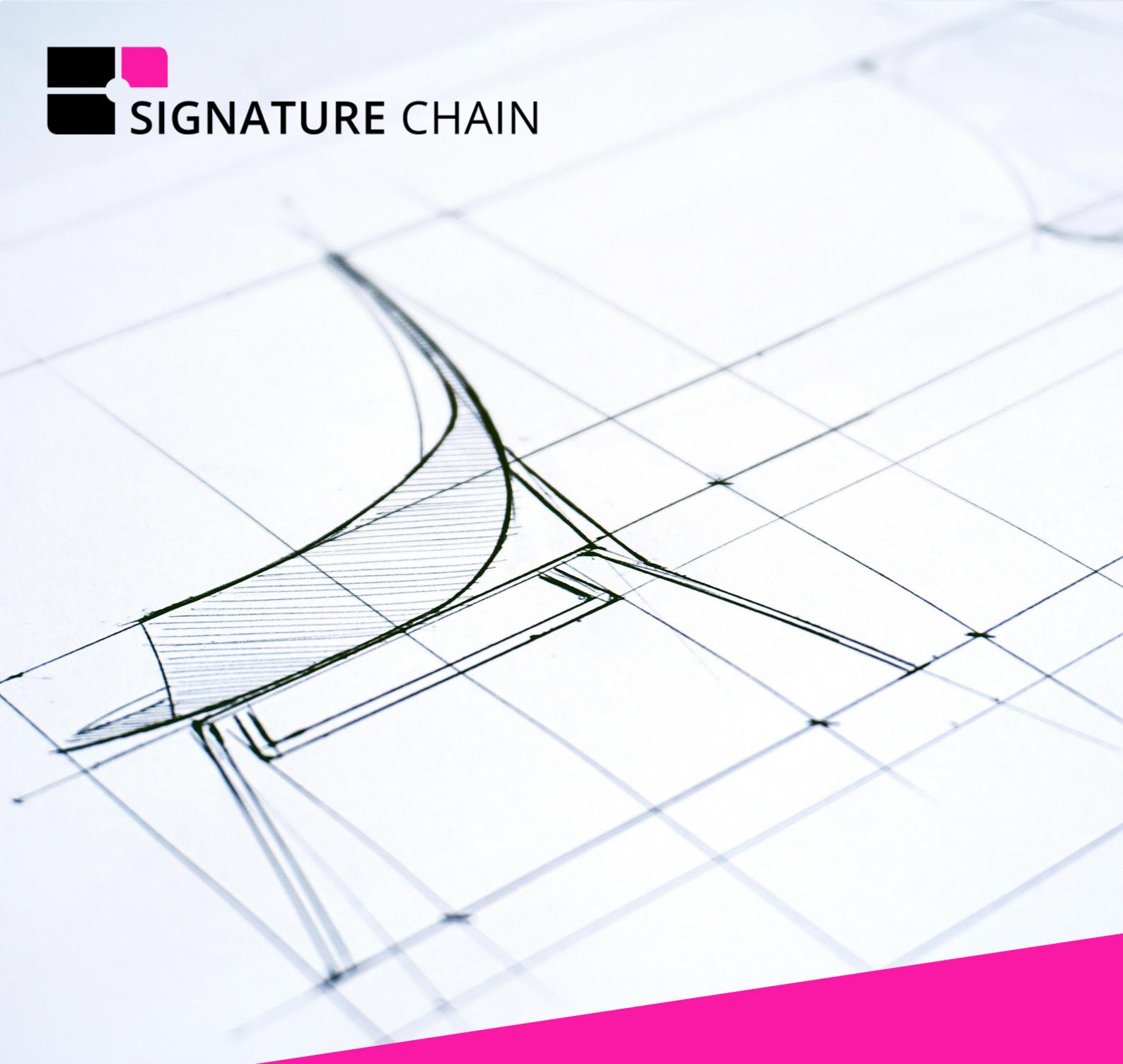




SIGNATURE CHAIN



BLOCKCHAIN BASED DOCUMENT CERTIFICATION

An application that allows the certification
of documents on decentralized Blockchain

WHITE PAPER



SUMMARY

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1. INTRODUCTION

Cryptocurrency gained traction at the end of 2017, where a bull run had occurred, propelling Bitcoin (BTC) to twenty thousand U.S. dollars. Suddenly, BTC began its decline, along with the rest of the cryptocurrency market.

The sudden decline outlined the need to differentiate currency and blockchain, which is a prominent issue today. The need for distinguishing cryptocurrencies and blockchain is necessary for determining real-world usage, compared to the unnecessary creation of currencies that serve no practical use.

Most, if not all, of the cryptocurrency projects that we have seen, fail to acquire mass adoption due to the volatility of their currency and the lack of use cases. Many ambitious projects plan on creating their own blockchain, which requires tremendous work and knowledge.

