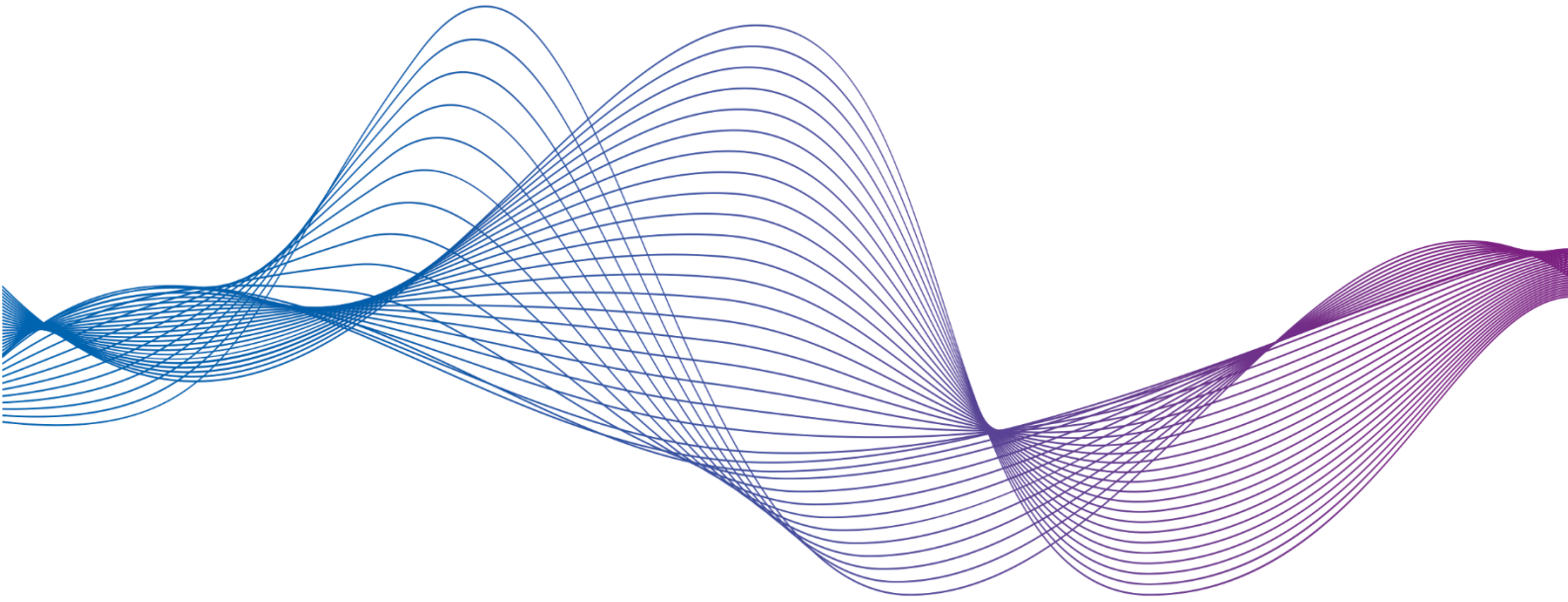
SonoCoin

The First Audible Cryptocurrency

Blockchain Enabled

Whitepaper



sono.money

Table of Contents

Abstract

The team behind SonoCoin developed a digitally encrypted audio file that operates on its native blockchain using the Proof-of-Stake (PoS) protocol to verify transactions. The SonoCoin audio file is a sound interpretation of a code that can be recognized and recorded by any device that reproduces sound such as mobile phones, tablets, televisions and computers. Its .WAV file format gives anyone the power to transact utilizing common methods of delivery including email, messenger, and social media without requiring public addresses. SonoCoin aims to inspire mainstream adoption through its consumer-friendly means of remittance.

Overview

History and Milestones

The SonoCoin project began in early 2016, launched by a software development team with extensive expertise in blockchain technology. A team of engineers, each with deep knowledge in blockchain, programming as well as the data-over-sound industry, remain actively engaged in research to advance the SonoCoin ecosystem.

