



The first blockchain to create verified personal profiles  
based on academic and professional achievements



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*«I've been predicting that by 2030 the largest company on the internet is going to be an education-based company that we haven't heard of yet»*

Thomas Frey, the senior futurist at the DaVinci Institute

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In today's world more than ever before the idea of lifelong education — a continuous search for new skills throughout your life — is becoming more and more relevant. The need for this arises from the fact that searching for new skills can improve your quality

of life by making you knowledgeable about the current economic and social changes. Through this you can become more prepared for current realities, and thus have a bigger potential both on the cultural and professional level.

## About our project

**DISCIPLINA** is a multifunctional blockchain for projects in educational and recruiting spheres. It provides transparency of activity, and creates the conditions for maintaining the confidentiality and the reliability of the information added by system participants.

**DISCIPLINA** doesn't use any other blockchain, and is being developed for the demands of the educational and recruiting fields, taking into account the specificity of their activity. See page 7 for more details on the platform's architecture.

	Bitcoin	Ethereum	NEO	EOS	DISCIPLINA
Smart Contracts		●	●	●	●
Cheap transactions			●	●	●
PoS-consensus				●	●
Web of Trust					●
Private chains					●

## Ecosystem Participants



### Academic institutions

State and private offline and online organisations, children's educational institutions, universities, academies, etc



### Tutors

Offline and online tutors, coaches, instructors, teachers, psychologists, mentors etc



### Students

Any person that is studying, or would like to find an educational programme for themselves or for their friends and family



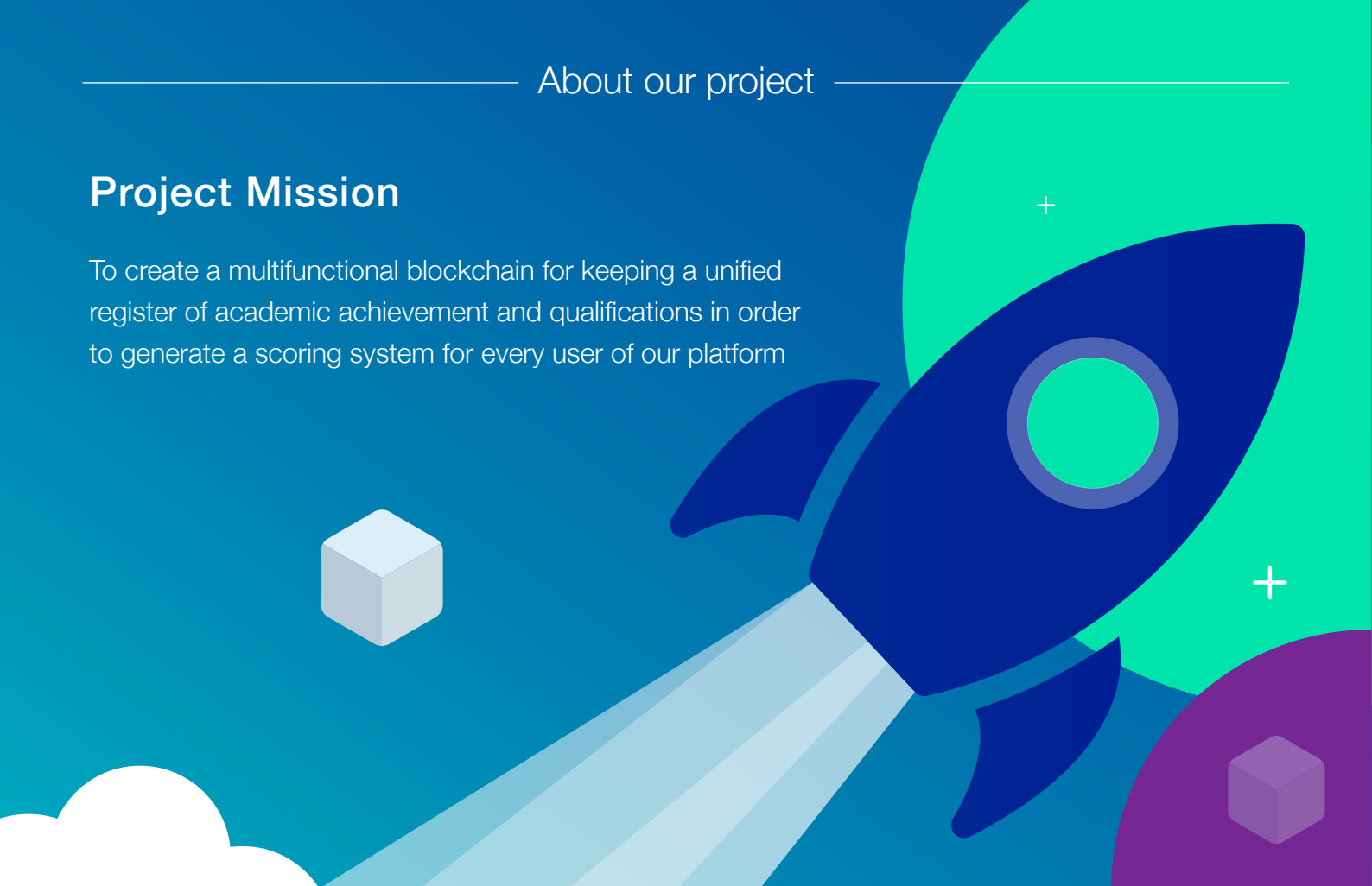
### Recruiters

HR-agencies, private HR-specialists, platforms for personnel search and recruitment, employers and entrepreneurs

These users will interact with each other on the DISCIPLINA platform through applications that contain educational, recruiting, and other interfaces.