It is questionable if rebuilding all the mechanisms is necessary, as current blockchain platforms already offer what is needed to implement most application needs.

It is notorious to see projects, after several years, not have a product. Some will never achieve completion, either because it is too complicated or because they lack the determination.

Mass adoption is achievable with applications built on blockchains that yield a better service rather than blockchains constructed from the ground up. Our focus is to create a platform that will be convenient and useful. It will provide a solution to a wide range of problems by using existing blockchain.

She will be used to her fullest potential, and also added upon by building useful applications. Hence, we chose Waves Platform because of the clarity of the code, speed of the transactions, and all the current and upcoming features.



2. THE PROBLEM

Current documents' certification and validation methods are dependent on a third party, and consume too much time. The way that organizations facilitate the process of documents has not changed for over 20 years.

The process is relatively manual and changes depending on different regulations, systems, and formats of documentation. The existing centralized solutions are relatively slow, hard to trace, and have high fees for the use of their functionalities.

With the use of the world-wide internet, job propositions are much more accessible. Different scientific researches show that the majority of the workforce in the future will be freelancers, and the number of freelancers has been growing exponentially ever since 2014. Moreover, a digital document process would be greatly beneficial for both individuals and organizations.

When both parties are located countries apart or do not have the time to meet face to face, there is a clear need of a digital contract that would offer a timely transfer speed with a significantly less cost. A contract as such will have the same value as a hand signed document.

However, achieving contractual trust in a centralized digital environment is extremely difficult. Many independent workers find clients online, which means they do not have any direct or personal relationship with one another. This situation creates uncertainty for both parties.

On the contrary, a blockchain-based platform shows its potential and adds value to an existing process, as it can manage millions of cryptocurrency transactions and can return a level of trust that surpasses what is offered in a traditional work setting.



3. OUR SOLUTION

We have studied and identified what could facilitate and accelerate the certification process for many enterprise areas using blockchain technology, which offers the best guarantees regarding security, autonomy, and execution time.

Our experience and current knowledge give an incentive to solve the problem of document falsification and deal with the time-consuming process of certification.

As explained in the Problem, the third-party dependent process can be complicated and tedious.

With the implementation of blockchain technology, the validation and certification of digital assets (diplomas, contracts, etc.) eliminates any adverse factors and can be accomplished with ease.

The screenshot shows the SICA mobile application interface. On the left is a vertical sidebar with navigation options: ACCOUNT INFO, SEND SICA, RECEIVE SICA, CERTIFY A DOCUMENT, CERTIFY MEDIA, SIGN A CONTRACT (which is highlighted in pink), and SETTINGS. The main content area has a header "SIGN A CONTRACT" and a sub-instruction "This option allows you to sign a contract, an agreement or any documents requiring multiple signatures". It features a "DRAG AND DROP THE DOCUMENT TO CERTIFY" field containing a document icon, a "Message to send with the certification request" input field, and a "Contract recipient(s):" section with fields for First name*, Last name*, and Email*. A "SEND REQUEST" button is at the bottom right. At the very bottom right of the screen, there is a "AVAILABLE ON waves" logo.



The mobile application interface for SICA features a header with the SICA logo and a notification badge indicating '2 requests'. Below the header, there's a section titled 'SIGN A CONTRACT' with a sub-instruction: 'This option allows you to sign a contract, an agreement or any documents requiring multiple signatures'. A button labeled 'TAP TO SELECT THE DOCUMENT TO CERTIFY' is present. A large input field contains a document icon. Below this, there's a text input field for a message and a section for 'Contract recipient(s)' with fields for 'First name*', 'Last name*', and 'Email*'. A red '+ Add a recipient' button is available. At the bottom is a pink 'SEND REQUEST' button.

The process is simple, a digital asset's signature is created, which is a unique value for each asset. The signature is created by using a cryptographic hash function that takes an input and returns a fixed-sized alphanumeric string.

The string is called the "hash value," where the information might be a file of almost any size and any format (word, pdf, jpg, etc.). This is a one-way process, meaning that the document cannot be reproduced from the hash value.

The significance is the fact that the hash value changes if there is a modification on the document itself, including the text, template, or size.

Therefore, if a hash value is obtained from the original document, it will be possible to validate the originality of the document in the future by comparing the hash values.

A match between the values would mean that the document is identical to the original one, and a mismatch between the values would mean that the document is different than the original one.

What we work on at Signature Chain is to propose a user-friendly platform, where users will be able to get a digital signature for their documents or contracts.

The hash value that the user receives can be used to create contracts between multiple entities, to identify fake documents, and to follow the version changes.