The development of SonoCoin's native blockchain was the first step on the technical road to its peer-to-peer transactions. The solution relies on Golang, LevelDB, and C++ software languages. The development of audio transmission and reception capabilities required a combination of advanced telecommunications and programming knowledge. Thanks to their experience and proficiency, we delivered a fully operational beta version in December 2017. The SonoCoin team is constantly working to improve the infrastructure and to add new features to the SonoCoin technology, in order to offer a superior user experience and constantly innovate.

To date, the SonoCoin project has been privately financed and backed by several sophisticated investors with broad expertise in global capital markets, high technology sectors, and blockchain industries. In addition, SonoCoin has assembled an expert network of senior blue-chip professionals that are committed to take the project to the next level. We truly believe our team of software engineers, corporate advisors and investors to be fundamental to the further development of SonoCoin.

The recent achievements and milestones can be resumed as follows:

2016

- SonoCoin back-end infrastructure development begins

2017

- First prototype of SonoCoin blockchain is launched
- Audible transactions are introduced to the blockchain
- Initial coin pre-sale offered publicly to the community
- Information Sciences Professor Jean-Henry Morin joins the Advisory Board
- JJ Sendelbach, former MD at Deutsche Bank joins the Advisory Board

2018

- Roll-out and first marketing efforts
- Initial introduction of SonoCoin to local authorities

- SonoCoin application interface update
- Website optimization and revamp
- SonoCoin welcomes Ivan Petuhovsky, EXMO exchange founder, on the Advisory Board
- SonoCoin partners with Swisscom Blockchain for ICO AML/KYC services, organization of private and public bug bounty campaign, code and protocol audit, technology and infrastructure testing, client interface development and overall protocol stabilization
- SonoCoin retains Wenger & Vieli law firm for ICO legal advisory services
- SonoCoin initiates a thorough commercial reach out program targeting Media, Entertainment and Advertising industries
- SonoCoin sponsors OpenGeneva, an innovation festival and Geneva-based hackathon
- SonoCoin event organized by Lift:Lab presented to industry leaders and public
- SonoCoin presents at Crypto Valley Association conference in Zug
- SonoCoin signs NDA with Lisnr, a specialised data over sound payment company
- SonoCoin updates its website design and branding
- SonoCoin signs listing agreement with EXMO exchange
- SonoCoin welcomes Alex Alexandrov, founder of Coinpayments, on the Advisory Board
- SonoCoin signs a strategic partnership with Coinpayments

Unmet Market Needs and SonoCoin Solutions

Advertising industry

Global advertisement spending is said to reach $579 billion by the end of 2018, up 4% from 2017[1]. Digital advertising revenue grew 21% while companies leverage technology in an effort to connect with their audience through social media[2]. As advertisers are faced with a growing number of advertising approaches, the ROI assessment of each becomes increasingly important in the decision process.

[1] https://www.zenithmedia.com/wp-content/uploads/2018/03/Adspend-forecasts-March-2018-executive-summary.pdf

[2] https://www.adweek.com/digital/digital-advertising-revenue-grew-21-and-surpassed-tv-ad-spend-last-year/

Rebate Challenge:

Rebate programs have traditionally been in the form of physical coupons and have been deemed inefficient due to companies using rebates as sales incentives and not as effective customer engagement tools.

Solution:

The team behind SonoCoin looks to revolutionize the advertising industry by introducing the ultrasonic frequency transfer of coins through television ads. Because the sounds of the SonoCoin can be played at frequencies not heard by humans, they do not need to change the message to the consumer. Once a coin is collected, a customer will have the ability to exchange the SonoCoin for discounts on goods and services. Marketing campaigns employing this technique are expected to have immediate impact on sales and awareness, while providing advertising companies with concrete end-to-end campaign analytics.

Mass Event Challenge:

Brands see event sponsorship as a way to increase visibility and strengthen customer relationships, the challenge derives from the difficulty of directly engaging with the customer and accurately measuring the success of the campaign.

Solution:

Using the SonoCoin application, brands will have the possibility to incentivize customers to purchase their products during the event at a discount, by using the coins distributed to the audience via audio transmissions. Broadcasting coins through sound waves to an audience at venues, stadiums and concerts would allow brands to engage their public like never before.