## Project Mission

To create a multifunctional blockchain for keeping a unified register of academic achievement and qualifications in order to generate a scoring system for every user of our platform



## Our Goals

- To create a universal blockchain that will store personal achievements in a digital form and guarantee their permanence and credibility
- To offer an effective algorithm for candidate search by their fields of expertise
- To develop a mechanism of monetization of the data stored by the educational institutions

## Key capabilities of the DISCIPLINA blockchain

- The opportunity to store the data on personal achievements in digital form and to provide the access to the data through the unified platform, guaranteeing its permanence and credibility
- An effective search tool by candidates' achievements and their fields of expertise
- The opportunity for educational institutions to monetise the data stored on student academic achievement
- The establishment of a career goal, where the system will develop an optimised educational path, aiming towards employment in a desired company

## Problems of the education sphere participants

The field of education is currently experiencing a range of issues, some of which are:

- The **differentiation** in the data stored in various educational institution in differing formats
- A low level of **trust** in the system of education



### For the educational institutions:

- The **impossibility** of efficient **exchange of data** on academic achievement between institutions due to the lack of a unified register
- High **risk of paper documentation loss** in the archives of educational institutions
- Paper versions of documents can be easily altered or **falsified**

### For students:

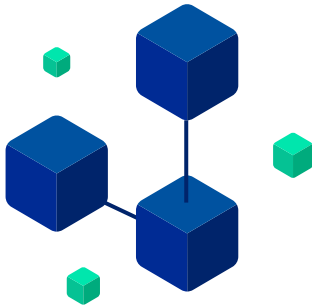
- The lack of **credible ratings** of educational institutions and teacher qualifications
- The lack of **trust** in the academic qualifications due to the difficulty in proving of their authenticity
- The difficulty in creating an **educational plan** to a particular **employment goal**



### For recruiters:

- The difficulty of **searching** for the specialist with required qualifications
- The lack of **trust** in the academic qualifications of candidates
- The impossibility to qualitatively **assess** the candidates' work **experience**

## DISCIPLINA will allow

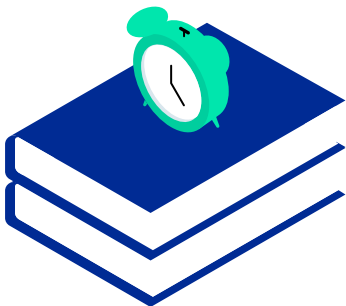


### The Field of Education:

- **to store the data** in a distributed system, offering access through a personal profile of the user:
  - academic history becomes completely transparent
  - there is no risk of loss
  - each student receives a score
  - the entire academic history is offered in one place as one unified CV
- **to restore the trust**, value, and importance to the educational process and the system as a whole

### The Educational Institutions:

- **to store the data** on the DISCIPLINA network, while the integration into existing or new CRM-systems provides the opportunity for quick retrieval
- to award grades using **online testing** and automatic upload of the grades onto blockchain
- to record the data in blockchain, which makes it impossible to alter or **forge**
- the opportunity to **monetise** the archive data on student academic achievement and qualifications by providing recruiters with the access to it



### The Students:

- to more **easily choose** the educational institution and programme due to the objectiveness of the rating system
- to **guarantee the reliability**, integrity, and permanence of the data stored on the platform thanks to blockchain technology
- to **devise** a fixed **educational path**, suited to their career aspirations

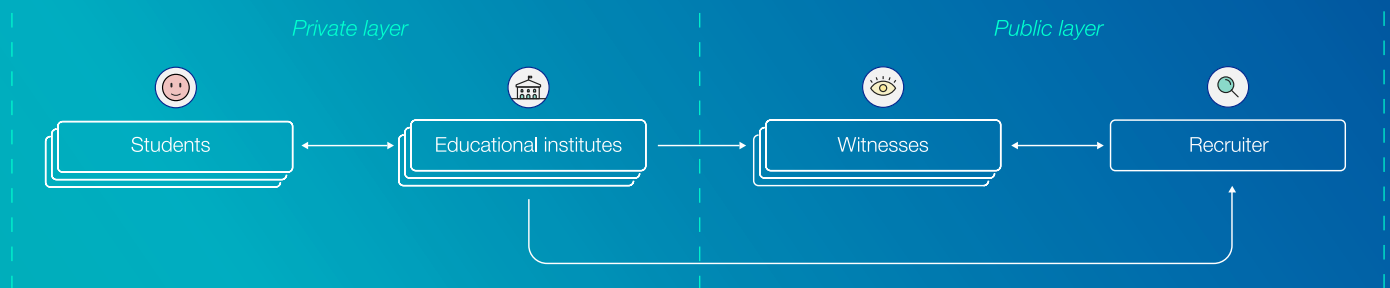
### The Recruiters:

- to **narrow the search** to the specialists with required qualifications an effective algorithm of candidate search by their skills and fields of expertise
- to **trust the reliability** of the data once entered into the blockchain
- to **register the data** on work experience and employee achievement by using blockchain

## Why are we developing our own blockchain architecture?

DISCIPLINA will store confidential information, such as the courses, students' tasks, grades, and test results. Therefore, public blockchain solutions, which store all of their transactions in open access — Ethereum or EOS, for example — are unacceptable. At the same time, private blockchain solutions, such as Hyperledger, do not provide enough verifiability of the data stored on them.