We plan to gain a significant share in the Central European market by connecting our existing network of clientele to our platform. Our up-coming platform will allow for certifying all the different file types and finding applications in the real world.



4. DEVELOPMENT

Signature Chain is currently working on a PoC (Proof of Concept) for Signature Chain's I/O (input/output) platform by developing a blockchain prototype.

The prototype will allow us to implement basic functionalities of SICA and validate a model for our up-coming platform. Once the prototype is finalized and a model is ready, the development of the beta version will start.

It will be developed in NodeJS and Electron JS using the Waves REST API on our Waves testnet full node.

The SICA node is already up and running and can be seen on the Waves explorer: <https://testnet.wavesexplorer.com/peers>

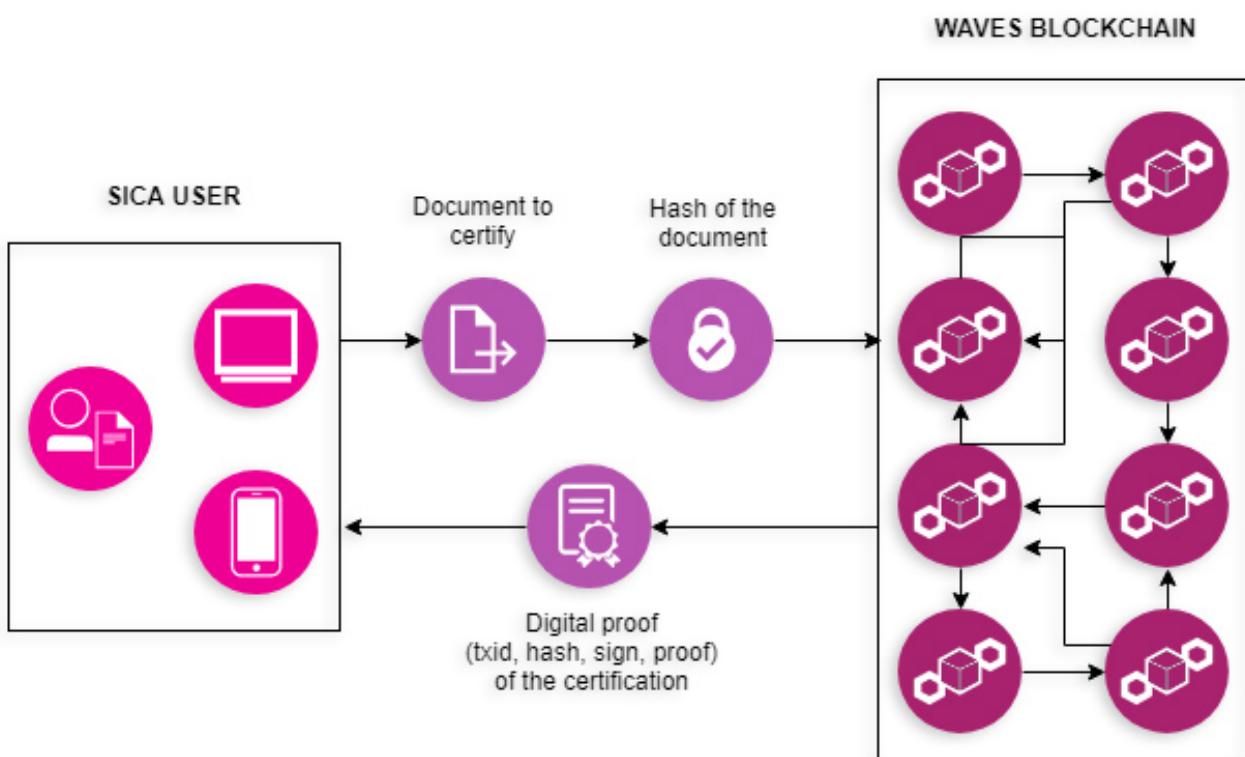
The platform will use Waves encryption functionalities to create a hash (Keccak256/Blake256) of the data to be certified and then will save it in the transaction using the Data Transaction. (POST/addresses/data).

An example of the code saving a Data Transaction on Waves looks like:

```
{  
  "version": 1,  
  "sender": "3FjTpAg1VbmxSH39YWnfFukAUhxMqmKqTEZ",  
  "data": [ {  
    "key": "file_hash",  
    "type": "string",  
    "value": "2mQvQFLQYjBe9ezj7YnAQFq7k9MxZstkrbcSKpLzv7vTxUfnbvWMUyyhJAc1u3vhkLq  
zQphKDecHcutUrhrHt22D"  
  },  
  "fee": 100000  
}
```

After the implementation of the beta platform, time will be spent on the correction of bugs, an increase in performance, and an audit of code.

Once several successful tests are completed by our partners on the beta version, the mainnet will be released for public use.



