and assisting all demographic groups in learning and becoming a part of the global Blockchain ecosystem. All round humanitarian with the positive mind-set to make the world a better place.

Maxim Maltsev

Web developer and solution programs

- Building brands from scratch. Branding for start-ups:

Achievements: Since 2002 I have been engaged in administration and web development in the field of Internet technologies.

- Web design
- Media Design

Alexander Zuev

Co-founder

- CEO of TIME-PROMO 2011-present.
time-promo.ru

Achievements: increase sales of goods and services to customers by 10-30% per year.
Clients: HAIER, DeLonghi, Candies, Mieli, Hitachi,SONY, Pioneer,Philips ,Jura.

Eugen Ambur

Adviser to the Board of Quasa

- 2010 - studied in Germany- mechanical engineer
- 2010 - 2013 freelancer, webpages developer
- 2013 - 2018 miner, investor, involved in couple blockchain projects

Time isMoney

Web developer of the www.quasa.net prototype

- Successful activity in freelancing.

Achievements: over 150 realized projects in 2 years

CONCLUSION

In this WP we have shown how universal the logistics market of today is. This inevitably leads to the necessity of switching to more advanced management tools.

To this document we attach a more detailed version of all our materials so that each expert who is interested in our project could find answers to all his or her questions and could make sure that our team has developed a serious approach towards not only marketing but also how QUASA is going to generate money and how it should attract its potential customers.

So, in our materials you will find:

Attachment 1. Describes the range of additional services which secure extra income and the participation of as many members in the logistics market for the project as possible. Currently this is the list of services which we deem the most popular and real. The timeline of their launch will be defined after the results of ICO are announced.

Attachment 2. Provides the analysis of the tendencies in the logistics market and their influence on QUASA platform.

Attachment 3. Shows the working principle of QUASA platform in the process of delivering cargos.

Attachment 4. Describes the process of making payments on QUASA platform.

Attachment 5. Describes the smart-contract model.

Attachment 6. Describes the services for the partners. The timeline of their launch will be defined after the results of ICO are announced.

ATTACHMENT №1

Additional services on QUASA platform

List of commercial services:

1) QUASA users are entitled to connect cloud data storage to their account, after which all documents will be:

- saved over the requested period of time;

- available to the whole team.

This will help to facilitate the work with document archives and will ensure round-the-clock access to the database from any place where the Internet connection exists.

2) Clients are to pay each request or subscription. This means that in case a client pays a request and it starts being processed, the funds paid for the request will partly cover the price of the order.

Thus, all QUASA members will make only real, not idle requests.

3) Each user of QUASA exchange has an opportunity to make a subscription for a periodic newsletter (free means of transportation or cargos nearby).

Thanks to this, users can stay updated on all the trends, changes, and news in their fields of interest. These options can become popular among authorized carriers and cargo owners who have constant flow of goods in a particular direction. Such users often get to know about price falls from their competitors who have already delivered goods at a more favorable price, having been able to attract customers. After that it is necessary to look for low prices and make the lost clients return.

4) Paperwork in QUASA:

- Any party uploads documents in the attachment to the order.

- QUASA generates a license for these documents.

- Documents can be verified by other participants.

- Hence, each document which is available for the participants of the transportation has certain marks by which the website users have been confirmed (each of these confirmation centers is a certification center).

- Verification is conducted for each type of services.

- Sovrin can offer a tool of a certification center.

Technical aspects:

- QUASA is the root certification center.

- The identity of any participant can be verified by other centers through the identification service.

- The same procedure is going to be used for the verification of:

- Types of partners (each separately).

- Types of partners' services (each separately).

- After that participants are given center status.

Such measures will help to avoid the use of paper documents and will ensure that documents attached to QUASA orders are not fake.

5) QUASA will create, issue, and accept electronic documents according to general standards.

Standardized exchange of digital transaction information creates an opportunity for the program interaction of computer systems of all QUASA participants, based on the principles of electronic commerce.