## How does DISCIPLINA work?



**Private layer.** The private segment does not allow any data except hashes to open access. This is done to store private and personal user data, as well as those materials that are protected by copyright or commercial confidentiality.

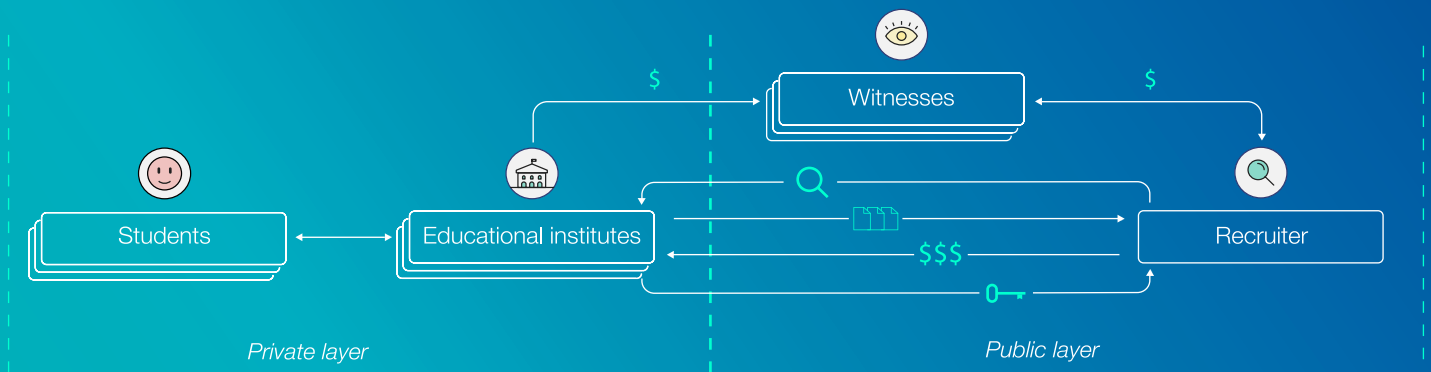
**Witnesses** check the validity of the segments within the private blockchains of the educational institutions. They will manage public chain of blocks, on which data created within each school is hashed. The witnesses won't have access to the data itself, only to the hashes of the data.

**Educational institutions.** An educational institution is any state or private online and offline organisation that conducts any and all educational activity. Private tutors are also included. It can even be a simple marketplace offering the sale of study materials. Every educational institution has its private chain and the opportunity to monetise educational records stored there.

**Recruiters and other interested parties** are offered paid access to the information about the academic history and achievements of the students.

**Public layer.** The public segment provides the access to the data that verifies the integrity of the private chains and the reliability of the data stored by the network.

### Data Disclosure Algorithm



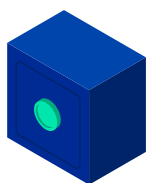
When it comes to the sale of the private data, it is important to guarantee the integrity of such deals. Our team has developed the protocol that guarantees the transmission of the valid data in return for a transaction in cryptocurrency. When an educational institution sends data that has not been verified in the public blockchain (for example, if student’s grade was updated) to the buyer, the buyer doesn’t lose his money, but it is the educational institution that is fined a fixed amount. At the same time, there will be no disclosure of the transmitted data to third parties, since only the anonymised invalid part of the data has to be disclosed.



#### Data Privacy

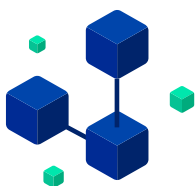
Student will be able to fully or partially deny access to his personal data.

User personal data is stored on the private chains of the educational institutions. The public part of the network has only hashes of this data. Thus, private data remains reliable and safe at the same time.



#### Data Security

The DISCIPLINA architecture stores the data on student academic achievement on the private chains of educational institutions. This could cause the problem of data unavailability in the event that that educational institution stops using the network or that their equipment malfunctions. DISCIPLINA solves this problem by also storing the copies of all the data in student’s personal profile – thus it will be easy to prove the authenticity of the data by accessing the old records in public chain and checking the hashes.



#### PoS Consensus Algorithm

To check the validity of transactions in public chain, so-called «Witnesses» will use a consensus algorithm based on Proof-of-Stake technology, which provides the high speed and low price of transaction.