To support the Waves network as well as preparing for the possibility to offer future clients and partners to have a custom node for their data, we already created our own Waves testnet node.

You can follow our testnet Node online status on the testnet waves explorer, the testnet explorer will be useful to anyone in the future willing to test the App in the beta version.



SIGNATURE CHAIN WAVES TESTNET FULL NODE:

<https://testnet.wavesexplorer.com/peers>

IP Address: 209.97.162.47

Node name: SignatureDev Test- node

A screenshot of the Waves Testnet Explorer interface. The top navigation bar is blue with the title 'Waves Testnet Explorer' and a logo. Below it, a header says 'Peers'. There are two tabs: 'Connected' (with a badge '29') and 'All known'. A table lists 29 connected peers. The columns are: Address, Declared address, Node name, and Node nonce. The first peer listed is the local node: /209.97.162.47:52558, /209.97.162.47:6863, SignatureDev Test- node, 61090. Other peers include /107.129.196.82:39196, /18.194.35.238:45946, and /35.231.44.216:47648.

Address	Declared address	Node name	Node nonce
/209.97.162.47:52558	/209.97.162.47:6863	SignatureDev Test- node	61090
/107.129.196.82:39196	N/A	My TESTNET node	1669097
/18.194.35.238:45946	/18.194.35.238:6863	TESTNET-26	787107
/35.231.44.216:47648	N/A	Chronobank Waves testnet node	1169088

SWAGGER UI

<http://209.97.162.47:6869/api-docs/index.html>

Any project willing to use our testnet full node for their project development can contact SICA to get the API key. At Signature Chain we believe in Waves Platform and the Waves success depends on the projects using it.

5. WHY WAVES

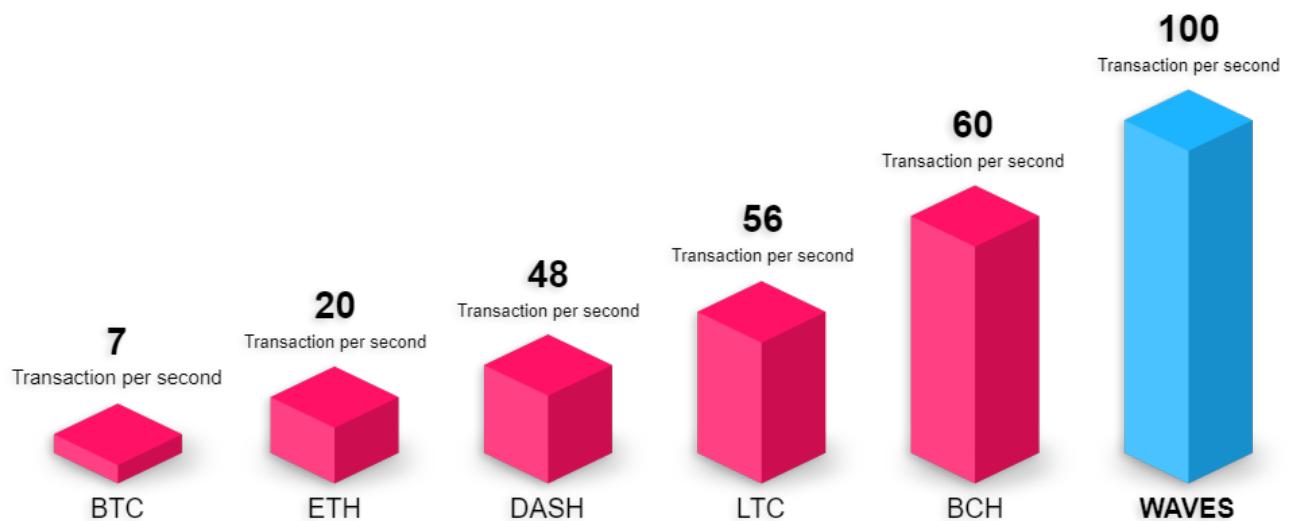
Waves was chosen not only for the simple token creation process but also for the performance of their Blockchain.

We studied different options such as Lisk, Ethereum (ETH), and Waves. However, Lisk has a little longer before it can be used.

The comparison between WAVES and ETH was evident: Waves has newer functionalities which accommodates our platform quite nicely.

Waves offers everything we need to build a stable Blockchain application.

