VEDA

VEDA – BLOCKCHAIN PLATFORM

CONTROL ON MANAGERIAL DATA

VIABLE

EXCLUSIVE

DIVERSE

AGILE

Blockchain advantages

About 70% interviewees consider blockchain projects as strategic priorities and intend to invest more than $ 5 M in 2019*

According to Accenture benchmarking report blockchain technologies in banks give **70% cost-savings** on reporting and **30% to 50% on compliance**

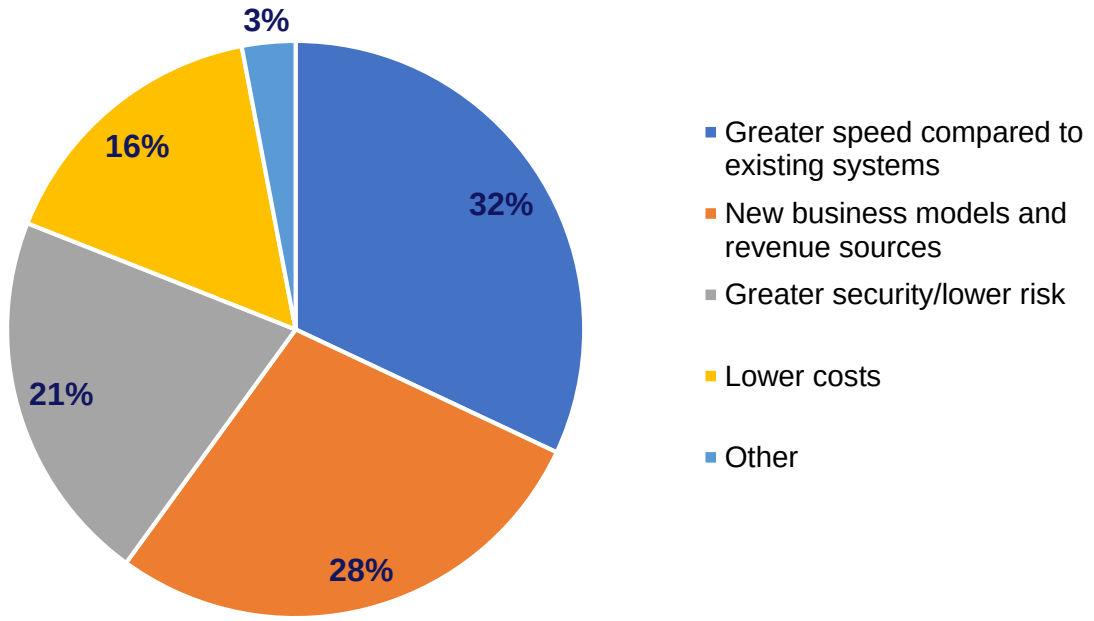
According to DHL Trend Research, blockchain projects in logistics **decrease costs up to 40%** due to unlocking greater efficiencies

According to Research and Markets Report blockchain-based mobile roaming might **save the mobile industry $650 M** annually

According to IBM's study blockchain can save the U.S. healthcare **$ 20 billion annually** due to prevention of counterfeit drugs

According to Lufthansa blockchain association research, blockchain technologies in MRO **improve to 5-10% TAT** on average and decrease flight operational costs at least on 10%

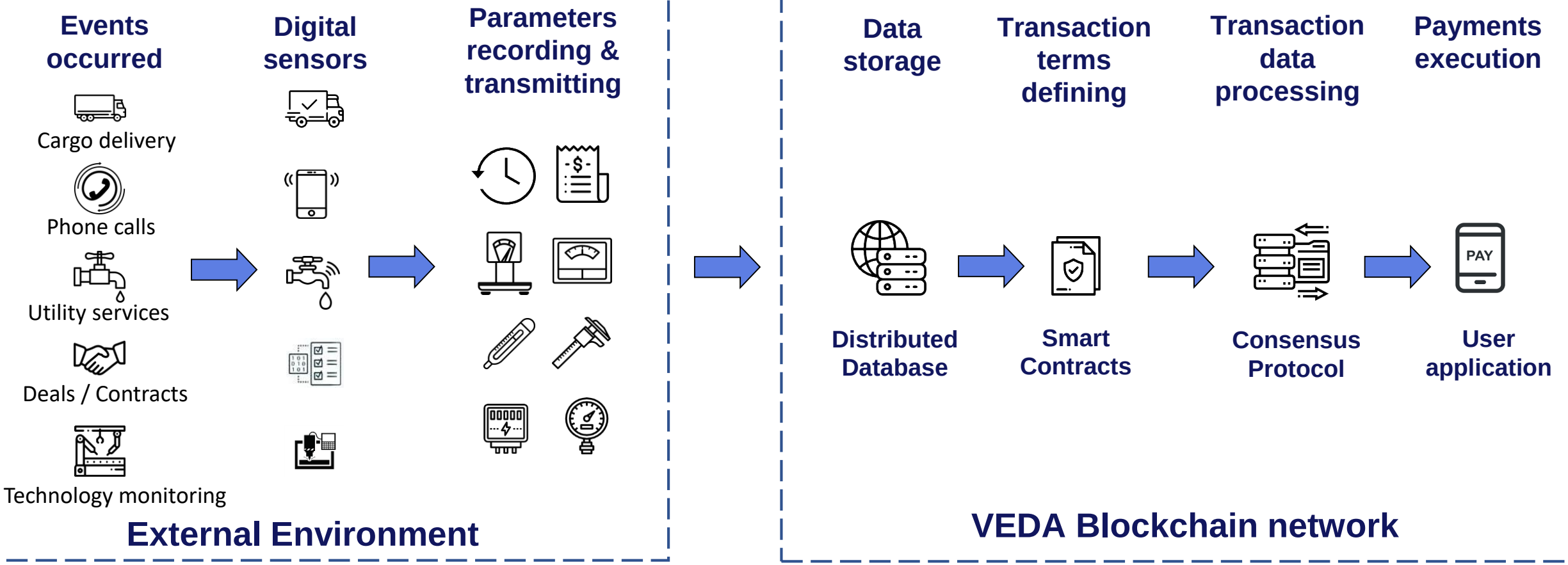
Current advantages of blockchain over existing systems (by Deloitte blockchain report 2018)