Radio, Online-Radio Challenge:

Online radio streaming is on the rise, with 61% usage from all American adults and +10% YoY growth among Millennials[3]. As competition intensifies, loyalty to stations is often rewarded through engaging listeners in prize contests. This has proven to be costly and time consuming to organize with many listeners not interested in participating.

Solution:

SonoCoins broadcasting capabilities can simplify this process and gain more retention. This could be done by periodically distributing coins among listeners for engaging in activities, or by rewarding listeners for their presence. An example of this particular scenario would be for a radio station to compensate each listener 5 SonoCoins every hour to increase retention.

[3] https://www.statista.com/topics/1330/radio/

Retail industry

Today's consumers are technologically adept and want to shop on their own terms. Customers expect and demand frictionless payment experiences across all channels. Retailers recognize the importance of multi-payment solutions and have increasingly adopted cryptocurrencies in anticipation of major growth in blockchain-based currencies. According to bitcoin payment service provider BitPay, more than 100,000 merchants worldwide have begun accepting cryptocurrencies, including Overstock, Expedia, Shopify, Dish and Microsoft[4].

Challenge:

Bitcoin's dominance over the cryptocurrency market is at its lowest level ever dropping over fifty percent within the last year. Scalability limitations have led consumers to search for alternative cryptocurrencies in the retail industry. Bitcoin's ten-minute block time is troublesome for retailers as it becomes unreliable for daily transactions. The Lightning Network update aims to improve Bitcoin block times, but the currency remains limited to traditional wallet-to-wallet exchanges.

Solution:

SonoCoin stands to benefit from the recent level of interest in alternatives by revolutionizing means of transfer using six transactional methods including sound, near-field-communication, and QR code to name a few. We believe SonoCoin can satisfy the evolving expectations of consumers by offering a highly scalable network with two-minute block times and multi-payment solutions tailored to retail needs.

Gaming industry

According to a report released by SuperDataResearch, consumers spent about $41 billion on the mobile gaming market in 2016, with Pokémon GO and Clash Royale being the most popular[5]. It is estimated that there are approximately 2.6 billion monthly users across all mobile games.

Challenge:

As online gaming grows exponentially, it creates a global need for payments standardization. Most games have created their own "currency", for instance the gold coin in World of Warcraft. The use of FIAT currencies is fundamentally inefficient, given that games incorporate currency conversion fees.

[4] https://www.trustnodes.com/2018/03/09/newegg-namecheap-100000-merchants-start-accepting-bitcoin-cash

[5] http://mediakix.com/2018/03/mobile-gaming-industry-statistics-market-revenue/#gs.zVkaMVs

Solution:

SonoCoin aims to be adopted by gaming communities as the primary digital currency, based on its versatile and audio characteristics. The universal acceptance of one currency across all gaming platforms and online shops would eliminate the need for secondary conversions into FIAT currencies. For instance, users would no longer need to convert in-game credits into USD to make a purchase from a gaming platform. In-app purchases would no longer require personal information and credit card details, thus removing related risks of fraud. Furthermore, SonoCoin would provide the convenience needed for community based online transactions. Catering to this need could incentivize loyalty to games through the monetization of game-related milestones.

Loyalty Programs and Gift Cards

A recent study by *Bond Brand Loyalty* states that 53% of Americans participate in loyalty programs with a reported 38% satisfaction rate. The same report found loyalty membership growth slowed from 26% achieved in 2016 to 15% the following year[6]. Industry experts blame frustrating registration processes, poor distribution methods and low perception value for deteriorating customer engagement.

Providing customers corporate cryptocurrencies would simplify the registration process, facilitate distribution, increase mobility and prevent fraud. SonoCoin looks to enable corporations the ability to modify coins for specific spending purposes. This would essentially ensure the coins are identifiable and prevent them from being spent on unrelated products and services.

Loyalty Programs Challenge:

Up to 82 % of millennial would be interested in redeeming loyalty points in the form of a gift card or prepaid card with 65% of all millennials preferring digital rewards[7]. Costs for running traditional reward programs are high, generating $35 billion a year for third-party processors such as First Data Corp, who service prepaid and private-label credit cards tied to corporate loyalty points[8].