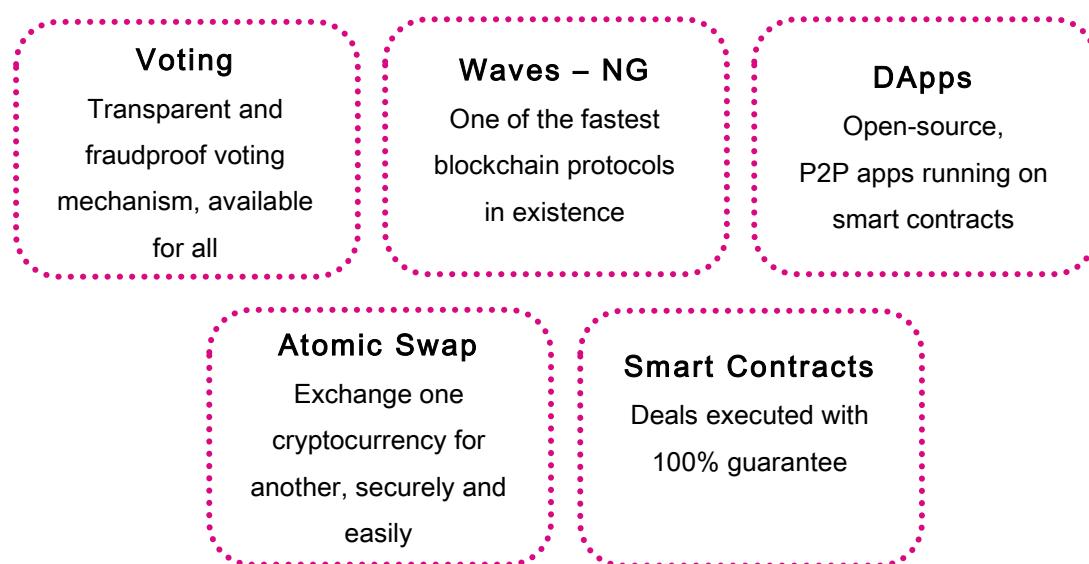
We were puzzled over the fact that other projects generally choose ETH over WAVES and tried to comprehend it.



Some of the main reasons we have noticed why ETH was selected over WAVES are:

- ✓ The token creation on Waves is rather simplistic. It is ideal for decentralization, but the disadvantage is that it became the first choice for many non-legit projects.
- ✓ The platform is new and less popular than others, which we will change with time.
- ✓ We believe Waves will surpass Ethereum in regards to transaction speed, DApps, and smart contracts.

The Waves platform responds to all our needs and the idea of building a legitimate and useful application. Despite the development challenges we will have, we decided to stay on Waves, which offers the best blockchain features:



6. USE CASES

The level of complexity of the tasks will be different. It might be a basic document certification or, for example, a multiple user contract as described in the following scenario:

*John is a freelance designer contacted by Mark,
who owns a company.*

*They both agreed on a quotation to create Mark's
company logo, and Mark sent a contract, via
mail, for John to sign.*

To ensure that the agreement is sealed, John connects to his SICA account, uploads the document on the blockchain, signs it, and sends a signature request to Mark including the document hash. Mark receives the invitation link and logs on to his SICA account. Before signing the document, he compares the hash of his version of the document to the hash John signed.

If there is a correct match, Mark is sure that the documents are the same, so he can sign and officially seal the deal.

DIPLOMA



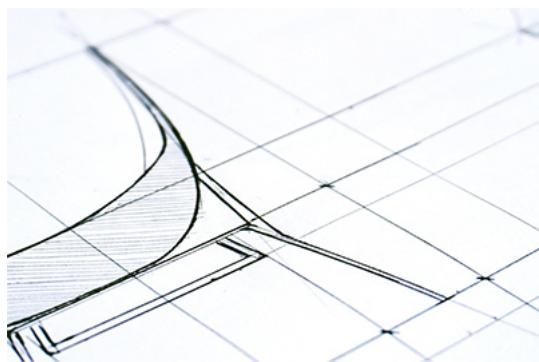
Educational institutions will use Signature Chain's platforms to dematerialize and automatize the delivery of certified diplomas. Once it is complete, the recipient will be able to prove the authenticity of the diploma. For example, an educational institution enters the diploma on our SICA platform to get a unique hash (SHA-256). The student sends out the diploma to a third party, then the third-party checks if the document they received produces the same hash number as the one saved on the blockchain. This process will prove the authenticity of the document as every document has its unique hash number.

MEDICAL CERTIFICATE

Medical groups will use Signature Chain's platform to issue medical certificates. For example, a laboratory technician attaches a new medical referral to a patient on the blockchain, which contains the medical data, a timestamp, and the author who created it. Once the block is verified and approved, it is then inserted into the blockchain and linked with the previous blocks. The patient can then prove the authenticity of his/her medical documents to anyone during an entire lifetime by simply providing the document that produces the same hash number as the one saved on the blockchain.



PATENT



The idea is to use blockchains for patents by capturing and attributing ownership, and patent submissions. Some of the most well-known problems occur when people go to court to prove who conceived the concept first. However, there is no concrete way to prove the exact time that an inventor had the idea. That is where proof-of-existence proves beneficial; ownership of an invention or idea can be granted and proved everywhere, independent of a location.

