

Whitepaper

IMMLA

International MultiModal Logistic Application

2017

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SUMMARY

Although modern logistic market is IT-intensive, it is blinkered and misspendly clustered by information barriers. This usually leads to low volumes and high prices. Recent estimate [1] indicates that just under 80% of companies perform inefficient. The rough setting of perfect competition implies that logistic market could have been 5 times bigger without this losses. So IMMLA's mission is to make it easy for a cargo owner and freighters to connect and collaborate through decentralized service. The service uses blockchain and smart contract technology to eliminate the problem of trust, information barriers and legal costs.

The Whitepaper describes logistic solution that combines the instant setting and contracting of multimodal shipping through the mechanism of obtaining the best price by the freighters. In logistics, there are many nuances that are difficult to take into account in one universal IT solution. Therefore, IMMLA assembled a consortium of experts from industry leaders to avoid shortcomings of potential competitors when creating the IMMLA multimodal transportation service. IMMLA is founded on the basis of SoftBusinessSolutions - IT-company with logistic focus, Global Transport Investments and Hellmann Worldwide Logistics - industry leaders by market share, and Mera Capital - project management company that led over 5 successful IPOs.

PROBLEM

PROBLEM OF TRUST. According to US-based research [2], the overall losses from economic crime in the transport & logistic sector varies from 8 to 30 billions of USD. Industry is challenged to design contracts with partners and clients in a legally and fiscally correct way to avoid losses of \$140 billions per year [3], while 20% of cargo is yet completely uninsured.

Trust issues entail certain risks of opportunistic behaviour that are already included in the price of cargo transportation.

- **Risk of insolvency of cargo owner.** Final payment for service is usually executed after the moment when a cargo owner accepts an object from a freighter. This forces freighters to run due diligence of cargo owners and charge premium for risk of possible default on their liabilities. Logistic companies vary their fees in range of 30% and even back down on the deal depending on the reputation of a counterparty.

- **Risk of hidden damage.** A freighter may damage a cargo and succeed in hiding it (even without knowing it) from a forwarder or next actor in transportation chain. If a cargo owner (or the last nexus of supply chain) receives defected goods, sometimes it is not possible for company to demand a compensation in a court, since it does not know who exactly is responsible for a damage.

- **Tax evasion risk.** If tax regulator suspects at least one party of supply chain in tax evasion, a cargo gets withdrawn or frozen.

- **Currency risk.** Freighters and forwarders may set prices in currency which is different from operating currency. In that case, Logistic company is forced to complement contract with overcharging fees in order to eliminate risk of currency devaluation. It makes logistic services more expensive.

- **Underinsurance & risk of undercompensating.** Most of the forwarding companies practice to insure only transportation losses, but not compensation of cargo damage.

PROBLEM OF INFORMATION BARRIERS AND THUS HIGH PRICE. The costs of finding information about the carrier's tariff and transaction costs are critically high - due to market fragmentation and lacking of standardization for payment schemes, document flow, availability of additional services and taxation. It makes market less competitive and seller-driven. Thus, a cargo owner challenges to know in advance and compare the price of transportation and make some time-costly due diligence. The problem impacts both cargo owners and freighters. For

instance, absence of common information space causes efficiency loss and delays due to lacking data on empty containers.

PROBLEM OF IDLE RUNS. Pendulum runs denote up to 50% efficiency losses in logistic sector [4]. The problem is that export/import balance is skewed in subregions, i.e. truck driver delivers a beverage from Parma to shiny Cosenza and returns empty because there is nothing to export out of Cosenza. Thus freighters tend to just double its fees.

SOLUTION

There was a long way before we came up with logistic blockchain solution. First, hefty forwarders integrated tariffs in their ERP systems in order to make faster replies on delivery requests. Then they went online, but small freighters started to use forums and informational dashboards for advertising its services. Finally, Uber-like cargo services emerged. Usually they offer transportation by truck, so multimodal delivery is yet inaccessible. Overall, centralised platforms cannot manage damage-tolerant, in-time and competitively-priced transportation, but new technologies may change the wind.

Business strategy of a multimodal application is based on providing customers with a fundamentally new way of interacting with logistics market.

Problem of trust solution. Cargo transportation is monitored from the request till the successful closing of the deal. All actions are recorded in the blockchain, which omits trust issues between parties; Smart contract, which will be approved at the beginning of shipment, will automatically execute mutual settlement according to data stored in blockchain. Moreover, IMMLA has commercial interest in the successful completion of cargo transportation for all parties. (Unlike the current web portals, where the main revenue is generated from subscriber payment/connection fees, and the service is not responsible for the successful outcome).

Risk of hidden damage. Online GPS tracking of cargo location, and the status of its damage in the moment with the use of blockchain technology; On the early stages IMMLA will integrate with existing tracking providers over their protocols (https, mqtt and other). Data will be

aggregated, unified and shown to end user.

Risk of insolvency of cargo owner solution. Authorization of verified suppliers and solvent cargo owners increases overall degree of responsibility; IMMLA will issue personal licenses for suppliers through the modern DLT technology. Other entities are able to get and verify this data.

Currency and tax risk solution. All payments through IMMLA service will be performed in a single currency - IMMLA token.

Underinsurance & risk of undercompensating solution. Automatic cargo insurance covers not only the risk that evolves through possible opportunistic behaviour of counterparties, but also the damage risk caused by compelling force.

Problem of information barriers, idle runs and high price solution. Common infospace indicates idle equipment and enable to implement data mining. That leads to significant delay rate decrease and overall higher efficiency. In particular, forecasts help to lower ports load, lengthening planning horizon and dodging bottlenecks.

Dutch auction means cheaper transportation - the principles of cost reduction due to competition using. The customer herself chooses an option of delivery that fits her in terms of price, terms and additional services.

Relatively low fee for services (1% vs. 8-15% for conventional forwarders and 10-25% for brokers) distinguishes IMMLA from sector competitors.



Integration of a full cycle of cargo transportation into the functionality of one application will allow IMMLA to provide a valuable service on the freight market: the business process with the IMMLA application are risk-backed, more profitable and more reliable than the direct interaction of freighters with cargo owners.

