CHAIN TLM

CHAIN TRANSPORT AND LOGISTIC

MANAGEMENT SYSTEM
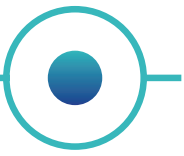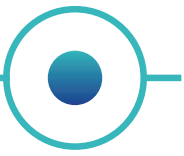
CHAIN TLM

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PROJECT SUMMARY

To provide you with a brief introduction into our project, we have drawn a description for the basic terms of the CHAIN TLM system.

CHAIN TLM is an integrational system for shipment and logistics, which involves our in-house IT technologies, as well as IT solutions which are already present at the market.

The CHAIN TLM platform is global; it integrates transportation providing companies and major types of transportation (maritime, river, railway, automotive and air transport) into one universal worldwide network and aims to meet the needs of users from any country in the world.

All the contracts within the platform are executed and signed with the use of smart contract technology.

Project's main goals:

1. Implementation of leading-edge IT technologies, – such as blockchain, smart contract, internet of things, virtual and augmented reality, AI and big data technologies, – into the practical work of transportation and logistic enterprises in order to increase traffic capacity of global transportation system and to bring it into compliance with the demands of global trading.

2. Bringing together services offered by transportation and logistic enterprises and demands of world trade participants within the CHAIN TLM platform.

3. Creative effective tools for interacting with integrated frameworks on the CHAIN TLM platform.

CHAIN TLM platform's services provide full visibility of vehicles and cargo, automate contract performance control, and enhance staff efficiency.
The platform is designed for cargo owners, transportation providers and logistic companies, as well as for enterprises of auxiliary industries.

CHAIN TLM platform allows cargo owners to order both unimodal and multimodal shipments; the second option is not offered by any other service.

Transportation providers and logistic enterprises receive orders on the platform and control the entire process using its tools.
Complex of services offered by the CHAIN TLM platform is in demand of more than 93% of all the enterprises of the global transport market and trade in general.

CHAIN TLM aims for the result. In our consideration, result is a deal, successful fulfillment of its terms, and the payment.

Every service provided by the platform is in itself free of charge.
The platform's service fee is 1-4% of the transaction cost after its completion. For reference, an expeditor gets a reward of 5 to 20% of a certain deal cost depending on its complicity.

Numerous free-of-charge services provided by the platform, immensity of leading edge IT technologies within it, and a possibility of their common usage attract widespread interest from both cargo owners and transportation providers and logistic companies.

We expect the amount of platform's users to reach more than 20 mln enterprises of various economy sectors: transport, trade and auxiliary industries.

According to the decision of contracting parties, any kind of fiat money or cryptocurrency can be used on the platform.

CHAIN TLM platform issues its own token called TLM token. It is not used as a means of payment, since a range of instant digital transaction technologies is used within the platform.

TLM token is used to verify transactions – including smart contracts and financial transactions – in platform's blockchain, and belongs to utility token type.

Suggested pattern of token is innovative, and it has not been used in any project before.

Amount of TLM tokens is limited. This allows a certain TLM token to be used to verify numerous transactions.

Upon emission, every TLM token acquires its own identification number. All the tokens are used to verify transactions according to the order of these ID numbers.

The sequence of verification of transactions remains steady and does not depend on a change of token's owner. Token can be transferred between different owners and wallets. The token with the nearest number in the queue verifies the next transaction in turn.

Upon verifying a transaction, TLM token grants its owner a right of remuneration, which amounts to 30% of the platform's transaction fee.

The remuneration is paid in Ethereum after the platform receives its fee and is addressed to the wallet holding the TLM token at the moment of verification irrespectively of whether it still stays there at the moment of transferring the remuneration.

The more TLM tokens are held in a certain user's wallet, the more transactions he or she can verify.

Remuneration is paid for every verified transaction.
The project is of interest to both large- and smaller-scale investors.

TLM tokens can be purchased during the pre-sale. Token sales will also be performed on stock exchange markets listed on the project's website.

If you find the CHAIN TLM project interesting, we invite you to get acquainted with it in more detail.
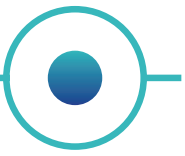
MAJOR MARKET PROBLEMS

Problems faced by transport market reduce traffic capacity of the global transport infrastructure leading to its underrun from the demands of the world trade.

20% Cargo theft, loss, and damage

85% Inefficient IT services

65% High expenses

95% Numerous intermediaries

75% Long shipment time

55% Recurrent delivery time delays
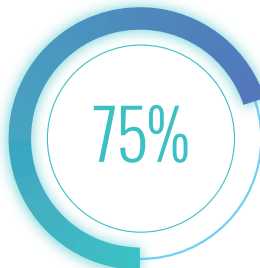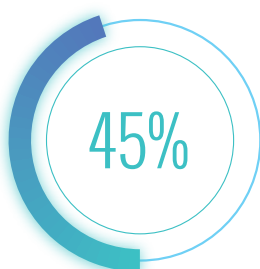
45% Numerous risks: unpaid services, wrong tollage, cargo underinsurance, human error, etc.

1. Global transportation system's traffic capacity has its limits
Global export turnover has grown by 10 times during the last 50 years and keeps growing at rates higher than those of GDP.

World economies develop, and so does the trade industry. According to WTO's records, in 2017 growth was 3.6% compared to 2016. The highest export growth rates were observed in China.
https://www.wto.org/english/news_e/pres17_e/pr800_e.htm

Transportation integrates the global economic space and provides service for the trade. Shipping and logistics are the basis of the global goods supply network.

However the global transportation system is not ready for these rates of world economy's growth and is currently at the breaking point of its capabilities.

2. The risk of damage or theft of cargo is high. According to FBI estimates, annual losses due to cargo theft amounts to ca. $30 billion in the US alone. An average theft is worth ca. $190k.

These losses result in a 20% higher price for the customer.
https://techcrunch.com/2017/12/15/ups-bets-on-blockchain-as-the-future-of-the-trillion-dollar-shipping-industry/

Annual losses in Europe are about $ 7.2 billion. An average theft, for instance, in France, is worth $173.300
http://max-groups.com/marIT-ime-piracy-cargo-theft/

Statistics of Russia, South-East Asia and Africa haven't been released to public, but losses in these regions can be significantly higher than in Europe and the US.

3. Lots of transportation providers work in condition of systematic inefficiency.

4. Performance of transportation providers largely depends on numerous intermediaries. Major reasons for having these intermediaries are: numerous shippers taking part in the transportation network, cargo ownership transfer,

lack of control over the transportation process along the whole route, complexity of paperwork, numerous risks.

5. Efficient professional IT systems which would simplify decision-making for top managers are currently not available.

Management systems and IT services used by many companies prevent managers from efficient solving the following problems:

- Quickly find a shipper or transport operator without middleman involved;
- Reduce shipping time and cost;
- Enhance exactitude of shipment;
- Increase shipment safety;
- Reduce time of financial transactions and payments;
- Reduce risk of default or improper performance of obligations;
- Simplify paperwork.

6. Transportation providers are exposed to numerous risks, such as service payment risk, currency exchange risk, wrong tollage risk, cargo underinsurance risk, risk of human fault during document drafting, etc.

7. Equal access to up-to-date information technologies and information online is absent. Developed service-providing IT-services soon become obsolete or fall under control of certain groups of transportation companies.

Innovative solutions are used to create up-to-date IT-tools within the companies, and then become their know-how and are not designed for common access.

Developing original IT solutions for transportation providers requires immense investments, which makes this option available mainly for major companies. Smaller-scale enterprises in general have poor process automation.

IS FOR A STANDARD IT SYSTEM
OF A NOWADAYS TRANSPORT COMPANY

Effective template IT solutions for transportation and logistics are absent	Access to innovative IT solutions is limited	Each company's IT system is created individually
Poor compatibility with external IT services for the sale of services	The cost of automation control systems is very high	Lifespan of IT solutions is commonly 3 to 5 years
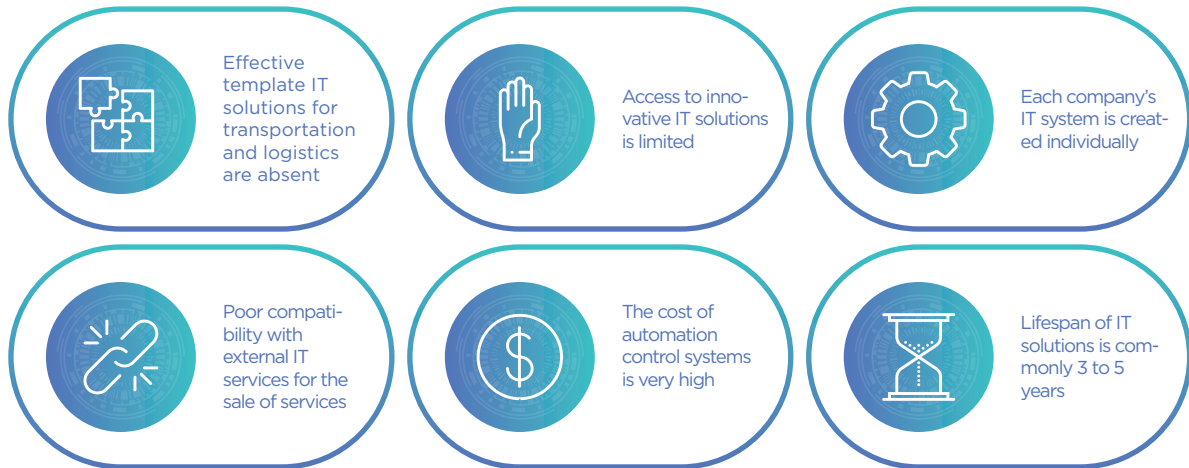
Implementation of such sector-specific IT solutions automates certain functions and operations, not the system in whole. Without constant support and development they become obsolete during 3 to 5 years.

