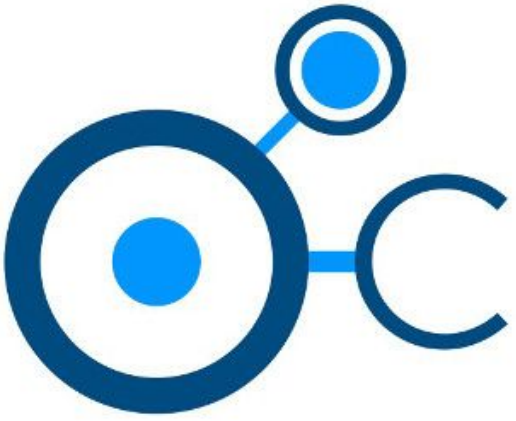

PIKCIOCHAIN

The personal data chain.

Whitepaper v2.0 Feb 2018

Vision

Personal data is a very valuable asset that also represents an increasing risk. Centralized storage means that valuable personal data is always vulnerable. New legislation protects individuals and creates technical challenges for businesses. PikcioChain is a decentralized, secure, transparent and legally compliant means of exchanging personal data between individuals and businesses. PikcioChain empowers the individual. We validate, secure, store and allow the safe monetization of your personal information. PikcioChain puts the power over your data back into your hands. Together we are PikcioChain.

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Abstract

Governments all over the world have recently been introducing, or proposing, legislation in regards to data privacy and storage. In recent years, legislation has been moving clearly in the direction of giving data ownership back to people. That is especially visible in Europe, where with GDPR, which starts in May, a person is legally entitled to move his/her data from any one platform to another (called “data mobility”) and he/she can request that companies delete all his/her data (“right to be forgotten”). Europe is leading the data creator centric model, and at PikcioChain we are hoping that other legislators will follow this example.

The fact that governments are putting such strong emphasis on user rights when it comes to personal data shows the enormous value data holds for businesses. IBM CEO Ginny Rometty has famously said that “data is the oil of the 21st century”. However, as mentioned above, there are challenges that come with “data mobility” and “the right to be forgotten”. In blockchain terms, no company that is storing personal data or hashes of personal data can be fully compliant with GDPR, because of the simple fact that you cannot delete an entry from a public chain, if a user demands his “right to be forgotten”.

Also, the origin and authenticity of data can be difficult to confirm, leaving businesses vulnerable to fraud and unable to value data with confidence. Given challenges with data authenticity, users have to provide their data numerous times with different companies and even numerous times at the same company for different processes. This is not only time consuming for the end user but also very expensive for the company, given that the company in almost all cases is not a data authenticator at the core of their business.

Furthermore, today’s data ecosystem ignores the individual data producer. Their data is often used without compensation and leaves them with no knowledge of where their data is held.

PikcioChain addresses all of these these challenges, creating a compliant and secure data ecosystem that delivers value and security to all participants, and leaves the individual in control of their data.

PikcioChain has been designed to store, secure, verify and certify data while ensuring the data producer retains full control of their information at all times. PikcioChain lets the user choose how to share their data, who to share it with, while also providing them with the opportunity to be compensated for its use.

By empowering the individual, PikcioChain creates certainty for businesses. As the regulatory spotlight focuses on the data industry, companies need to find efficient ways to comply with new rules like the EU GDPR directive, and they need to know that the data they’re buying is both authentic and legally available.

PikcioChain creates the trust that is needed to trade data securely.

Securing personal data

The Problem

A century ago the most valuable resource was oil. In the last decade a lucrative new commodity has spawned; Data. The world's largest corporations collect, exchange and trade corporate, consumer- and metadata. Without the effective usage of this data companies such as Alphabet, Amazon, Apple and Facebook wouldn't have been able to collectively make $25 billion in net profit in the first quarter of 2017 alone.

Data security

Due to the enormous value customer data represents for companies, a large amount of money is spent each year securing data. According to Gartner, companies will spend up to $93 billion on information security in 2018. Per private record stolen, businesses can spend anywhere between $145 and $355 while the average cost for large corporations of losing sensitive corporate or personal information is $4 billion.

The general problem is that centrally stored data is creating a giant honeypot for hackers to gain access to and steal it. User data is stored in centralised systems, leaving the data at risk and the individual at the mercy of corporations and hackers.

Data security is not the only risk for businesses. When they buy or exchange data they have to rely on a third party escrow, or trust each other. This creates friction in the data marketplace and reduces the speed in which these transactions can be made.

There are data exchange solutions out there, also in the blockchain space. However most of them rely on centralised storage of data or they store customer data (or the hashes thereof) on a public ledger, thereby creating regulatory issues.

Regulatory considerations

Governments all over the world have introduced or proposed legislations with regards to data privacy and storage. In recent years, legislations have been moving clearly in the direction of giving data ownership back to the people. That is especially visible in Europe, where with GDPR, which starts in May 2018, anyone is legally entitled to move personal data from any one platform to another (called “data mobility”) and is able to request that companies delete all one’s data (“right to be forgotten”). Europe is leading the data creator centric model, and at PikcioChain we are hoping that other legislators will follow this example.

There are many aspects and implications to these kinds of regulations. However most important with regards to data storage and exchange for platforms such as PikcioChain is that it prohibits making personal data public. This implies that storing personal data on a public blockchain actually violates these laws, even when the data is hashed or encrypted, as it still represents the same data. A distributed public database or blockchain therefore can’t offer a proper solution, when the data is stored on the public chain. Another aspect of GDPR is that customer data cannot be stored outside of the EU. A worldwide, permission-free, public blockchain like Ethereum is not able to satisfy this regulatory demand.

These are some of the reasons why many digital identity and data exchange platforms have failed. They haven’t failed due to the technological aspects, but due to not adopting legislation and regulation.

GDPR explained

The General Data Protection Regulation (GDPR) (Regulation (EU) 2016/679) is a regulation by which the European Parliament, the Council of the European Union and the European Commission intend to strengthen and unify data protection for all individuals within the European Union (EU). It also addresses the export of personal data outside of the EU. The GDPR aims primarily to give control back to citizens and residents over their personal data and to simplify the regulatory environment for international businesses by unifying the regulation within the EU. When the GDPR takes effect, it will replace the Data Protection Directive (officially Directive 95/46/EC) of 1995. The regulation was adopted on 27 April 2016. It will become enforceable on the 25th of May 2018 after a two-year transition period and, unlike a directive, it does not require national governments to pass any enabling legislation, and is thus directly binding and applicable.

Monetizing data

Companies can sell user- or metadata. However, users don't have the option to give permission if it is sold, how often and to whom. And even if their data is sold, the company selling it is usually the only one benefitting and there is currently no mechanism for the users to be compensated.

When data is being sold, the parties involved want to be sure that the data is the original data and has not been modified in any way. What is required is a way to know for sure, that it has been recorded and stored in an immutable way.

Friction due to inefficiencies

Besides the mentioned current problems there is a lot of friction in the data sector. One of its causes is that data is oftentimes not reused. For example, people have to re-submit their data to a variety of organizations for KYC purposes (see an explanation of KYC below). This process takes more time than necessary for the users, it costs money to have the data verified multiple times and it costs resources for the organizations or businesses that have to verify the users.

All of these current problems can be solved with a well-designed decentralized data solution.

KYC explained

Know your Customer, or KYC in short, has been playing an ever increasing important role for large institutions, governments and corporations.

Whenever someone wants to open a bank account, or register an account (for example for a cryptocurrency exchange) they have to supply their information for the KYC process. This information usually consists of some data (name, birth place) and documents such as a copy of a passport and utility bills.

The data is then verified by, for instance, that bank or a third party KYC processor, after which their identity is validated and the account can be opened. This process takes some time and is quite costly. Moreover, it has to be redone for every bank, institution or organization, which is very inefficient.

The Solution

Data, and also the verification of data itself, has real value when parties can exchange the data for payments or allow other parties to reuse the verification of such data.

Decentralized platforms today theoretically offer people and organizations the ability to securely store their data on the blockchain. Some projects even offer data monetization and exchange functionalities.

What is missing is a decentralized data marketplace that does so in a fully regulatory compliant way. Regulatory compliance isn't something that projects can easily add in retrospect, as the problems often lie in the fundamental design of the system architecture. It has to be built in to the core system design of a platform.

General solution outline

A peer to peer distributed blockchain solution offers the possibility to create such a platform. This system would solve big problems for corporations and governmental organizations and would finally be a solution that they are allowed to use. A system where users store their encrypted data on their own devices as to not bloat the blockchain and giving them full control over their data this way. So that they can choose which data point they want to share with whom, or to whom to sell the data to. When users own and store the data themselves it removes the giant honeypot and makes the system less susceptible to hackers and data leaks. This in turn saves organizations enormous amounts of resources and money each year.

Furthermore, storing verification proofs and data in a decentralized manner offers high availability of such data, as when one node goes offline there are other nodes maintaining a copy. This also drastically reduces the possibility of data loss. The best solution here is one where the owners of such data have full control over who maintains a copy, even if it is just themselves. Flexibility is the key and without such flexibility large corporations will find it hard to use such a system.

Moreover, in traditional systems the involved parties never know for sure if the data they obtain or use was the same data that was presented previously. They have to both trust the validity of the actual data but also the transaction history of the data exchange. Using distributed ledger technology such as a blockchain for these purposes creates an immutable transaction history and allows for the storage of verification proofs, which in turn removes third party trust, removing friction from the data marketplace.

Verification, validation or other data operations should be able to be reused in order to save time and valuable resources for the users and organizations that deal with them. When data, or the verification of such data, can be sold and resold multiple times, the original owner of that data should profit from every transaction, together with the nodes that process such data.

When a cryptocurrency is used for settlements on the platform this allows for immediate, frictionless, borderless transactions, removing the trust that is normally required when involving a third party in an exchange of value.

Smart contracts on a distributed ledger offer the possibility to automate settlements and for organizations to create their own solutions.

In order to create this solution PikcioChain has created its own proprietary blockchain solution.

The PikcioChain Solution

PikcioChain is the first system designed specifically to give users and organizations the possibility to buy and sell not only data, but also to verify the data, and to sell and reuse the verification of these data.

Peer to peer architecture

One of the key features of PikcioChain is that the data is stored and transferred in a peer to peer way, not on the open blockchain. Existing solutions store the data on public blockchains. This creates numerous problems. One of these problems is that it makes it impossible for the owners of data to completely remove certain data. Another problem is that this does not comply with GDPR as the data is on a public chain. PikcioChain only stores the hashes and validation of the data on the proprietary, private, permission-based blockchain. This solves all these regulatory issues, allowing for mass adoption of the system. The basic idea is that the (original) owners of certain data can determine if only they should be storing the data, or if certain trusted nodes can store a copy as well.

PikcioChain lets businesses trade and exchange personal data in absolute security and with confidence, while simultaneously empowering individuals by giving them control of their own data and enabling them to monetize it.

Data is sent to the PikcioChain and validator nodes validate the data and store a hash of this data on a permissioned blockchain; the PikcioChain. The data, or even just the validator proof, can be offered on the PikcioChain data marketplace for (re)sale. This allows data that has once been verified to not have to be verified again and again, but still be used in a secure way.

PikcioChain's Clearing House

Whenever personal data is transacted within a customer's network (i.e. between a bank and its customers), by definition value is exchanged. For example, when an identification process is executed, or a past verification is reused, personal data is transmitted. All parties involved are exchanging value in the form of PKC, being the native currency of the network. PikcioChain is not the party charging for the exchange of value, but it is rather the party that is keeping tab on each account, moving PKC with the transfer of value. While other blockchain identity providers focus on B2C and charge "per login", PikcioChain is uniquely positioned in the space by providing a data exchange service for businesses, providing the platform for data exchange, recording and storing data safely and managing the account balances while data is exchanged on the network. Clients have access to the account balances at any point in time and compensate all parties accordingly in their chosen time intervals.