*According to Deloitte blockchain report 2018

VEDA data flow in business environment

VEDA gives a wide opportunity for developing of Internet of Things, Big Data analysis, Machine Learning and Artificial Intelligence



VEDA Platform's opportunities

VEDA ensures the total control on data's quality and online monitoring

Smart contracts

- User-friendly smart contracts
- Automation of routine functions
- Automatic selection of objective criteria
- Speed and transparency
- Open-source system

+

Secured network

- Data analysis of unlimited number of participants
- Top-tier encryption algorithms
- Customizable private access management
- Unaltered time-stamped data
- Distributed database

+

Multi-purpose token

- Protected crypto-container
- Universal data storage
- Utility tokens
- Security tokens
- Colored stable coins

=

For Business

- Total control on quality of data
- Internet of things applications
- Big data accumulation and analysis
- Ready for machine learning launching
- Self-managed system

Market launch stages

VEDA's step to step development to mass-market requires short time and limited resources

€ 1 M Invested

Initial stage

Minimal Value Product

Working model (network + smart contracts)

October 2018

+ € 1 M Required

1st stage

Pilot private network project

Solution for the business specific task (telecom operator, utility services provider, logistic agent)

+ 6 months

+ € 3 M Required

2nd stage

First pilot market

Co-operation with 1-2 major players of the pilot market (e.g., security trading)

+ 6 months

+ € 6 M Required

3rd stage

Public blockchain network

Launching of public blockchain network with smart contracts - based services

+ 6 months

Payback Period Passed

4th stage

Development of different markets

Service development for financial assets, commodity and FMCG markets

+ 12 months

VEDA business model by steps

On each step of the platform's development new sources of monetization will arise from VEDA tokens circulation and providing of VEDA-based services

1st stage

Pilot private network project

Utility Token

- Selling certain volume of fix price utility tokens emitted for private network

April 2019

2nd stage

First pilot market

Utility Token
Stable Coin

- Transaction fees
- Selling certain volume of fix price utility tokens emitted for private network

October 2019

3rd stage

Public blockchain network

Utility Token
Convertible Stable Coin

- Limited turnover on free market for defining VDN market price
- Transaction fees
- Subscription fares
- Fix price utility tokens

April 2020

4th stage

Development of different markets

Utility Token
Stable Coin
Security Token
Colored Coins

- Security token large free float
- Colored coins
- Transaction fees
- Subscription fares
- Fix price utility tokens

2021

Operational and financial milestones

Project's payback period is about 1 year

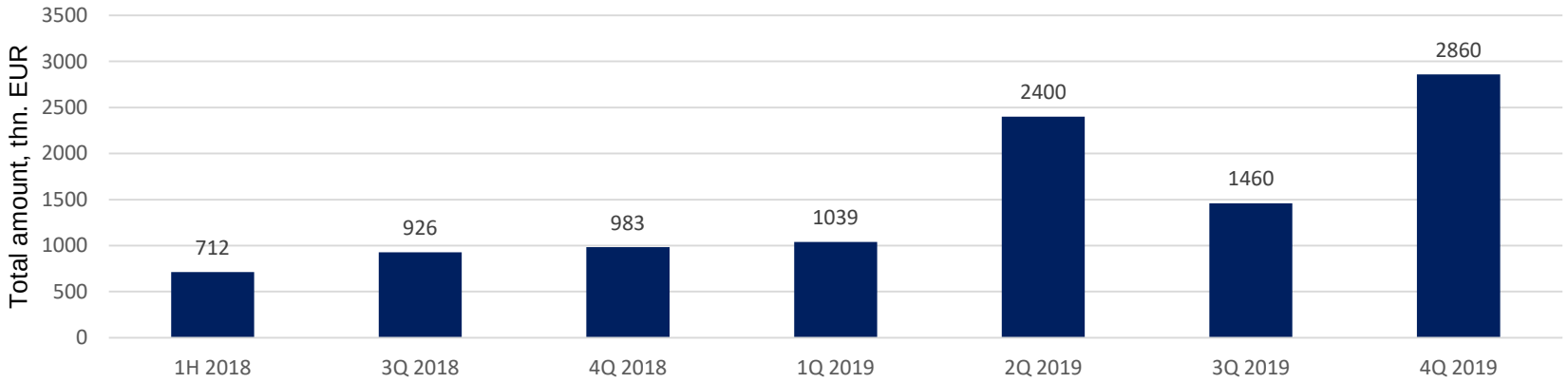
Disc. Pay-Back	**1,2 years**
NPV (for 3 years)	**EUR 75 M**
IRR	**491 %**

	Working Model	Private Pilot	Pilot Market	Public Network	Different Markets	
	Y0	6 months	12 months	18 months	24 months	36 months
Operational indicators	Number of accounts, M	-	0,1	0,6	1,2	3	4,5
	Number of transactions per day, M	-	0,1	3	7	18	8
	Average size of transaction, EUR	-	42	68	152	330	490
Financial figures	Revenue, EUR M	-	0,02	1,4	22,9	49,4	137
	OPEX, EUR M	0,2	0,5	1,8	9,9	23,3	59,9
	EBITDA, EUR M	-0,2	- 0,5	0,2	14,8	36	100
	EBITDA, %	0	0	-25	59	70	73
	CAPEX, EUR M	0,8	1,4	2,5	1,9	2,9	1,4
	DCF accumulated	-0,9	- 1,8	- 3,5	3,8	21,9	75,2

Dynamics and structure of expenditures

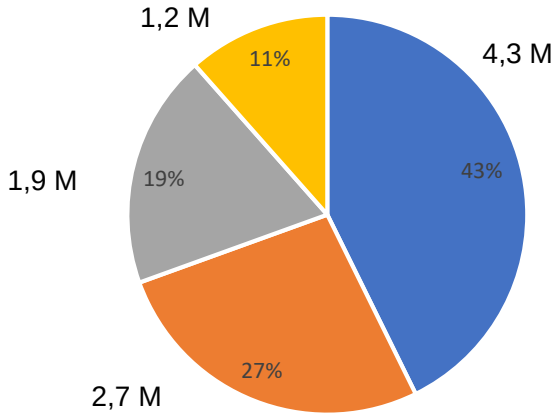
Project costs zoom up in the second quarter of 2019 due to the public network launching preparation

Quarterly expenditures trend, 2018-2019, thnd. EUR



Equipment expenditures and cost of system development reach 2/3 of total project's expenses

Expenditures structure, 2018-2019, EUR M



Expenditure item	Value, EUR M
Cost of development and testing	4,3
Marketing expenditures	2,7
Cost of servers and equipment	1,9
Administrative expenses	1,2

Who we are?