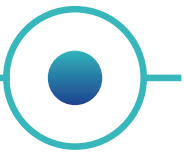By our estimates, the number of generic process automating solutions for transport enterprises among technologies of this type is less than 15%. General trading platforms are mainly designed to sell several transportation services. IT networks that would offer services of transportation involving multiple means of transport, i.e. multimodal or intermodal transportation, are not available on the market. This function is performed by numerous intermediaries and coordinators.

Access to innovative IT solutions, which would offer a transportation provider improved competitiveness, is only available to a limited number of groups of companies, and is a subject of their exclusive right. Thus, leading-edge technologies cover only a small sector of the industry.

Solving these problems would allow the transport industry, cargo owner, and eventually, the end user to reach economic impact worth billions of dollars. Having world trade volume worth $12 trillion, we expect that implementation of CHAIN TLM platform will allow saving 10% to 40% of this sum, which would amount to more than $2.5 trillion on average.

https://www.wto.org/english/res_e/statis_e/wts2017_e/wts17_toc_e.htm

AVAILABLE SOLUTION FOR TRANSPORTATION INDUSTRY PROBLEMS

Application of innovative technologies is the only path to breakthrough in transportation industry.

New technologies create:

- New possibilities
- New business solutions
- New quality level

IT TECHNOLOGIES THAT CREATE NEW ENVIRONMENT FOR TRANSPORTATION

Blockchain	Internet of things	Smart Contract
Big Data	Artificial Intelligence	Virtual and augmented ealities
Biometrics	Quantum computer	Robotics
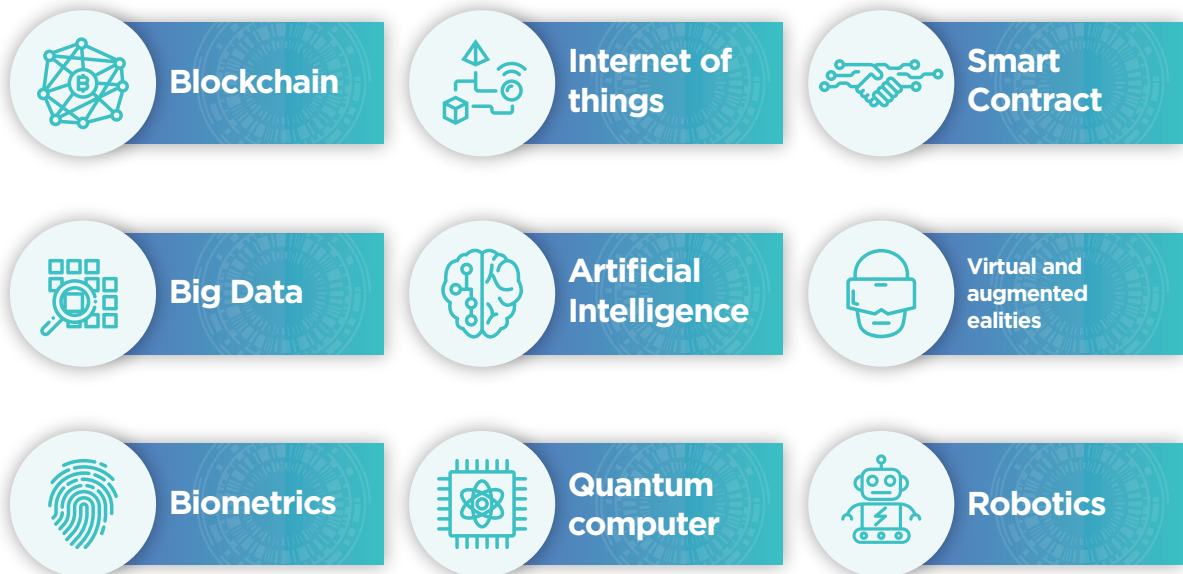
The main goal of the project is to implement leading-edge IT technologies, – such as blockchain, smart contract, internet of things, virtual and augmented reality, AI and big data technologies, –into the practical work of transportation and logistic enterprises and to bring it into compliance with the demands of global trading.

CHAIN TLM is a global platform that integrates operators of five means of transport – sea, river, railway, automotive and air transport – into a single worldwide transportation network.

BUSINESS SOLUTIONS CHAIN TLM PROVIDES TO CARGO OWNER

CHAIN TLM platform allows the cargo owner to automate processes of vehicle search and drafting of contracts.

Cargo owner
Cargo sender
Cargo receiver

CHAIN TLM PLATFORM

Information about vehicles and cargo is recorded in blockchain

SERVICES OF THE PLATFORM

Processing biddings and choosing the best offer

- Creating an optimum itinerary in seconds
- A better price-to-delivery-time ratio
- Itinerary list
- Terms of shipment
- A global network of the best transportation providers

Operations in one window:

- Ordering
- Direct smart contracts
- Payment management
- Shipment paper work

Direct contact chat

Control over:

- Cargo location
- Cargo safety
- Abidance of terms of shipment
- Delivery time

Data support

- Provision of analytics
- Forecasting

Accounting

Risk assessment

EFFECT FOR THE CARGO OWNER

Presence of a choice of carriers, offering to make a specific transportation — 100%

Ability to compare conditions offered by different carriers — 100%

- Choosing the best offer
- Choosing the best price
- Selection of the best transportation conditions
- Choosing the best rated carrier
- Ability to plan and control

The major advantage of the CHAIN TLM platform is being global.

We clearly realize the complexity of the task of leading the project to competitive global level, but we also take into account modern business demands and possibilities provided by new technologies.

According to our estimates, more than 93% of companies involved into the worldwide transportation market lack the sort of service provided by the CHAIN TLM platform.

Technologies involved in the platform allow tracking location and status of vehicles, cargo and staff.

PROCESSES OF THE PLATFORM

Company manager can perform the following basic procedures online:

Orders reception and processing

Remote control over vehicles operation

Shipment itinerary optimization

Drafting and transfer of contracts and digital documents

High-speed financial transactions

Company manager

Choosing partners and terms of cooperation

Simulation of solutions and choosing the optimum

Reception of informational and analytical support

Remote control over transportation and processing

Visualization of processes and risk assessment

The CHAIN TLM global project is designed for cargo owners, enterprises of transport, logistics and auxiliary industries, and aims to integrate them within one platform.

Using the platform, cargo owner can order both unimodal and multimodal shipment, and the shipper receives the order and an instrument to control the overall transportation process.

The CHAIN TLM is a perfect facility for effective transport and logistical business.

Transportation company manager can perform the following basic procedures online:
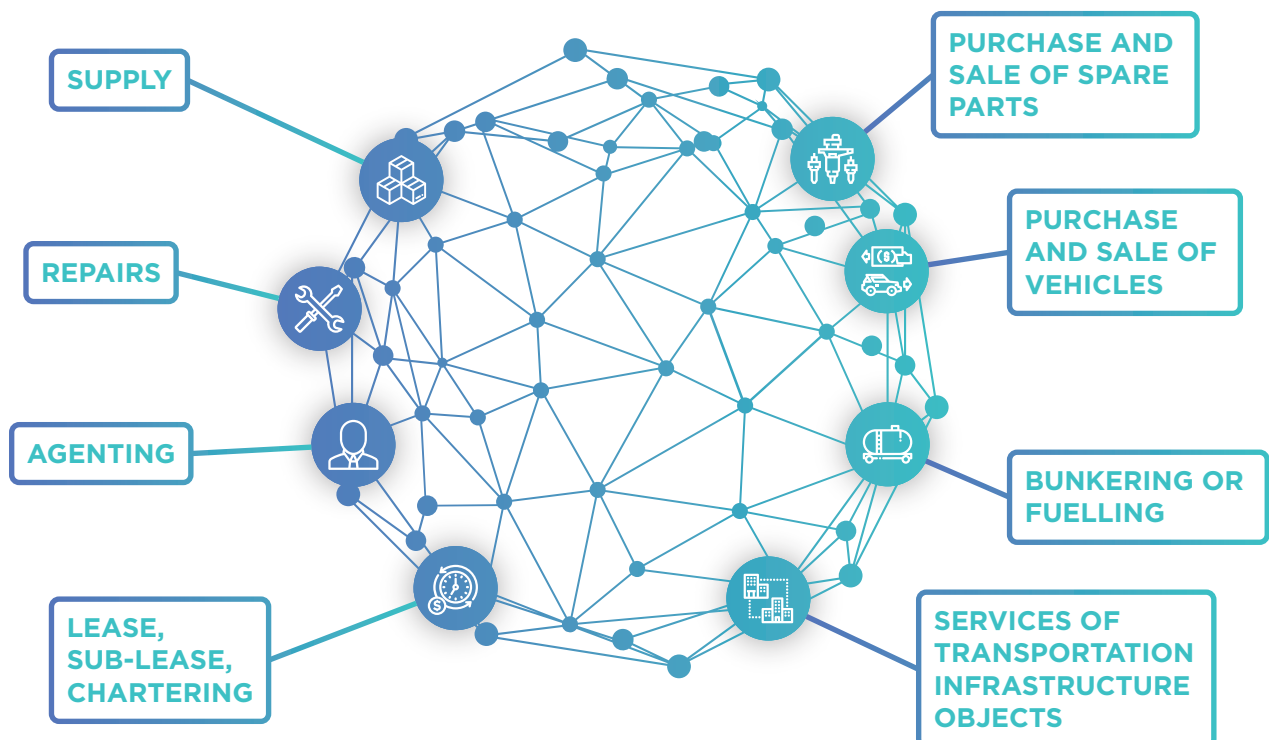
Sales procedures