Trust Capital Index

From a security perspective, each separate party that validates the same piece, or collection of data, will add an entry into the ledger for that data and will in effect create a sort of reputation of trustworthiness for the data and the data owner. This reputation system is called the Trust Capital Index, or TCI in short. It is a way for parties to judge the reliability of users and certain data on the system and to determine if incoming data is trustworthy.

GDPR compliance

This mechanism of storing the data on personal devices and storing the hashes on a permissioned blockchain allows the system to be fully GDPR (regulatory) compliant. The GDPR legislation is taking effect in May 2018, and the technology to comply with the new legislation is lacking in today's data ecosystem.

Use Cases and benefits

PikcioChain has been built to be datatype agnostic, so that it can handle a wide variety of use cases and products. Broad classifications include corporate and personal data. Given that personal data has high value, the initial focus lies on this data type. PikcioChain solves the legislative, technological and important data privacy aspects and challenges. Most important use cases for personal data can be found in the banking, insurance and health care sector, however it is an open platform where corporations can create their own solutions.

PikcioChain is a fully-operational business with clients and a self-developed proven technology. Several essential smart contracts, including the KYC process and GDPR compliance, are ready for use and we have an existing B2C app in the in the Google PlayStore (click here).

Some key benefits of PikcioChain:

- Fraud proof in terms of altering data or transaction histories. Data is only being exchanged with the full permission of the data owner.
- Data theft prevention through data storage decentralization. PikcioChain users store their data only on their own devices, rendering large scale theft of data impossible.
- Speed of transactions: By using a third generation blockchain platform, PikcioChain is able to offer almost instant transactions.
- Storing the data on users' devices, while the hashes are stored on a permissioned blockchain, makes PikcioChain fully GDPR (and similar) compliant.
- PikcioChain is currently a platform, aiming to transform into a protocol within the coming two years. By offering a library of modular smart contracts we will enable clients to build their own custom marketplace on top of the PikcioChain protocol.

PikcioChain has built a suite of products for different target groups and use cases on top of the PikcioChain distributed ledger. The following chapter outlines the main use cases for which the products have been build, and the chapter thereafter will describe each of the products in detail.

Use Cases

PikcioChain can benefit a wide range of use cases across various data types and industry sectors. Historically, both the financial and medical services sector are faced with various challenges around personal data recording, management and legislation. For this reason PikcioChain has chosen these two sectors as its primary focus areas for its business approach. This chapter will first describe the two primary sectors that PikcioChain is targeting and then focus on three of the use cases in those sectors.

Financial Services

The constant growth in regulatory requirements is seen as a burden by both clients and financial services companies. As such, the repeated requests for KYC documentation that businesses must make of their existing and new clients are becoming a hindrance, damaging the client experience and creating a barrier of taking on new customers.

One of the key factors behind the negative KYC experience for clients is that they have to keep providing the same information, often in a manual format, to new institutions when they wish to become a client. PikcioChain directly addresses this issue, creating a smooth and streamlined process for both client and company.

Individual users are able to trust PikcioChain to transmit their relevant data securely to those companies they wish to do business with. They're even able to instruct third parties to send their personal details to

other approved third parties in accordance with their wishes. This means that one bank can send approved client details to another bank that the client wishes to use for a loan, after the client gives permission to the bank to do so.

From the business perspective, the ability to securely receive certified client details will speed up the KYC process, improving customer onboarding and delivering a far better client experience while drastically reducing business costs.

Medical Services

The delivery of health and medical services increasingly takes place between institutions and even across national boundaries; however, the speed of care can be greatly affected by the slow delivery of personal medical information.

Whether it is in the event of an emergency or because a person is moving to a new area, the positive identification of individuals and the timely arrival of medical records can mean the difference between positive and negative health outcomes.

For the medical industry it can be a matter of life and death whether supplied data is accurate and can be proven to have been verified in the past.

PikcioChain can supply both certified identification records and medical data in a matter of seconds, providing comfort for the individual and the opportunity for the institution to deliver the highest standards of care.

P2Link - Validating medical data

As an example, PikcioChain is working together with a medical company called P2Link. They provide the monitoring and analysis of data for patients at risk of a heart attack. Patients have to supply P2Link with medical data daily and by making use of PikcioChain P2Link can retroactively prove that the supplied data was in fact received at the time and valid.

In general, in such a use case PikcioChain would be used to prove that certain data was received and that the data was validated to be correct at that time.

KYC - Know Your Customer

With regards to KYC in particular, PikcioChain offers a KYC solution, where users upload their personal information and details to the PikcioChain. A trusted validator node, such as a bank, will process the KYC information and once it has been verified it will upload hashes of the data to the PikcioChain. This is done in a granular way as to make sure that if one document or piece of information is changed (because of a new utility bill for instance), the hashes of the other data pieces still remain the same and the data can still be reused, or sold.

Whenever another party wants to use this KYC information they can receive the data from the user, hash it and compare it to the hash on the blockchain. If it already exists they can see that it has been verified before by trusted validator nodes and use that as a valid KYC. The more nodes that perform the KYC process, in combination with the information which nodes validated (bank vs small organisation), the higher the “reputation” of that data.

When it comes to facilitating KYC processes and reusing already submitted KYC data and its verification, the token sale process in the cryptocurrency sector seems to be an ideal field of application for an end

user scenario. More details about the token sale use case can be found later in this chapter.

Token Sales

Today's token sale process is anything but user friendly. Contributors have to provide their KYC documents and data separately for every token sale. Furthermore, they don't know what happens with their data. Users will scramble to find the right token sale address and then sit in front of the computer to hit the "send" button at the right second.

All of this typically happens in very technical surroundings, such as MyEtherWallet and the blockchain explorers of NEO and Ethereum. PikcioChain intends to make token sales much more user friendly by creating the PikcioTokenSaleWallet (TSW). A wallet that allows for easy participation in token sales, a one-time KYC process that is then shared with the token sales the user wants to participate in and a large amount of added functionality that will redefine the blockchain user experience. Find more details on this in the "PikcioTokenSaleWallet" chapter.

PikcioChain Products

The PikcioChain platform will be accessed through four products. These products have been designed for the purpose of providing the best possible interface and experience for the respective end user.

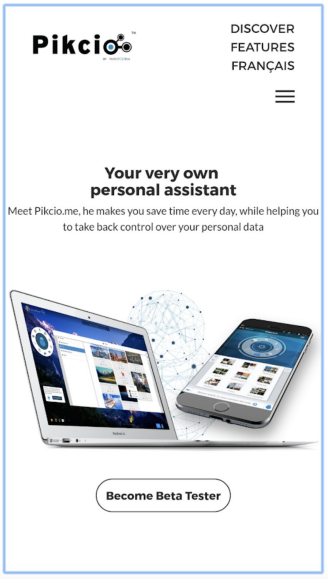
Products and user group:

- PikcioMe: For the individual users (suppliers of data)
- PikcioPro: For the businesses (consumers of data)
- PikcioLab: For the developers (designers of smart contracts)
- PikcioTokenSaleWallet: For cryptocurrency enthusiasts (participants in token sales)

PikcioMe

PikcioMe is a personal application that the individual user installs on his or her own device (e.g. laptop, smartphone). Each PikcioMe application works as the server for its registered user and, if permission is given, can act as a trusted server for other users as well. It is this decentralized server infrastructure that puts individuals in control of their data and as there is no centralized 3rd party data storage PikcioMe offers users a safe data storage solution.

The PikcioMe application will also grant the user access to the PikcioChain platform. Through this platform the user will be able to exchange and certify his or her own personal data. Data exchange will be end-to-end encrypted whilst the encryption key is generated on the user's device by the PikcioMe application, making the data exchange secure.



Through the PikcioChain platform, PikcioMe allows for an easy way of data certification. Any individual user can choose to sent his or her own personal data in a secure way to a third party. This third party is then able to, with the consent of the user, verify and certify all data sent. Consequently, it is the certification of this data, rather than the data itself, which is stored onto the PikcioChain.

PikcioMe offers safe data storage, secure data exchange and easy data certification. An early version of the PikcioMe app is available and is already storing data securely on people's devices at this time. It can be downloaded here: (click)

PikcioPro

Whereas the individual user will use PikcioMe, businesses will use PikcioPro to gain access to the PikcioChain platform. Utilising smart contracts, businesses can buy and sell certification data with the consent of the individual data owner.

PikcioPro is a paid service which grants access to the Pikcio data exchange. User certification data for KYC and other regulatory purposes can be exchanged using the PKC Token as a form of payment. PikcioPro offers a reliable and confidential way of data exchange, knowing that smart contracts are upholding the demands and restrictions for the individual data owner. By using PikcioPro to buy or sell certification data, businesses remove much of the risk associated with holding, buying, selling and exchanging personal data itself.

Moreover, PikcioPro grants access to offer or use any smart contract service available on the PikcioChain platform. These smart contract services can range from small scale offers aimed at the individual data supplier to large scale commercial offers aimed at other businesses.

PikcioLab

The PikcioChain platform offers data exchange between individual users and companies through the PikcioMe and PikcioPro products. These transactions will be utilising smart contracts, creating a reliable and confidential manner of data exchange. PikcioLab is the product for smart contract developers. A tool for developers to build smart contracts running on the PikcioChain distributed ledger, creating a range of possibilities for both the individual user and companies connected to Pikcio.

PikcioTokenSaleWallet (TSW)

With the support of Onchain, PikcioChain is currently finalizing a user friendly wallet to easily participate in upcoming token sales.

PikcioChains TSW will have the following features for its users:

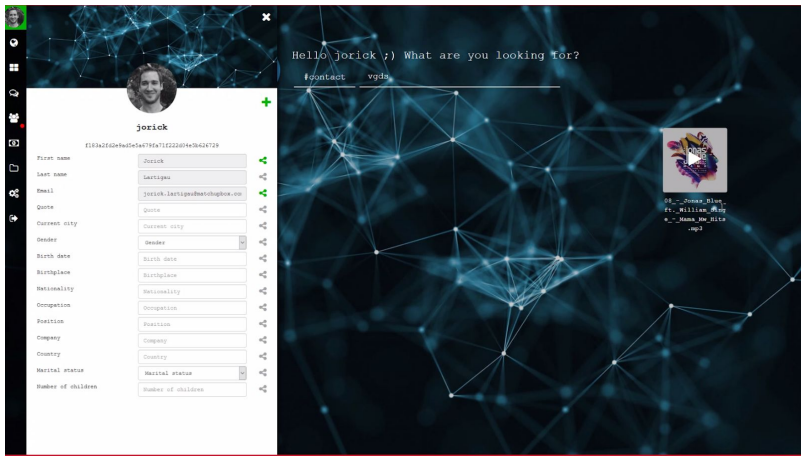
- Create a profile and upload KYC documents, i.e. proof of identity and proof of residency documents
    - Users will only have to perform this KYC process once. The KYC data and documents will then be linked to their token sale wallet for all future token sales
- Easily participate in future token sales directly from within the KYC'ed token sale wallet
- Create NEO and Ethereum wallets to fund a user's TSW, or simply link existing NEO and Ethereum wallets to their TSW
- Easily make transactions to and from their wallets
- Send wire transfers to their TSW
- Link your credit card to their TSW
- View a list of upcoming token sales
- Auto-oneclick-participate in token sales
- Get alerts for upcoming token sales
- Social network and news section highlighting interesting topics from friends and crypto news
- Recommend and share interesting token sales with friends
- Encrypted chat with friends from within the TSW

The PKC token plays a specific role in each of the PikcioChain products and use cases. By simply paying a certain amount of PKC, or simply holding certain levels of PKC, users gain access to advanced features on the platform. For the TokenSaleWallet it adds the following functionality and exemplary benefits to its users:

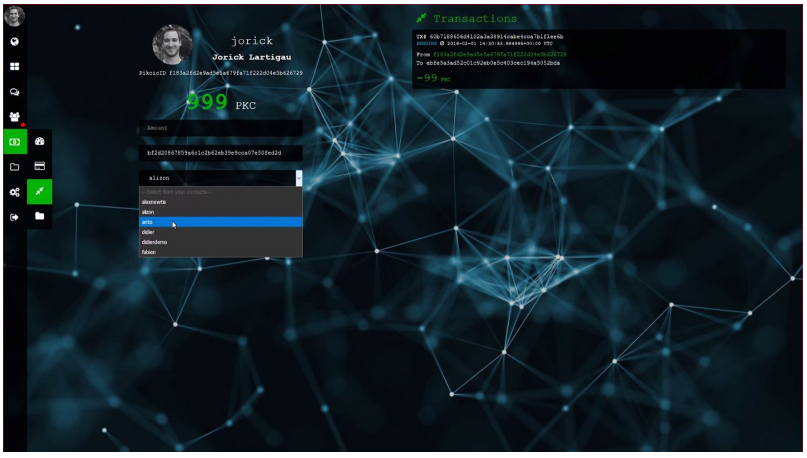
- Access to exclusive token sales

- Access to higher bonus tiers
- Guaranteed allocations for chosen token sales
- Higher allocations for chosen token sales
- “Automated participation” feature enabled for chosen token sales
- Participate in voting rounds on future token sales

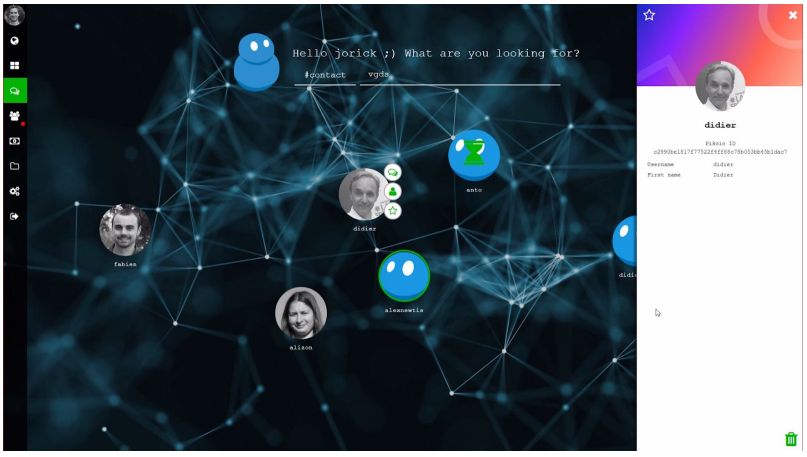
Overall the goal with the PikcioChain TSW is to allow users to easily discover interesting upcoming token sales, learn about them and participate in a user friendly way. The end goal for PikcioChain TSW is for token sale participation to be as easy as buying a product online. Select an interesting token sale, click “participate” and proceed to checkout. As simple as that. These screenshots show the current stage of development of the TSW, it is being built on the foundation of PikcioMe.



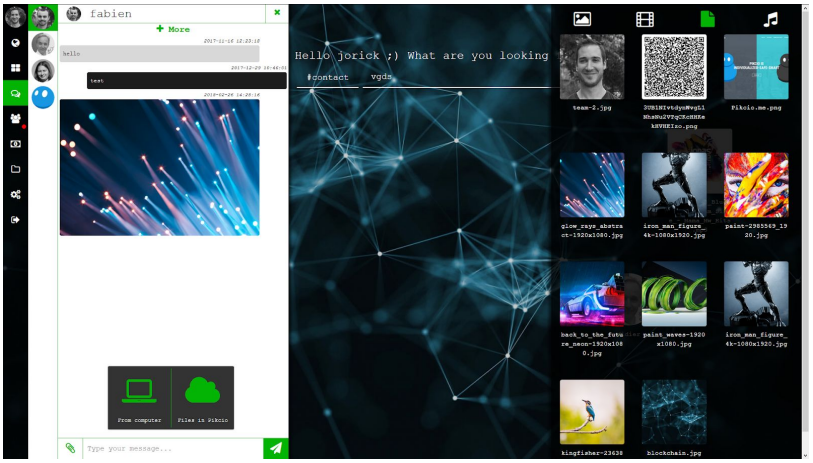
Menu and Profile: The menu bar to choose the different features can be found on the left side. Currently the profile section is displayed. Here the user can decide which data he/she wants to add to the profile and which data should be shared with contacts by clicking the green button next to the data



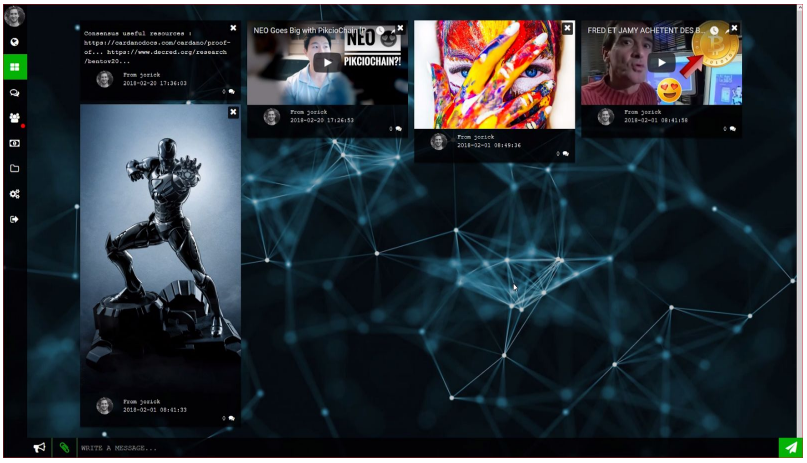
Wallet: Here a user can receive and send tokens. They can choose who to send tokens to from their address book. In a later version it will list upcoming token sales and users can click on them to participate.



Friends and followers: The TSW has various social features, such as a friends lists. Here users are able to look at their friends’ profiles and activities.



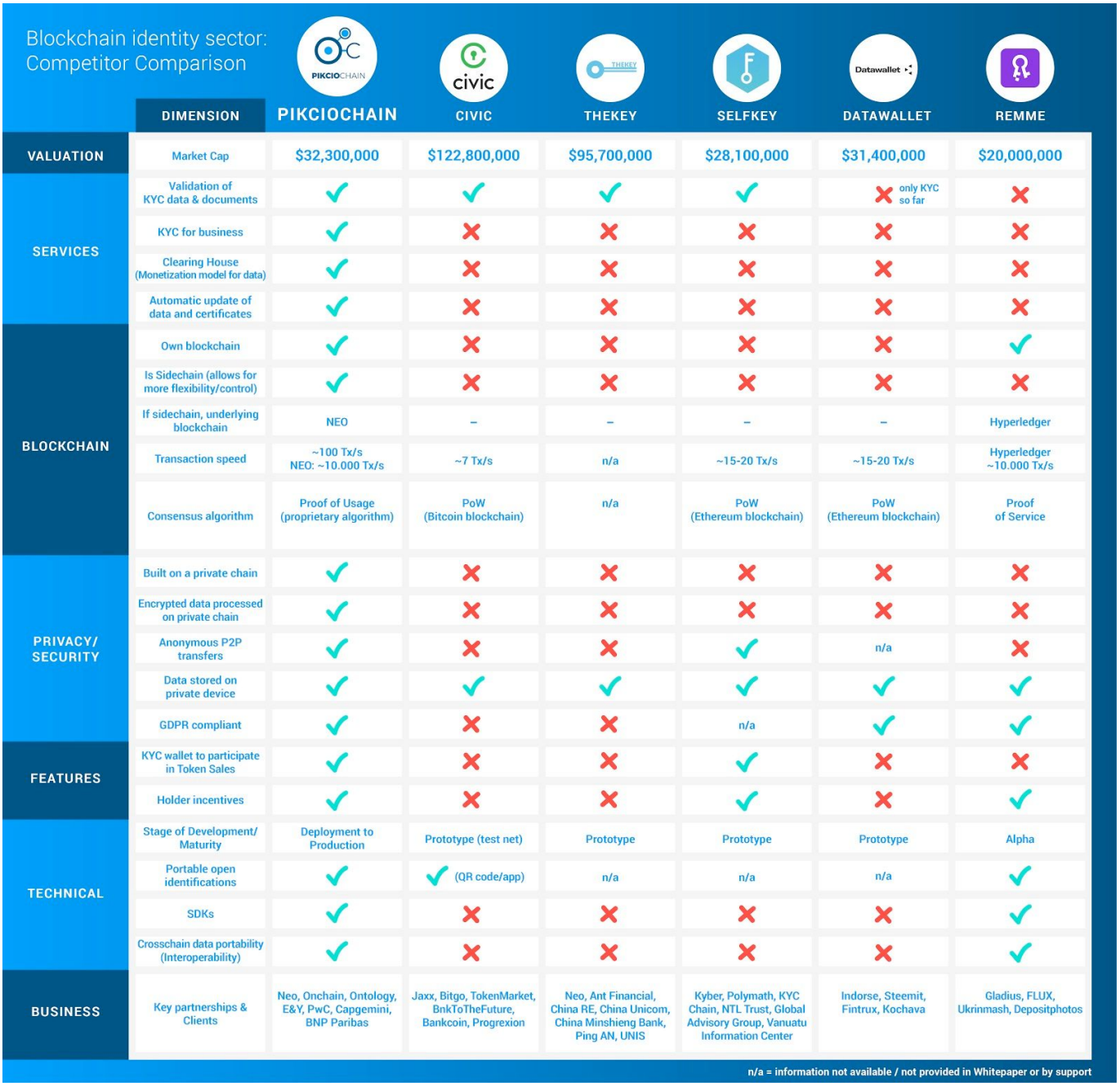
Chat and file sharing: Chat with friends. Part of the chat functionality is a file sharing feature that allows sharing of files from a computer or which are already stored in the TSW.



Social network and news: This is the social network and news page. It displays content shared by friends and can also show useful information about upcoming interesting token sales. All content such as videos or texts can be played directly in your TSW.

Competitor Comparison

PikcioChain is aware of the competitive landscape and regularly analyzes strengths and weaknesses of relevant players. In summary, PikcioChain is confident about its offered services, proprietary blockchain technology, privacy and security aspects, attractive features for end users, technical development and the overall business approach.



	DIMENSION	PIKCIOCHAIN	CIVIC	THEKEY	SELFKEY	DATAWALLET	REMME
VALUATION	Market Cap	$32,300,000	$122,800,000	$95,700,000	$28,100,000	$31,400,000	$20,000,000
SERVICES	Validation of KYC data & documents	✓	✓	✓	✓	✗ only KYC so far	✗
	KYC for business	✓	✗	✗	✗	✗	✗
	Clearing House (Monetization model for data)	✓	✗	✗	✗	✗	✗
	Automatic update of data and certificates	✓	✗	✗	✗	✗	✗
BLOCKCHAIN	Own blockchain	✓	✗	✗	✗	✗	✓
	Is Sidechain (allows for more flexibility/control)	✓	✗	✗	✗	✗	✗
	If sidechain, underlying blockchain	NEO	–	–	–	–	Hyperledger
	Transaction speed	~100 Tx/s NEO: ~10.000 Tx/s	~7 Tx/s	n/a	~15-20 Tx/s	~15-20 Tx/s	Hyperledger ~10.000 Tx/s
	Consensus algorithm	Proof of Usage (proprietary algorithm)	PoW (Bitcoin blockchain)	n/a	PoW (Ethereum blockchain)	PoW (Ethereum blockchain)	Proof of Service
PRIVACY/ SECURITY	Built on a private chain	✓	✗	✗	✗	✗	✗
	Encrypted data processed on private chain	✓	✗	✗	✗	✗	✗
	Anonymous P2P transfers	✓	✗	✗	✓	n/a	✗
	Data stored on private device	✓	✓	✓	✓	✓	✓
	GDPR compliant	✓	✗	✗	n/a	✓	✓
FEATURES	KYC wallet to participate in Token Sales	✓	✗	✗	✓	✗	✗
	Holder incentives	✓	✗	✗	✓	✗	✓
TECHNICAL	Stage of Development/ Maturity	Deployment to Production	Prototype (test net)	Prototype	Prototype	Prototype	Alpha
	Portable open identifications	✓	✓ (QR code/app)	n/a	n/a	n/a	✓
	SDKs	✓	✗	✗	✗	✗	✓
	Crosschain data portability (Interoperability)	✓	✗	✗	✗	✗	✓
BUSINESS	Key partnerships & Clients	Neo, Onchain, Ontology, E&Y, PwC, Capgemini, BNP Paribas	Jaxx, Bitgo, TokenMarket, BnkToTheFuture, Bankcoin, Progrexion	Neo, Ant Financial, China RE, China Unicom, China Minshieng Bank, Ping AN, UNIS	Kyber, Polymath, KYC Chain, NTL Trust, Global Advisory Group, Vanuatu Information Center	Indorse, Steemit, Fintrux, Kochava	Gladius, FLUX, Ukrinmash, Depositphotos

n/a = information not available / not provided in Whitepaper or by support

PikcioChain Competitor Comparison. All information to the best knowledge of PikcioChain, subject to change. We do not intent to misrepresent any other companies. "n/a" = information not available / not provided in Whitepaper or by support.