6) QUASA issues all necessary accounting documents which are used in each country.
In order to ensure this, QUASA will be engaged in contracts for accounting and legal services based on agency agreements. This will help to provide accounting reports to customs, tax, and other fiscal authorities in a simplified way.

7) QUASA will be able to realize functions for submitting electronic declarations to customs authorities of countries of destination in accordance with regulations of a particular country. This will enable all interested parties to reduce their labor costs necessary for studying customs rules in other countries, and to reduce expenses for attracting third parties.

8) Insurance. QUASA will attract major participants of the international insurance business by means of signing smart-contracts. During the transportation booking through QUASA, commercial documents will undergo mandatory verification during which insurance premium will be automatically included in the total freight rate.

We are planning to insure not only cargos but also the responsibility of contractors for risks arising from possible unfair nature of their services. Contractors will be given a certain status and privileged insurance tariff depending on their rating. Carriers will be granted special quality mark designed by QUASA.

9) Warehouse services. QUASA will perform the connection of its partners using logistic outsourcing 3PL, 4PL, and 5PL, the ones which offer a wide range of warehouse and logistic services – from warehouse management to Internet logistics.

10) Advertisement. With the growth of the platform, opportunities for making advertisements by its users will grow as well. Orders for services and analytics will be made in client's private areas.

11) Consulting. The service will be able to provide companies with consulting services related to the introduction of established business models which are already being used on the platform. Hence, companies will obtain not only models for the optimization of their activities but also effective tools for their implementation.

ATTACHMENT №2

Research

Our team has conducted a number of studies aimed at identifying key problems in the logistics field. As a result we have drawn the following conclusions:

1) Fully-fledged online services are missing. 80% of the studied transport exchanges (over 50) involve only one means of transportation.

The main reason is a risk which takes place during cargos being transferred from one participant to another. Transport companies do not want to take responsibility towards cargo owners on any stage of transportation, while the organization of a fully-fledged system involves considerable expenses, including labor ones.

Example.

Let us take a vehicle which is moving from point A to point B. We should engage several transport companies (PatherPath – for land delivery to the port, Freightos – for sea transportation, and T ransporeon – for delivery from the port to the warehouse). Hence, cargo owners would prefer hiring a single forwarder who will perform the duties of all the three transport companies for a fixed surcharge.

2) Cargo transportation is associated with a limited number of real cargo owners.

Carriers and forwarders resell services to each other and hence become participants of all transport exchanges. In terms of percentage, they account for 68% of all transport exchanges that take place between logistic companies.

During the research, we were asking a question “Why cargo owners do not trust transport exchanges?”. The poll showed that at transport exchanges carriers do not secure the best prices. A competitive price is offered on request since it should be based on many factors. The main factor is the risk of working without knowing your direct customer.

At the next stage we conducted a poll called “Would you like to work through a transport exchange if its mechanism guarantees safety and fulfillment of obligations for both parties?” (we intended blockchain technologies involving smart-contracts). The poll showed that 43% of the respondents were ready to change their attitude towards transport exchanges.

3) Отсутствует профессиональное ИТ-решение, которое, для логистики, может стать стандартом.

Professional IT solution is missing which could become a benchmark for the logistics field.
In the course of the research, we realized that all applications which existed in the logistics business were developed either by small transport companies or by big corporations. Such companies earned their money not due to the quality of their IT product but for its logistic services. Their software had always been the means of the process automation. That is why 90% of such products were never

released into the market. They were intended for the use only within the company which developed them.

4) A number of new IT solutions have appeared in logistics.

In terms of new technologies, logistics is one of the most conservative fields. This is due to the fact that competitiveness of all the participants of this market has always been based on their unique knowledge, and no one wanted to share it. Hence, we can conclude that any innovative solution has always remained within the company and has not been developed by the market.

5) Clients never stay long with one transport exchange.

Our research showed that the majority of users do not work with transport exchanges. This is due to the fact that they need additional software installed on laptops.