MARKET SIZE

The logistics sector, according to experts' estimates, is up to 6% of world GDP with a turnover of \$ 14 trillion a year in 2015. The freight market will retain its significant share in the global economy for a long time with the CAGR of 3%. Sector risks are tightened by sustainable growth drivers: global and regional division of labor and the population growth.

IT solution for automating the process for choosing an effective transportation option is in demand by both freighters and customers of forwarding companies. This is indirectly evidenced by the following facts:

Appetite for investment. During previous three years the amount of venture capital investments in IT-aggregators for freighting had achieved \$ 150 million. More than 10 private equity deals were placed in the US, two in China, and several in Western Europe. Two IT-based forwarders (Cargomatic and Freightera) had achieved revenue of \$ 10 million per year each¹;

IT-impact on the market is significant (IoT, communications, etc), but until recently this potential had not been used for the integration of IT platforms of standalone participants. For example, until now there is no IT solution that can compile and implement multimodal transportation on a global scale.

IMMLA plans to start testing the solution in the region of best fit, compared to other countries and regions by criteria of market capacity, legal issues, operation costs, infrastructure and available expertise.

And we have chosen Russian logistics market because of:

¹estimates by <https://www.owler.com>

1. Market capacity. Logistics industry in Russia produces 5.6% of GDP (the same figure for the US - 2.7%, China - 2%). Russian forwarding services market is estimated at \$1B per year and 5% of logistics market turnover². Sprawling truck network, a large number of ports and the dominant role of international trade will allow to have a good start the decentralized service IMMLA.

2. No special licensing. Unlike the legislation of other countries, in Russia, there is no license for forwarding activities. This will allow the IMMLA team to avoid additional costs and to begin searching for customers for beta testing and localize in the market in the tightest deadlines.

3. Developed IT-infrastructure. In 2015 devices with GLONASS were installed into the 100% of Russian truck fleet and a data collection system for the location of trucks was introduced. This will allow developers to implement ubiquitous online geo-tracking of cargo with the recording of ownership transfers to the blockchain.

4. Close partnership. We have an agreement with Formag (GTI). It is a holding of 30 companies located in Europe and Asia. For 2 decades, it has the largest market share in the Ukrainian logistic market and one of the first in Russian one. Company will provide pioneer users from its client base in Russia for testing the application.

5. Legal status of cryptocurrencies. As to legal status of cryptocurrencies, it is accurate to say about decriminalization of crypto-currencies in Russia than about their total legalization. The Federal Tax Service considers operations with crypto-currencies as currency operations, and no real measures aimed at suppression of turnover are currently being enforced by law enforcement agencies.

An expert analysis of the factors for estimating the potential market share was performed. There are applicable conditions for the IMMLA to gain a 1-2% share of the global market of forwarding services. IMMLA team expects to reach this figure after the widescale launch of the project.

² references [5].

BUSINESS MODEL

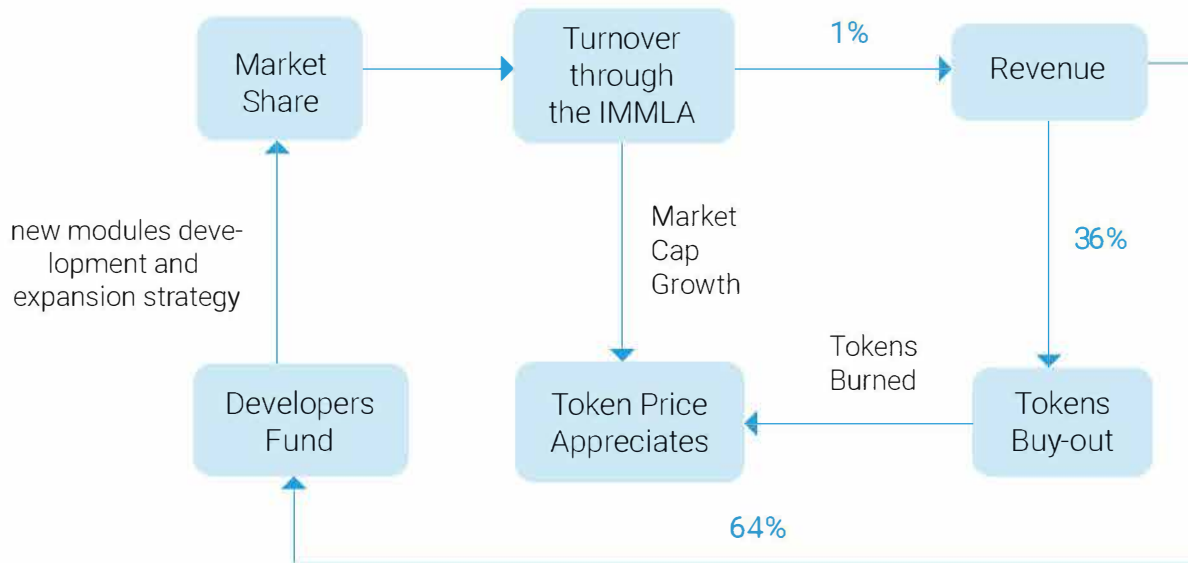
Monetization of IMMLA services occurs on the last step of each event of successful delivery in form of fee and instantly by raising demand of tokens.

Table 1. What payment goes for what service

"Price" of the Service	Features provided
Registration by: <ul style="list-style-type: none">– Consignor– Consignee	Assessment of the transportation cost based on input data.
Registration by: <ul style="list-style-type: none">– Freighter,– Warehouse logistics,– Freight Forwarding company,– Custom broker	Provision of requests for the organization of a freight/storage service with a limited response time. Search for applications for selected destinations.
Passing the rating procedure	Underwriting of a transportation credit
Payment³	Cargo insurance GPS-tracking of a cargo Tracking damage to cargo Carrying out of payment of services of freighters Uploading the workflow to the customer's ERP system Offline customer support

³ On that step IMMLA receives fee of 1%, which goes on the redemption and burning of tokens.

TOKEN APPRECIATION SCHEME



Our revenue aims are driven by both new modules development (1) and expansion strategy (2).

1. The development plan includes the phased development and implementation of modules in the service. IMMLA will be gradually connected to the "forwarding", "air", "railway", "sea-cargo", "custom", and "warehouse" modules.