PikcioChain Distributed Ledger

Proof of Usage (PoU) Consensus Algorithm

PikcioChain has created its own proprietary mining and consensus algorithm called Proof of Usage, or PoU in short. PoU is a combination of Proof of Work (PoW) and Proof of Stake (PoS), based on the work of Bentov et al. on Proof of Activity (PoA).

This chapter will describe Proof of Work (PoW) and Proof of Stake (PoS) and how they work. This is followed by a description of Proof of Activity (PoA) and how PikcioChain modified it to get to a better version for its purposes, PikcioChain's proprietary **Proof of Usage** mining algorithm.

Proof of Work

PoW was introduced in the first blockchain model by Satoshi Nakamoto solving the double-spending attempts[1]. The system is designed to allow network members to validate a transaction on the ledger. To write a new block, it is necessary to copy validated transactions on the ledger and additionally solve a mathematical problem which is supposed to be solved in a given optimal time. Upon validation of a block, the node (referred to as a miner) who solves the problem using the power of its computing device, is remunerated with newly minted virtual currency units and/or transaction fees. This is defined as the network incentive.

For a malicious party to modify the ledger, it would be necessary to delete a past transaction and replace it with another one. This implies creating a longer chain than the "official" chain, because the new change increases the chain's complexity. The malicious party then needs to solve the proof of the work of the newly forged block and catch up with the work done by all the other nodes of the network. Therefore, the computing effort for a malicious party to modify the ledger has to support more than 51% of the global computing power on the network, otherwise the malicious edit will be identified and ignored by the majority of nodes.

The objective of such consensus mechanism is to render complex and expensive block validations to secure transactions. Moreover the incentive mechanism underlying PoW has been proven to be efficient for incentivizing and building a miner network, enabling a fast and sustainable infrastructure.

How it works

Each miner collects and validates transactions that are broadcasted over the network. A transaction is validated when the signature is proven correct by comparing the public key of the buyer to the signature issued by its private key, and checking whether the current balance can cover the transacted value. The miner uses his computing power trying to generate a block by guessing a hash by brute force. The hash is a function of a given set of data including the transactions, the hash of the previous block, his public key address, and a calculated nonce.

When a miner finds a hash matching the current difficulty, i.e. N zeros in the calculated hash adjusted with the nonce, the sealed block is broadcasted on the network.

In case other miners see the sealed block as valid, i.e. the calculated nonce fits the level of hash difficulty, they then move on to the next block extending the blockchain.

[1] https://bitcoin.org/bitcoin.pdf

The block reward (newly minted coins) and / or the fees from the transactions that the miner collected are credited to his or her public address.

The difficulty level readjusts according to the mining power that is participating in the network. This is done by updating the hash target value every X blocks, so that blocks get generated every Y unit of time on average (for Bitcoin X is 2016 and Y is 10 minutes)

Usually the block rewards starts at a certain given value and halves after certain periods, in order to make the block rewards play a less important role and give more importance to the transaction fees as the main means of rewarding the miners.

Proof of Stake explained

The most important fact about choosing a Proof of Stake (PoS) algorithm over a Proof of Work (PoW) algorithm, as in the Bitcoin blockchain, is the energy consumption considerations[2]. Running the Bitcoin protocol is a very expensive effort which uses large amounts of energy. The energy requirements for running the PoW protocol continue to grow as more and more miners join the pool and their computing resources increase. In addition, more energy is needed as the difficulty increases.

The core idea of Proof of Stake is that instead of wasting electricity on finding the hashes by brute force, a node is selected to generate a new block with a probability proportional to the amount of coins in his possession. If a node has a positive stake, it is called a stakeholder. The network runs a lottery, supported by all stakeholders, to decide who will seal the block, and system participants are exclusively and automatically entered into that lottery in direct proportion to their total stake in the network. As with Bitcoin the chosen node is rewarded with newly minted coins and / or transaction fees.

Proof of Stake: How it works

Time is divided into subsets of N minutes. Each subset is composed of M timeslots, each of X seconds e.g 20 seconds. During a given N subset, stakeholders select M random numbers for M timeslots from 0 to the total network stake expressed in the least value that the coin can take e.g. the satoshi in Bitcoin (1 BTC = 100’000’000). The selection process is only open to a stakeholder satisfying a given threshold e.g. 2% of the total stake, defined as electors.

Each elector stakeholder issues their random set of M satoshi numbers to other electors. The vote is attached to a signature to justify ownership using the electors private key. Accordingly to all shared and validated votes after closing of the voting session, M random seeds are derived.

A given seed is the identifier of the selected satoshi. The rightful current owner of the selected satoshi is identified by the FTS follow-the-satoshi algorithm. Thus, the current holder of the satoshi will be the elected closing node for the block in the related timeslot.

Each stakeholder collects and validates transactions that are broadcasted over the network to accept or refuse incoming blocks from selected nodes.
The block reward (newly minted coins) and / or the transaction fees that the selected node collected are credited on to its public address.

[2] https://eprint.iacr.org/2016/889.pdf

Proof of Activity

Proof of Activity (PoA) was introduced by Bentov et al.[3] when merging the concepts of POW & PoS, and adding a redistribution of the earned rewards to a set of randomly selected stakeholders.

Proof of Work specifications

The miner uses his computing power trying to generate a block header by repeated calls of a hash function on a given set of data, including the hash of the previous block, his public key address, height relative to the genesis block, i.e. the index of the block in the blockchain, and a calculated nonce. The hash does not reference the transactions.

Proof of Stake specifications

All the network nodes regard the hash of this block header as data that deterministically derives N pseudorandom stakeholders. The derivation is done by concentrating this hash with the hash of the previous block and with N fixed suffix values, then hashing each combination, and then invoking follow-the-satoshi with each of the N hashes as input. Each selected stakeholder signs the block header, one after another. The M*th* selected stakeholder includes all the transactions within a given time range and seals the block with the signature. The transaction fees and / or minted coins collected by the M*th* selected stakeholder are redistributed between the miner and the M selected stakeholders.

Consensus Analysis

Proof of Work is surely a reliable protocol when it comes to a fully public blockchain, trying to cope with various parties working for their own interest, while sustaining a shared infrastructure. On the other hand generally proof of work wastes a lot of energy and resources. However, this is done to artificially increase the difficulty to linearize block validation overtime. Proof of Activity improves this aspect with a single fast forward PoW at block initialization independent from blocktimes.

Most people perceive Proof of Stake as an improvement of Proof of Work. However, we view it as an alternative for less computational effort and a strong incentivization of the current larger stakeholders. In comparison PoW offers newcomers the same rights to compete using their computational power. PoS is designed to run on a large set of stakeholders, with coins rightfully disseminated in order to avoid nodes enriching themselves by earning and stacking too much. Indeed PoS encourages stakeholders to keep their wealth in place, raising their probability to earn newly minted coins and / or transaction fees.

Proof of Activity balances the PoW incentivization while sustaining stakeholders as pillars of the network. Moreover the PoW process plays a smaller role, making it more efficient. The reason that PoW is more efficient in the PoA model is that traditional PoW implementations always aim for the same average blocktimes. With an increasing amount of computational hardware being added to the network, the difficulty has to eventually increase in order to get to the same blocktimes. In PoA the PoW difficulty does not increase over time and it takes around 10 seconds to get the nonce (not 10 minutes such as in Bitcoin). And whenever a nonce is found, transactions can continue for 10 minutes. So the Proof of Work only exists to bootstrap the next 10 minute phase in PoA. In the end PoA ensures that the right incentives exist for the computational resources for PoW, while saving a lot of resources and the environment. Meanwhile the stakeholders are getting a share of the mining rewards.

PoW, PoS and PoA all want to reward miners and stakeholders in order to realize multiparty computation. But when looking for the best blockchain solutions, it is not only important to look at the

[3] https://www.decred.org/research/bentov2014.pdf

infrastructure they provide, but to also judge them from the usage perspective. When a business revolves around data generation it's very important which infrastructure is used and how it is implemented, so these 2 aspects cannot be separated from one another.

The need for a new model

The consensus mechanism is the underlying process on which distributed ledgers rely. Therefore, the first objective is to insure that various parties inter-operate as a whole to sustain a reliable and safe network. PoU (Proof of Usage) is introduced as it is fundamental for Pikciochain to build an incentive model where data owners, e.g. individuals, will be rewarded. Indeed current models around personal data monetization do not encompass users i.e. rightful data owners. Additionally the objective would be to overcome the stacking effect from PoS to encourage usage by spending over retention.

Proof of Usage

Proof of Usage aims to a build a tangible ground for data provision, certification and exchange in the PikcioChain. PoU relies on the same core process as PoA, but with an additional redistribution layer to original data owners and / or certifiers. It also uses a last-block-satoshi method instead of the follow-the-satoshi, to speed up and linearize the time spent finding who is the current satoshi owner from the total satoshis exchanged in the block. Additionally PoU does not incentivize stakeholders to hoard the coins, but rather to use them, while also avoiding self rewarding. Therefore having a platform that revolves around the transactions of data implies a business model of payment incentives with redistribution of rewards at the consensus level.

Proof of Usage: How it works

Because follow-the-satoshi selects a random coin number, it incentivizes miners to increase their stacks as to increase their chances of getting the rewards. This effectively incentivizes hoarding v.s. spending. Proof of Usage uses a follow-the-satoshi-in-block, meaning a coin will be selected in the last blocks randomly from past transactions within the last N blocks. Therefore the identification of the owner for whom the coin was selected will be faster and only the transacted coins will be taken into consideration. Coins sent to yourself are not included in order to prevent self-rewarding. And even if an actor would try and game this by sending tokens to wallets he owns he will end up spending more in transaction fees than he would get.

Time is divided into subsets called time slots. For a given time slot a block header is defined using the hash of the previous block, the miner's public address, the height relative to the block index and a calculated nonce for a given difficulty proven fast enough to avoid computational effort losses. When a miner reaches a hash matching the current difficulty i.e. N zeros in the calculated hash adjusted with the nonce, the block header is broadcasted on the network. The header hash is derived N times for N satoshi within last X block transactions.

Each selected stakeholder signs the block header, collects and validates transactions that are broadcasted over the network to accept or refuse incoming blocks from the winning miner. Once the timeslot reaches the end time, the miner wraps up the block and redistributes the fees. Pikcio Company gets the transaction fees for the transactions including the N satoshi . Thus split M% to all data owners and certifiers for who a PKC exchange occurred. The miner himself gets X% of the remaining transaction fees. Each stakeholder is credited of Y/N% of the remaining transaction fees.