In other words, even if we disregard paperwork and work with tables and email services, they still need to resort to a transport exchange in order to verify the status of a request, a cargo, or other documents.

Such actions are the ones that lead to lower popularity of exchanges, since an exchange cannot substitute standard working tools.

6) Average working term of a transport exchange is 3.5 years.

The analysis of the majority of projects we know showed that they cannot reach a desired level since they are not able to attract cargos.

That is why it is especially important to solve this problem right from the first days of launching a project. The success of any transport exchange depends on the availability of business proposals.

7) Transport services exchanges eventually join the «private club».

Our studies showed that the bigger and the more serious a transport exchange is, the more difficult it is to join it and start working with it.

This tendency is explained by the fact that transport exchanges satisfy most new requests of their customers but at the same time they forget that for their new members the process of mastering the whole set of functions becomes all heavier and heavier/

As a result, further dynamics of transport exchanges becomes confined within a limited number of members.

Conclusion: the majority of internet logistic projects either eventually close due to insufficient flow of orders or turn into big closed online services that only big participants of the logistics market can access. This is what differs QUASA from other similar projects.

ATTACHMENT №3

Cargo delivery flow

1) Cargo delivery request registration. (Front end)

a) Registered user sends request to service.

b) Service handles request and stores it in the local database.

c) Service sends request for «delivery analysis».

2) Automatic route search.

a) Data query. (Delivery analysis)

- Service searches suitable providers (carriers, insurance companies, custom restrictions, etc.) inside blockchain according to location, stated ToS and history.

-Calculates all associated costs (insurance, custom).

- Add recommendations (evaluate results as single metric). Returns result.

b) Present found results to user. (Front end) Displays found results.

- Wait for user to add more details on delivery.

- Sends refined transfer request signed by user to the blockchain.

c) Publishing transfer request. (Blockchain)

- Blockchain receives tx request. Smart contract does formal verification.

- Transfer request is published to the blockchain.

3) The participants of the cargo transportation exchange publish their proposals for the delivery request.

a) New delivery notification. (Blockchain).

- The service will send a notification of a new request based on the details entered and place this request in the cargo transportation exchange.

b) Participants are notified of a new request.

- The service display displays information.

- Participants can send their proposal for this request.

c) Publication of the proposal (blockchain).

- Blockchain receives the request.

- Smart-contract makes an official check.

- The request for transmission is published in blockchain.

4) Automatic calculation of full cost.

a) Notification of new offers (blockchain).

b) Adding a request.

- Calculates all related costs (insurance, customs clearance).

- Gets the calculated values by the API procedure.

- Adds recommendations (evaluates the results and a single metric). Sends the result to the user.

c) The user display displays information.

5) Define auction winner.

a) Winner selection. (Front end)

- Service displays all offerings to the user, with filtering capabilities.

- Get auction winner based on Client choice.

- Sends auction result signed by user to the blockchain.

b) Publish result. (Blockchain)

- Blockchain get tx requests.

- Smart contract does formal verification.

- Result is added.

c) Notify winner. (Blockchain)

d) Get confirmation from the winner. (Front end)

- Display information.

- Wait for user confirmation or decline.

- User response is sent to the blockchain.

e) Process response. (Blockchain)

- If it is declined, then he gets delisted from list of participants of auction and flow goes to point a.

- If it is confirmation, then system creates delivery contract with appropriate details.

6) Document management: open a new route.

a) Notifies of a new contract for delivery (blockchain).

b) A new routing list.

- Collecting the base fields of the selected routing.

- Create a new smart-contract as a routing sheet.

- Import a detailed route from the delivery contract (with a list of intermediate points).

- Direction of the list of winners (participants) of the auction on the routing sheet.

c) Collecting confirmations (blockchain).

- Notification of participants about creating a routing sheet.

- Participants sign a routing list.

- Participants confirm the signatures on the routing sheet.