- Firstly, in 2018 auto and sea-cargo modules will be launched because they represent best fit of high demand for multimodal contracting and low implementation complexity.
- In 2019 the company plans to expand the range of services provided and to introduce the possibility of organizing air transportation and customs services.
- In 2020, forwarding and warehouse modules will be implemented.
- In 2021, IMMLA Railway module will be added.

2. Regional expansion strategy

- In 2018, IMMLA service will be launched on the Russian trucking and sea container market.
- In 2019-2020 the service will expand to the CIS countries.
- In 2021 the service will expand to markets of Europe, and China.
- By 2022 it is planned that IMMLA will spread the same way to the Asian region.
- After 2023 it is planned to use the service worldwide.

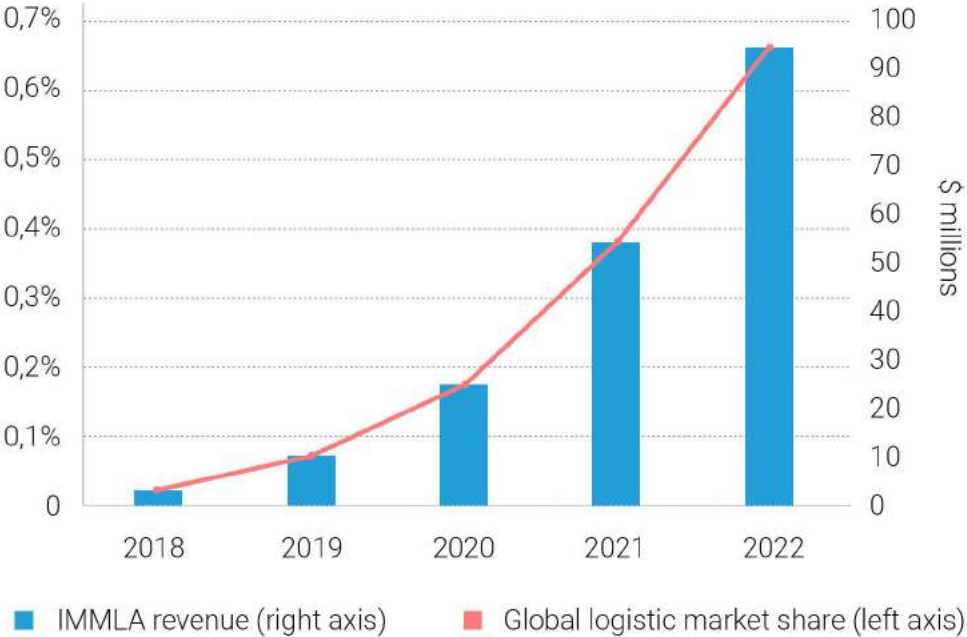
The first aim is to launch application and make M1\$ of revenue by the end of 2018.

The second aim is to localise in CIS, enhance application with air and custom modules and make M10\$ of revenue by the end of 2019.

The third aim is to localise in Europe and China, add warehouse and forwarding modules application and make M25\$ of revenue by the end of 2020.

The fourth and fifth aim is to make M50\$ and M100\$ in 2021 and 2022 respectively by adding railway module, which is heavy to get into, but promising to share turnover of which.

IMMLA REVENUE AIMS



IMMLA IMPLEMENTATION

Terms & Definitions

Entity - person who obtains permissions in IMMLA system. Entity is an active system user, (s)he initiates new actions and interacts with other users and subsystems. Each entity has public and private keys to create new transactions in Blockchain and to sign sensitive data.

Oracle - legal entity that has a keypair, and signs transactions on request when a user-provided expression evaluates to true.

Terms of Services (ToS) - list of offers are provided by entities. Offer consists of prices, conditions, restrictions, etc.

Auction - IMMLA's market place to get best terms for Cargo Owner and to get new order for Carrier. Service loads data from Blockchain where Cargo Owner pushes orders and Carrier ToS. Carrier can change their offers during auction.

Cargo Owner - entity who passes IMMLA verification as delivery request initiator.

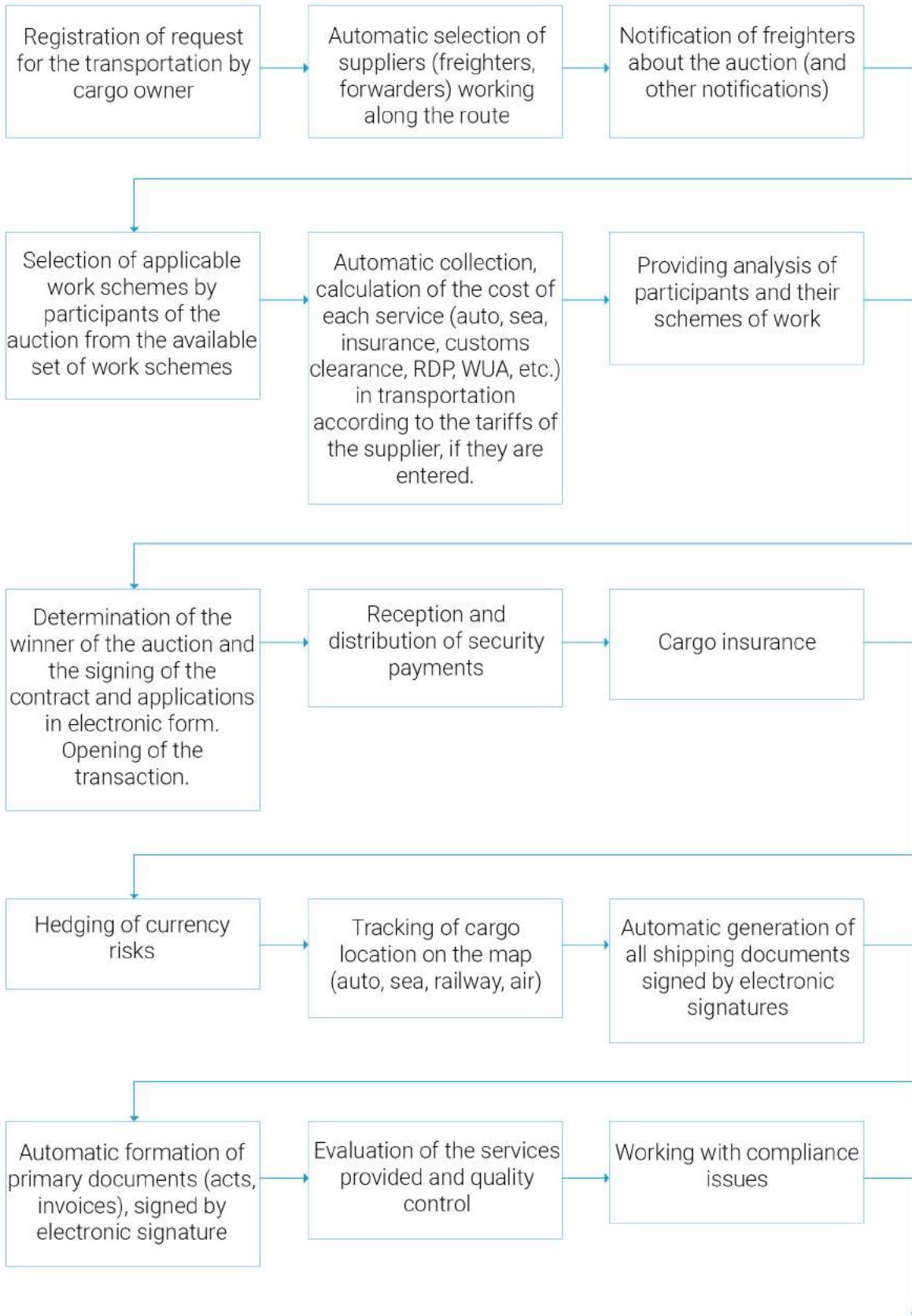
Carrier - entity responsible for cargo delivery. Carrier provides term of services, takes a participation in auction and delivers cargo to Cargo Owner. (S)he is responsible for full delivery process.