VEDA's team includes sound core of developers, specialists in the field of cryptography and distributed ledger

NIKOLAY PETROV, Founder
Professional background is mainly formed by the influence of two factors: mathematician education and entrepreneurial mindset; capable to see business opportunities in solving key problems of the industry; successfully implemented a marketplace for manufacturers and customers of industrial parts

ARTEM VORONCHIKHIN, CEO
Project management, operational efficiency and finance professional; 20-years' experience on top executive positions of large multinational corporations in different industries such as metallurgy, mining, aircraft and space construction, machinery, transport, logistics

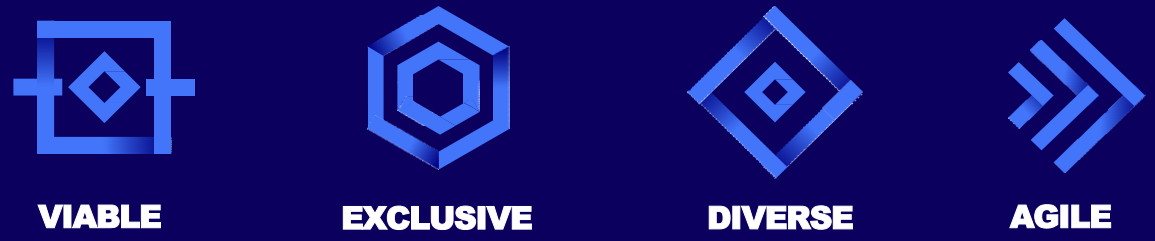
ALEKSEY KONNOV, CTO
Experience in developing the architecture of highly loaded distributed systems; C / C ++ developer; knowledge of version control systems (git, svn) and blockchain architecture; worked in a team that successfully developed the world's best encryption algorithm

ALEKSANDR VIRYACHEV, Product Owner
Experience in project management, debugging applications using pydbg; implementation of highly loaded distributed systems; developer of Python, knowledge of GNU toolchain (gcc, make, gdb, valgrind); experience in writing frontend in QT and development of software architecture

VEDA

VEDA – BLOCKCHAIN PLATFORM

APPENDIX 1. INDUSTRIAL USE-CASES



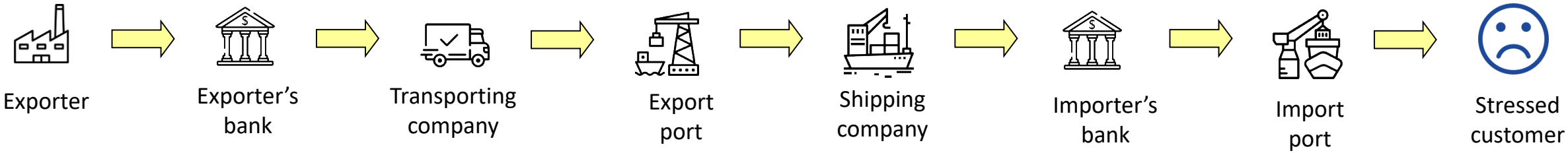
VEDA Platform’s industrial opportunities

VEDA presents particular solutions for different industries of economy

for Banks	for Healthcare	for Logistics	for Telecom	for Aviation
Distributed KYC / AML database	Tracking the authenticity of medicines	Objective confirmation of good’s quality	Distributed KYC / AML replaces physical sim-cards	Optimization of planning processes
Customizable services	Instant and secure patients’ data exchange	Online tracking of shipment’s location and parameters of cargo	Customizable services in new market segments	Instant data exchange between MRO and airlines
Instant payments system	Extension of network participants’ clients base	Automation of the business process	Data storage cost-cutting	Automatic aircraft’s status tracking
Distributed trading infrastructure	The united patient's medical records from different clinics	Accumulation of big data	Instant data exchange	Keeping trade secrets of competitors - members of the network
Matching of assets and loans data	Automatic classification and decision-making on insurance events	Self-managed system	Synergy of the network participants	Synergy of many market participants

VEDA: modifying logistics business process

As is: Expensive and time-consuming tracking, documentation, compliance, reporting and legal support

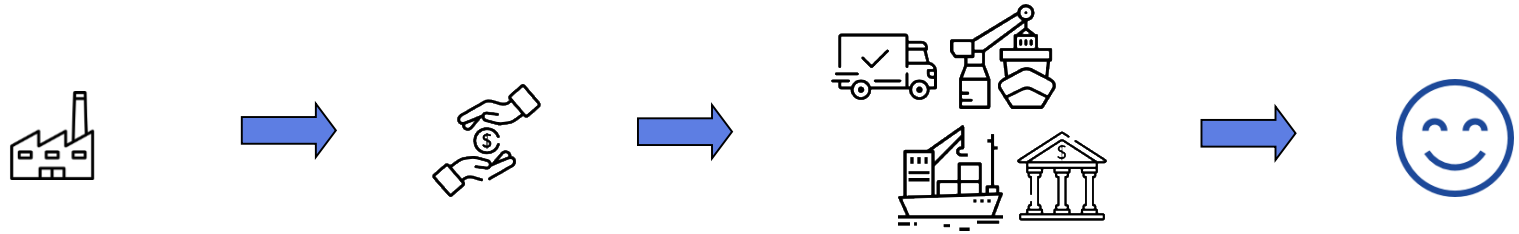


Many parties are involved in the exchange of information on goods and their conditions, the documentation is heavy

Inaccurate and incompatible data leads to additional transporters', manufacturers' and customers' costs incurring