- After receiving all the confirmations, blockchain launches the event for all participants, including clients.

- QUASA initiates a request confirming the management of documents.

- Subsystem.

7) Initial payment processing.

Depending on agreement this step may be skipped, if parties trust each other.

a) Token acquiring. (Payment processor, Blockchain)

- Cargo owner purchases\borrows QUASA tokens equivalent to costs of delivery.

- QUASA issues required amount and transfer to cargo owner`s account.

b) Collateral for a deal (Frontend, Blockchain)

- Cargo owner uses his token to send payment tx for a contract.

- Smart contract receives this tx, check that payment is enough and emits event of successful payment.

8) Currency risks hedging. (Front end, blockchain).

a) Gather information of obligations to hedge and show it to interested parties

b) According to contract and their own preference parties hedge risk at 3rd party sites.

c) In case there were requirements in contract, parties will provide proof of hedging actions, that will be put to blockchain.

9) Insurance.

10) Tracking delivery.

a) Monitoring of delivery.

- Tracking providers collect coordinates.

- Tracking providers provide the API to get the details of where the load is.

- Quasa receives the cargo coordinates from the tracking provider. The tracking provider signs the data with a private key.

b) Status of cargo (blockhain).

- Coordinates of cargo are published in blockhain with the specified routing sheet.

- Smart-contract makes an official check.

- Coordinates are stored in a blockchain.

11) Document management (complete the route).

a) The goods have been delivered.

- The carrier is authorized in QUASA.

- The carrier exposes the rating and closes the routing list.

- Documents have been uploaded to the document management service.

- Updated routing list.

b) Goods received.

- The client receives the goods.

- The customer is authorized in QUASA.

- The client sets the delivery quality rating and closes the routing list.

- The updated routing list is presented in blockchain.

c) Closing the blockchain.

- Smart-contract receives a signed confirmation from the carrier.

- Smart-contract receives a signed confirmation from the client.

- Smart-contract made an official check.

- Smart-contract closed the routing list.

- The carriage is complete.

12) Feedback.

a) Scoring. (Front end)

- Parties leave feedback and can start issues.

- Issue will include cause, amount of refund.

b) Information is stored. (Blockchain)

13) Issue resolving. (Front end, Blockchain).

a) Getting issue information.

b) Their negotiation happens using Front end.

c) Getting other party response.

- Other sends confirmation\declines over blockchain.

- If declined, then 3rd party will get blockchain notification, analyze and tells his decision over blockchain.

14) Final payment processing.

a) Smart contract side (Blockchain)

- Smart contract does calculation of total delivery cost, taking into account the terms of service, shipping details and issues.

- Smart contract distributes funds, if there was collateral or just notifies sides about financial obligations that they have.

b) Cashout request (Front end)

- If parties used QUASA tokens, they make request for exchange for fiat, by sending tokens to specified QUASA`s address.

- QUASA makes payout

ATTACHMENT №4

Payment algorithm

The use of an external payment system helps:

- not to elaborate own payment system and not to assume additional development risks;

- not to use QUASA platform as intermediary for performing transactions. The first stage includes the use of RIPPLEAPI protocol as payment system. During the selection of a payment system protocol, QUASA focused on open solutions with the following features:

a) availability of a tested and developed infrastructure (industrial mode);

b) open source code;

c) high degree of trust of the community towards consensus protocols and decentralized network of independent centers.

Major payment process. Participants of a delivery agreement, including contactors (cargo owner, carriers) and other related entities, sign a transport agreement. Operational support of the transaction is performed on QUASA platform. The part of QUASA platform in question deals exclusively with the payment process between the partners. The main smart-contract contains the list of partners (with corresponding details and account numbers) as well as transportation and payment terms. Terms of an agreement are the conditions under which the delivery agreement is deemed executed or non-executed (partly or fully). The fulfillment of delivery terms is the trigger for launching payment orders (distribution, sending, money reservation) between the partners. Payment terms include type of payment, currency, price, conditions, and commission. QUASA platform assumes functions of monitoring delivery terms while API Ripple protocol ensures the payment according to technical payment conditions.