The PKC token

As PikcioChain is a proprietary distributed ledger solution, it has its own token called the PKC token. This is the basic unit of account inside the system and it forms the lifeblood of the PikcioChain ecosystem.

NEO token

European companies require a banking license to issue their own tokens. A banking license takes two years and an investment of 15.000.000 Euro. It was therefore clear that PikcioChain would initially choose a 3rd party blockchain platform for issuing the PKC tokens on their behalf. The decision was finally made for the NEO platform (read more on this in the chapter ("NEO"). Therefore, PKC is currently a NEO (NEP-5) token. The objective is to launch a PikcioChain native token when regulations are more favourable in the fast-evolving European fintech legislation framework.

PKC is PikcioChain's proprietary currency

PKC can be used in a similar way to a proprietary currency within the PikcioChain network. When used in this way, it can be a medium of exchange facilitating the trade of data, functionality and access.

Businesses can use PKC tokens to purchase customer data along with their proof of authenticity and integrity. PKC tokens can also provide access to identification validation from third parties (i.e. banks) that have already processed the requested KYC data. In addition, PKC tokens will grant users the right to deploy their own smart contracts and execute them in the safe and modular blockchain environment provided by PikcioChain.

PKC is used for incentivization

PKC can also be used as an incentive for ecosystem participants, i.e. to incentivize data producers to keep their data up to date and to share their data with organizations. Another example are miners who are incentivized to execute a smart contract and being rewarded with a share of the PKC tokens per transaction.

PKC is sold at a premium to business clients

The PKC token will also be sold on the platform by the PikcioChain company to larger parties at a slight premium above market prices for convenience. This premium allows the company to make a slight profit, but also to restock - and even add to - its inventory of PKC, by restocking them from the open market.

PKC is used as incentives and to add functionality

The PikcioChain platform, as well as its products address different use cases and user groups (see "PikcioChain Products" for more details). For each of these use cases or applications the PKC token can offer specific utilities and functionalities.

One example of this is the PikcioTokenSaleWallet (TSW) product, which offers a user-friendly way to participate in various token sales without having to go through the cumbersome KYC process every time. Dependant on the amount of PKC held by the user in his/her TSW wallet, or paying PKC for advanced features, some of the following benefits can be enjoyed:

- Access to exclusive token sales or tiers
- Access to higher bonus tiers
- Guaranteed allocations for chosen token sales
- Higher allocations for chosen token sales
- "Automated participation" feature enabled for chosen token sales
- Participate in voting rounds on which future token sales to add to the platform

These basic dimensions can be customized by the project that is offering their sale via the TSW, leading to a wide range of incentives offered to PKC holders.

Go To Market Strategy

B2B2C Approach

While most competitors are focusing on the B2C (business to consumer) aspect of identity data management, effectively growing their data pool by positioning their identity management front end in a very competitive B2C market, for example via app, PikcioChain covers a B2B2C (business to business to consumer) approach. This means that PikcioChain is combining its strength with its business partners and clients to build up their customer data pool. The services, websites, portals and solutions of are the front end to grow the data pool. PikcioChain is effectively the background mechanism in for handling all customer related data, thereby leveraging the immense customer base that the clients have. This makes growing the data pool highly effective and it then comes very naturally for the B2C part to engage with the individual data owner via the app.

While PikcioChain is more than just identity management, it is the use case that our clients in the banking and insurance sector have the highest need for at the moment. PikcioChain is a client driven company and therefore it makes sense to grow the business in the areas and markets where the need to comply with certain regulations is the strongest.

Regional expansion strategy

Given the team's background negotiations with various major French banks are ongoing and we are delivering most of the client work for BNP Paribas in France. Further client rollouts to other European countries are planned in the near future.

PikcioChain is looking to strategically position sales offices and showrooms near key markets where businesses can experience the solutions first hand. Pikcio AG is headquartered in Lausanne, Switzerland with offices in Paris, Brussels and Boston (USA). A sales office in Bahrain is staffed and operating, while a subsidiary in China is currently being set up and the Chinese organization is in the process of being incorporated. We are looking to open an office in Brussels for strategic access to Luxembourg. With PikcioChains great connections to the Malaysian government and its positive stance towards blockchain, PikcioChain is set to open a subsidiary in Kuala Lumpur by the end of summer 2018 The goal is to gather a consortium of banks around the PikcioChain products to create a strong ecosystem. And finally PikcioChain is entering Japan, piloting one of our products for several local banks and reviewing the option of opening a Japanese subsidiary by the end of the year.

National Connector Strategy

The first step in approaching a new market is to build up connections that are specifically designed to fulfill regulatory demands of the target market and then grow existing customer connections as well as establishing new ones with a plug and play style concept. Due to PikcioChain's unique Go To Market strategy, B2B promotion is the most effective tool of advertisement. PikcioChain will present itself at business sector events in key markets around the globe and leverage its strong partnership network. Furthermore, the partners themselves will act as resellers of PikcioChain and as support for technical implementations, ensuring steady growth and almost limitless global scaling capabilities.

Whenever new clients are onboarded, they will require PKC Tokens to use the PikcioChain services. While most of the clients won't buy PKC on exchanges, they will however buy PKC from the "B2B premium inventory" at a premium rate in comparison to the price of PKC on exchanges. PikcioChain then

in turn reserves the right to restock this inventory by buying PKC from exchanges, in order to satisfy demand in the future.

B2C Incentives Campaigns

Other promotional tools are the B2C growth pool to drive regular users to use the Pikcio.me app or the PKC Token Sale Wallet, where people can gain access to PKC by performing actions on the PKC network. There are many effective ways of incentivizing B2B as well as B2C actions and we assume the community will be happy to see that all areas are covered.

Strategic Blockchain Partners

When we think about partnerships, we believe that what keeps them together is not just striving towards one common goals, but also towards a shared vision of a better future. The partners we are contacting are ones with the same passion, the same value systems and the same understanding of how the world works. The goal for these partnerships is to last a lifetime. PikcioChain is therefore selecting its partners very carefully. This chapter aims to provide details about partners in the blockchain space and traditional business fields.

NEO

For people in the cryptocurrency space, it has become obvious that NEO has been trying to develop a carefully designed ecosystem. They have strategically partnered with companies to cover key use cases, industry verticals and geographies. Meanwhile NEO itself is successfully focusing on stability, scalability, transaction speed and functionality in order to provide a platform for a strong ecosystem.

In September 2017 PikcioChain's friend and advisor, Joe Zhou, introduced us to Da Hongfei, NEO's CEO. This has lead to a $3 million contribution by the NEO Council into the PikcioChain ecosystem and PikcioChain becoming an integral part of the NEO ecosystem. PikcioChain is the first and so far only European company NEO has invested in; PikcioChain is positioned as the data protocol and data exchange for the NEO ecosystem.

Why did PikcioChain choose NEO over i.e. Ethereum or Hyperledger?

- NEO, Ethereum or Hyperledger were some of the obvious options besides various other blockchain platforms.
- Hyperledger only uses IBM servers to store and certify data, meaning that users have to trust IBM. This is not in harmony with our understanding of a distributed ledger.
- Compared to Hyperledger, Ethereum's architecture is used and owned by several companies. However, when data is sent to the Ethereum blockchain, the user does not know where their data has gone. Ethereum is a permissionless network, which is in direct conflict with EU regulations. EU regulations dictate that data and even the data hashes cannot be stored in countries outside of the EU. This makes permissionless networks like Ethereum unsuitable for certain highly regulated industries such as the health and financial services sectors.
- Many companies in the banking space have previously chosen Hyperledger or Ethereum as a platform and have failed. This was not due to technical reasons, but due to regulations that

require a permission-based chain like NEO and PikcioChain. PikcioChain is an application for the real world and for real clients that need to comply to the policies and regulations.

- NEO is a permissionless public network. Permission can be achieved using encryption such as with quorum on Ethereum. This allows for permission from an application perspective, but not from a system architecture. That's why the best of both worlds are combined when using NEO in combination with the permission-based PikcioChain. NEO has a theoretical maximum of about 10.000 transactions per second (TPS), a high throughput when compared to other platforms, i.e. Ethereum currently has 15 TPS. High TPS can be an important criteria for some client use cases and does not limit PikcioChain's applicability for businesses. Furthermore, PikcioChain has developed good relations with the leaders of the NEO ecosystem. PikcioChain's strategic partnership with NEO implies a strong communication that goes both ways, as NEO is highly interested in actively advancing its ecosystem via its strategic partners. All these factors have been central in our decision for the NEO ecosystem.

What did the strategic agreement between PikcioChain and NEO entail?

Both parties signed a strategic agreement that includes:

- 3.000.000 USD contribution into the PikcioChain ecosystem by the NEO Council
- PikcioChain moves exclusively to the NEO platform, PKC is a NEP-5 utility token
- NEO technically supports the token sale, i.e. writing the PikcioChain token sale contract
- PikcioChain receives access to all of NEO's marketing platforms, be it social media, speaking at meetups or presenting at NEO's conferences and roadshows
- Mutual support in business development, first concrete steps being roadshows
    - NEO, Onchain and Ontology will do roadshows with PikcioChain in China to introduce their large partner and client network to PikcioChain's unique products
    - PikcioChain will do respective roadshows in Europe with NEO, Onchain and Ontology, including introductions to various potential partners and clients in the banking and insurance sector.

Building key partnerships: Onchain & Ontology

分布科技 onchain

Ontology 本体网络

On a management level PikcioChain is in direct contact with

- Da Hongfei, founder of NEO and co-founder of Onchain
- Jun Li, co-founder of Onchain and founder of Ontology

Close partnerships with both Onchain and Ontology are currently being built to establish a mutually beneficial exchange of technology and services.

Onchain is the corporation behind NEO. Onchain's product "DNA" (Distributed Networks Architecture) is based on digital asset applications and capable of flexible expansion into multiple business support scenarios. Expressed differently: "Onchain = Microsoft of blockchain. DNA = Windows 1.0"[4] .

[4] Source and good resource to learn more about NEO and the close ties to the Onchain company: https://hackernoon.com/neo-onchain-and-its-ultimate-plan-dna-4c33e9b6bfaa

Onchain and PikcioChain are interested in closely cooperating on various aspects such as network security and end user services.

As a mission statement, Ontology is looking to build a cross-chain, peer-to-peer, trustless ecosystem. Essentially, the goal is to create interoperability between different chains. A central interoperability use case is data interoperability, specifically sending personal data from one chain to another chain while the data remains fully functional. We are in close contact with Jun Li, founder of Ontology, about the transfer of personal data cross chains, a topic of mutually high interest.

Strategic Business Partners

In just three years, PikcioChain has been recognized as an elegant solution to a complex problem. The core value of ensuring privacy by design has been understood by many to represent the future of the data industry. Its implementation within PikcioChain has led to a range of operational partnerships with major businesses that have the power to change the way millions of people think about and use their personal data.

Besides key partnerships in the cryptocurrency space, we strategically selected partners that have their roots within traditional business sectors since we are a B2B2C company above all else. To understand how we leverage these partnerships we want to introduce these partnerships in more detail.

E&Y

E&Y (former Ernst&Young) is a global powerhouse and one of the largest professional services firms in the world ranking among the "Big Four" accounting firms. They operate a network of member firms with over 231,000 employees in over 700 offices in more than 150 countries. With this global setup they are offering PikcioChain to companies that are currently struggling to comply with GDPR regulations and position us as the go-to solution when it comes to handling customer data. Furthermore they bring in direct contacts with clients and are securing speaking slots in events, to present PikcioChain in front of key decision makers. The network effect for PikcioChain within this constellation is immeasurable.