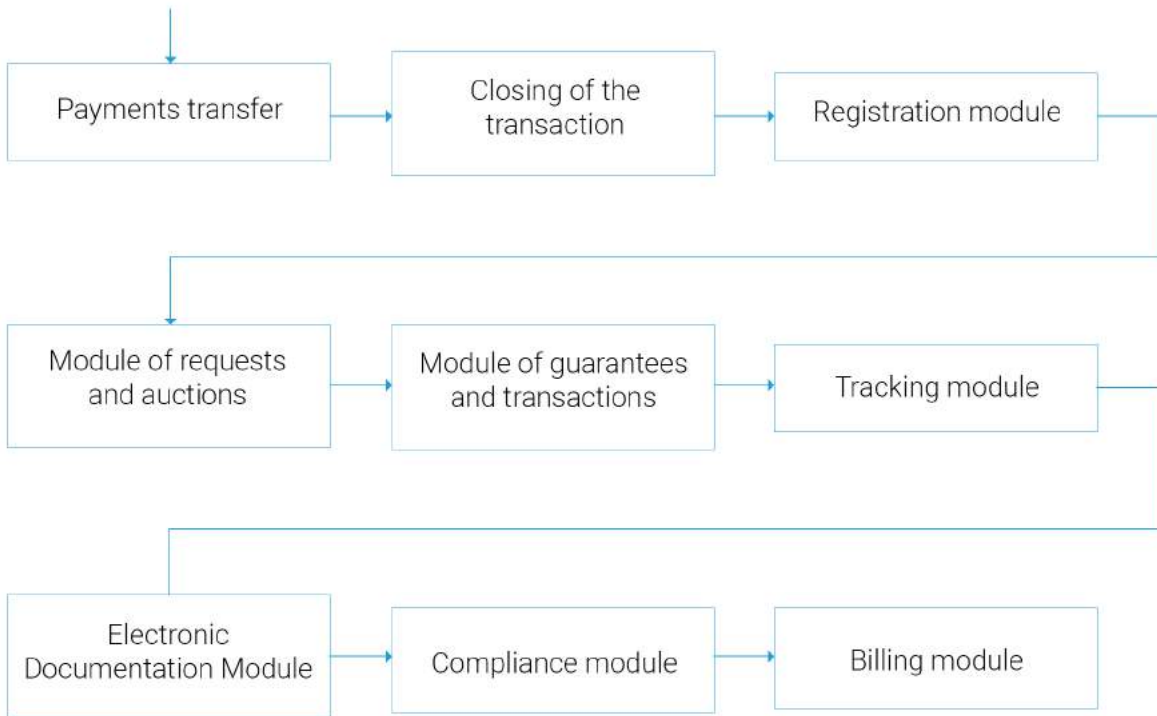
Delivery Analysis Service (DAS) - third party submodule. Service collects history of the deliveries by different providers, gets IMMLA's requests for a new delivery, analyses the suggested terms of service, does corrections based on the user's requirements and ranking the final results. DAS also responsible for auctions and for Cargo Owner recommendations, such as the best prices and conditions.

Document Management Service (DMS) - third party submodule. Service operates with contracts between agents. Participants select comfortable delivery and payment terms, fill generic forms and pul.

Delivery Tracking Service (DTS) - IMMLA tracking service communicates with third party data providers. DTS aggregates incoming data belongs to the cargo delivery process.