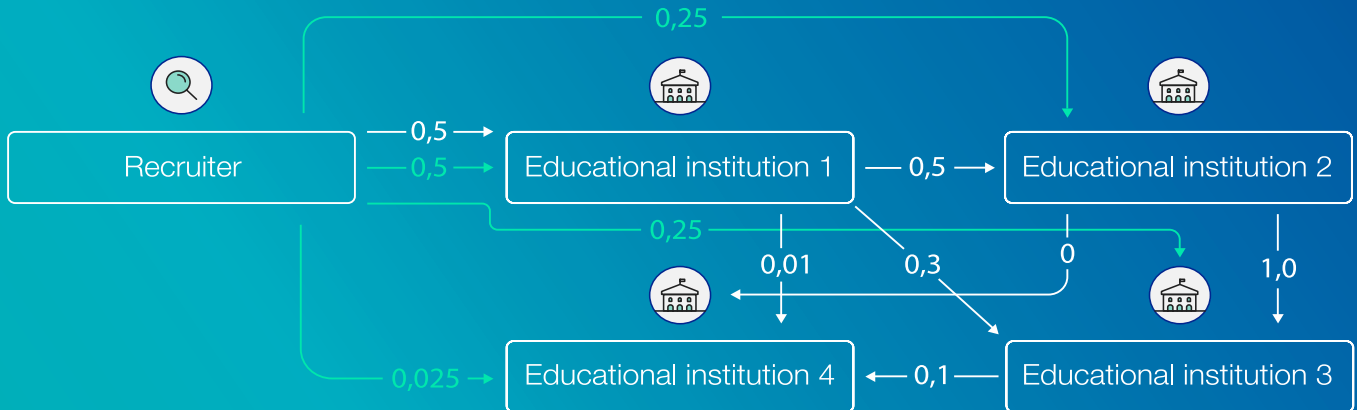
The Witnesses, as in other cryptocurrencies, will be rewarded for the launch of each block with commission fees from transactions made in that block. The probability that the Witness will become the block-leader is proportional to the number of tokens on his account.

You can find more details in Technical Paper.



«Web of Trust»

Using the Web of Trust, the users will be able to set the level of trust in each other themselves.



To protect the system from fictitious educational institutions, DISCIPLINA has an inbuilt Web of Trust, analogous to PGP, in its protocol. Each user will be able to choose the system participants they trust. The level of trust in the other system members will be calculated individually for each user. Our network thus has no “verification centres”, which have an unlimited right to register or refuse the registration of an educational institution.

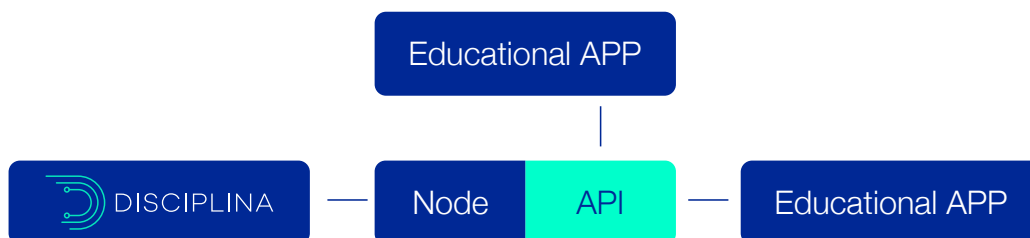
Our Web of Trust will allow recruiters to know which educational institutions are worth cooperating with and which are not.

The value of the grade given to the student will depend on the rating of the educational institution at the time the grade was awarded.

DISCIPLINA integration into other services

DISCIPLINA is an open-source blockchain. In order for the whole ecosystem to work, DISCIPLINA needs to have applications on top of the core blockchain. These applications include recruiters’ interfaces, students’ wallets and CV storage, analytics frameworks and much more. Although we will provide reference implementations of these applications, a really decentralised system (the one like DISCIPLINA) would benefit from the community-written software. Any educational or recruiting service will be able to use it in their projects that store and process the personal data.

The functions of the platform will be performed through the DISCIPLINA node. The platform will provide the public API for the convenient interoperation of the services with the DISCIPLINA nodes.

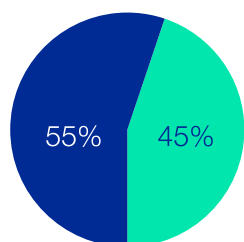


### Token technical pool

In traditional pseudo-decentralised models, such as PoS with compulsory delegation, for example, the key organization is responsible for the entire community over a long period of time. The performance of the entire system depends on this organisation, and not on the community.

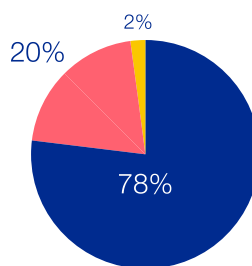
In order to ensure real decentralization, a technical token pool will be formed after the launch of MainNet. This will prevent one stakeholder from having the majority of the stake — and thus the ability to influence the functioning of the network. Technical pool will be formed in such a way that the share of tokens from the total volume of token issue will be 45%, and this will be distributed between three independent organisations. These tokens will be non-transferrable, and will be gradually distributed between the ecosystem participants as a reward for validating transactions and supporting the network.