MULTIPARTY CONTRACT

SICA's platform will also be used to sign multi-party contracts digitally. Once both parties agree on a quotation to do a job, an employer will send a contract to the agreeing party, such as a freelancer. The agreeing party will connect to the SICA platform and upload the documents and the generated hash on the blockchain. After digitally signing the documents, the employer will use the SICA platform to compare the hash function of both documents to determine and confirm the documents are the same, allowing for the final signature.



PAYMENT METHOD



The primary and main use case of blockchain technology and the associated cryptocurrency, SICA, will be used as a method of payment. SICA will allow a freelancer, a seller, or anyone to use the App and platform. From the contract agreement step to the finalization step, a quick and instant payment using the SICA token will secure a fast and easy transaction. The later addition of the escrow smart contract option will allow a 3rd party to ensure the supervision of any potential conflict.

Other types of use cases would include:

- Invoices
- New inventions and research papers
- A loan between two persons
- Digital creation for paternity
- Digital work delivery
- And many more...

7. THE TEAM

Signature Chain's team is dedicated and experienced in Web Design, Web Development, and Patent Processing. SICA's Community Manager and Marketer are building connections and expanding our operation while the developers are focusing on our upcoming platform. Our team is working endlessly to ensure we reach our goals.



CHRISTOPHE VERDOT
Developer / Designer

A Web Designer, Web Developer, and a freelancer, Christophe is also a blockchain enthusiast.

An expert in multiple programming languages, Christophe frequently programs in Javascript (Node.js, Electron, etc.) on the Waves API. Being a beneficial asset to the team, Christophe has experience in development on centralized applications for banks, governments, and name brands.

UMIT BOZKURT
Marketing Manager

Our marketing manager is an experienced external marketing consultant who has played important roles in large corporate, team-oriented projects.

Umit is currently located in Poland and has several clients that benefit off his networking and knowledge to create marketing strategies. Umit will be playing a crucial role in establishing partnerships and searching for new clients.



**ABDULLAH TIRTIL**
Community Manager

Proficient in various computer software's and intellectual property, Abdullah is responsible for managing our social media platforms, such as Telegram, Discord, and Twitter.

He will also be the bridge between our supporters and management team to transfer their requests. Abdullah is originally from Turkey but permanently resides in Geneva, Switzerland.