IMMLA BUSINESS PROCESS MAP





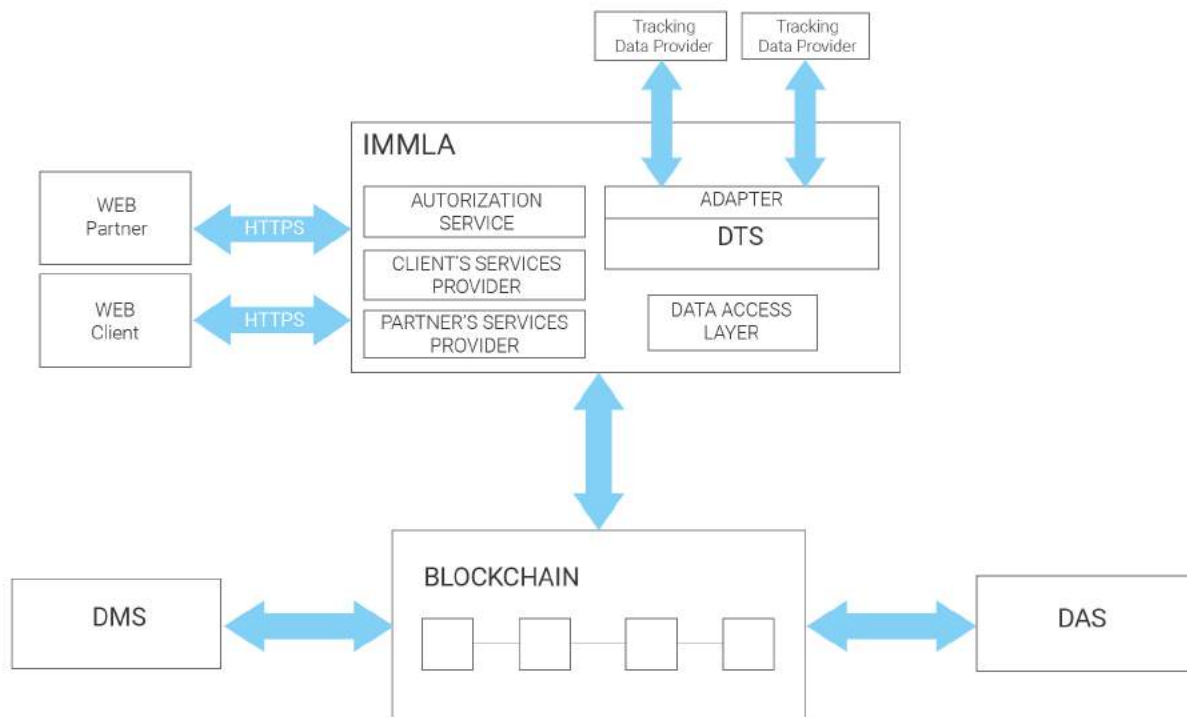
COMPONENTS MODELS

IMMLA provides convenient instrument to manage and delivery cargo using different transports from ferry to cars. Platform is based on a microservice architecture. Some services can be provided by 3rd parties.

There are following modules exist in the system:

- Web Services & Frontend
- Delivery Analysis Service (DAS)
- Document Management Service (DMS)
- Delivery Tracking Service (DTS)
- Blockchain

There are such entities exist in the system as Carrier, Cargo owner, Customs, Insurance and other. Service provides user identity mechanism where third parties are involved. IMMLA is a trusted platform which verifies incoming users information, signs and transmits to the Oracle. Oracle is a legal entity who checks and signs the private data. When checks are done IMMLA publishes data hash and signatures to the the public Blockchain



Each layer responsible for different business processes. IMMLA joins existing products together and provides unified tool to initiate, track and release cargo delivery. IMMLA are going to use common modern standards of identity because of DMS and DAS services are self-sufficient. With modern and innovative identity practices IMMLA reduces costs and economic inefficiency when all parties have to collect, store and protect the same sort of personal data. Moreover, this approach makes us flexible and open for integration with many other subsystems to ensure robust and reliable service.

IMMLA suggest to use **Sovrin** identity system as a trusted and sharable ledger. This technology allows us to prevent lack of security and improve product transparency, reliability and portability. Sovrin is a distributed ledger hence no single entity who keeps Client's information. Also Clients control their private data and can share IMMLA's verifications status with anyone without requests to IMMLA system.

Sovrin operates with Claims which are are easy integrable with IMMLA's business processes. A Claim is a digital assertion made by a Sovrin entity about itself or another Sovrin entity. Initially IMMLA's Claims for Clients will include their verification status. For non Clients such as Carrier, Insurance IMMLA will provide personal license. IMMLA are able to revoke licenses which it has issued.

Another area of interest is Cargo delivery. To improve cargo delivery relationships blockchain will be used on all major steps:

- delivery request and offer confirmation
- tracking delivery state
- automatic calculation of total delivery price, including issues, delivery date terms and etc.
- payment confirmation
- participants scoring
- big data analysis to analyse market and make recommendations

This technology will allow us to provide such features as transparency, authorization and reduce middle man influence on the process. Blockchain is used as trusted data exchange layer between untrusted parties. Project will use Ethereum platform in private mode, as one of the most well known, commonly used, long living blockchain solution with Smart Contract support on the market.

PoA network consensus is selected to reduce delays and operation costs. It will be possible to snapshot private network state to public network to ensure immutability.

“Ethereum is a decentralized platform that runs smart contracts: applications that run exactly as programmed without any possibility of downtime, censorship, fraud or third party interference.”

Quote from <https://ethereum.org/>

IMMLA will allow to use multiple suppliers, carriers. In order to make smooth integration among all IOT devices (containers, transports, etc) used in delivery platform will require unified registry. Open Registry suggested by Chronicled.org seems appropriate solution, using standardized implementation will allow smooth integration with other services of IOT market. With this registry our customer may use even more detailed contracts, that will lead to more automation of process.

“With a blockchain-hosted Open Registry for Internet of Things, we envision a future where everything—from your car, to a work of art, to the glass of wine you drink at the end of a long day—can have a unique and unforgeable identity, life, and history on the Internet. This identity is created with a microchip embedded in the product and registered to a blockchain.”

Quote from <http://chronicled.org/whitepaper.pdf>

DATA MODEL

(RELATIONSHIP DETAILS CAN BE FOUND IN APPENDIX 2.)

Identity	
pub_key	User public key
role	User role (client, delivery, custom, insurance, etc.)
data_hash	Hash of user identity data, to keep it private (name, documents id, address, etc.)
data_sign_immla	Sign of user identity data, verified by IMMLA
data_sign_oracle	Sign of user identity data, verified by 3rd party Oracle

Transfer	
start_point	Starting point coordinates
start_date	Date when transfer begins
end_point	End point coordinates
end_date	Date when transfer should be complete

Price	Price of this transfer
shipping_method	Type of shipping

TransferRequest

cargo_owner	Identity of cargo owner
possible_transfers	List of possible transfers

TransferOffering

transfer_request	Targeted transfer request
carrier	Identity of carrier
transfers	List of offered transfers

RoutingSheet

terms_smart_contract	Terms of described as Smart contract
cargo_owner_sign	Signature of cargo owner
carrier_sign	Signature of carrier
documents	List of provided documents, with required formal details and hash of whole document

DeliveryContract

transfer_request	Targeted transfer request
transfer_offering	Selected transfer offer
routing_sheet	Smart contract based detailed terms of delivery

USER STORY

USING THE PLATFORM BY THE CARGO OWNER

- Installing application
- Registration
- Entering data on the desired cargo transportation - Providing analysis of participants and their work plans
- Determination of the winner of the auction and the signing of the contract and applications in electronic form. Opening of the transaction.
- Sending of security payments
- Tracking of cargo location
- Automatic generation of primary documents (acts, invoices), signed by electronic signature
- Evaluation of provided services and quality control.