Thus, tokens will be distributed in the following ratio:



Token distribution after the launch of MainNet:

■ Token sale ■ Technical pool

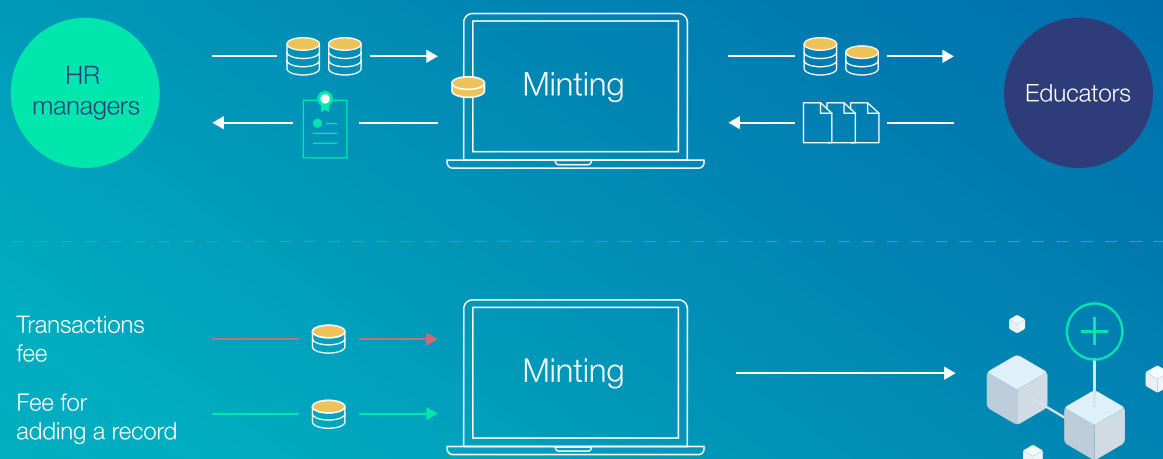


Token distribution after the token sale:

■ Sales ■ Team ■ Bounty campaign

### Minting on DISCIPLINA

Unlike traditional PoW mining, the DISCIPLINA platform provides energy-efficient PoS minting. The users will get rewards for any productive activity devoted to transaction processing and supporting the network. The network rewards the users proportionally to the volume of DSCPL tokens on the balance of each user.



The reward to minters will come both from a part of the commission earned on transactions, and in tokens from the technical pool. The size of the reward distributed from the technical pool will continuously be reduced in such a way that the pool itself will never run out.



# DISCIPLINA

## FOUNDATION

This is a non-profit organization created to help the users of services that use DISCIPLINA.

The managers of this organization will individually deal with any issues that are related to validating the data and digitalising it, and will provide support in the integration of DISCIPLINA blockchain into the other services. Thus, the services will be able to get a quick start to the implementation of blockchain technologies into their projects

**Educational technology (EdTech)** is a general title for the segment of technology that increases the efficiency of and eases the educational process by creating technological resources and developing the methods of their implementation and management.

## Dynamics of growth of the EdTech share of the market



Dynamics of growth of the EdTech market share

## Annual market growth



- The US has the biggest and most mature EdTech market, with a slowing growth rate at around +4,0 – 4,4% per annum. [GSV Advisors, Global Market Insights]
- The second biggest region is South East Asia, primarily China and India, gathering momentum much faster at +17% pa. It has overtaken the Western European market in 2016 with \$11.7 billion against their \$6.8 billion. [GSV Advisors, Global Market Insights]
- The market of Eastern Europe with its \$1.2 billion is behind Western Europe, but it is gaining momentum significantly faster at +17% pa. [Docebo, Global Market Insights]
- Russia is the driver of the Eastern European market, providing an annual growth rate of 17-25%, according to different sources. [TAP Advisors, J'son & Partners Consulting, AmbientInsight, Edutainme]

### Implementation of blockchain technologies on the market

There are currently several projects on the market that are developing blockchain architecture for the field of education.

The University of Nicosia was the first educational institution that started to use blockchain architecture for the storage of diplomas and qualification characteristics. Students from more than **80** countries can learn remotely and, since the university is a member of various European educational organisations, their diplomas are accepted worldwide. Furthermore, the universities accept cryptocurrencies for tuition.

Having conducted an analysis of the educational blockchain projects now in development, we have reached the conclusion that these projects largely solve isolated issues, namely:

- digitalising data
- introducing smart-contracts to ensure the security of deals between teachers and students
- unification and storage of the data on academic achievement in several educational institutions
- cross-border cryptopayments



Despite the fact that the DISCIPLINA blockchain platform is being created primarily for the field of education, it uses all the capabilities both of blockchain technologies and of other recent trends in the fields of computer technologies and distributed systems. It is a wholly universal blockchain platform, well-suited for any other project that deals with the storage of personal data, such as work achievements or medical records.

*In June 2017 Sberbank has confirmed the need for a verifiable academic history by awarding the 1st prize in its annual hackathon to the team that developed a blockchain-based CV project.*

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**Thus, DISCIPLINA will become a multifunctional open blockchain that can be used by any services to manage personal achievements, experiences and other data.**

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DISCIPLINA will provide the transparency of such services and create the conditions for maintaining confidentiality and reliability of the information entered by the system participants.

The DISCIPLINA blockchain will also be a perfect solution for all of the current educational and recruitment projects that are based on the Ethereum blockchain.