Receiving of counterfeit or damaged goods, high transportation costs

To be: Absolute transparency, simple tracking and cost-effective processing



Automated processes and documentation support by smart contracts implementation

Satisfied customer

Logistics business case

Blockchain provides transparent documentation and tracking information.
VEDA provides cost-effective access to new markets and clients

Tracking and Tracing

Automation of supporting documents flow **decreases time of delivery, reporting and legal costs**

Customizable deal terms in easy-to-use smart contracts

Clear **access right management** and **CRM** functionality

Easy scalable solution for various number of suppliers and consumers, range of goods and services

Online sharing of time-stamping transparent data regarding quality, location and physical metrics of cargo

Blockchain-based tracking system provides information for supply chain **process improving and quality assurance**

VEDA: transformation of telecom industry

Current centralized solutions do not provide the appropriate level of confidentiality and integration of data

As is: Complicated and expensive reconciliation of operators and customers data

- Large massifs of clients and transaction data in incompatible formats
- Time-consuming billing processes every reporting period
- Technical limitations for developing of new services and markets
- High operational costs for data storage, processing, compliance and reporting due to extensive infrastructure

To be: Cost-efficient control and usage of technical and financial information

- High-speed exchange of unaltered data-stamped data
- Automated deals execution by smart contracts
- Intensive development of Internet of Things and other new services
- Cost saving on sim-cards and databases maintaining due to usage of distributed shared database in network

Telecom business case

Blockchain technology improves business processes in telecom industry. VEDA provides cost-effective access to new markets, services and clients

Telecom use-cases

Blockchain-based instant payments **decrease billing systems maintenance costs**

Automated KYC / AML smart contracts **replace physical sim-cards** and reduce costs

Combination of smart-contracts and time-stamping data **enforces IoT deployment**

Automated roaming settlements and single billing database improve the working capital cycle

Improving trusted collaboration between operators leads to reducing fraud and cost-savings

Cost-effective **securing of customer data** and fulfilling compliance requirements

Current limitations in healthcare industry

Current business processes and IT solutions do not provide the appropriate level of reliability, integration and usability of data for customers and institutes

Separate data storage

Case history and patient's personal data are performed and stored by many separate market participants: hospitals, clinics, laboratories, private doctors, insurance companies

Counterfeit pharmaceuticals goods

The counterfeiting of drugs and false medication are a widespread problems.
There are limited opportunities to track so the legacy and conditions of medicines as validity and reasonableness of medication

Human factor

Mistakes and inaccuracy in documents and non-transparent procedures affect the decision-making about patients' disease and the approval of insurance cases

Healthcare business cases

VEDA

Blockchain provides integrity and security of drugs' legacy, patients' health and personal data. VEDA makes healthcare environment comfortable

Medicine's legacy and conditions

Powerful **advertising effect** for requiring small resources to spend

Online tracking of time-stamping data regarding drugs' quality, location, authenticity, conditions

Online supervising of market by regulators and self-managed market players associations

Customizable deal terms in easy-to-use smart contracts

Saving of processing, administrative, reporting and legal **costs**

Collecting **big data** for **market analysis**

Patient's case history and personal data

The single source of data provides the ultimate **convenience for the patient**

Instant access to the whole patient's data ensures **immediate medical response**

Cost-efficiency for patient and insurers due to **avoiding duplicated expenses**

Collecting **big data** for national healthcare system analysis and improving actions

Easy scalable solution for creating national and global healthcare programs

Automated tracking, classification of health insurance events and **decision-making**

Key cost-forming factors in aviation MRO services

Cost and quality of aircraft maintenance directly depend on online availability of full information regarding each aircraft conditions

Flight schedule:

- Ensure online availability of information about idle slots for planning of line and base maintenance
- Provides information about operating conditions and aircraft's personal features

Planned and unscheduled replacements, identified defects of aircraft:

- Allows to plan future aircraft's repairs
- Allows to timely plan types of work and necessary tools for them
- Allows to form orders for specialists with necessary qualification and spare parts

Production logistics planning:

- Allows to plan optimal locations for future checks
- Making in-time about types and deliveries of aircraft spare parts and maintenance tools

VEDA: opportunities for aviation MRO

Current centralized solutions do not provide the appropriate level of confidentiality and integration of data.

As is: centralized separate databases

- Different operators and MRO contractors have specific, often incompatible local databases
- There are no common standards for the information exchange between peers
- The data necessary for external participants is not isolated from internal users' sensitive commercial secrets
- Time-consuming information flows

To be: the single distributed database

- Online access to the single database dramatically increases the quality of planning
- Predicted and précised planning saves MRO and airlines' time, resources and costs
- Standard data formats decrease probability of mistakes and increase reliability of information
- Commercial secrets are kept due to segregation data access for varied types of users

Aviation business case

Blockchain provides transparent unchangeable data from multiple sources
VEDA presents solution for improving quality and decreasing costs of MRO

United Flights and MRO Database

Strong resource planning
increases cost-efficiency

Precise planning of flights and MRO improves **quality and safety of service for passengers**

Customizable deal terms in easy-to-use smart contracts

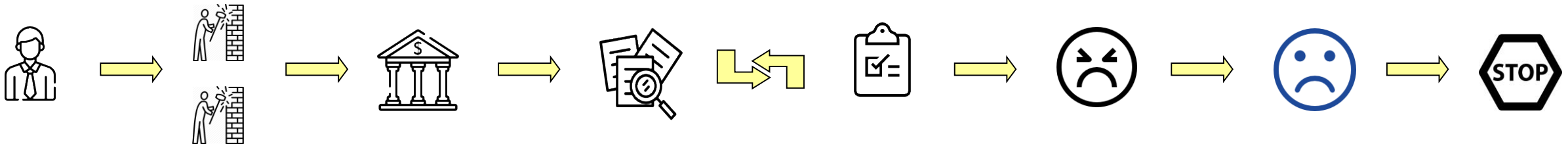
Online supervising of transparent data regarding services, people, spare parts

Clear **access right management** and **CRM** functionality

Easy scalable solution

VEDA: changing banking environment

As is: Limited range, confined speed and weak usability of client service



A lot of manual compliance checks required to open and operate an account results in subjective approach