USING THE PLATFORM BY A FORWARDER

- Installing application on the mobile devices
- Registration
- Identification of the Forwarder, the formation of tariffs, including the use of tariffs of subcontractors with a cape for their own representation (Freighters within the platform)
- Receiving notification of the auction
- Calculation of the cost of transportation based on the entered tariffs
- Signing of the contract in electronic form
- Adding an agreement to the Forwarder's profile
- Tracking of cargo location -
- Automatic generation of all goods and transport documents and primary documents (acts, invoices) signed by electronic signatures
- Working with the claims of the parties -
- Clearing-off
- Closing of deal

CARGO OWNER & FORWARDER USE CASES

– **Estimates of the cost of transportation.** The customer of transportation through the web interface requests the calculation of the transportation between two points. The service instantly gives the statistical cost and time of transportation options based on big data calculations. In the presence of competitive sections of the route, a few hours after the end of the price auction of Forwarder, the customer is provided with an updated price.

- **Purchasing of safe transportation.** As soon as the customer chooses and confirms the transportation contract, IMMLA launches a smart contract with all the participants of the transportation and the insurance company. The customer's digital money comes directly into a smart contract that manages the transportation. The smart contract informs all participants of the instruction and starts to control the execution of the transportation.

- **Online monitoring of cargo.** In the interface of the IMMLA service, the data from the tracking GPS, the technical condition of the load, automatically loaded into the smart contract storage.

USING A PLATFORM BY A FREIGHTER

- Installing application on mobile devices
- Registration
- Freighters identification. Tariff entry
- Receipt of notification of the auction
- Provision of calculation of the cost of transportation based on the entered tariffs
- Signing the contract electronically
- Adding an agreement to the Freighter's profile
- Tracking the cargo location
- Automatic generation of all goods and transport documents and primary documents (acts, invoices) signed by electronic signatures
- Work with the claims of the parties
- Clearing-off
- Closing of deal

FREIGHTER USE CASES

- **Sale of transport services.** The Freighter notifies IMMLA about A-B locations of the unloaded transport. The service includes transportation of the Freighter in the design of transportations and makes offers on the contract or in participation in the auction for the opening the contract of transportation.

- **Guaranteed payment for services and operational document flow.** The carrier successfully completes the transportation of the goods and transfers it to the cargo owner or to the next carrier. The consignee of cargo makes an electronic mark about acceptance of the responsibility for a cargo. Having received a mark, the smart contract carries out a cash settlement with the cargo carrier. Smart contract signs and provides from the cargo owner documents signed by the EDS.

CROWDFUNDING STRUCTURE

IMMLA will offer 184.336.400 IMMLA tokens in two tiers: pre-ICO and ICO.

SYMBOL: IML

What is a IML token: 100% of the IML tokens represents 100% ownership of the IMMLA platform. Tokens will be used on the Platform as a one of payment tool. Total number of announced IML tokens - 226.736.000.

IMMLA redeems & burns tokens at the expense of 36% of transportation revenue.

PRE-ICO OFFERING SIZE

- 2 747 ETH (~\$500K*)
- 14.284.400 IMMLA tokens (6,3%) to be sold at pre-ICO price
- Pre-ICO is considered successful if more than 825 ETH (\$150K) collected, otherwise all funds are transferred to pre-ICO participants.

PRE-ICO PRICING MECHANISM

- Pre-ICO exchange rate is
1 ETH = 5200 IML
1 IML = 0,000192 ETH
- ~43% - Yield to the price in the ICO phase

PRE-ICO TIMING

- Start date: 15 July 2017
- End date: 30 July 2017

SECURE PRE-ICO OFFER

- Multi-signature wallet
- IML tokens are issued for investors only

ICO OFFERING SIZE

- 46 718 ETH (~\$12.1M*)
- 170.052.000 IMMLA tokens (75%) to be sold at ICO price

*Ethereum price is taken at 1 ETH = 260 USD (05/07/2017)

ICO PRICING MECHANISM

- ICO exchange rate is
1 ETH = 3640 IML
1 IML = 0,000275 ETH

ICO TIMING

- Start date: 15 September 2017
- End date: 15 October 2017

SECURE ICO OFFER

- ICO funds held in Escrow
- Multi-signature wallet
- Tokens of Founders are non-transferable upon ICO completion - locked for 5 months through a smart contract function

TIMELINE

2016-2Q 2017

pre-ICO

- Team building and prototype development
- Development of an end-to-end business process
- White Paper is completed
- Establishing agreements with potential freighters

3Q 2017

ICO PERIOD

- Development of smart contract scheme
- Start of an ICO
- Prototype of the platform is ready
- Beginning of alpha testing

4Q 2017

- Development of infrastructure and involvement of participants
- Organization and equipment of workplaces
- Until the end of 2017 the first blocks (IMMLA Autotruck and Sea) of the system are developed:
- Registration module;
- Module of applications and auctions

1Q 2018 RELEASE

SALES START

- Release of the beta version of the platform
- Until the end of 1Q2018 the next blocks (IMMLA Autotruck and Sea) of the system are developed:
- Module of guarantees and additional services;
- Tracking module

2Q 2018

- By the beginning of 3Q2018 the last blocks (IMMLA Autotruck and Sea) of the system are developed:
 - Electronic Documentation Module
 - Compliance module
 - Billing module
-

3-4Q 2018

- Marketing campaign & Involvement of market participants on the platform
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2019

CIS

- The company plans to expand the range of provided services and introduce the sea container transportations. The service will be available in all the CIS countries..
-

2020

EUROPE

- IMMLA will connect the railway module. The latter will make the application fully international. Customer support services will open on the newly formed key hubs.
-

2021

CHINA

- Europe, the CIS and China markets will be fully covered.
-

2022

ASIA

- By 2022 IMMLA will expand in Asia.
-

2023

WORLDWIDE

- By 2023 the platform will be used globally.