**TeachMePlease** will be the first project to use the DISCIPLINA blockchain.

TeachMePlease provides the conditions for efficient and effective cooperation between academic institutions and private tutors, and their students. TeachMePlease has no territorial borders, which allows schools and private tutors from around the world to offer their programmes to potential students anywhere on the planet.

TeachMePlease began as a convenient tool for the structured presentation of data, a system of reliable ratings and reviews, with an effective infrastructure and blockchain technology built into the platform.

During the development process it became clear that the existing blockchain solutions are unsuitable for the planned functionality. Thus TeachMePlease have partnered with a team of experts to create a blockchain that would both be up to their own standards, and become a universal solution for any educational or HR-service.

Integrating DISCIPLINA with TeachMePlease will offer the opportunity to test the technological solutions that are being integrated and that have not yet been implemented anywhere. It will also allow for feedback from the users of the project, as well as give us the opportunity to correct any processes if needed, and display all the capabilities of the new blockchain to the community in an already existing project.

We believe that we will become the drivers of change in the field of education and other related fields, and the other educational projects will value the solutions offered by DISCIPLINA and will use them for their needs.

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TeachMePlease currently has over  
**20,000** classes registered

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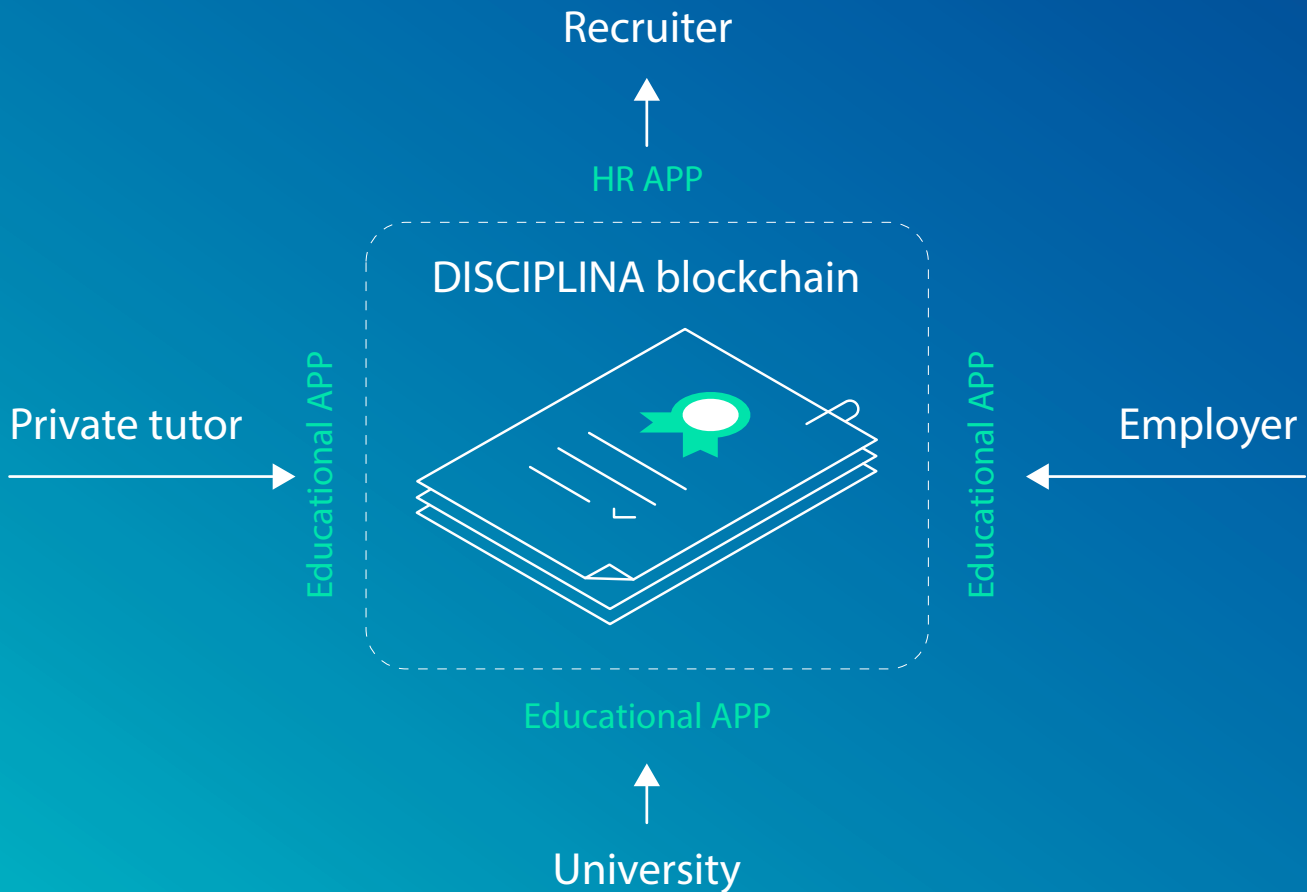
We are developing a CRM/ERP cloud service based on a currently functioning marketplace. This service creates the conditions for effective cooperation between educational institutions, teachers, tutors, students, the b2b segment, and HR-specialists. The service will provide teachers with the tools to create educational content and to transfer knowledge, and the students with the tools for efficient learning.