Repeating additional KYC requests
Prone to human errors

Time-consuming follow-up control within transactions execution

Regulator's rejects

Clients outflow

Limitations for development

To be: Cost-efficient access to new markets due to technology

Fast, efficient, objective KYC/AML procedures and clients' transactions execution by smart contracts

Benign regulator

Clients influx

Cost-effective expansion

Banking business cases

Blockchain relieves a number of legal, compliance and political barriers. VEDA provides cost-effective access to new markets and clients

Instant Payments

Digital bank business model focused on targeted on-line communication

A**n easy entrance** to retail market if it hasn't been the case yet

Switch between fiat and crypto is secured by Maltese legislation

Payment system is **EU-regulated** and subject to AML/KYC rules

Controlled exchange **caps speculation** opportunities (fees from trades or payments)

Advanced image of an up-to-date institute **distinct it from peers**

Brokerage / Corresponding Banking

Smart contacts **route deals/payments** making certain back office functions obsolete

Easy scalable solution

Easy-to-use client application

Clear **access right management** and **CRM** functionality

Customizable deal terms in smart contracts

Bank/broker gets secure solution with **instant transaction functionality and time-stamping**

VEDA colored stable coins as “digital bonds”

Even large corporations face a problem of long-term projects fundraising. Traditional sources (banks, funds, bonds) are expensive, time-consuming and not-guaranteed

As is: bonds/syndicated credits/IPO

- **Strict regulation:** Complicated compliance
- **Typical investor:** Small number of large institutions
- **Cost of money:** High due to long intermediary chain
- **Minimum size of investments:** High affected by limited access to markets
- **Stock exchange commissions:** High due to legal and depository infrastructure expenses
- **Audit expenses:** Project due-diligence / audit report

To be: stable coins as “digital bonds”

- **Facile legislation:** General KYC rules only
- **Typical investor:** big number of upper- middle class individuals
- **Cost of money:** Low because of direct access to investors / creditors
- **Minimum size of investments:** Low to medium made by easy access to “last mile”
- **Exchange fees:** Could be zero because of direct token offering
- **Audit expenses:** No requirements

“Digibonds” business case

gib

VEDA

Stable coin is an effective alternative to convertible bonds or non-voting stocks. VEDA provides cost-effective access to new sources of long-term financing

Colored Stable Coin / DigiBond

Access to **new types of investors** possessing large total capital

Stable coin can **be bought back by a fixed price** once upon a time

Wide opportunities for developing of digital derivatives market

Stable coin is secured by (future) **value of real assets and issuer’s reputation**

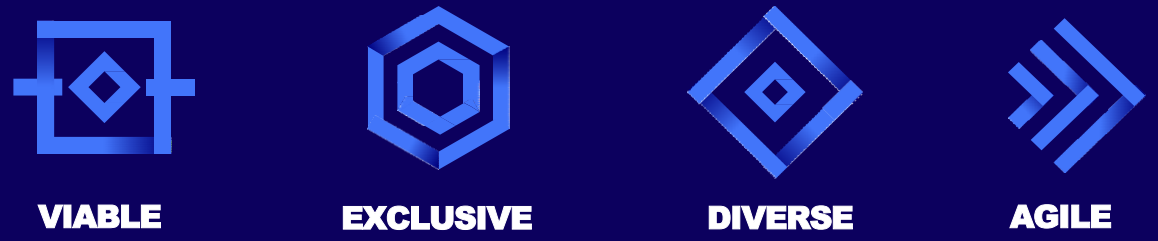
Smart contracts potentially allow to reproduce a coupon / dividend payments model

Lower volatility in comparison with cryptocurrencies

VEDA

VEDA – BLOCKCHAIN PLATFORM

APPENDIX 2. TECHNICAL CONCEPT OF THE PROJECT



The platform’s technical basis

VEDA

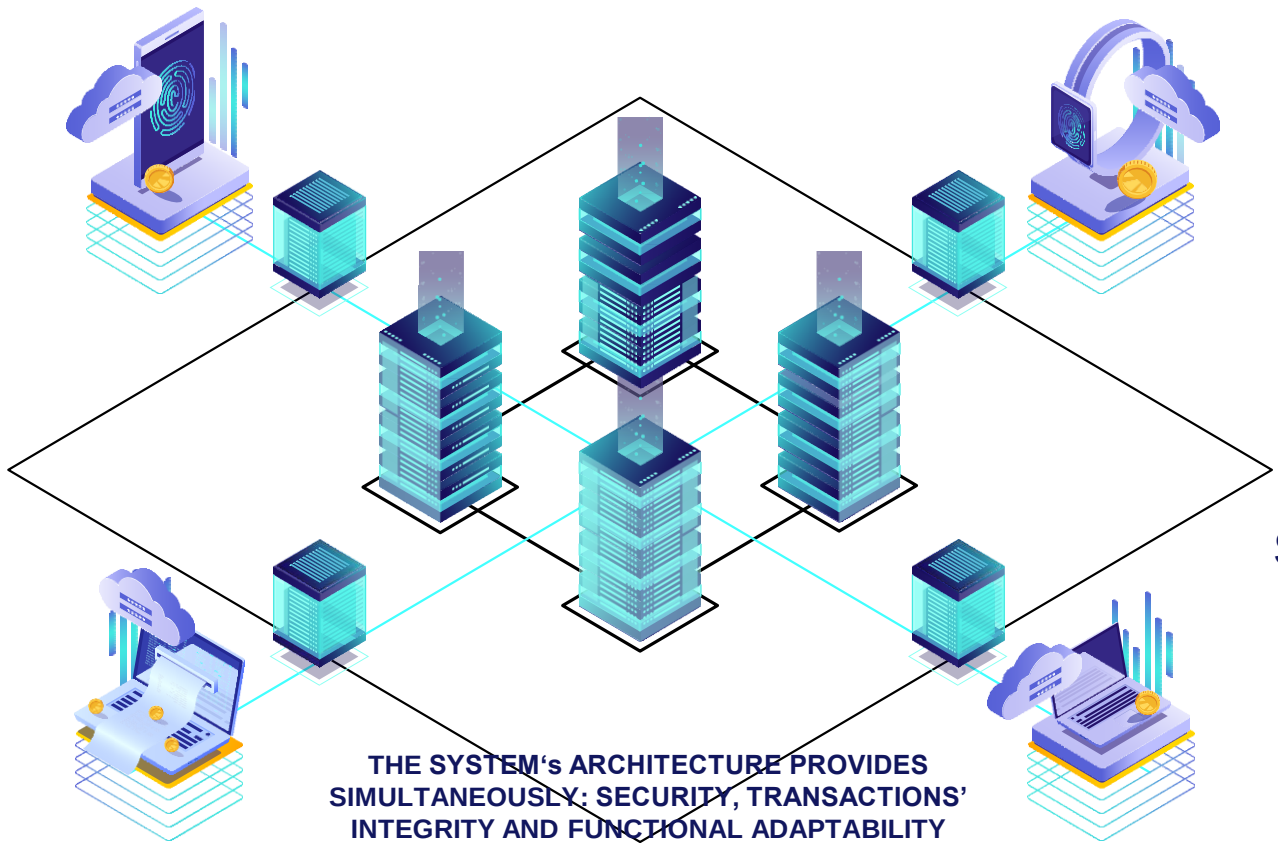
VEDA’s architecture and algorithms ensure integration with a “real sector world” providing transactions with security, integrity and diversity