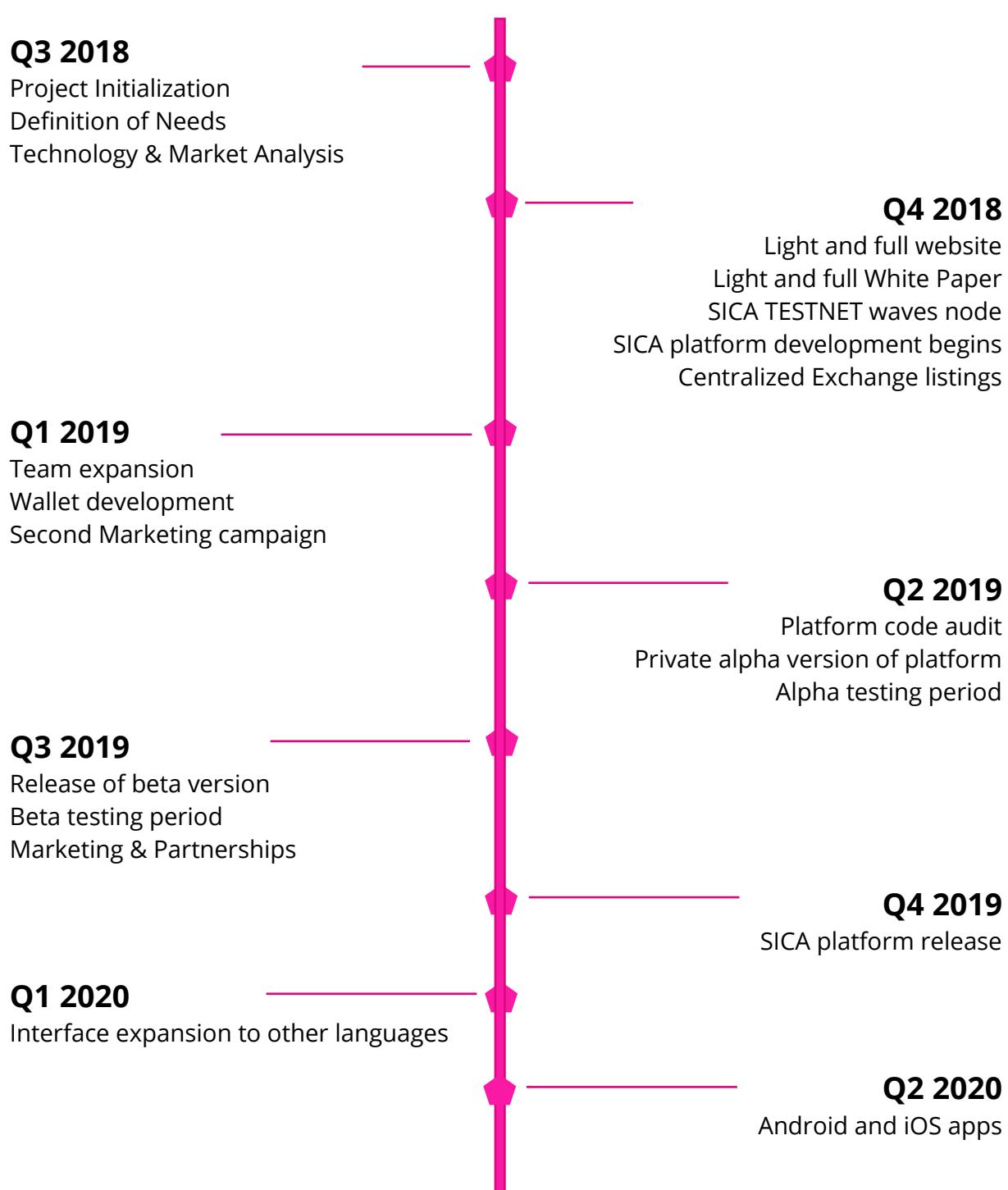
DAN WELLS**Content Editor:**

A U.S. citizen who is pursuing his bachelor's in Engineering and Language, Dan excels in helping our team make the necessary corrections before the release of SICA's official documents/announcements.

Dan ensures the quality of a document before it is released, analyzing how it can be both effective and comprehensive.

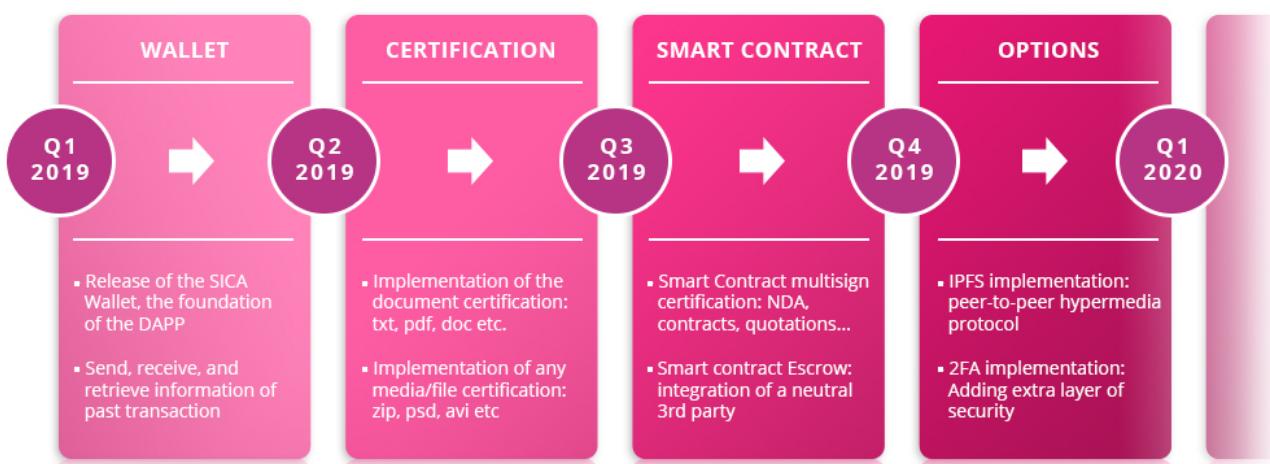


8. GENERIC ROADMAP



9. DEV ROADMAP

SIGNATURE CHAIN **DEV ROADMAP**



10. DESIGN IDENTITY



Signature Chain went through a complete rebrand to better match our goals, giving the project a lighter and more professional look. We place a strong emphasis on visual appearance and providing meanings behind everything we do.

SICA's new logo is composed of a chain of curved squares and rectangles that represent the two main components of our project: Blockchain block and Documents. The pink blocks represent the last block in the blockchain.