By the end of each course, thanks to the DISCIPLINA platform, every student will receive a 100% credible e-certificate that is impossible to lose (as opposed to a paper one). The complete education history from several educational institutions will be available in one personal profile.

Recruiters will be able to purchase the access to student's profile with the consent of the student. This will allow recruiting personnel to dispel with any doubts about the academic achievements of the candidates.



DISCIPLINA unites students, educational institutions (including private tutors), employers and recruiters. The users will interact with each other and the DISCIPLINA platform through applications with a convenient interface, providing a wide range of platform functions.



DISCIPLINA is an open-source blockchain, which can be used as a basis for application development by anyone.

## The usage of DSCPL tokens

The main payment instrument in applications using the DISCIPLINA blockchain will be the **DSCPL** token together with a smaller payment unit named **Logic**, equivalent to fractions of DSCPL. The DSCPL token, a token of ERC20 (BEP20) standard that will be distributed during the token sale, will be converted to native tokens in a 1:1 ratio after the start of DISCIPLINA MainNet.

Students located in Lisboa can enroll in courses in San-Francisco. It will be easy for teacher from the US to receive payments from a student that lives in Russia – the procedure will not involve any bureaucratic problems or commission fees to mediatorial banks.

Smart-contracts will guarantee the safe deal for both parties regardless of any external factors.

Despite the fact that technically the transactions between ecosystem members will be done in token form, the account balance and course prices will be displayed in fiduciary currencies and will be automatically converted to DSCPL tokens according to the current exchange rate.

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TeachMePlease will introduce DSCPL token as a payment instrument in the 2022

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Balance	
Total:	\$120 ~ 1340,21 DSCPL
Reserved:	\$100 ~ 1116,84 DSCPL
Available:	\$20 ~ 223,37 DSCPL

[Withdraw](#)

Users will be able to pay for the courses and lessons in tokens, and make payments to another user or to an exchange.

Services that integrate the DISCIPLINA blockchain platform into their technological processes will be able to use native tokens or any other financial infrastructure for their transactions.



**DISCIPLINA bridges together the world of recruiting and the world of education** by creating a unique ecosystem between them. It stores educational records in a way that prevents forgery, provides a reputation mechanism among educational institutions and makes it possible for the recruiters to search through the candidates in a way that respects privacy.



There are projects that make it impossible to forge transcripts of some educational institution. Some of these services provide a reliable way to check the validity of educational certificates by pushing signed hashes of the documents into the public Bitcoin blockchain. While it is a viable approach to tackle the problem of forged educational records, the records stored in such systems are poorly discoverable.



The recruiters would have to first find the candidates using external sources of information, and then use these systems to validate the data. Moreover, such solutions suffer from incentive problems — educational institutions have to pay blockchain fees in order to publish transcript hashes. However, they do not have any motivation to do it — these projects do not provide any way for educational institutions to compensate for the fees.

- In order to improve discoverability, some projects choose to store transcripts in plain, instead of just hashes. Such projects solve discoverability problems but ignore privacy concern — they store all the educational records in open access (e.g., Ethereum public ledger). Although it is a viable solution, students and educational institutions lose ownership of their data, which is often undesirable. Moreover, it requires non-trivial incentive mechanisms in order to encourage educational institutions to participate in a system.
- Some projects sacrifice discoverability over privacy. There are consortium blockchain solutions based on Hyperledger. Such solutions do not offer enough transparency — the recruiters can neither find nor verify the educational records without gaining access to the platform.
- Another approach to validate people's skills is to make some sort of decentralized reputation system, where participants endorse each other in a certain area of knowledge. Such projects propose to build a reputation mechanism based on peer assessment. Most of the projects either store such assessments publicly, or off-chain in a centralized manner.



**In DISCIPLINA we combine these ideas in order to provide a reliable, decentralized system to track people's achievements throughout their lives and give the recruiters a way to find an ideal candidate that suits their needs.**

By splitting the architecture into the private and public layers, we gain fine control over the parts of the data that are exposed to the public. We also **provide educational institutions an opportunity to monetize the data stored in their private chains** by disclosing it to interested parties with students' consent. In order to prevent fraudulent educational institutions from issuing grades we integrate a web of trust among the entities of the system. It allows us to build a reputation system among the educational institutions and solve the problem of possibly biased grades.

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## Team

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Our team consists of over **45** experienced software developers, managers, and marketing specialists. We believe in having the whole team under one roof.



**Ilya Nikiforov**

*Founder*

*Businessman with 16 years' experience in wholesale and retail trade and e-commerce.*

**Arseniy Seroka**

*VP of Engineering*

*Lead Developer at Cardano*

*Serokell co-founder and CEO – expert in the field of functional programming and global network development.*



**Mr. J**

*CTO*

**Dmitry Mukhutdinov**

*Team Lead  
Serokell*

**Joakim Goldkuhl**

*Backend developer  
Serokell*

**John Burnham**

*Backend developer  
Serokell*

**Kirill Andreev**

*Backend developer  
Serokell*

**Mikhail Volkhov**

*Backend developer  
Serokell*

**Roman Alterman**

*Head of the blockchain  
project*

**Vasiliy Mikhailov**

*Project manager*

**Kirill Kuvshinov**

*Blockchain developer*

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*Korean Chief Editor*

**Tee Peng**

*Chinese Chief Editor  
& Content Manager*

**Manuel Parra**

*Spanish Chief Editor*

**Timo Becker**

*Spanish Translator*

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## Advisors

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**Kenji Sasaki**

*Co-founder of Cardano, CEO of Next Chymia Consulting HK, marketing, promotion and blockchain consultant in Asian market*