USE OF PROCEEDS

BOUNTY-CAMPAIGN

	<p>Search and hire of programmers.</p> <p>Software for IT-development and software update. Development of technical specification (IMMLA Autotruck and Sea). Low-budget guerrilla advertising campaign:</p> <ol style="list-style-type: none">1. Blockchain media articles & releases2. Video creation3. Mainstream media hit4. Video or Podcast Media Interviews5. Key conferences and meetups presentation	<p>0.35 MLN USD</p>
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PRE-ICO

	<p>Organization and equipment of workplaces.</p> <ol style="list-style-type: none">1. Development of the application (IMMLA Autotruck and Sea) – motivation package for a team of IT-developers.2. Escrow bonus3. SMM (Web advertising, Client Database Twitter, Facebook, Google banners&adwords, Email blast)	<p>0.72 MLN USD</p>
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ICO

	<ol style="list-style-type: none">1. Testing of applications (IMMLA Autotruck and Sea) - payment for a team of programmers.2. Advertising campaign: PR, SMM3. Direct sales to large customers (for service testing).	0.88 MLN USD
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3Q2018 SALES START – AUTOTRUCK, SEA IMMLA MODULES

	<ol style="list-style-type: none">1. Development and testing of the Avia and Custom IMMLA block are the payment for a team of programmers.2. Advertising campaign: Internet advertising, exhibitions, PR, SMM.	3.60 MLN USD
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3Q2019 SALES START – AVIA, CUSTOMS IMMLA MODULES

	<ol style="list-style-type: none">1. Development and testing of the Railway IMMLA block is the payment for a team of programmers.2. Advertising campaign: Internet advertising, exhibitions, PR, SMM.	0.45 MLN USD
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3Q2020 SALES START – RAILWAY IMMLA MODULE

TEAM

Kirill Tulenev

Project Managing Director

Kirill within ten years worked in sphere of the international agency service of navigable lines (container transportations), starting as an operative specialist of representative office at K-Line/Kess (Kawasaki Kisen Kaisha, Japan) to the managing director of UASC (United Arab Shipping Company, U.A.E.) in Russia.

Before becoming a part of the IMMLA team, Kirill headed division of Rosstandart, being responsible for standardization of the navigation sphere .

The graduate of ITMO University in Saint Petersburg on specialties "Economy" and "Management of the Organizations".
Now the applicant of PhD at the Admiral Makarov State University of Maritime and Inland Shipping.

Kirill coordinates actions of all IMMLA divisions and performance of the tasks facing team in the terms established by the business plan. Kirill leads meetings of expert groups and the board of directors of the company.

Vyacheslav Neunyvakin

Information Director

The author and the developer of system of automation of transport and logistic and customs activity Logismart ™, established more than on 2000 workplaces of 60 industry enterprises.

Since 2007 Vyacheslav directs the Software of Business Solution company developing and servicing the high-loaded databases (including customs) with the WEB INTERFACE, and also more 20th terabyte is an application developer for fast search in unstructured archives volume. "Software of Business solution" is industry leader of sales of 2015 and 2016.

In the project Vyacheslav heads the block of development and coordinates activity of the group of programming consisting of specialists of all IT companies participating in IMMLA.

Vitali Sosnowski

Developer

Specialist on cataloguing of big information arrays. Author of the application of processing and recognition documentary scan copies.

Graduated with distinction from Faculty of computer technologies and management of ITMO. Since 2007 Vitaly is cofounder "Software of Business solutions".

In the project Vitaly is responsible for development of the transport-forwarding module and interface to the periphery.

Vitaly Stepanov

Development director

More than 15 years of experience , from them 6 years – on executive positions in the customs and logistic companies and IT
The highest legal education,
Additional education:

- 2013: course "Chief executive" by Russian School of Management
- 2015: The professional Certificate in management (Management of the organization and personnel, Management of marketing and finance, Integration in management) by the International Institute of Management Link and business school of Open university of Great Britain

Alexander Gromov

Logistic advisor

Director of Business Process Management, Hellmann East Europe. Alexander started his career at Hellmann in 2010 and currently builds, introduces, optimizes and controls Hellmann's business processes in Russia and CIS countries, and heads the Information Technology Department.

Graduate of the Moscow Financial-Industrial Academy of the Faculty Information Systems and Technologies, specializing in the protection of information data. Currently is MBA program participant.

Responsible for logistic expertise in IMMLA.

Pavel Drobintsev

Technical advisor

Pavel has more than 15 years of experience in the field of programming. 9 years from them I worked in JSC Motorola, starting as the trainee to the high quality engineer. Then selected scientific operation within department of the Information and Controlling Systems of Institute of Computer Sciences and Technologies, the St. Petersburg Polytechnical University. Has experience in following areas:

- verification of the software on the basis of use of the formal methods
- object oriented programming and design
- web programming
- configuration management of a software
- test automation
- carrying out scientific research and implementation activities in different development areas of a software

PhD in Technical Science, author of over 100 publications including 4 publications in Scopus.

Mikhail Astakhov

Founder

For more than ten years Mikhail is engaged in the international logistics. He was executive vice-president for strategy and staff in the international transport holding Global Transport Investments, where his team developed and implemented staff management system, having increased productivity by 65%, and also carried out the restructuring of the Russian branch of The company. Then Mikhail became a partner and was responsible for the development of the Aistlog group.

Since 2016 Mikhail is concentrated on the creation and start up of the IMMLA. He carries out the selection of the main participants of the consortium, also he is responsible for the interaction of the command managers, the strategy of the project development in the five-year horizon and implementation of professional expertise.

Ninel Tufino-Gerlakas

Leading analyst

Qualified professional with over 10 years of experience in Business process engineering and business planning. Worked in companies of industrial and energy sectors. Achievements: Carried out a restructuring of business processes of three enterprises (Inset, Fuelec, EU), significantly increased their profitability. While the key indicators of their financial plan deviated from the fact no more than 5%.