- Get easy access to the CANIN TLM service selling platform;
- Use a global database of shippers and transportation providers;
- Participate in tenders and propose better solutions;
- Create itineraries in seconds, also involving multimodal itineraries and alternative route options;
- Choose partners for performing a multimodal shipment, considering their rating and conditions of work;
- Sign direct smart contracts and automatically control their execution and payments;
- Remotely control the transportation process, track of location and performance conditions of vehicles;
- Receive analytics and forecasts;
- Simulate events and possible performance scenarios;
- Control cargo safety and conditions of shipment;
- Manage staff performance;
- Control the obligation of duties of the partners;
- Automatically draft documents, payments and accounting;
- Save and automate the most frequent solutions;
- Use the instant messaging chat with clients, partners and staff;

Buy procedures

- Purchase services and property for the company on the platform;
- Monitor current rates and order history, get analysis and forecasts of market trends, as well as recommendations from CHAIN TLM;
- Draw up requests and issue tenders in seconds;
- Select an order executor, taking into account his rating and platform's recommendations if desired;
- Sign smart contracts and reserve payments;
- Draw up and sign digital documents;
- Control the fulfillment of contract conditions.

PLATFORM FOR TRANSPORT AND INFRASTRUCTURE

Automates search and placement of orders for reception, processing and maintenance of vehicles

SUPPLY

REPAIRS

AGENTING

LEASE, SUB-LEASE, CHARTERING

PURCHASE AND SALE OF SPARE PARTS

PURCHASE AND SALE OF VEHICLES

BUNKERING OR FUELLING

SERVICES OF TRANSPORTATION INFRASTRUCTURE OBJECTS

Procedures concerning shared use of vehicles and infrastructure

- Choose partners;
- Delimitate duties of comanagement;
- Determine conditions of work at the local level within the project;
- Adjust contract conditions together with the partner;
- Draw up requests and issue tenders;
- Get access to analytic data;
- Sign smart contracts;
- Draw up and sign documents.

CHAIN TLM offers new means of business and makes it more sustainable, executive and effective.

CHAIN TLM services are aimed to reaching result: making a deal and successfully fulfilling its terms.

All the services provided by the platform are free as such; the platform's service fee is 1-4% of the transaction cost after its completion, which is significantly lower than current market prices.

For reference, an expeditor gets a reward of 5 to 20% of a certain deal cost depending on its complicity.

Free-of-charge service offered by the platform combined with its global dimension attracts widespread interest from both cargo owners and transportation providers.
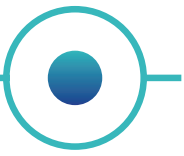
We expect more than 20 mln companies to become users of the platform.

BUSINESS PROCESSES PLATFORM CHAIN TLM FOR TRANSPORT COMPANIES

Automates the processes of searching and placing orders for cargo delivery and vehicle maintenance.

INFORMATION ABOUT VEHICLES

AND CARGO IS RECORDED IN BLOCKCHAIN
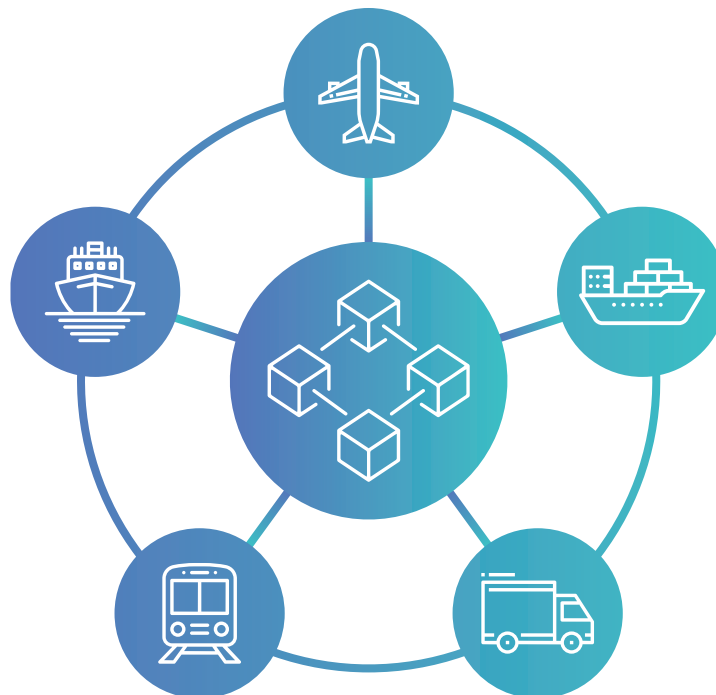
KEY VALUE OF THE
CHAIN TLM PLATFORM

Global transportation network is similar to human's blood circulatory system. Its healthy functioning requires integral coherence of all its components.

Platform's integrity is:

- Incorporation of the whole world's transportation industries into a uniform system;
- Common standards, document circulation and work conditions for all the participants of the platform;
- Complexity: platform has every tool needed to perform a deal – from finding partners to receipt of payment;
- Platform reviews business background of every user;
- Security of transactions and risk hedging;
- Arbitration of disputes;
- Transactions in any suitable currency;
- Control over contract compliance at every stage;
- Access to leading-edge IT technologies for every user;
- Access to leading edger business solutions.

Any enterprise, regardless of its size or location, can become a partner of CHAIN TLM and gain access to the platform's services.

CHAIN TLM platform is a 3-level system for online management of any full cycle transportation process and quality control.

GOAL OF THE PROJECT

We involve leading-edge IT technologies into creating a state-of-the-art management system for transportation and logistic enterprises integrated into one global transport network.

OUR MISSION
is to make IT solutions more accessible for business
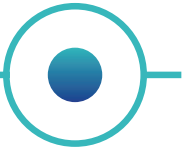
STRUCTURE OF THE CHAIN TLM PLATFORM

The CHAIN TLM platform is an integrated modular designed IT system.

CHAIN TLM is an integration platform which implements both homegrown IT solutions and technologies developed by partner companies.

**Compatible with other platforms, the CHAIN TLM platform consists of:**

- Modules;
- Applications developed by third party IT companies;
- Sensors integrated into a single system (internet of things, IoT);
- Multilevel global data centralization network, which acts as an informational core of the platform;
- Distributed database in blockchain;
- Smart contracts;
- Technical and technological capabilities for processing and analyzing big amounts of data;
- Encryption codes;
- 3D virtual reality modules, which integrate and visualize various parameters of data received from sensors in real-time mode and allow remotely controlling the transportation process, simulate events and propose the most efficient solutions;
- High-speed data transmission;
- A reliable identification/verification mechanism for individual and enterprise accounts;
- Technical and technological capabilities for machine learning (artificial intelligence).

7 basic units of the CHAIN TLM platform are:

1. Shipment management;
2. Paperwork management;
3. Payments and insurance management;
4. Ordering management for cargo owner;
5. Quality control management;
6. Service ordering management for transportation provider;
7. Vehicles and infrastructure shared use management.
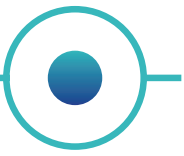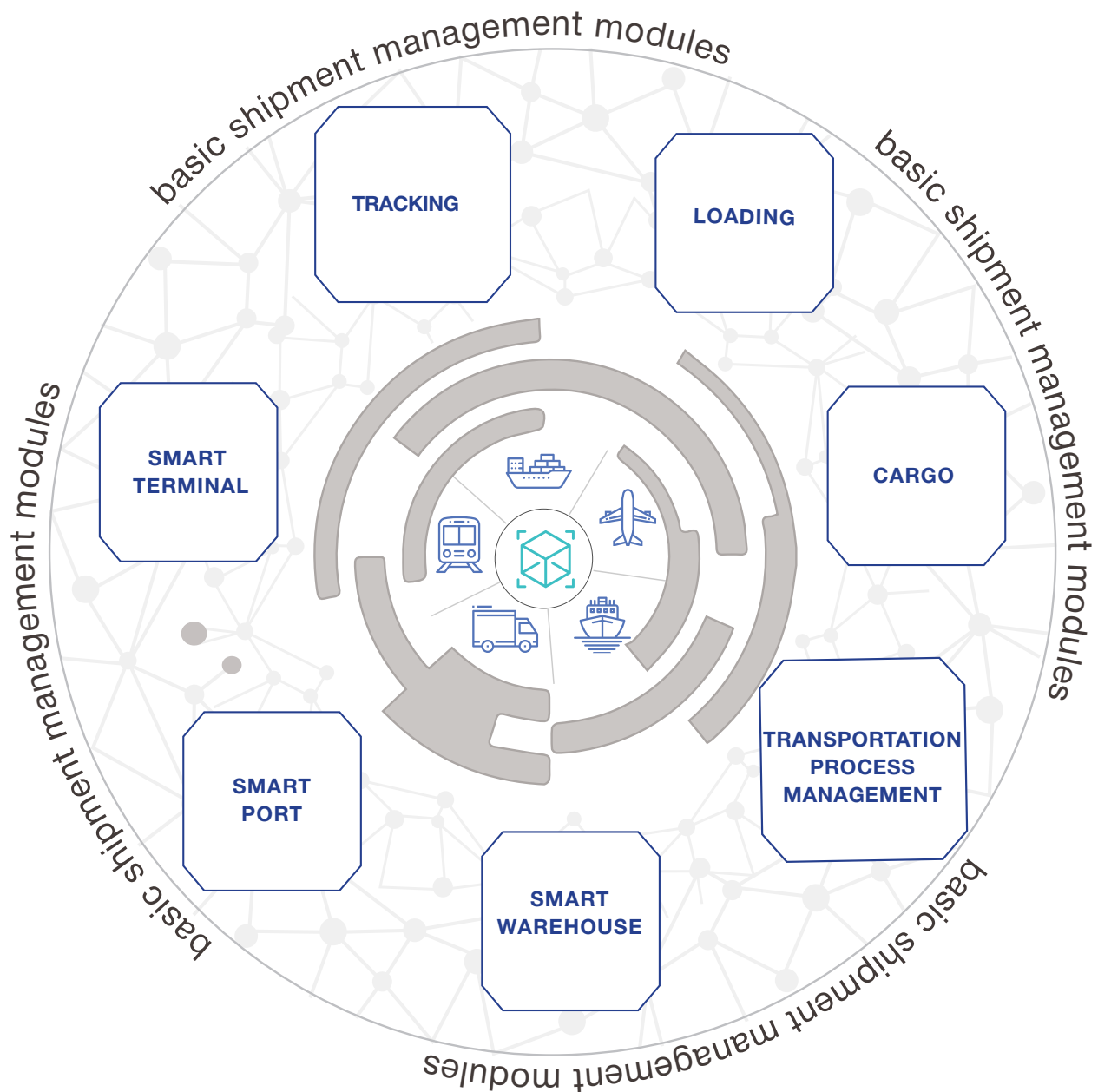
TRACKING MODULE

Designed to process information received using various tracking technologies, including sensors integrated into IoT-based database. The module performs accounting of cargo and indicates location of vehicles, cargo and staff.

LOADING MODULE

Forms cargo batches ready to be loaded in/onto a vessel, intermodal container, truck, plane or railway car, as well as to calculate the vehicle's loading efficiency and frame a loading plan.

CARGO MODULE

Due to integration with other modules, the CARGO module receives and processes, integrates and visualizes cargo condition data from sensors in real-time mode.

Application of internet of things technology allows specifying cargo's location, vibration level during transportation, package safety, and ambient temperature, as well as calculating expected arrival time.

All the data received from sensors is uploaded into the platform's system in real-time mode and becomes available to all the shipping chain participants.

Transportation providers can improve communications between each other and clients as well as immediately reduce numbers of complaints.

The module allows:

- Using the best up-to-date solutions to control cargo's safety and integrity within the supply chain.
- Tracking pattern of damage, time and place of its occurrence, and the following responsibility.

Information processed by the QUALITY module is connected with the COMPLAINTS module performance, smart contracts and a variety of other modules.

TRANSPORTATION PROCESS MANAGEMENT MODULE

Designed to track and control traffic of vehicles. The module automatically controls the overall transportation process and compliance to transportation conditions.

Using virtual and augmented reality mechanisms, processes of transportation and processing of cargo is visualized in 3D. Applying AI and big data technologies, the module also simulates emergencies and suggests the most efficient solutions to managers.

SMART PORT, SMART TERMINAL
AND SMART WAREHOUSE MODULES

Designed to control reception and handling of cargo at transportation hubs. Nowadays transportation hubs are complicated infrastructure objects which provide vehicles reception, maintenance and handling services.

Here, cargo is transferred from one means of transport to another, stocked, packed and re-packed, shipments are formed and distributed, documents are issued and re-issued. International transportation hubs also include special economic zones customs warehouses.

SMART PORT, SMART TERMINAL and SMART WAREHOUSE are the platform's modules, which provide new business solutions and management services for transportation hubs.

CHAIN TLM platform is a complex of infrastructure, both physical and virtual, aimed to design a management system for transportation provider companies based on advantages of state-of-the-art IT technologies.

DESCRIPTION FOR CHAIN TLM BASIC PAPERWORK MANAGEMENT MODULES

Existing paperwork standards in commerce and transportation industry are regulated by the norms of international law and allow exchange and signing of documents in electronic form.

Blockchain technology ensures identification of information transferor, as well as integrity and unchanged state of all the involved data.

Decentralized information transfer system based on blockchain technology provides high level of confidence in a wide range of transportation service providers due to transparency of stored and transferred data and reduction of fraud, corruption and human fault risks.

CHAIN TLM platform uses 8 basic modules for paperwork management:
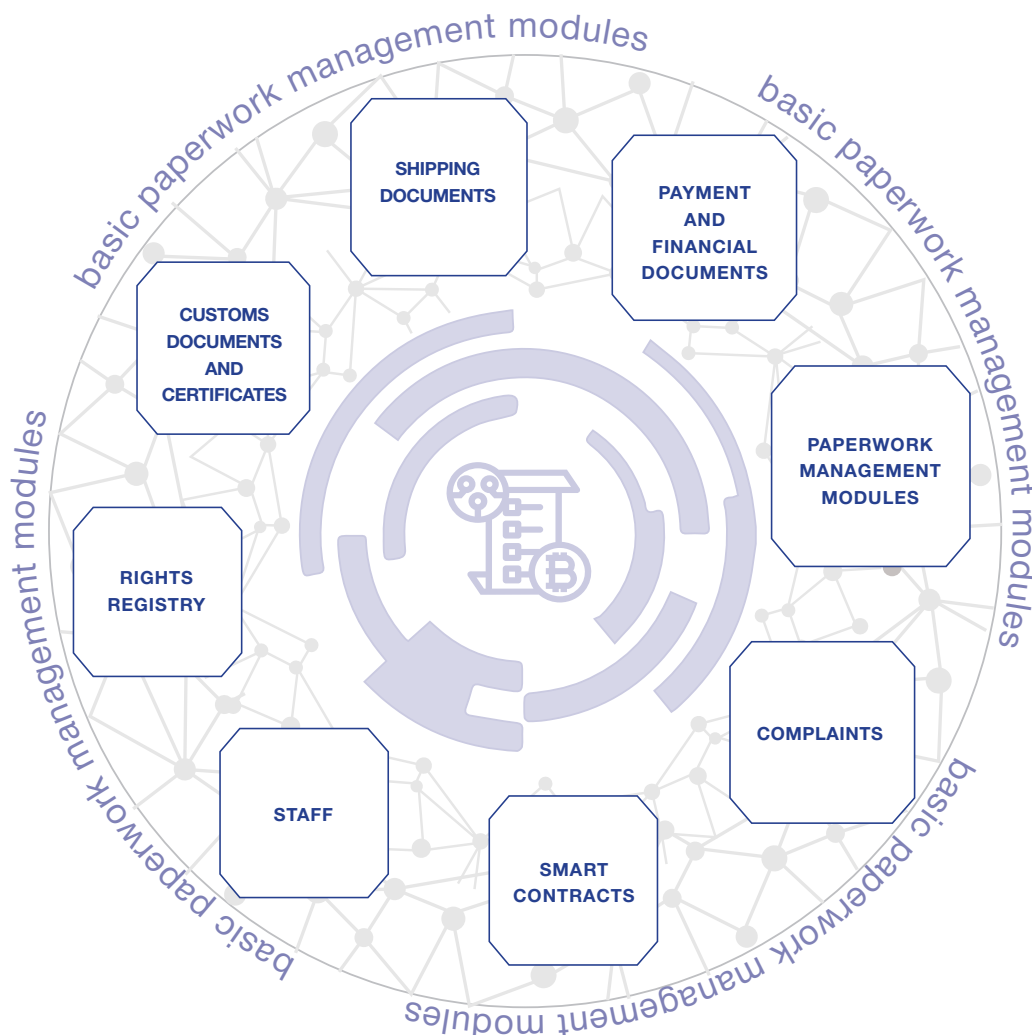
Any contract or deal on the platform is drawn up in smart contract. This allows avoiding diverging interpretations of contract terms by contracting parties and quickening financial calculations.

Control over fulfillment of smart contract terms is performed by software code, thus a possibility of an undue contract performance is eliminated, and numbers of complaints go down.