**Jason King**

*Co-founder of the world's first Blockchain Academy. Jason is a pioneer in applying blockchain technology to humanitarian work.*



**Antonio Menéndez Sierra**

*Antonio is a professional in fields of employer branding, recruiting and HR. He has vast experience in coaching.*



**George Basiladze**

*Financial expert. CEO of Cryptopay – provider of digital wallet services with functionality for storage and use of cryptocurrencies.*



**Academy** is the world's first accredited school for blockchain. It gives developers, executives, governments, and universities tailored options for blockchain education, and connects graduates seeking work with companies looking to hire them, offering a robust solution to the global blockchain education crisis.



**Serokell** is a software development company, which largely uses functional languages, especially Haskell and has experience in cryptocurrencies development, one of which is Cardano. The company's strategy is 'to only work on project that have a scientific base'. Serokell is the key developer of the new generation blockchain for the educational and recruiting fields.



**Next Chymia Consulting HK Limited**, an international consulting group in the field of blockchain and financial services.



**Renaissance Digital Assets** is a blockchain investment and advisory firm. It provides extensive ICO advisory services, primarily to the companies that they identified as a target for the investments.



**Kosmos Asset Management** is a Sydney based investment management firm. It manages equity portfolios for wholesale investors only.



**Poolz** is a swapping protocol that enables startups and project owners to auction their tokens for bootstrapping liquidity. As the blockchain-cryptocurrency community moves closer to absolute decentralization, Poolz empowers innovators in their pre-listing phase, bringing them closer to early-stage investors.

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DISCIPLINA implementers

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**+1300**  
educational institutions

## Refusal of liability

Ownership of DSCPL tokens (hereinafter “tokens”) carries no rights, express or implied, other than the right to use such tokens as a means to enable usage of and interaction with the platform, if successfully completed and deployed. In particular, you understand and accept that tokens do not represent or confer any ownership right or stake, share or security or equivalent rights, or any right to receive future revenue shares, intellectual property rights or any other form of participation in or relating to the platform, and/or company and its corporate affiliates, other than rights relating to the use of the platform and bonuses provided by the tokens, subject to limitations and conditions in these terms and applicable platform terms and policies (as defined below).

This document does not constitute investment advice or counsel or solicitation for investment in any security and shall not be construed in that way. This document does not constitute or form part of, and should not be construed as, any offer for sale or subscription of, or any invitation to offer to buy or subscribe for, any securities, nor for the tokens.

The company expressly disclaims any and all responsibility for any direct or consequential loss or damage of any kind whatsoever arising directly or indirectly from:

1. Reliance on any information contained in this document,
2. Any error, omission or inaccuracy in any such information or
3. Any action resulting therefrom.

The citizen or resident of the USA, Singapore, Canada, China, Southern Korea or any other jurisdiction with relative legislation or Legislative barriers may buy tokens only under their own responsibility, the company shall not hold responsibility for such purchase.

The affiliated persons or representatives of the USA entities may buy tokens under this agreement only under their own responsibility and shall not hold the company accountable for any damages.

The company shall not be held liable for any legal or monetary consequence arising of buying tokens by citizens or residents of the US, Singapore, Canada, China, South Korea, or of any other jurisdiction with relative legislation or legislative barriers, or their use of the platform. All factual and potential tax obligations are the concern of the token purchaser and the Company is not in any case and under no conditions bound to compensate for his tax obligation or give any advice related to tax issues, including but not limited what kind of filing or reporting he may need to do with the competent tax authority, which taxes and to which extent he is obliged to pay, which tax exemptions his is eligible to etc.

The purchase price that is paid for Tokens is exclusive of all applicable taxes. The token purchaser responsible for determining what, if any, taxes apply to his purchase of Tokens, including, for example, sales, use, value added and similar taxes. It is also his responsibility to withhold, collect, report and remit the correct taxes to the appropriate tax authorities. The company is not responsible for withholding, collecting, reporting, or remitting any sales, use, value added, or similar tax arising from the purchase of Tokens.

## Legality

The ICO is carried out in accordance with the applicable legislation of Estonia and the EU in the field of cryptocurrency emission and turnover regulation. In order to conform with the applicable laws, a detailed legal analysis of the platform was carried out and the necessary documents were drawn up, in order to carry out the necessary activities in accordance with the highest world standards.

The activities of the platform and its cooperation with clients is regulated by our anti money-laundering policy (AML), whereas the personal data of our clients is protected by the provisions of our Privacy policy.

Thus those wishing to purchase DSCPL tokens can be confident of the legal stability of the platform.

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## Contacts

E-mail: [offers@disciplina.io](mailto:offers@disciplina.io)

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TeachMePlease platform in the educational field:  
<https://teachmeplease.com>

Token sale website and user profile:  
<https://disciplina.io>