Ninel is responsible for financial modeling and business analitic of IMMLA.

Higher graduate in finance of FINEC

Valeria Rasulova

Project manager

Valeria has built a career in the investment-banking sector (Top Trader, Smart broker, etc). Where she has got experience in a corporate finance project management. She independently conducted projects of private and public placement of bonds for construction and industrial companies.

She has perfect skills of PMBOK, Agile, ability of team&process building and going forward breaking the walls.

In IMMLA she manages the pre-ICO and ICO projects.

Soft Business Solutions

Partner

As an IT company specializing in solutions for logistics business, the company offers expertise and software support for the development of the application.

The company has experience in implementing Internet services for access to payment and tracking information on cargo, bills of lading, bookings, and customs declarations for its customers.

Soft Business Solutions uses advanced technological solutions in the field of user interface, storage systems, analysis and display tools, information security systems.

Formag Forwarding

Partner

Formag is Russian branch of the international group Global Transport Investments (GTI), forwarding leader within the territory of the Eastern Europe and Black Sea basin countries. GTI has been successfully operating with transport services market since 1992.

The company provides liner agency services; port agency and chartering brokerage services to container, Ro-Ro, bulkers, general cargo, cruise and navy vessels; and freight forwarding and multimodal shipments, including ocean freight and airfreight, as well as landside services.

Company's role is to provide pioneer users from its client base in Russia for testing the application.

The team lists 5 experts in blockchain, p2p networks, skilled in Java, C++, C#, PHP, node.js, Solidity Haskell, Idris, Rust

REFERENCES

1. Andrejić, M., & Kilibarda, M. (2013, November). The problems of measuring efficiency in logistics. In Proceedings of the 1st International Logistics conference(pp. 221-226).
2. Burges, D. (2012). Cargo theft, loss prevention, and supply chain security. Butterworth-Heinemann.
3. Lewandowska, J. (2013). Causes of Losses in Supply Chains. In Proceedings-11th International Conference on Management, Enterprise and Benchmarking (MEB 2013) (pp. 263-272). Óbuda University, Keleti Faculty of Business and Management.
4. Notteboom, Theo, and Jean-Paul Rodrigue. "Containerisation, box logistics and global supply chains: The integration of ports and liner shipping networks." *Maritime economics & logistics* 10.1-2 (2008): 152-174.
5. Fisenko, Andrey I. "Status, problems and challenges of Russian transport and logistics complex development." *Asia-Pacific Journal of Marine Science & Education* 1.1 (2011): 31-42.

Appendix 1. 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. Auction participants publish their offerings for the delivery request.**
 - a. *New delivery request notification. (Blockchain)*
 - *Service will send notification about new request, based on it staggd details.*
 - b. *Participants receive notification. (Front end)*
 - *Service display received information.*
 - *Participants can send their offerings for the request.*
 - c. *Offering is published. (Blockchain)*
 - *Blockchain receives tx request.*
 - *Smart contract does formal verification.*
 - *Offering is published to the blockchain.*

- 4. Automatic full cost calculation.**
 - a. *New offering notification. (Blockchain)*
 - b. *Data query. (Delivery analysis)*

- Calculates all associated costs (insurance, custom).
 - Add recommendations (evaluate results as single metric).
 - Sends result to user.
- c. Display offering to the user. (Front end)

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 System: open new route

- a. New delivery contract notification. (Blockchain)
- b. New routing sheet (Blockchain)
- Gathering base fields of the selected routing from the DMS
 - Create new Smart Contract as a routing sheet
 - Import detailed route from delivery contract (with list of intermediate points)
 - Push list of auction winners (participants) to the routing sheet
 - Gathering base fields of the selected routing from the DMS
 - Create new Smart Contract as a routing sheet
 - Import detailed route from delivery contract (with list of intermediate points)
 - Push list of auction winners (participants) to the routing sheet
- c. Collect confirmations (Blockchain)
- Notify Participants about the created routing sheet
 - Participants sign the routing sheet
 - Participants submit signatures to the routing sheet
 - After getting all confirmations Blockchain emit event for all participants including the Client

- IMMLA initiate request that confirmations collected to the Document Management Subsystem
- d. Participants negotiations (Front end)
 - Participants log-in to the DMS
 - Participants upload documents, select additional details
 - Participants select payment model
 - Updates of the routing sheet is submitted
- e. Document Management Subsystem
 - Service receives request with routing sheet Blockchain address
 - DMS creates new contract between participants
 - Contract details are stored into the local storage
 - Payment details and each step deadlines are added to the routing sheet
 - Fee and risk values are added to the routing sheet
 - Hash of the contract submits to the routing sheet

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 IMMLA tokens equivalent to costs of delivery.
 - IMMLA 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. TODO: insurance

10. Delivery Tracking

- a. Cargo monitoring (Backend)
 - Tracking providers collects coordinations
 - Tracking providers provide API to get details where the cargo
 - IMMLA gets cargo coordinations from Tracking Provider. Tracking Provider signs data by private keys
- b. Cargo Status (Blockchain)

- Cargo coordination publishes to the Blockchain with specified routing sheet
- Smart Contract does formal verification.
- Coordinates are stored in Blockchain

11. Document management System: Close the route

- a. *Cargo is delivered (Front End)*
 - Carrier log-in to the IMMLA
 - Carrier sets rating and closes the routing sheet
 - Documents are uploaded to the DMS
 - Update of the routing sheet is submitted to the Blockchain
- b. *Cargo is received (Front End)*
 - Client gets the cargo
 - Client log-in to the IMMLA
 - Client sets rating of delivery quality and closes the routing sheet
 - Update of the routing sheet is submitted to the Blockchain
- c. *Closing The routing sheet (Blockchain)*
 - Smart Contract receives signed confirmation from Carrier
 - Smart Contract receives signed confirmation from Client
 - Smart Contract does formal verification.
 - Smart Contract close the routing sheet
 - Delivery is completed

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 ToS, 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 IMMLA tokens, they make request for exchange for fiat, by sending tokens to specified IMMLA's address.
 - IMMLA makes payout, and destroys, tokens.

15. END.

Appendix 2. Blockchain Data Model Relationships.