PricewaterhouseCoopers

PricewaterhouseCoopers is our second partner out of the “Big Four” accounting firms, with a network of offices in 157 countries, a combined 743 locations and over 223.000 employees. They are playing a major part when it comes to raising funds for the token sale in Europe and Russia. Furthermore they are performing due diligence tasks for PikcioChain, take care of the financial side of the Token Sale and consult in specific parts for the Whitepaper.
PWC is not only limited to the business aspects of PikcioChain but also advises when it comes to the technological side of the project, checking the token status and auditing the PKC smart contract, before presenting us in front of their clients to raise funds in the Token Sale.

Capgemini

Not as big but still a huge multinational player is Capgemini, a France based services and business consulting corporation. They bring an additional 190.000 employees in over 40 countries and more that 50 years of experience to the table. Both E&Y and Capgemini play an integral part within our business strategy. They offer a vast client network for us to access. But while E&Y is more focussed on the business support, the partnership with Capgemini goes even further beyond that. They play the role of a global technical integrator for PikcioChain. If successfully positioned, they will act as a partner for technical implementation, resulting in global capabilities to scale up that wouldn't be possible otherwise.

PikcioChain offers a solution for the global exchange of customer data and therefore has a potential world wide client base. This sets the demand for business partners that can act locally but think and deliver globally. With the current set of partners we are confident that we are more than prepared for the tasks ahead. Each of our partners is fulfilling a slightly different but crucial role for the benefit of PickcioChain and its clients and supporters.

Clients

PikcioChain has several ongoing, paid client engagements. The company is actively working on widening the current client contracts and is in talks with several potential clients in the banking sector.

BNP Paribas - Cetelem

BNP's *Cetelem* (personal credit subsidiary) contracted PikcioChain for the following services:

- A mobile solution for KYC info collection
- Collection and authentication (proof of residency and proof of revenue) is integrated into a chatbot for personalized customer communication, allowing for a streamlined online credit request process

BNP Paribas - Cardiff

BNP's *Cardiff* insurance has access to the above mentioned data of the insured credit user, which is connected to four different data sources for claim authentication, allowing for a faster and less expensive underwriting process.

GDPR compliance for customer data access and control is guaranteed via the PikcioChain. Business with BNP Paribas is steadily growing.

P2link

P2Link is a telemedicine service provider. PikcioChain is connecting patient data from the patient's home with the P2Link caregivers, creating a redundant network ensuring a trustable fallback for all data entries.

Awards

PikcioChain has successfully participated in various startup competitions and sector specific award programs. The positive results have helped us gain visibility among potential partners and clients.

LA FRENCH TECH (2015)

Received label “certified FrenchTech”, given to a selection of innovative startups.

INTERNATIONAL CES (2017)

Prize winner of “One billion dollar pitch” run by the FrenchTech community

3D FINTECH CHALLENGE (2016)

Finalist of the 3D Fintech Challenge run by Dassault Systèmes

FACC INNOVATION AWARDS (2016)

Silver Medal of the Innovation Awards at the French American Chambers of Commerce in New England

F10 FINTECH CHALLENGE (2016)

Finalist of the F10 Fintech Challenge ran by the Swiss based group SIX

GRANDS PRIX (2017)

Grand Prize Bank & Innovation in the Blockchain category with Flatirons Jouve

Accelerators

Start-up accelerators, also known as seed accelerators, are fixed-term, cohort-based programs, that include mentorship and educational components as well as networking opportunities. Unlike business incubators, the application process for start-up accelerators is open to anyone, but highly competitive. PikcioChain has become part of a range of accelerators in various regions, giving access to a global network of business partners and influencers.

TECHCODE

TechCode is a leading overseas accelerator. It has established incubation systems in Beijing, Shanghai, Shenzhen, Gu’an, Silicon Valley, Seoul, Tel Aviv, and Berlin to provide innovators with a global support network.

PLUG & PLAY

Plug and Play is BNP Paribas’ startup accelerator, being the ultimate fintech and insurtech accelerator in Paris. BNP Paribas-Plug and Play is bringing the ultimate innovation platform to Paris. Uniting startups with the unrivaled tech expertise of Silicon Valley and the bank for a changing world.

DIGITAL CREDIT UNION FINTECH

An innovation center dedicated to fostering seed-stage FinTech startups and the Boston FinTech community. The DCU FinTech Innovation Center is a dedicated resource providing seed-stage FinTech startups with everything they need for success: mentorship, workspace, a professional network, and community.

FINTECH BAY

Bahrain FinTech Bay is the leading FinTech Hub in the Middle East, providing innovation labs, acceleration programmes, curated activities, educational opportunities, and a collaborative platform to source partners, investors, talent and build a regional network.

Use of Proceeds

MatchUpBox
blockchain for personal data

		Step 1 Current	Step 2 $2 500	Step 3 $7 500	Step 4 $15 000	Step 5 $25 000 & more
	Amounts in k$					
Research	*What*	• Public IaaS of the PikcioChain	• Public Digital Identity service	• Automate PikcioLab smart contract builder	• Homomorphic smart contract	• Digital Identity & Personal Data market place
	Who	Current team of 2 PhDs	2 additional PhDs 1 PikcioLab builder	1 Data Analyst 3 PikcioLab builders	Add PikcioLab builders 2 Cryptographic experts	1 Electronic/IoT specialist 1 Research partnerships (Labs & Univ.) manager
	Yearly burn rate	150	350	700	1200	1600
Engineering	*What*	• Test and validate current PikcioChain • Finalize application wallet • Certification of our technology by third party (e.g. ANSSI) • Launch public PikcioChain Level 1	• Grow the PikcioChain infrastructure (Level 2) • Launch the PikcioLab smart contract builder • Launch the Shaktior subscription program • 100 more sources of authenticated personal data • Additional certifications	• Grow the PikcioChain infrastructure (Level 3) • 200 more sources of authenticated personal data • Additional identification services • Fully automated PikcioLab • Additional certifications	• Deploy the full PikcioChain Infrastructure • Open personal data service providers (certifiers) program	• Pikcio electronic chip for personal databox / digital wallet • Optimized shaktior chip
	Who	Existing team of 6	2 developers 1 network engineer	2 developers	1 senior developper 1 network expert	Dedicated electronic team
	Yearly burn rate	330	550	1100	1600	2200
Marketing & Sales	*What*	• Private PikcioChains to banks and Insurance	• Expand personal data domain (e.g. health) for the Shaktior Program	• Expand footprint in Europe • Open office in Paris	• Expand footprint in Asia	• Expand footprint in Africa
	Who	Existing team of 2	1 Sales/Marketing Director 4 Account Managers 2 accounts support	1 community manager 2 sales teams (EU & US)	1 community manager 1 sales team (Asia)	1 community manager 1 sales team (Africa)
	Yearly burn rate	150	600	1040	2600	5000
Communication	*What*	• Social networks, websites and video (tutorial and PikcioChain democratization)	• Expand tutorials, webinars and sales collaterals library	• Trade Fairs, workshops, Professional Associations	• Expend internationally	• Sponsor important events around Personal data and privacy
	Who	Existing team of 1 and third parties	Expanded team + communication agency			
	Yearly burn rate	50	250	400	500	750
Education	*What*	• Pitch and round table on Blockchain and Privacy events	• Host a yearly PikcioChain Hackathon	• Launch first PikcioLab startups accelerator	• Host a yearly conference on Privacy and P2P / Blockchain technologies	• Make individuals understand the value of their personal data & privacy • Governments & Data privacy agencies lobbying
	Who	Founders	R&D team	1 dedicated team of trainers and evangelists	Expand team of trainers & evangelists	Expand team of trainers and evangelists Dedicated lobbyists
	Yearly burn rate	20	150	300	550	850
	Annual burn rate	700	1900	3540	6450	10400

Roadmap

PikcioChain started out in 2014 with the idea of building “The Bitcoin of data”, purely focussing on a Peer-2-Peer architecture. The design of these P2P design layers took 1.5 years, including indexation of data, users and devices. 1 year ago the blockchain layer with the consensus algorithm and a DLT was added and is now fully functional and in use at BNP Paribas and other clients. Currently the technical team is focusing on implementing PikcioChain’s proprietary Proof of Activity algorithm (mixture of POW & POS). Also, the team is working on implementing smart contracts on the PikcioChain.

- Jun 2014: Self funded, 750k USD invested into the company by PikcioChain CEO Didier and close friends into development of PikcioChain. Goal: To build the “Bitcoin of personal data”.
- Oct 2014: MatchUpBox established with offices in France and the US. Build up company structure, hire team.
- Jan 2015: Start of development, network design, solution concept.
- Sep 2015: First PikcioChain prototype including chat, message exchange, P2P layer, including network encryption.
- Oct 2015: Development of proprietary distributed ledger technology, distribution of data, connectors for Facebook, LinkedIn and other social networks as well as banks.
- Jul 2016: Preparation for first official release, work on PikcioMe interface, basis for first mobile application.
- Jan 2017: Presentation of consumer friendly PikcioMe solution at Consumer Electronic Show in Las Vegas. Received major attention from the fintech sector. Won price for “Billion dollar Pitch”.
- Feb 2017: Development of APIs for easy integration into other client application. Started work on consensus algorithm, PikcioChain’s custom Proof of Work model.
- Oct 2017: First major client BNP Paribas was signed and work for prototype started. Other client work in parallel.
- Nov 2017: DePikcio AG incorporated in Lausanne, Switzerland.
- Dec 2017: Testnet release of PikcioMe Wallet (laptop and Android platforms). Setup the first medium-sized PikcioChain infrastructure for BNP Paribas.
- Dec 2017: NEO partnership and PKC become NEP-5 tokens.
- Feb 2018: Design of MIP (Miner Incentive Program). The program is designed to attract miners worldwide to help grow the PikcioChain network and infrastructure.
- Mar 2018: Release of PikcioChain’s Proof of Activity Protocol.
- Mar 2018: PikcioTokenSaleWallet: Registration process for new wallet, create profile, upload KYC documents, check of proof of identity and proof of residency documents.
- May 2018: PikcioTokenSaleWallet: Add new crypto wallet (ETH, NEO), import existing crypto wallet, make transactions from/to wallet, send wire transfer to wallet, add credit card to wallet.
- Q2 2018: Release of PikcioLab (smart contract builder), allowing to push programs to the PikcioChain.
- Q2 2018: Hybrid application of the PikcioChain iOS Wallet, partly P2P, partly using relays.
- Q2 2018: Execute Pikcio MIP (miner-incentive program), to attract miners worldwide to help grow the PikcioChain network and infrastructure.
- TBD: Full P2P release of the PikcioChain iOS Wallet

PikcioChain Team

Pikcio AG, the company which owns and develops the Pikcio network was founded by Didier Collin de Casaubon, Fabien Bucamp and Dr. Jorick Lartigau PhD. Information about the founders' careers and the rest of the Pikcio team, can be found below:

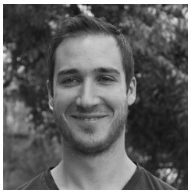
Leadership Team

Didier Collin De Casaubon - Founder, CEO

After achieving a post-grad in Philosophy, a masters in Mathematics and an MBA, Didier juggled working in the banking industry for over 15 years with his ambitions to be software entrepreneur. His understanding of financial services along with his technical expertise have helped him guide the development of Pikcio.

Fabien Bucamp - Co-Founder, CTO

Fabien's network security background working at the French Department of Defence makes him the perfect person to oversee the monitoring and management of our software and hardware development work.



Dr. Jorick Lartigau, PhD - Co-Founder, Research

Jorick leads research into Pikcio, conceptualising and designing new features for the service. His PhD in Computer Science focused on data security and big data algorithms.

Alizon König - Development

Alizon spends hours every day coding the engine behind Pikciochain. She ensures that bugs big and small are identified and resolved, making Pikcio an incredibly reliable service.