Payment process and interaction with the payment system.

- Orders are created by cargo owners. For smart-contracts, order addresses are available on QUASA platform.

- Payment terms are formed by cargo owners and designed for smart-contract settlements. After the terms are fixed, cargo owners confirm the order. QUASA platform performs automatic verification of the transaction against the delivery terms and then makes a request through API Ripple protocol in order to check whether the indicated payment terms can be fulfilled (clients' requisites in the client database, account balance confirmation and money reservation, other bills, etc.).

- If QUASA agrees to accept the order for execution, the platform performs necessary preparation for payment using API Ripple protocol (reservation of the necessary amount for fulfilling smart-contract terms (holding)).

- Smart-contracts are formed by QUASA platform.

- Smart-contracts addresses are available on QUASA platform. Order addresses are saved in order to track transaction statuses in smart-contracts. QUASA platform automatically complements smart-contracts with formalized payment terms taken from the order terms and complemented with the description of transaction details and other necessary conditions.

- The status of a delivery order related to the smart-contract and the smart delivery agreement automatically sends two following requests:

I. Request for control over the term of the smart delivery agreement. Such a request is initiated if the date of the smart delivery agreement is past with respect to the current date.

II. Request for waiting for the contract terms to be fulfilled. If the term of the smart delivery agreement is the earlier one, it is given the “Expired” status, and further manipulations with this agreement are made in accordance with the delivery agreement terms. In this case the status of the order related to the smart-contract is changed to «Expired» as well.

- If actual execution of the contract is the first one to take place, the smart delivery agreement sends a reserve request for performing a payment and activates Ripple protocol using API. The protocol based on payment terms of the smart delivery agreement performs the payment in favor of the carrier.

- After the launch of the payment execution with the use of “Paid Outside Closing” parameter (POC), the payment receives the “Closed” status. The status of the order related to the smart-contract is changed to “Closed” as well. The transaction if performed.

ATTACHMENT №5

Smart-contract model

QUASA is a decentralized system which consists of several smart-contracts designed for tracking deals.

Below is the description of some basic smart-contracts which are going to be developed for the work in the system: «Identity», «Offer», «Deal», and «Order»).

1) After the verification performed by QUASA, the company becomes a partner of the network. Partners can place private blockchains / DLT in their own working environment as well and work with transactions which belong to the system. Normally partners are classified according to their functions and roles in the system. Partner authorization is a two-step process, with the first step being Sovrin licensing and the second one – registration of Ethereum Key user according to the identity agreement. Identity Contact should authorize incoming requests and ensure the necessary level of operations registration.

Each interested party has its own hierarchy of managers. At the arrival of a new request contracts verify the authority using an open key, obtain UID and partner role, and fulfill the request.

2) All major contracts, such as «Offer», «Deal», and «Order», are managed by special regulating contracts: <Name> Register, where <Name> is any of the three bases. Registers present access points for new actions. Moreover, they are used for controlling the integrity of data updates. QUASA will provide an opportunity of changing contract owners upon request. The use of registers will help to track all client inter-relations, such as list of deals and offers, in order to create more flexible rules for management and contract status. Some of them will provide privileged users with an opportunity of changing the status manually while others can be changed upon special invitations only.

QUASA will introduce a service for supporting several approval mechanisms for closing deals where stability and transparency guarantees are integrated on the basic level.

3) A deal is a contract between two or more parties, which guarantees cargo delivery. Contracts establish unchangeable relations, at least between cargo owners and carriers. Yet, some other QUASA partners may be involved, such as insurance companies.

Deal enable only automatic modification of the state. Each deal depends on the payment model. Ripple API is used for the decentralized payment system. For more details, please go to «Payment details» attachment.