After the information on the contract conditions is approved with the use of TLM token and recorded in blockchain, it remains unchanged, that is none of the parties can challenge validity of the contract or fraudulently manipulate the records.

As soon as contract condition fulfillment is registered, smart contract can immediately verify the payment for the service, saving time and money expenses associated with intermediate processing of documents.

It is obvious that paper documents will still be required for submission to public authorities in the next few years. CHAIN TLM works systematically towards acceptance of digital documents by government institutions. If, however, authorities' demands require paper documents to be submitted, this opportunity will also be granted within the platform.

Platform allows transfer, classification, analysis, accounting, storage, archivation, assortment and search of documents.

Advantages of the available service:

- Autocompletion of data repeated in numerous formsheets reduces the risk of human fault;
- High-speed of document transfer regardless of daytime and timezone;
- Recording of change history in the documents in blockchain reduces the risks of fraud and document forgery;
- Contracting parties are granted equal access to documents which is crucial in case of a dispute;
- Boost in confidence among partners and public authorities due to usage of state-of-the-art documents transfer and storage technologies.

DESCRIPTION FOR CHAIN TLM PAYMENT AND INSURANCE MANAGEMENT MODULES

State-of-the-art blockchain-based payment services are already available at the market.

CHAIN TLM cooperates with the best payment systems and thoroughly chooses proven financial tools for integration on the platform; development of such system from the scratch is not planned.

The INSURANCE module, aside from underwriting vehicles or cargo, provides access to a wide range of insurance services for any kind of risk occurring in transportation or logistics.

DESCRIPTION FOR CHAIN TLM ORDER MANAGEMENT SERVICES FOR CARGO OWNERS

ORDERING (MARKETPLACE) MODULE

To place an order for shipment, cargo owner starts up a case. Information about the case is automatically transferred to all the transportation providers active on the platform, and then they address their proposals to the cargo owner. The platform has a working room for discussion of those.

A list of companies to send proposals is displayed on the platform by the ORDERING module. According to the business needs, the ordering party chooses a partner to make a deal with and gets a list of shipment plan options specifying the price, itinerary, information and rating of the transportation provider, and involved vehicles and technologies.

Using the virtual reality technology, the cargo owner can get acquainted with any proposed itinerary, involved technologies, conditions of shipment and the chosen optimal itinerary. Relying on this information, the ordering party can choose the best bid.
Upon selection of a contractor, a smart contract is drawn up, and the service fee is reserved.

INSURANCE

ORDERING (MARKETPLACE)

PAYMENTS

MARKETING

DELIVERY

MARKETING

MULTIMODAL

ordering management basic modules for cargo owner

ordering management basic modules for cargo owner

ordering management basic modules for cargo owner
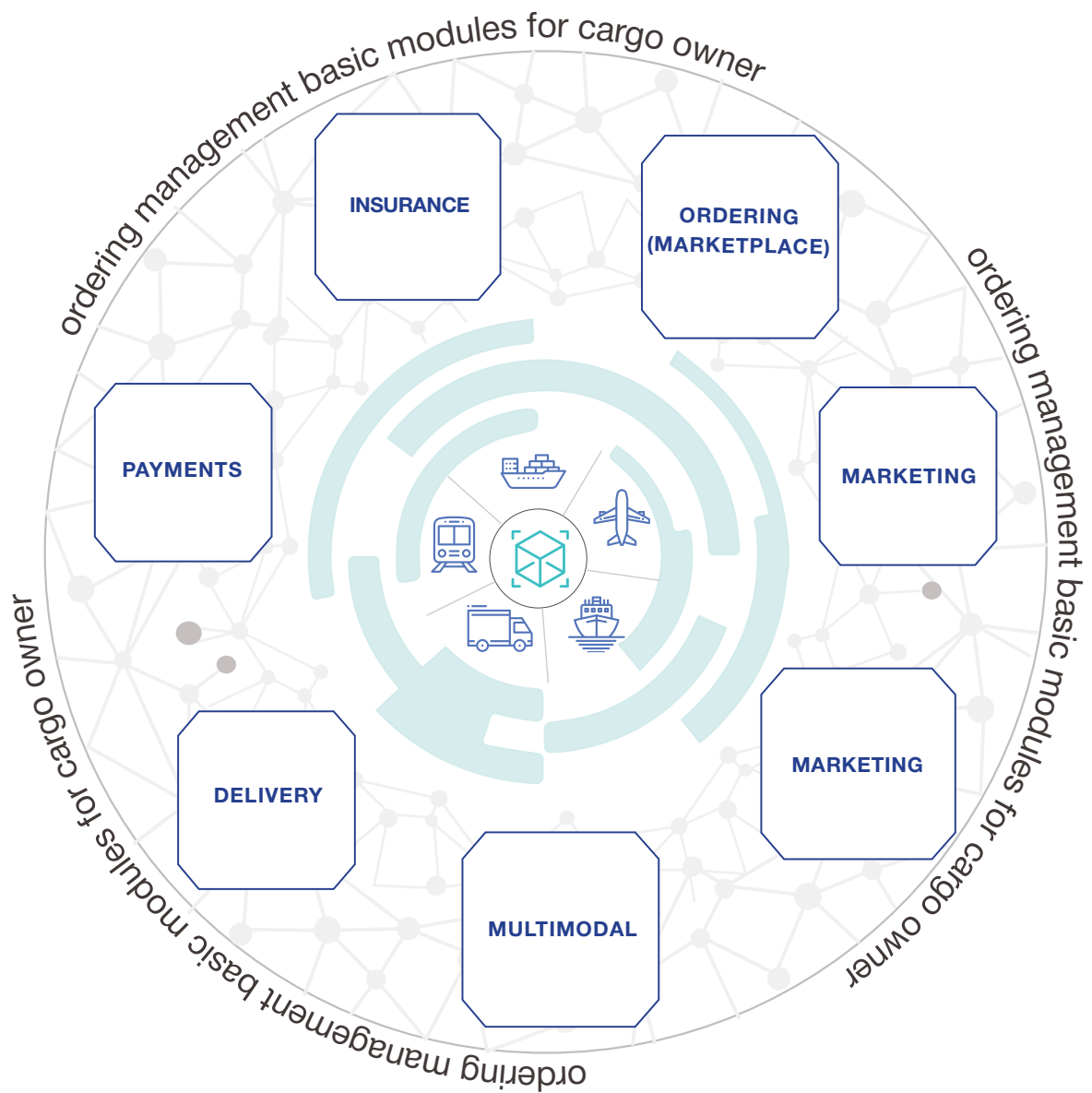
MARKETING MODULE

Relying on analysis performed automatically applying big data technology and AI, the platform generates recommendations and forecasts concerning market situation and trends, cost of services, traffic environment trends, and alterations of logistic networks.

ANALYTICS MODULE

Automatically searches requested or a track offered services, and also tracks levels of prices, supply and demand.

Relying on analysis performed automatically applying big data technology and AI, the platform generates recommendations on service fees and delivery time and terms for the transportation company manager, and forecasts for the cargo owner.

MULTIMODAL MODULE

In case a multimodal transportation is needed, the program plans an optimum itinerary with indication of all the transportation process participants, transportation terms, cargo acceptance and transfer terms, and every participant's responsibilities.
This service is identical to the performance of TRANSPORTATION PROCESS MANAGEMENT module, but it involves multiple types of transportation. Transportation provider can choose multimodal transportation partners in advance or let the platform do it automatically in accordance with received applications.

DELIVERY MODULE

Provides full real time visibility of the cargo delivery process to the cargo owner. Cargo transportation and processing processes are visualized using technologies of virtual and augmented reality. The module receives processes, integrates and visualizes different parameters of data concerning location and condition of vehicles, fulfillment of responsibilities by the partners, occurring risks and delays, fulfillment of transportation terms and quality of service, and calculates the estimated delivery rime on the fly.

The module allows managing depot workload providing exact information about delivery time within the supply chain.

DESCRIPTION FOR CHAIN TLM ORDERING MANAGEMENT BASIC MODULES FOR TRANSPORTATION PROVIDER

CHAIN TLM platform is a 3-level system for online management of any full cycle transportation process and quality control.