Secured Data Container

VEDA token is a universal container for data transferring and storage. It’s a 1 kB file protected by unhackable digital algorithm. This technology allows to restore information even if a device has been lost or hacked

Architecture

VEDA network is based on the combination of Directed Acyclic graph (DAG), distributed contract’s register and decentralized storage of blocks (archive)



THE SYSTEM‘s ARCHITECTURE PROVIDES SIMULTANEOUSLY: SECURITY, TRANSACTIONS’ INTEGRITY AND FUNCTIONAL ADAPTABILITY

Node

3-levels Nodes provide the data exchange between users via the shortest route.
Nodes join the network on competing basis with strong technical and financial requirements

Smart contract

Library of pre-defined standard smart contracts makes process of signing and execution of commercial agreements much easier and cost-effective

VEDA's key features

VEDA is an exclusive ecosystem providing adapted solutions for a specific group of customers

Security

- Top-tier encryption algorithms
- Core-level restricted information access
- Clear segregation of access rights between different users

Agility

- Data is stored in multiple forms
- Information is easily exchanged and reconciled between different nodes within one single network

Speed

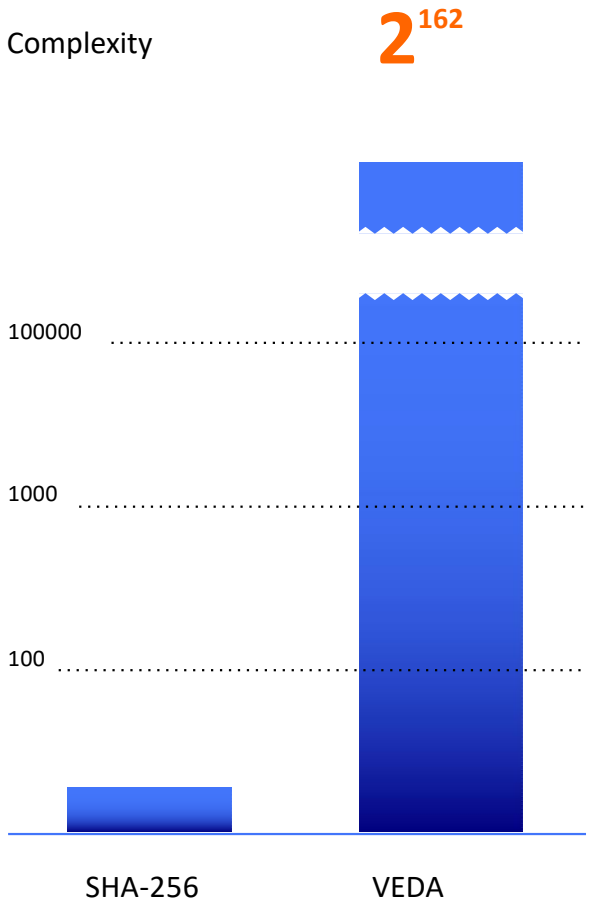
- No mining
- Processing speed up to several thousand of transactions per second
- Built-in smart-contact functionality

Cost-efficiency

- All kinds of data are stored in one place making it easier and cheaper to maintain
- Data processing and reconciliation is less energy-consuming comparing to peers

Key Value - security

VEDA tokens have secure means to safely keep the information



Complex algorithms

VEDA tokens are encrypted by double resistant algorithm

Secure storage and data transparency

Encrypted files are stored in the device's memory hidden area that is inaccessible for the OS and third-party applications.

Dual encryption

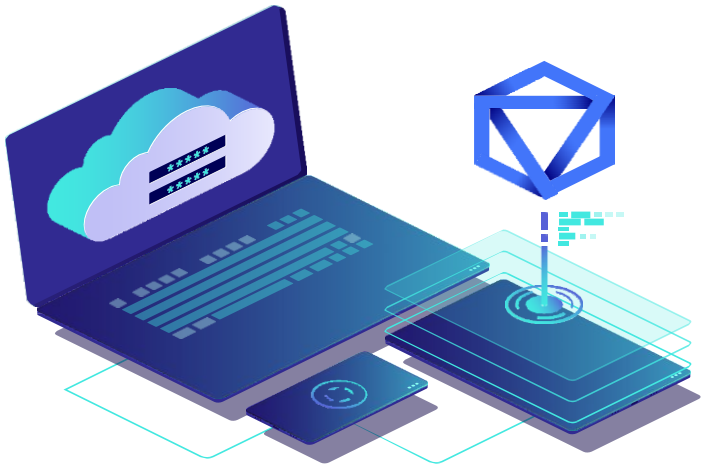
Both the data itself and the data channels are encrypted

Separation of functions

Transactional and information storage subsystem spin off.