Gonzague Grandval - Strategy

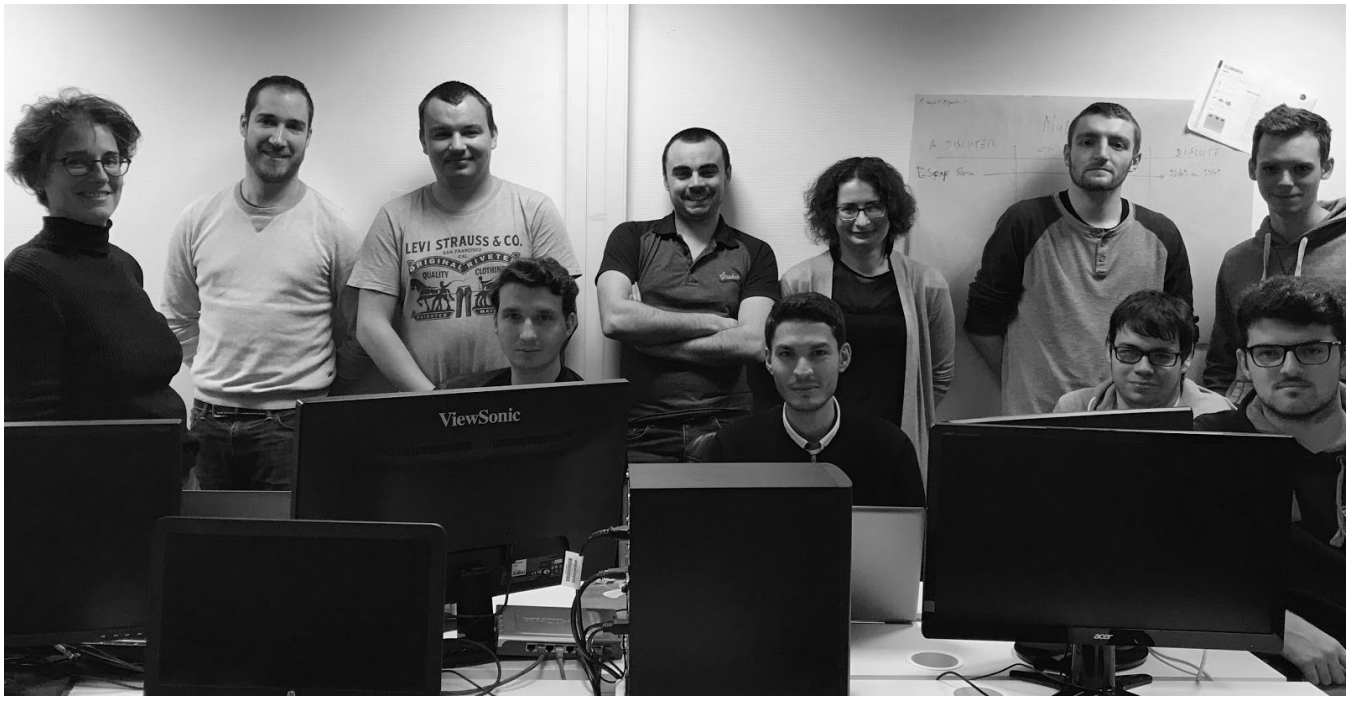
Gonzague received his post-graduate diploma in Economics at the Sorbonne. Since then he has focused his career on cryptocurrency and blockchain technologies.

Jean-François Lienart - Chief Sales Officer

Jean-Francois has built up a strong track record in selling IT services solutions to the Benelux market. He specialises in sourcing and implementing new technologies to generate growth within large organizations.

Cherie Arruda - Co-Founder, Plan & Audits
Cherie built a successful 26 year career in financial services working at a large US bank. She brings her executive leadership in business controls, risk management and compliance to the Pikcio team.

Delphine Benat-Rassat - Operations
Delphine with her Master in Business Management also has a multisector background in particular in innovative companies. She deals with operations and helps Matchupbox in optimizing its administrative, HR and financial processes.



PikcioChain's technical team

Advisors

Joe Zhou - CEO & Co-Founder at FirstBlood
CEO & Co-Founder at FirstBlood, one of the first Ethereum based project that raised funding through token launch. Founder and CEO of Alt-Options LLC, the first Bitcoin options trading platform based in the US.

Lidia Bolla - Co-Founder at vision&, Crypto Asset Manager
After obtaining a PhD in Finance, Lidia co-founded start-ups in the field of crypto investments and machine learning applications. She advises PikcioChain in data analytics and financial services applications.

Victor Chow - CEO, Aristagora International
A serial entrepreneur and senior corporate leader in venture capital, start-ups, telecommunications, ICT, financial and education technologies and who turned business investor. He held CXO positions across general management, strategic planning, business development, sales, marketing and global operations management in Asia Pacific, Europe and North America.

Mario Colombo - Technical Lead, Partner at what.digital
Mario has over 8 years of experience in communications, web development and digital marketing. He is an experienced product manager for mobile and web applications and specialises in helping start-ups with prototyping, “go to market” strategies, customer acquisition and growth hacking.

Luke Szkudlarek - Token Sale Growth Hacking, Founding Partner at what.digital
Luke has over 10 years international experience in the digital sector, leading a growth hacking and development agency in Zurich, specialising in fintech & cryptofinance.

Thomas Galovic - Founder of Crypto Investment Bank Technocracy Associates
Thomas has over 7 years of experience in diplomacy and high finance with track record of investing USD $2bln. in corporations and USD $40mil. in startups. He holds B.Sc. in international finance, MA in international relations and currently doing PhD in Political Science.

Token Sale

Facts and Figures

Total supply is 83.088.000 PKC (100%). The amount of tokens sold is 36.009.716 PKC (43.4%).

The presale will last until March 16th, 2018 with a 5% bonus.

Public sale will start March 17th, 2018 and will last until March 31st, 2018. No bonuses have been allocated for the public sale.

The token sale is capped at $30.000.000. Once this amount is reached the token sale will be closed.

Unsold tokens will be distributed to the community. In order to claim them, users will be asked to use the PikcioChain platform, such as performing KYC and other useful actions. This aims at increasing usage of the PikcioChain platform.

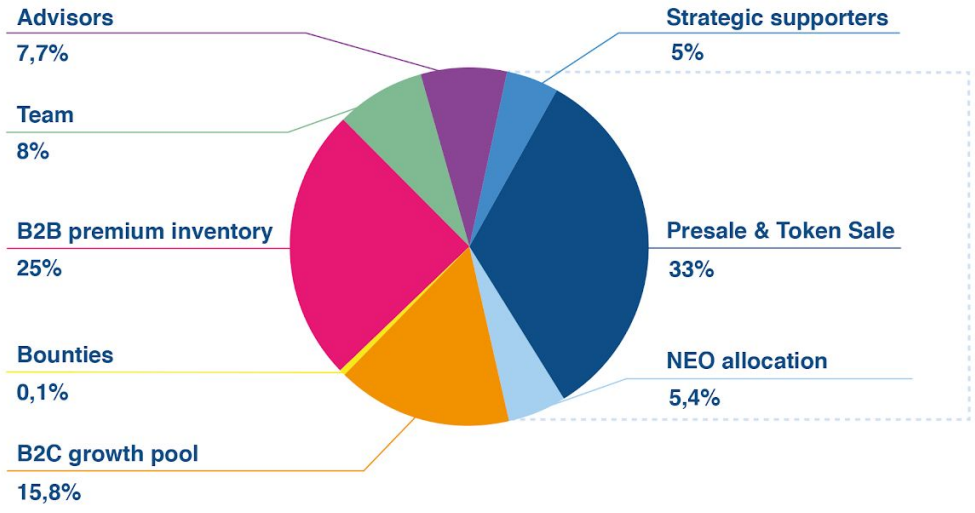
Token Distribution

A total of 43.4% tokens are being sold, including strategic supporters, NEO's allocation and the pre- and token sale. This number also includes bonus tokens.

The *B2B premium inventory* will only be sold at a premium to business clients. PikcioChain reserves the right to refill its B2B premium inventory by purchasing PKC from the market at any point in time.

The *B2C growth pool* is used for incentivizing customers to use the PikcioChain products, provide data and perform useful actions that generate value in the PikcioChain ecosystem.

Team tokens are vested for 2 years.



Token distribution

Token Sale FAQs

What is the total token supply of PKC?
Total token supply is 83,088,000.00 PKC. The total amount of tokens sold is 36.009.716 PKC.

What is the PKC token sale hardcap?
The hard cap set for pre-sale and public sale is set at 30 million USD.

What is the PKC token sale softcap?
No softcap has been set for the PKC token sale.

What happens to unsold tokens?
Unsold tokens will be distributed back to the community. In order to claim them, contributors will be asked to use the PikcioChain platform, such as performing the KYC aspects and other actions. This aims at increasing usage of the PikcioChain platform.

Which payment methods will be accepted during the token sale?
PKC can be purchased using ETH, NEO or fiat currencies via bank transfer.

What is the price for PKC?
The exchange rate is set at 150 PKC for 1 NEO. ETH to PKC price is calculated daily based on the NEO to ETH exchange rates and can be found on https://pikciochain.com.

How can I buy PKC?
You can visit our website https://pikciochain.com or alternatively you can use these detailed step-by-step guides that we have created for you.
Buying with Ethereum
Buying with NEO

How will I know if my PKC purchase was successful?
You can find a confirmation of your PKC purchase in the personal dashboard on https://pikciochain.com.

When and where will I receive my PKC tokens and will the bonus tokens be vested?
All PKC tokens (including bonus tokens) will be distributed as soon as possible after the token sale has ended, which is March 31st, 2018. Your PKC tokens will be distributed to the NEO address supplied during purchase. Bonus tokens will not be vested.

Will there be a vesting period for the team, advisory and and bonus tokens?
Team tokens are vested for 2 years, advisory tokens are not vested, and bonus tokens that participants receive are also not vested.

What do I need in order to receive my PKC? Could you suggest a NEO wallet?
As PKC is a NEP-5 token, you will need a NEO wallet for us to distribute your tokens towards. We recommend NEON wallet which you can download on http://neonwallet.com/ or alternatively you can work with https://neotracker.io/. An in depth setup guide can be found in one of the “how to contribute” articles on https://news.pikciochain.com.

Where can I see how many PKC tokens I currently hold?

Aside from the information shown in your own NEON wallet, we have provided a counter in the PikcioChain dashboard displaying your PKC balance in your NEON wallet provided in your account. Naturally as the tokens are distributed after the token sale your balance will show zero until PKC tokens have been distributed.

When I purchase PKC, am I buying a share of the business or other security?

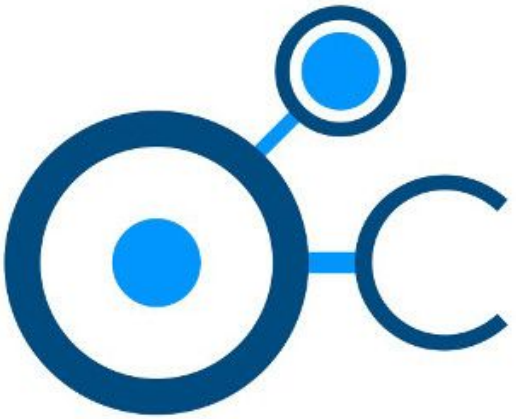
No, it's important to understand that PKC are utility tokens. This means they are used to gain access to services within PikcioChain. As a utility token, PKC is neither a cryptocurrency nor a security token. Given this fact, it does not come with rights to any aspect of the business, instead it gives the holder the right to access particular services offered by PikcioChain.

Are there any country limitations on who can participate in the crowdsale?

Unfortunately US citizens and residents are only to participate if they are accredited investors. Also, tokens unfortunately cannot be sold to any citizens or residents from the following: Mainland China, Countries or regions comprehensively sanctioned by the US Office of Foreign Assets Control (OFAC) (including countries currently sanctioned by the OFAC such as Ukraine, Cuba, Iran, North Korea, Sudan and Syria). To make sure, we would advise you to register on the website and going through our KYC process in order to find out if you are eligible for the token sale.