11. TOKEN DETAILS

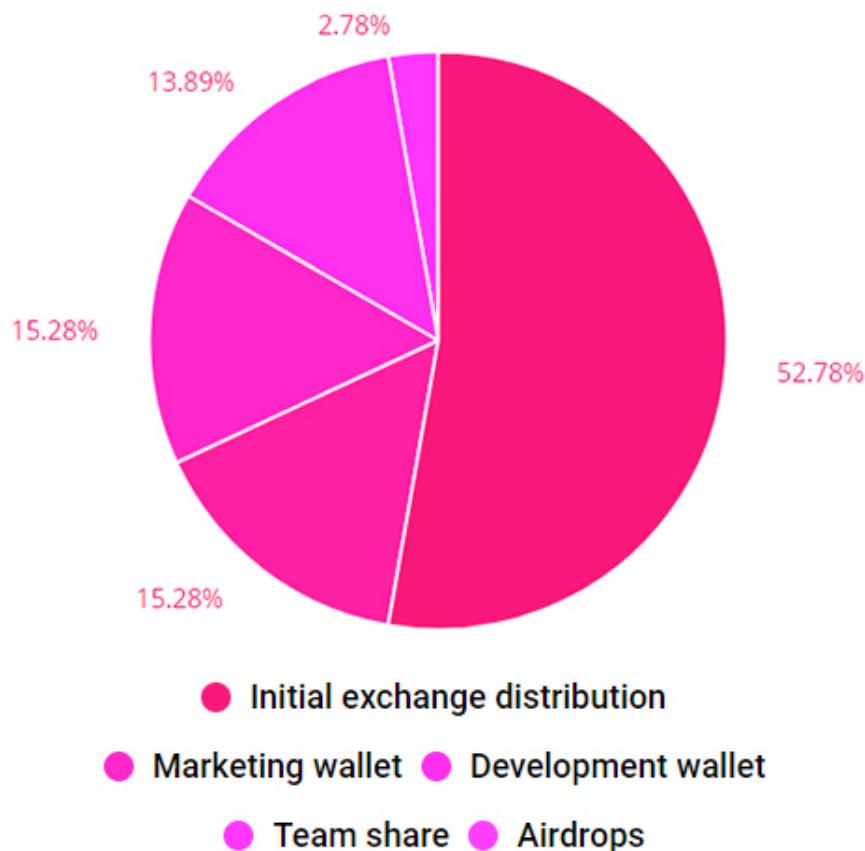
Name: SignatureChain (SICA)

Quantity: 36.000.000.000

Mainnet: Waves platform

TXID: 3Z4SBCZ2LRZLuDweUYJkypmjWkcLuduxpf3Vj8FddSk

Issue date: September 7th, 2018





Asset Info X



SICA
Final aim is to create a platform and applications that allo...



Details Balance Transactions

Issuer	3P2XmuyHceVLQhq8tD96RGP64RUc6eZuiKB
ID	3Z4SBCZ2LRZLuDweUYJkypmjWkcLuduxpf3Vj8FddSk
Name	SICA
Total amount	35,999,999,999.97709032
Decimal points	8
Type	Not reissuable
Issue date	08.09.2018 01:37
Description	Final aim is to create a platform and applications that allow people to link any kind of scanned document to our own blockchain.

The circulating supply will be 19B (38%) + distributed airdrops 1B (2%) + sales from marketing 5B (10%) + development 5B (10%) and personal 5B (10%) wallets.

In December 2018 we did burn 14B token bringing the Max Supply from 50B to 36B. This token burn is the result of our choice to stay on Waves Platform for the development of our upcoming APP.

Signature Chain's token, SICA, is a utility token that will be used on our upcoming platform. It will offer the many functionalities as described in the white paper; including a client-side wallet, which will give the possibility to make payments between multiple parties.



ASSET DETAIL

<http://wavesexplorer.com/tx/3Z4SBCZ2LRZLuDweUYIkypmjrWkcLuduxpf3Vj8FddSk>

WALLETS LIST

<http://dev.pywaves.org/assets/3Z4SBCZ2LRZLuDweUYIkypmjrWkcLuduxpf3Vj8FddSk>

SICA TOKEN TRACKING



CoinMarketCap



LIVE COIN WATCH



12. EXCHANGES

Signature Chain's token, SICA, can be traded on the following exchanges:



<https://client.wavesplatform.com/dex?assetId1=WAVES&assetId2=3Z4SBCZ2LRZLuDweUYjkypmjRWkcLuduxpf3Vj8FddSk>



<https://app.stex.com/en/basic-trade/pair/LTC/SICA/1D>



<https://crex24.com/exchange/SICA-BTC>



13. CONTACTS

- Website: <https://www.signature-chain.com/>
- Twitter: <https://twitter.com/SignatureChain>
- Telegram: https://t.me/SICA_official
- Discord: <https://t.co/MPQPKDM3ws>
- Bitcointalk: <https://bitcointalk.org/index.php?topic=5026949.0>
- Github: <https://github.com/sicadev/sica>
- Medium: <https://medium.com/@signaturechain>
- Youtube: <https://youtube.com/channel/UC6iXoOmaNIXTgZyEy4HCtCw>
- Email: contact@signature-chain.com

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