Key Value - agility

VEDA tokens have the flexibility to operate with different kinds of data



Multiform information storage and transmission

Veda token is not just a register entry, but a file which contains information

Flexible system developing

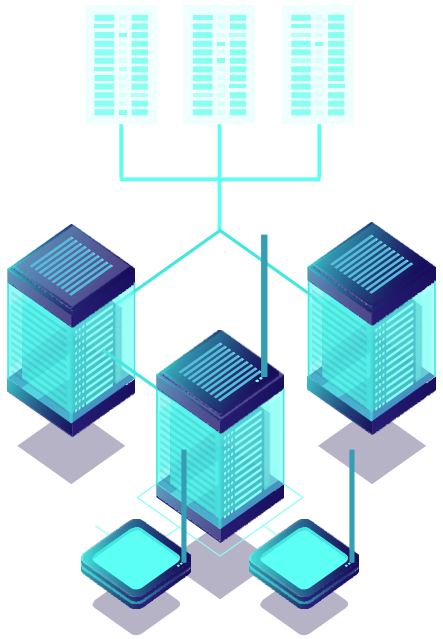
The system has open source API interfaces which allow easy smart contracts and other VEDA applications developing on different programming languiges

Segregation of access rights

Different groups of blockchain network users can only see the information that should be available to them

Key Value - speed

VEDA blockchain is free from inherent processing bottlenecks



Improved architecture and consensus protocols

Consensus protocol, sufficient number of G-NODEs and absence of mining ensure high transaction speed and resource savings

Fast transactions

Several thousand transactions per second are executed due to employment of advanced system's architecture and DPOS consensus protocol

Built-in smart-contact functionality

Accelerating execution of transactions due to pre-installed library of smart-contracts templates

Key Value - cost-efficiency

VEDA tokens create efficient transaction environment

Optimized transaction processing

Consensus protocol DPOS[1], the single tokens issue at the start, combination of the blockchain and DAG[2] are not energy consuming processes

Improved approach to maintenance costs

As the result maintaining of network incurs relatively low costs in comparison with other platforms

Flexible data management setup

Inherent detachment between data storage and data processing allows building “one-stop shop” for any process involving financial data

- [1] DPOS – Delegated Proof of Stake
- [2] DAG – Directed Acyclic Graf

Consensus algorithm

Nodes of different types store and transmit users' data

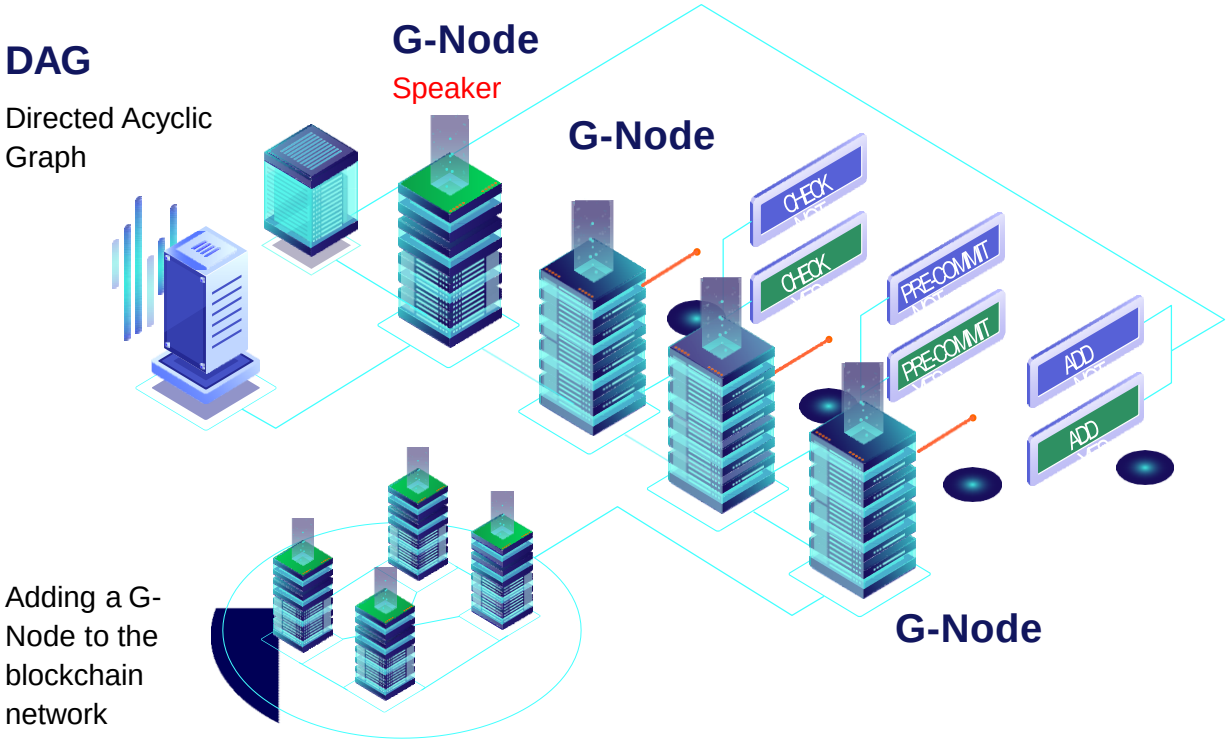
System nodes

In order to avoid their double write-off system nodes assure pre-lock of tokens that are to be transferred from one wallet to another

Users' nodes

Copies of blockchain, graph, list of contracts and SSL certificates are maintained on users' nodes. They also route tokens (data containers) transition between users

Nodes receive commission fees on each transaction confirmed and entered to the graph



G-NODEs

A G-NODE is a Node which is endorsed in accordance with technical and financial requirements

A range of G-node forms a large (several hundred or thousands) authorized G-nodes pool

In order to save resources, the confirmation of transactions is carried out by a limited number (several dozen) of G-nodes

The selection of the G-nodes confirming a particular operation from an authorized pool is determined by the system on random basis