How can the KYC process complete so quickly?

KYC is one of our core competences. What comes into play here are state of the art technical components that are connected to databases and face detection features that work within milliseconds, in order to decide if you get to to the next step of putting in your address details or not. If you get greenlighted immediately, you move forward to the second step. If you are declined, you can't advance and if the system can't decide, there is a manual check. There are additional rules we use to manually check data in the background after the immediate application process. If we find information lacking or inconsistent we reserve the right to ask for clarification of disputable data such as a better picture or further documents. The whole system is designed to be as easy and as fast as possible for applicants while ensuring maximum accountability.



PIKCIOCHAIN

Thank you.

Disclaimer: There Are Certain Risks Related to the Use of Tokens

Important Note: As noted elsewhere in these Terms, the Tokens are not being structured or sold as securities or any other form of investment product. Accordingly, none of the information presented here is intended to form the basis for any investment decision, and no specific recommendations are intended. 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: (i) reliance on any information contained herein, (ii) any error, omission or inaccuracy in any such information or (iii) any action resulting from such information.

By purchasing, owning, and using Tokens, you expressly acknowledge and assume the following risks:

1. Risk of Losing Access to Tokens Due to Loss of Private Key(s), Custodial Error or your Error

A private key, or a combination of private keys, is necessary to control and dispose of Tokens stored in your digital wallet or vault. Accordingly, loss of requisite private key(s) associated with your digital wallet or vault storing Tokens will result in loss of such Tokens. Moreover, any third party that gains access to such private key(s), including by gaining access to login credentials of a hosted wallet service you use, may be able to misappropriate your Tokens. Any errors or malfunctions caused by or otherwise related to the digital wallet or vault you choose to receive and store Tokens, including your own failure to properly maintain or use such digital wallet or vault, may also result in the loss of your Tokens. To minimize this risk, you should guard against unauthorized access to your electronic devices. Best practices dictate that you safely store private keys in one or more backup locations geographically separating from the working location. Your failure to precisely follow the procedures set forth in for buying and receiving Tokens, including, for instance, if you provide an incorrect Token Receipt Address, or provide an address that is not compatible with the PikcioChain digital wallet, may result in the loss of your Tokens.

2. Risks Associated with the PikcioChain Protocol

Because Tokens and the Ecosystem are based on the PikcioChain protocol, any malfunction, breakdown or abandonment of the PikcioChain protocol may have a material adverse effect on the Ecosystem or Tokens. Moreover, advances in cryptography, or technical advances such as the development of quantum computing, could present risks to the Tokens and the Ecosystem, including the utility of the Tokens for obtaining Services, by rendering ineffective the cryptographic consensus mechanism that underpins the PikcioChain protocol.

3. Risks Associated with Matryoshka and Kademlia

Because the Company intends that some of the smart contracts in the Ecosystem will be based on the Matryoshka and Kademlia protocols, any malfunction, breakdown, or abandonment of the Matryoshka and Kademlia protocols may have a material adverse effect on the Ecosystem or the utility of the Tokens within the Ecosystem. Moreover, advances in cryptography, or technical advances such as the development of quantum computing, could present risks to the Tokens and the Ecosystem, including the utility of the Tokens for obtaining Services, by rendering ineffective the cryptographic consensus mechanism that underpins the Matryoshka and Kademlia protocols. Additionally, Matryoshka and Kademlia, including all necessary features of each such platform, may not be complete in a timely fashion for its use in the growth and development of the Ecosystem, which could also have an adverse effect of the utility of the Tokens in the Ecosystem.

4. Risk of Mining Attacks

As with other decentralized cryptographic Tokens, the Tokens are susceptible to attacks by miners in the course of validating Coin transactions on the PikcioChain, including double-spend attacks, majority mining power attacks, and selfish-mining attacks. Any successful attacks present a risk to the Ecosystem and the Tokens, including accurate execution and recording of transactions involving Tokens.

5. Risk of Hacking and Security Weaknesses

Hackers or other malicious groups or organizations may attempt to interfere with the Ecosystem or the Tokens in a variety of ways, including malware attacks, denial of service attacks, consensus-based attacks, Sybil attacks, smurfing and spoofing. Furthermore, there is a risk that a third party or a member of the Company team may intentionally or unintentionally introduce weaknesses into the core infrastructure of the Ecosystem, which could negatively affect the Ecosystem and the Tokens, including the utility of the Tokens for obtaining Services.

6. Risk of Security Weaknesses in the Company Platform Core Infrastructure Software

There is a risk that the Company team, or other third parties may intentionally or unintentionally introduce weaknesses or bugs into the core infrastructural elements of the Company platform interfering with the use of or causing the loss of Tokens.

7. Risk of Weaknesses or Exploitable Breakthroughs in the Field of Cryptography

Advances in cryptography, or technical advances such as the development of quantum computers, could present risks to cryptocurrencies and the Ecosystem, which could result in the theft or loss of Tokens.

8. Risks Associated with Markets for Tokens

Tokens are intended to be used solely within the Ecosystem and the Company will not support or otherwise facilitate any secondary trading or external valuation of Tokens. This restricts the contemplated avenues for using Tokens to the provision or receipt of Services, and could therefore create illiquidity risk with respect to any Tokens you own. Even if secondary trading of Tokens is facilitated by third-party exchanges, such exchanges may be relatively new and subject to little or no regulatory oversight, making them more susceptible to fraud or manipulation. Furthermore, to the extent that third parties do ascribe an external exchange value to Tokens (e.g., as denominated in a digital or fiat currency), such value may be extremely volatile and diminish to zero.

9. Risk of Lack of Adoption or Use of the Company Platform

While the purchase of Tokens should not be viewed as an investment, the Tokens may have value over time. Such value may be limited or non-existent if the Company platform lacks use and adoption. If this becomes the case, there may be few or no markets following the launch of the platform, potentially having an adverse impact on Tokens.

10. Risk of Uninsured Losses

Unlike bank accounts or accounts at some other financial institutions, Tokens are uninsured unless you specifically obtain private insurance to insure them. Thus, in the event of loss or loss of utility value, there is no public insurer, such as the Federal Deposit Insurance Corporation, or private insurance arranged by Company, to offer recourse to you.

11. Risks Associated with Uncertain Regulations and Enforcement Actions

The regulatory status of the Tokens and distributed ledger technology is unclear or unsettled in many jurisdictions. It is difficult to predict how or whether regulatory agencies may apply existing regulation with respect to such technology and its applications, including the Ecosystem and the Tokens. It is likewise difficult to predict how or whether legislatures or regulatory agencies may implement changes to law and regulation affecting distributed ledger technology and its applications, including the Ecosystem and the Tokens. The functioning of the Ecosystem and Tokens could be impacted by one or more regulatory inquiries or actions, including the licensing or restrictions on the use, sale, or possession of Tokens, which could impede limit or end the development of the Company platform and increase legal costs. Further, the Company may cease operations in a jurisdiction in the event that regulatory actions, or changes to law or regulation, make it illegal to operate in such jurisdiction, or commercially undesirable to obtain the necessary regulatory approval(s) to operate in such jurisdiction.

12. Risks Arising from Taxation

The tax characterization of Tokens is uncertain. You must seek your own tax advice in connection with purchasing Tokens, which may result in adverse tax consequences to you, including withholding taxes, income taxes and tax reporting requirements.

13. Risk of Competing Ecosystems

It is possible that alternative ecosystems could be established that utilize a source code and protocol similar to those underlying the Ecosystem and attempt to facilitate services that are materially similar to the Services. The Ecosystem may compete with these alternatives, which could negatively impact the Ecosystem and Tokens, including the utility of the Tokens for obtaining Services.

14. Risk of Insufficient Interest in the Ecosystem or Distributed Applications

It is possible that the Ecosystem will not be used by a large number of individuals, companies and other entities or that there will be limited or a lack of public interest in the creation and development of distributed ecosystems (such as the Ecosystem) more generally. Such a lack of use or interest could negatively impact the development of the Ecosystem and therefore the potential utility of the Tokens, including the utility of the Tokens for obtaining Services.

15. Risks Associated with the Development and Maintenance of the Ecosystem

The Ecosystem is still under development and may undergo significant changes over time. Although we intend for the Tokens and Ecosystem to function as described in Exhibit A, and intend to take commercially reasonable steps toward those ends, we may have to make changes to the specifications of the Tokens or Ecosystem for any number of legitimate reasons. Moreover, we have no control over how other participants will use the Ecosystem, what products or services will be offered through the Ecosystem by third parties, or how third-party products and services will utilize Tokens (if at all). This could create the risk that the Tokens or Ecosystem, as further developed and maintained, may not meet your expectations at the time of purchase, for any number of reasons including mistaken assumptions or analysis, a change in the design and implementation plans, and execution of the Company platform. Furthermore, despite our good faith efforts to develop, complete, and participate in the Ecosystem, it is still possible that the Ecosystem will experience malfunctions or otherwise fail to be adequately developed or maintained, which may negatively impact the Ecosystem and Tokens, and your Tokens may become useless and/or valueless due to technical, commercial, regulatory or any other reasons.

16. Risk of an Unfavorable Fluctuation of ETH Value

If the value of ETH fluctuates unfavorably during or after the Crowdsale, we may not be able to fund development, or may not be able to develop or maintain the Ecosystem in the manner that it intended. In addition to the usual market forces, there are several potential events which could exacerbate the risk of unfavorable fluctuation in the value of ETH including uncertainties created by the lack of resolution to the bitcoin scaling debate, the possibility of a so-called “Hard Fork” of bitcoin if one of the competing camps in the scaling debate decides to force the issue; another DAO-like attack on the Ethereum network; or significant security incidents or market irregularities at one or more of the major cryptocurrency exchanges.

17. Risk of Dissolution of the Company or Ecosystem

It is possible that, due to any number of reasons, including an unfavorable fluctuation in the value of ETH (or other cryptographic and fiat currencies), decrease in the Tokens’ utility (including their utility for obtaining Services), the failure of commercial relationships, or intellectual property ownership challenges, the Ecosystem may no longer be viable to operate or the Company may dissolve or fail to launch.

18. Risk of Malfunction in the Ecosystem

It is possible that the Company platform malfunctions in an unfavorable way, including one that results in the loss of Tokens.

19. Risks Arising from Lack of Governance Rights

Because Tokens confer no governance rights of any kind with respect to the Ecosystem or the Company, all decisions involving the Company’s products or services within the Ecosystem or the Company itself will be made by the Company at its sole discretion, including decisions to discontinue its products or services in the Ecosystem, to create and sell more Tokens for use in the Ecosystem, or to sell or liquidate the Company. These decisions could adversely affect the Ecosystem and the utility of any Tokens you owns, including their utility for obtaining Services.

20. Risks Arising from the Identity Verification Market

The identity verification industry, and by extension the Ecosystem, is subject to a variety of federal, state and international laws and regulations, including those with respect to KYC/AML and customer due diligence procedures, privacy and data protection, consumer protection, data security, and others. These laws and regulations, and the interpretation or application of these laws and regulations, could change. In addition, new laws or regulations affecting the Ecosystem could be enacted, which could impact the utility of the Tokens in the Ecosystem. Additionally, the Ecosystem participants are subject to industry specific laws and regulations or licensing requirements. If any of these parties fails to comply with any of these licensing requirements or other applicable laws or regulations, or if such laws and regulations or licensing requirements become more stringent or are otherwise expanded, it could adversely impact the Ecosystem and the Tokens, including the Tokens’ utility for obtaining Services

21. Unanticipated Risks

Cryptographic tokens such as the Tokens are a new and untested technology. In addition to the risks included in this Exhibit C, there are other risks associated with your purchase, possession, and use of the Tokens, including unanticipated risks. Such risks may further materialize as unanticipated variations or combinations of the risks discussed in this Exhibit C.