The execution of the contract can be interrupted due to the fact that some external events are given by provided users. Such events are generated by centralized systems, such as Tracing systems & Customs. They change contact flows and can be (or not be) kickbacks.

4) Claims will be controlled by the claim settlement process which can be created manually by privileged users or automatically in accordance with external system events. Each deal has a default set of requirements. According to the announcement, participants are entitled for compensation or document-proven confirmation of the violation of terms and penalties which are to be applied. Claims are made in case of:

- lack or non-conformity of cargos (place of loading, equipment) with respect to the agreement terms. Here we talk about the fact that the client has violated any term of the agreement which had been fixed before its execution;

- lack or non-conformity of services (delivery, storage, et.) with respect to the agreement terms. Here, again, we deal with any violation of the contractor agreement terms fixed before or during the execution of the agreement. For example, the client has not accepted the service or accepted it partially; the client refused to accept the cargo after the service was provided (fully or partially); the information on the efficiency of service is missing after the waiting period has expired.
Deals can be interrupted by the arrival of Claims made by various privileged users:

- Transaction member's appeal. Each party is entitled to submit a grade which influences the partner's rating. QUASA will automatically send a request for clarifications to the other party. Then QUASA will provide (pay) preliminary report based on blockchain data, including the assessment of the balance of the transaction.

- Insured carrier's appeal. QUASA automatically provides a key for decoding contract data, tracking, and damaging (free of charge).

- Authorities' request. QUASA officially provides certificates containing data on contracts, tracking, and damages, as well as details about partners (free of charge).

- Transaction expiration. QUASA sends notifications to partners. In case there is no reply from their side, the platform closes the contracts as non-executed, imposes penalties, and reduces the rating of the partners.

5) As we have mentioned earlier, there are various approval mechanisms. In order to manage such mechanisms, a special type of contracts will be elaborated. An order is a public request for transportation and includes its applicable particular features.

Cargo owners can search suitable itineraries basing on the existing offers, or create new offers for transportation. In order to process best itineraries in case a user request arrives, QUASA is integrated with special partners. They are official licensed partners which provide corresponding services. Cargo owners use suggested itineraries and offered services and create new deals.

Partners obtain access to a private blockchain which is used as reliable environment where deals cannot be canceled without justification. If a carrier send an offer and confirms the deal, he or she cannot modify the contract, unless other specific rules are provided for.

6) Each deal provides for the involvement of document processing systems. The blockchain confirms the use of evidence of existence. QUASA keeps file cryptographic digest which corresponds to the time when the cargo owner and the carrier submitted the document. Hence, participants can later confirm that the data already existed at this point of time. This is why a special contract is going to be designed, which will save all confirmations necessary for cargo transportation.

ATTACHMENT №6

Services for partners

QUASA is open for cooperation and will take care of its partners. After the first shipments are adjusted, we will organize the signing of contracts with petrol stations, hotel chains, medical centers, and service enterprises, and elaborate corresponding privileges. Commission received from such companies will become another monetization channel.

Examples of privileges:

QUASA

Exclusive offers for QUASA partners

Save your money while you do it. Use one of our great offers for some of your biggest operational expenses, such as petrol, housing, insurance, mobile services, etc.

Diesel

QUASA FUEL REWARDS CARD

Save up to RUR / 1 liter of diesel at more than 900 truck stops.

Gas fuel

Save up to RUR3 / 1 liter of lead-free gas at more than 100,000 places

Accomodation

Save up to 15% in thousands of hotels.

Incurance coverage

Get a privileged price and obtain access to consulting services in order to reduce premium for cargos, as well as liability and general insurance.

Mobile services

QUASA qualified and active carriers will be entitled for:

- an 18% discount for new and existing accounts;

- a 25% discount for accessories.

Road assistance

ROUND-THE-CLOCK ASSISTANCE ON ROADS.
Save up to 20%.

Medical insurance

THE FIRST OPEN BLOCKCHAIN PLATFORM FOR CARGO TRANSPORTATION