14 modules are involved to serve the interests of a transportation provider:

Ordering management for transportation provider

- SUPPLIES
- EMERGENCIES
- AGENTING
- REPAIRS
- STAFF SUPPORT
- FUEL
- TRAINING AND CERTIFICATION
- SPARE PARTS
- STAFF
- MAIN ESTATE MARKETPLACE
- NAVIGATION PILOT, TUG, ICEBOAT
- CHARTER AND LEASE
- MAINTENANCE OF VEHICLES
- FLEET RENEWAL MARKETPLACE
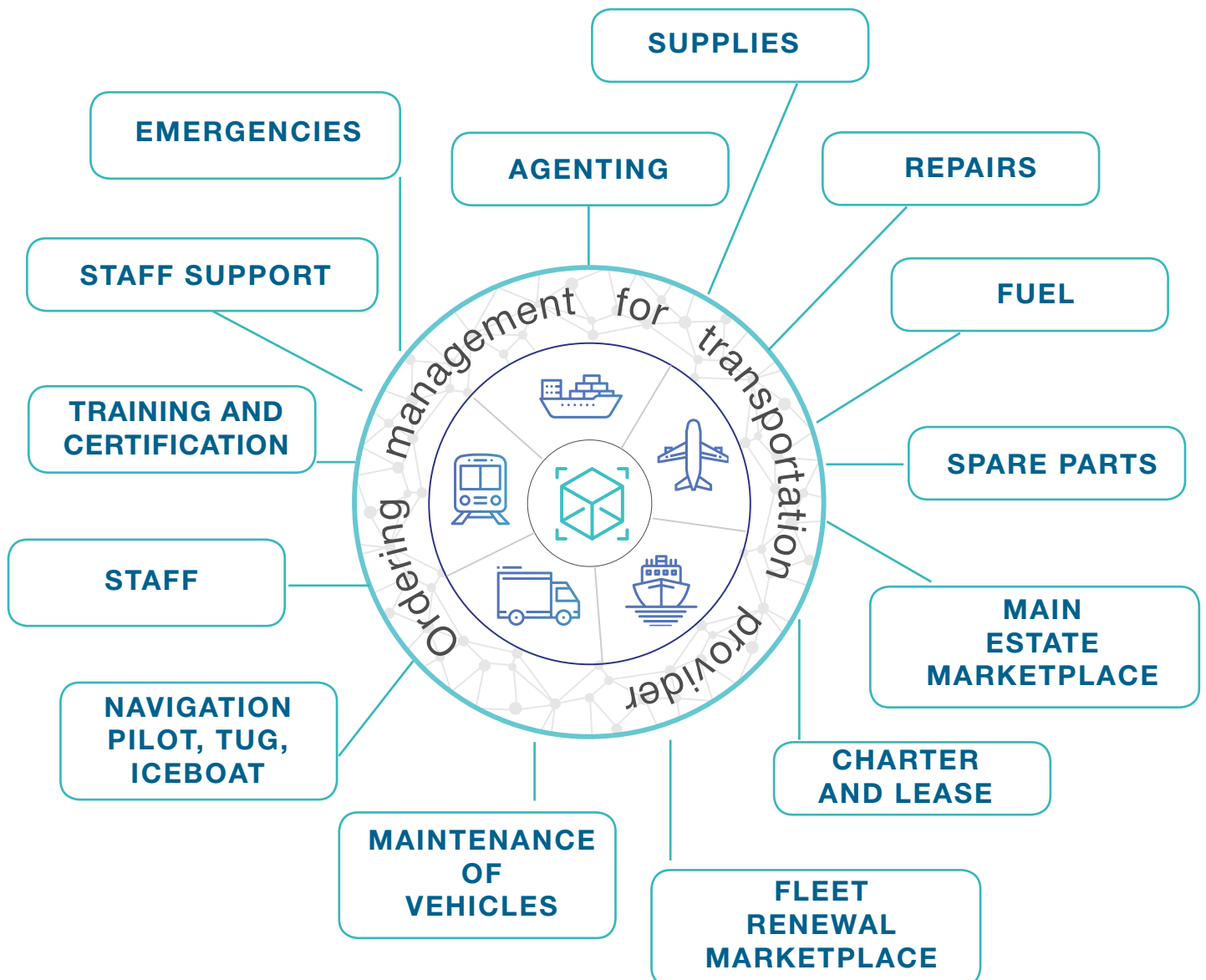
Processes are managed in real-time mode, all transactions between business units are performed in digital format, and processes are generated automatically and completed in significantly shorter time limits.

AGENTING MODULE

Allows maritime, river and air transport enterprises to choose and order agent's services in the destination port, as well as to draw up an agenting contract.

SUPPLY MODULE

Designed for ordering of technical and food supply directly from vendors. Allows choosing a partner, drawing up smart contract, terms fulfillment control, and performing respective payments.

REPAIRS MODULE

Designed for ordering of different kinds of repair works. Allows choosing a partner, drawing up smart contract, terms fulfillment control, and performing respective payments.

FUEL MODULE

Designed for ordering of refueling or bunkering of vehicles using different kinds of fuel directly from vendors. Allows estimation of fuel consumption, choosing a partner, drawing up smart contract, terms fulfillment control, and performing respective payments.

SPARE PARTS MODULE

Designed for ordering of spare parts for vehicles and their delivery directly from vendors.

Allows choosing a partner, drawing up smart contract, terms fulfillment control, and performing respective payments.

MAIN ESTATE MARKETPLACE MODULE

Designed for sale and purchase of vehicles, intermodal containers, railway carts, trucks, etc.
Allows choosing a partner, drawing up smart contract, terms fulfillment control, and performing respective payments.

FREIGHT AND RENT MODULE

Designed for ordering of lease, sublease and charter of vehicles, intermodal; containers, trucks, etc., as well as objects of transport infrastructure.

Allows choosing a partner, drawing up smart contract, terms fulfillment control, and performing respective payments.

FLEET RENEWAL MARKETPLACE MODULE

Designed for ordering of new vehicles including vessels. Allows choosing a partner, drawing up smart contract, terms fulfillment control, and performing respective payments.

MAINTENANCE OF VEHICLES MODULE

Designed for in-advance reservation of vehicles reception and maintenance points (docks, scaffoldings, railway platforms, parking spaces, runway strips, turnoff strips, approach lines, etc.) and ordering of cargo handling and ground service.

Allows choosing a partner, drawing up smart contract, terms fulfillment control, and performing respective payments.

NAVIGATION PILOT, TUG, ICEBOAT MODULE

Provides ordering service for ordering of piloting, luggage or iceboat assistance to maritime and river transportation providers. Allows choosing a partner, drawing up smart contract, terms fulfillment control, and performing respective payments.

STAFF MODULE

Designed for staff recruitment for transportation providing companies. Allows giving announcements, reception of applications, staff selection, drawing up smart contract.

TRAINING AND CERTIFICATION MODULE

Designed for backing of members of vehicle staff or crew (assistance in case of deportation, procurement of visas, transfer, medical help, accommodation, legal assistance, drawing up documents, etc.). Allows choosing a partner, drawing up smart contract, terms fulfillment control, and performing respective payments.

STAFF SUPPORT MODULE

Designed for backing of members of vehicle staff or crew (assistance in case of deportation, procurement of visas, transfer, medical help, accommodation, legal assistance, drawing up documents, etc.).

Allows choosing a partner, drawing up smart contract, terms fulfillment control, and performing respective payments.

EMERGENCIES MODULE

Designed to provide any possible assistance to emergency services in case of a fire, explosion, shipwreck, car crash, rescuing works, any kind of force majeure event, spillage of oil or any other hazardous substance, etc.

Includes all the instructions necessary for this kind of events and a possibility of immediate emergency call.

Emergency situations are visualized in 3D using virtual and augmented reality technologies.

Assisted by AI units gathering and processing information about similar emergencies, the module simulates possible scenarios and offers the most efficient solutions to the user.
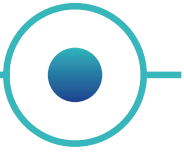
DESCRIPTION FOR CHAIN TLM SHARED USE OF FACILITIES MODULE

Transportation providers' need for shared use of vehicles and infrastructure objects grows as long as prices of vehicles increase, and the reach of their operation expands.

The CHAIN TLM module for shared use of container pools, railway carriages and tank cars, truck trailers, storage depots and other infrastructure objects by transportation providers offers new business solutions.

THE MISSION OF THE CHAIN TLM PROJECT IS TO IMPROVE AVAILABILITY OF LEADING-EDGE IT-TECHNOLOGIES FOR BUSINESS

The CHAIN TLM platform is a business administration tool designed for cargo owners and transportation providers which makes application of every possibility granted by the latest IT technologies real.

The CHAIN TLM platform is a new level of usability and availability of the widest range of services for everyday work, and also a possibility to work with a mobile app.

CHAIN TLM service allows reducing:

- Time to find a business partner
- Contract paperwork time
- Documents drafting and transfer time
- Financial calculations time
- Exposed to a fault risk and tedious manual record keeping
- Undue fulfillment of conditions of cargo shipping and storage
- Fraud
- Intermediary services
- Cargo storage time
- Transporting vehicles' empty hours
- Time losses during vehicle idle hours Stock in warehouse
- Shipping time
- Shipping cost

CHAIN TLM service allows increasing:

- Profitability of shipment
- Cargo safety
- Reliability
- Dispatch speed
- Quality of services
- Exactitude of shipment
- Availability of services
- Confidence in result

We estimate that using the CHAIN TLM platform will allow transportation providers to increase the key business performance indicators by 20-40% owing to route and capital turnover boost, increase of labor productivity, reduction of losses and unproductive expenses.

Joining the CHAIN TLM platform will grant transport enterprises access to the newest online management technologies without any outlay.

This would allow avoiding expenses for developing and maintenance of homegrown IT networks.

All the CHAIN TLM services are free of charge.

The CHAIN TLM platform is an integrated cyberspace designed for the global transport network, possibilities of which are limitless.

COMPETITIVE PERFORMANCE

Существуют и другие проекты по созданию современных IT-технологий, предназначенных для внедрения в практическую работу транспортной отрасли.