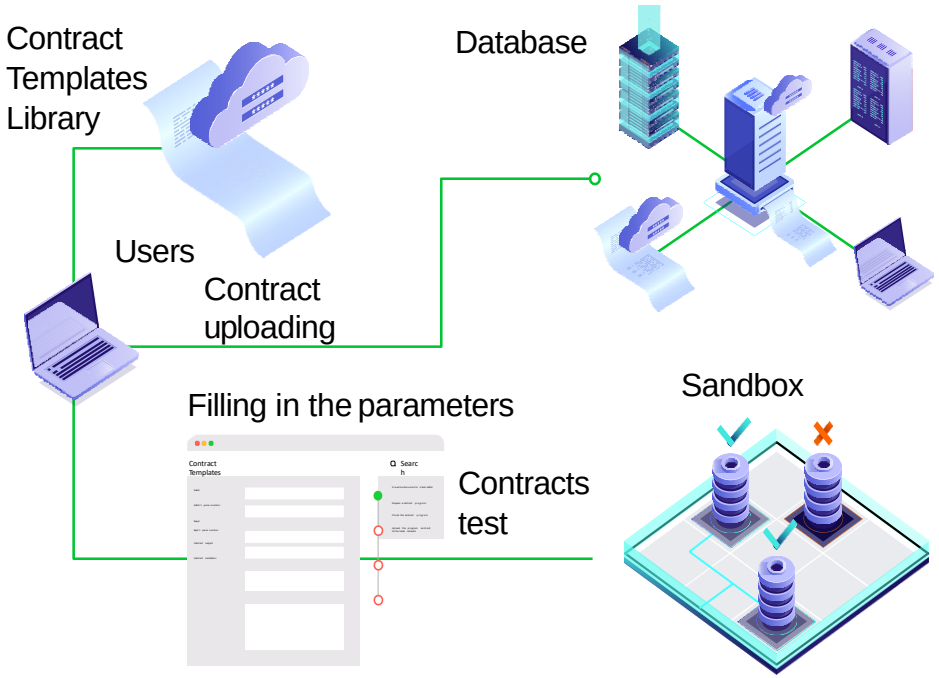
Smart contracts

The library of smart contracts' templates simplifies conclusion and monitoring of contracts execution for the users

Algorithm

- Inclusion of a contract template in the library
- Selection of the template by the user
- Construction of the contract terms from the predefined elements by the user
- Upload the contract to the server
- Check for the contract errors and inconsistencies
- Publication i.e. incorporation of the contract in the register
- Closure of the possibility to modify or remove the contract from the system
- Track the contract based on a unique identifier (ID)

Simplicity of contracting



Advantages

- Creation of the contract does not require any special programming skills
- Open architecture allows to create an unlimited number of templates
- Standardization allows to make automated contracting widespread
- Arbitrage being a service or a third party can be brought to confirm the execution of the contract
- Possibility to conduct auctions and tenders with automatic determination of the best offer

Platform Development Roadmap

VEDA working prototype development (network model + virtual machine) **Oct 2018**

Initial stage **Network working model**

VEDA alpha-network presentation (incl. smart contract creation and execution tools) **Apr 2019**

1st stage **Pilot private network project**

Crypto-fiat transactions gateway implementation **July 2019**

VEDA beta-version network realise **Oct 2019**

2nd stage **First pilot market**

Hardware wallet introducing **Feb 2020**

Launching of VEDA public network with integrated smart contract market & design-tool **Apr 2020**

3rd stage **Public blockchain network**

Creation of decentralized environment for running applications **July 2020**

4th stage **Development of different markets**

Functional comparison

Functional comparison of VEDA Platform with cryptocurrency systems

	VEDA	BITCOIN	ETHEREUM	EOS	RIPPLE	IOTA	CARDANO	NEO
Monetization methods for network members								
Mining	-	✓	✓	✓	-	✓	-	-
Fees to nodes owners	✓	-	-	-	-	-	-	✓
Token emission limit	91 Billion	21 Million	94 Million	1 Billion	100 Billion	2, 8 Quadrillion	No limits	100 Billion
Smart Contracts								
Smart contracts' support	✓	✓	✓	✓	-	-	✓	✓
Language/ tools	WebAssembly standard	SCRIPT language	SOLIDITY language	WebAssembly standard			Protocol Shelley	NEO Virtual Machine
Pre-installed smart contracts library	✓	-	-	-			-	-
Ability to create smart contracts without programming skills	✓	✓	-	-			-	✓

Technical comparison

Technical comparison of VEDA Platform with cryptocurrency systems

	VEDA	BITCOIN	ETHEREUM	EOS	RIPPLE	IOTA	CARDANO	NEO
				Technical specifications				
Data crypto container	✓	-	-	-	-	-	-	-
Speed, transaction per second	>1 500	7	20	5 000	1 500	800	7	1 000
Consensus	DPoS & BFT	PoW	PoW	DPoS	RPCA	PoW	DPoS Ouroboros	dBFT
				Security				
Symmetric encryption of communication channels	✓	-	-	-	-	-	-	-
Information storage only on users devices	✓	-	-	✓	-	✓	-	-
Crypto container protection	✓	-	-	-	-	-	-	-
Separate storage of tokens and keys	✓	-	-	-	-	-	-	-
Double protection	✓	-	-	-	-	-	-	-

Functional comparison

Functional comparison of VEDA Platform with industry-specific solutions

	VEDA	Hyperledger Fabric	Master chain	Healthureum	Medical Chain	Ambrosus	Ship Chain
			Potential markets				
Financial sector	✓	✓	✓				
Healthcare sector	✓			✓	✓		
Logistics sector	✓					✓	✓
			Customers' features				
Consolidation of clients' personal data	✓	-	✓	✓	✓	-	✓
Information tracking	✓	-	-	✓	-	✓	✓
Segregation of access rights	✓	✓	✓	-	✓	-	-
Integration between clients all over the world	✓	✓	-	✓	✓	-	✓

Functional comparison

Technical comparison of VEDA Platform with industry-specific solutions

	VEDA	Hyperledger Fabric	Master chain	Healthureum	Medical Chain	Batavia	Ambrosus	Ship Chain
				Technical specifications				
Private network	✓ Public or private network (depend on task)	✓	-	✓	-	✓	-	-
Based on the own platform	✓	✓	-	-	-	✓	-	✓
Own token	✓	-	-	✓	✓	-	-	✓
Smart contracts' support	✓	✓	✓	✓	✓	✓	-	✓
Development stage, by the end of September 2018	Implementing alpha-network architecture	The final system testing	4 pilot projects in the banking sector	Beta-version for data systematization	Beta-network with hospitals	Two pilot trades	The first system's version	Web-platform launching

VEDA

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