Some projects on developing leading-edge IT technologies aimed to be implemented into the practical work of transport industries have already been launched.

Israeli company Wave (http://wavebl.com) created a project with a purpose of digitalization and transferring transportation and financial documents in blockchain. In particular, there has been created a digital document functioning as a bill of lading.

Under this project, Israeli ship operator ZIM used a digital bill of landing for the first time ever in 2017 during shipping cargo from China to Canada. The transaction was performed via the WAVE application, and the documents were issued, received and transferred via the platform with the same name.

IBM (https://sawtooth.hyperledger.org/examples/seafood.html)) created a project to integrate digital and physical worlds using technologies of internet of things. The Sawtooth system records all the way seafood goes from a fishery vessel to consumer's table.

This technology can also be used for tracking of location, transportation terms and safety of any kind of cargo. This project provides a clear idea of how the internet of things works.

The Hijro project (https://hijro.com/fix.html) is a financial platform for global trading on the basis of blockchain. The platform includes a trading facility called Hijro Trade Asset Marketplace and designed for cooperation of monetary institutions and trading companies.
Although this project is not connected with the transport industry, it offers certain interest as a financial framework.

The Chronicled project (https://chronicled.com) is an internet-of-things-based platform which allows bounding any kind of physical property with cryptocurrency with the purposes of authentication, origin control, developing logistic networks, and others.
The company also targets to implement smart contracts which would allow registering physical transactions in blockchain.

which would allow registering physical transactions in blockchain.
A whole range of blockchain-based projects has been implemented in Estonia, including those designed to grant access to public services - for instance, customs (https://www.emta.ee).

A driverless motor vehicle project is currently in progress.
https://guardtime.com/blog/ksi-blockchain-to-secure-driverless-buses-in-tallinn

The Slock project (https://slock.IT-/) integrates the internet of things and blockchain. It provides a possibility to integrate internet of things technology into various devices aimed to development of shared use economy allowing renting and selling property without intermediaries.

The IMMLA project (http://immla.io/) develops an international multimodal logistic service with a decentralized system providing transportation, paperwork transfer and payment services.

CARGOCOIN (https://thecargocoin.com/) – is a smart contract framework designed to assist and improve cooperation between traders, expeditors, navigation companies, reservation agents, and any kind of representatives of trade and transport industry in general. This project focuses the needs of maritime business.

XY OracleNetwork (https://xyo.network/) is a project providing blockchain-based encryption codes and modules designed to solve problems related to current geolocation technologies. This project is essential for transport industry as an important element of its future infrastructure.

New York transportation stock exchange NYSHE (https://www.nyshex.com/en/) provides services of online vessel booking for international container shipment. Among NYSHEX clients are six largest world maritime carriers, altogether performing 52% of the overall global container transportation volume: HapagLloyd, CMA CGM, MOL, OOCL, COSCO and MaerskLine. Founded in 2015, this exchange house provides shippers, expeditors and carriers with international charter contracting without intermediaries.

Shipamax (https://shipamax.com/) offers a platform to integrate various forms of communications used by brokers and their clients, which would allow reducing paperwork, increasing data safety, transparency and transfer efficiency, and

thuswise reducing accompanying expenses. The project is designed to meet the demands of maritime industry.

We4Sea (http://www.we4sea.com/) allows ship owners and freight vendors increasing fuel efficiency of vessels. An innovative vessel tracking technology implemented in this platform addresses, among others, the weather factor without requiring additional equipment onboard. We4Sea allows tracking location of any vessel and remotely control its fuel consumption and exhaust emission level

Xeneta (https://www.xeneta.com/) provides shippers and expeditors with analytical information on shipment prices and allows comparing current rates at the maritime shipping market in real time.

HawkEye 360 (http://www.he360.com/) is a project developing innovative technological solutions for monitoring and mapping radio frequency emissions designed to quicken emergency assistance in air, ground and sea. Small low Earth-orbiting satellites would gather information about radio frequency transmissions worldwide to provide precise mapping of vehicles and draft analytical summaries for customers' purposes.

Projects listed above allow evaluating the possibilities granted by leading-edge IT technologies to the transportation industry. However, resolving certain transportation problems, they do not meet all of the industry's essential demands.

We are going to take advantage of results already achieved by other projects and IT developers within our platform (considering that CHAIN TLM is an integrational platform in the first place), which would significantly speed-up development of many services of the platform and save investments.
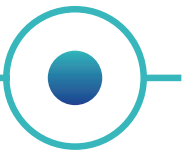
BUSINESS MODEL

In order to attract investments and launch the platform, the CHAIN TLM OU enterprise is being established.
The enterprise is being established in Estonia, a EU member state with worldwide renowned IT projects and innovative technologies industry leader in Europe.

CHAIN TLM key users are:

- Transportation and logistic enterprises: maritime, automotive, railway, air and river transport operators;
- Transportation service users: cargo owners, shippers and receivers;
- Transportation industry enterprises providing services of maintaining vehicles and cargo;
- Enterprises of auxiliary industries: banks, insurance companies, etc.

CHAIN TLM allows cargo owners to order both unimodal and multimodal shipments; the latter is not offered by any other service. Transportation providers receive orders and an ability to manage the transportation process

CHAIN TLM key partners are:

1) CHAIN TLM platform users are at the same time our partners, since they are interested in:
- Offering clients up-to-date and reliable service;
- Involving leading-edge and business efficient technologies into the enterprise performance;
- Ensuring safety of vehicles, cargo and financial resources;
- Getting timely access to informational resources;
- Decreasing dependence on human factor and human faults.

Enterprises' owners and top managers realize that they are working at ground zero of a global technological revolution and want to take part in it to make sure their companies are going to become a part of the new world.

Owners of IT services designed for transportation and auxiliary industries.

2) IT enterprises, which can offer already existing technologies, as well

as knowledge and experience to create new services and features for the platform.

3) Public authorities.
4) Scientific research institutes.
5) Educational institutions.

Complex of services offered by the CHAIN TLM platform is in demand of more than 93% of all the enterprises of the global market.

CHAIN TLM services are aimed to reaching result: making a deal and successfully fulfilling its terms.

Almost 100 types of service are available within the CHAIN TLM platform. Every service provided by the platform is in itself free of charge, except for transaction fees.

According to the decision of contracting parties, any kind of fiat money or cryptocurrency can be used on the platform.

Table 1. Projected amount of CHAIN TLM services

Year	2022	2023	2024	2025	2026	2027	2028	2029
Amount of usable services	17	27	39	65	78	92	106	120

CHAIN TLM is an integrational platform. Apart from homegrown IT solutions, CHAIN TLM already involves efficient IT technologies and applications developed by partner companies.

Companies interested in cooperation can become partners of the platform. CHAIN TLM offers its partners a share in the business assigning them TLM tokens.
The platform's service fee is 3% of every transaction cost. This is significantly less than a fee of a broker's service, which amounts to 5 to 20% of transaction's price depending on its complicity.

Table 2. Projected amount of transactions on the CHAIN TLM platform

Year	2022	2023	2024	2025	2026	2027	2028	2029
Amount of users	50	5k	10k	50k	100k	500k	750k	1mln
Projected annual amount of transactions	10	25k	100k	600k	1,5 mln	8 mln	12,75 mln	18 mln
Average annual amount of transactions per one user	0,2	5	10	12	15	16	17	18
Average monthly amount of transactions per one user	0,02	0,42	0,85	1	1,25	1,33	1,42	1,5
Average transaction cost	40k	60k	90k	100k	110k	120k	140k	150k
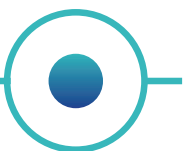
PROJECT TOKENIZATION

The CHAIN TLM OU company issues tokens named TLM tokens.
This is a user token, which is used for verification of transactions in platform's blockchain. Node is chosen according to the proof of verification principle (Table 3).

We have analyzed numerous token operating principles and have come to conclusion that, on the long run, currently existing principles would not deliver on the main problem of involving a token: providing equally favorable business conditions both for platform users and investors.

Thus we have developed a fundamentally new token model, which has never been involved in any kind of project.

TOKEN MODEL
ON CHAIN TLM PLATFORM

The condition for the participation of the token in the confirmation of transactions is the presence of the token in the wallet on the platform.

TOKEN **PURSE**

HOW TLM TOKEN WORKS

TLM tokens line up to confirm transactions.

The queue is formed in direct sequence by the numbers of tokens.

Each token gets its own number depending on the time of release. The number is unique.

The token that confirmed the transaction goes to the end of the queue.

One token confirms multiple transactions.

CHAIN TLM
CHAIN TLM
CHAIN TLM
CHAIN TLM

CONTRACT

HOW CONFIRMED TRANSACTIONS CONCLUDED ON THE PLATFORM

The order of confirmation of the transaction with the TLM token is formed randomly.

Token does not know which deal will confirm.

After confirmation of the transaction starts the process of its implementation.

CONFIRMATION OF TRANSACTIONS PROCESS

SELLER

TRANSACTIONS COMPLETION

PARTICIPANTS OF TRANSPORTATION PROCESS

PAYMENT

PROCESS OF MAKING A DEAL

CHAIN TLM PLATFORM
(COMMISSION 1-4% FROM THE AMOUNT OF TRANSACTIONS)

The reward is sent to the wallet in which the token was at the time of confirmation of the transaction.

The reward does not depend on whether the token is in this wallet at the moment of receiving the reward.

REWARD FOR EVERY TRANSACTION

PLATFORM pays a fee to the owner of the token that confirmed the transaction in the amount of 30% of the commission received.

Tabl.3 Comparative analysis of two models of tokens

Token's role	Token As a means of payment	As a transaction verification (proofoftransaction)/
Platform user	Token has to be purchased to perform transactions on the platform. Sales turnover on the platform is expected to be 0.5-1 trillion euro. Granting this, the price of one token will reach 6-7k euro. The token price floats constantly which leads to losses caused by exchange difference. **Thus:** This type of token is unfavorable for the user. Amount of transactions performed on the platform remains low. Acquisition of significant amounts of users not expected. Attitude towards a token as a means of payment is going to remain negative for a long while (5 to 10 years) due to conservative mindset of many participants of logistic and transportation process. Terms and services provided by the platform are not sufficient to change that mindset.	Any kind of fiat money or cryptocurrency is used according to the decision of contracting parties. Token is not used to grant access to the services provided by the platform. The platform provides safe instant transactions without the use of tokens. Every service on the platform is free in itself. The platform's fee is 1-4% of cost of every transaction performed within it, which is significantly lower than current market rates (5-20% of the transaction cost). **Thus:** Services provided by the platform are profitable to use; numbers of users and transactions performed on the platform grow.

Investor	Investor is interested in the growth of token value. The higher is the token value, the more is the investor's income.	TLM tokens are constantly used to verify transactions in the platform's blockchain. The more transactions are performed on the platform, the more remuneration (30% of the platform's transaction fee) is granted to the owner of the token. For example, a token used to confirm 5 transactions provides its owner with a reward of 3,600 euros per year if the transaction size is 60 thousand euros.
Conclusion	Conflicting interests are evident. This model of a token is economically weak and does not contribute to success of the project.	Unity of interests of all the participants of the project is built up, and conditions for performing significant amounts of transactions on the platform are created. TLM token is a basic condition for successful performance of the project.

Laws of Estonia as a EU member state, as well as laws of any other country, do not require acquisition of license or permit of any kind to emit or use tokens of proposed pattern.

Upon emission, every single token is granted an identification number defined by the time of emission. All the tokens form a direct sequence accordant to emission time, which remains permanent regardless of a change of owner.
TLM token can be transferred between different owners and wallets.

The main condition of applying a token for verification of transactions is its presence in an active wallet on the platform. If token is not present on the platform, it cannot be used to verify transactions until it is brought back to work on the platform.

The order of verification of transactions is strictly defined. This rule allows precluding hacker attacks, because the next mining node is renowned, and chance of any departure from the defined sequence would be precluded by the system.

Presetting a certain token to verify a certain transaction is impossible. As soon as a token is authorized to verify a transaction, the first transaction in line is accepted. Therefore, correlation between a token and a transaction is completely random.

Upon verifying a transaction, TLM token grants its owner a right of remuneration, which amounts to 30% of the platform's transaction fee and is paid out right after reception of fee by the platform.

The reward is sent to the wallet in which the token was at the time the transaction was confirmed, regardless of whether the TLM token is in the same wallet at the time the reward was received and paid out to the owner of the wallet.

The more TLM tokens are held in a certain user's wallet, the more transactions he or she can verify. Upon verifying a transaction, token is directed into the general queue until the next verification, turn of which comes in accordance with the aforesaid steps.

Free service combined with the global outreach of the platform allows attracting wide user interest from both cargo owners and transportation providers. We expect more than 20 million enterprises to become platform's customers in the next 10 years.

The suggested system offers equal rights to both large-scale and small investors, enterprises and individuals who have purchased TLM tokens.

Numerous crypto- or real currencies listed on the platform's website can be used for purchase of tokens.
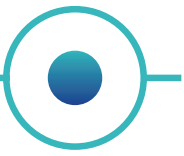
SWOT ANALYSIS

Advantages of the project

CHAIN TLM is an integrational platform, which involves homegrown IT technologies, as well as IT solutions developed by partner companies.

This allows bringing together best IT solutions, connecting interests of IT enterprises and general customers, and implementing leading-edge technological achievements into the practical work of transport and logistics within one single platform.

CHAIN TLM is a global platform integrating operator enterprises of five means of transport (maritime, river, railway, automotive and air) into a universal worldwide transport network, which allows easy providing of multimodal shipping and supply chain management.

These capabilities provided by the platform are in great demand at the current level of world trade development.

Transportation providers can significantly improve their performance efficiency by applying the state-of-the-art transportation management tools offered by CHAIN TLM.

Legal regulations of transport, customs and other government institutions associated with admittance of vehicles and cargo, vary in different countries. Considering this, we expect paper documents to stay required for submission to public authorities in the next few years.

As such, paper documents will also be obtainable on the platform. In the meantime, CHAIN TLM works systematically towards acceptance of digital documents by government institutions.

Experience of more than 1000 government services accessible online in Estonia, a frontier "electronic country", allows observing the real prospect, convenience and efficiency of using digital technologies both in business and in everyday life.

Tremendous changes have taken place in the last 5-7 years and have become a part of way of life for both residents of Estonia and "electronic residents" from abroad.

Possibilities

CHAIN TLM offers its customers more than 100 services, and all of them are free. The platform's service fee is 1-4% of the transaction cost after its completion. This is significantly less than a fee of a broker's service, which amounts to 5 to 20% of transaction's price.
Any kind of fiat money or cryptocurrency can be used on the platform according to the decision of contracting parties.

TLM token is used as platform's working tool and a possibility of joint gains, not as a means of payment.

Service and working conditions offered by CHAIN TLM to the customers provide wide interest and attract large user base.

We expect more than 20 mln companies to become users of the platform in the next 10 years.

Risks

CHAIN TLM creates conditions for cooperation for IT enterprises by attracting them as investors or purchasing their developments.

We clearly realize that creating such a massive platform within the planned time frame will require significant human resources and involvement of the leading IT experts.

CONCLUSION

Creation of the CHAIN TLM platform is a project of an immence scale, and it cannot be implemented only by efforts of one company – there is a lot of work to do for the entire transportation industry community. This is why we seek to bring together all the transportation providing companies to create an innovative and up-to-date system of transportation and logistic management, which would be based on the newest technology.

The CHAIN TLM project has already been a subject to a set of expert evaluations: economic, law and technological. We have every reason to believe, that this proposed model of the platform is economically viable and can be brought to life within 5 years.

Many company executives and owners realize, that, regardless of owning a sophisticated vehicle fleet, without an up-to-date management system, any company would not be able to achieve strong business performance.

And while leading-edge IT solutions and possibilities to implement them into practice are accessible for large-scale enterprises, smaller companies lack these opportunities due to lower income rates.

In order to stay in business, a transport enterprise needs an IT system that would allow receiving and processing lots of ordering data and up-to-date information about services, instally contacting customers and organizing the work of vehicles with maximum efficiency within a single platform, which would contribute to dramatically lowering unproductive expenses.
Can a transport enterprise be successful if it has to deal with laying roads on its own? Of course not.

The established system of global transportation management, and conventional ways of managing a transport enterprise in particular, assumes „laying roads" by means of the enterprise. This principal does not meet neither the demands of cargo owners and senders, nor the interests of transprt enterprises, since it does not afford shippers to focus on development of the company, making profit and meeting trade's constantly growing demand for cargo carriage.

What can you do? Support the development of the CHAIN TLM platform and become our partner. Participation in the CHAIN TLM project is your contribution to the fourth technological revolution.

The proposed economical model of the CHAIN TLM platform allows minimizing risks of every project participant. Purchasing TLM tokens for 10-40k euro will not expose a general transport enterprise to any significant risk, yet already within two years it will provide access to a state-of-the-art online management system allowing to reduce expenses drastically. Economic efficiency of the CHAIN TLM project will not only return all the investments, but will also generate high profits.

Don't lose your chance to take part in the CHAIN TLM business!
Of more than 20 million companies existing in transportation and auxiliary industries, only 2 to 3 thousand have a possibility to become not just users of the platform, but also its full-fledged partners by purchasing TLM tokens.

The CHAIN TLM platform is being developes by a group of transport professionals in coopertaion with multiple groups of software programmers from Latvia and Estonia. Needless to say, alongside with the project progress, our team's line-up will expand, primarily due to involving world-class IT experts.

More than 20 world's leading experts on transport, world trade, law, finances and IT technologies of different kind will evaluate proposed solutions and provide recommendations.

Based on our review of the global IT research market, we have chosen 32 IT enterprises for coopertaion within the CHAIN TLM platform.

Any IT feature is a product of experience, knowledge and technology. We intend to use the best solutions to ensure high service quality and secure contract compliance on the CHAIN TLM platform. The platform is created to become an efficient profit maximization tool for every transport or trade enterprise to join our project.

CHAIN TLM is a qualitative leap in development of the global transportation industry. It is a project consistent with the highest expectations of the world trade.

We believe that high technologies will change this world and will open up new possibilities for creation.