Solution:

According to Richard Crone, CEO of payment consultant *Crone Consulting LLC*, Blockchain could cut up to 80% fees of for corporate loyalty programs[9]. SonoCoins versatile characteristics represent an ideal solution for the distribution of coins to be used as loyalty points. Consumers

[6] https://blog.accessdevelopment.com/2018-customer-loyalty-statistics

[7] https://www.prnewswire.com/news-releases/long-live-the-loyalty-program-hawk-incentives-research-finds-millennials-embrace-loyalty-programs-at-high-rates-300656309.html

[8] https://www.bloomberg.com/news/articles/2018-05-30/forget-airline-miles-crypto-coins-are-coming-to-reward-programs

[9] https://www.bloomberg.com/news/articles/2018-05-30/forget-airline-miles-crypto-coins-are-coming-to-reward-programs

could eventually collect and store their collected points from numerous reward programs on a single mobile platform.

Gift Card Challenge:

The gift card industry has been steadily growing at 5% YoY since 2011 to become an industry worth $307 billion[10]. Recent growth has been faced with crippling challenges such as double-spending, fraud and damages amounting for $1 billion in 2017 according to a Consumer Reports article[11].

Solution:

As the industry grows, corporations are looking to blockchain for security, ease-of-use and efficiency. SonoCoin can provide corporate currencies the versatile characteristics of being highly-transferrable, without the need of traditional cards and inherently prevents double-spending and fraud. These coins would be slightly altered to be used against specific products and services provided by the company supplying the coins.

General Cryptocurrency Challenges and SonoCoin Solutions

Geopolitical regulatory risks

The unanticipated growth and anonymous nature of Bitcoin have generated suspicion among institutions, central banks and governments, following allegations that the technology was being used in connection with criminal activities. Regulatory authorities around the world seem unsure how to address cryptocurrencies, in light of their complex and diverse applications. We plan to mitigate the risk of potential governmental limitations on our operations by implementing the project in Switzerland, incorporated under a Swiss corporation, and by pursuing a strategic public-private partnership with the cantonal government aimed at improving the quality, reputation and perception of cryptocurrencies.

Complex transactions

Laypeople may be dissuaded from engaging in peer-to-peer transactions and storage of cryptocurrencies using e-wallets, due to a lack of understanding of the process involved. The combination of software downloads and safe storage of private keys, complicated addresses, and login details has in some cases led to unintentional (and permanent) loss of funds.

SonoCoin's straight-forward application bypasses the most complicated steps in transactions and back-ups. From a transactional standpoint, users no longer need to take the time of inputting the

[10] https://www.benzinga.com/markets/cryptocurrency/18/06/11959333/the-gift-card-industry-is-growing-can-blockchain-facilitate-th

[11] https://www.consumerreports.org/scams-fraud/gift-card-scam-thieves-can-drain-money-off-cards/v

recipients address ensuring it is correct before sending and therefore not required to save contacts/transaction labels in the wallet; this step is replaced by the reissuance of the SonoCoin file by the receiving party when obtained through audio signals or as a .WAV file.

Strategy and Vision

The team behind SonoCoin is committed to simplifying blockchain-based payments for the masses. Since its inception our team has dedicated its resources to reinventing decentralized peer-to-peer transactions by incorporating versatile means of transaction. Often referred to internally as the *Swiss Army Knife of cryptocurrencies* due to its adaptability, SonoCoin is built as a compatible means of alternative payment method for the retail, gaming, redeemable and advertising industries.

The adoption of SonoCoin is in part dependent on the success of its commercial use-case in the targeted industries. Our founder and team equipped with decades of business development experience are focused providing corporate leaders and their existing userbase with the benefits of SonoCoin's means of secure transaction. Our initial outreach has resulted in strategic alliances with Swisscom Blockchain AG as technical advisors; Coinpayments.net for ICO marketing and commercial use within their network of +600 online merchants; EXMO as a marketing partner and official exchange listing of SonoCoin following the public sale. These recent alliances have granted SonoCoin access to millions of potential users and have resulted each entity's CEO joining the advisory board.

Consistent engagement and interaction with the community is essential to the long-term decentralization and improvement of SonoCoin's network. To do this, our team will begin by opening SonoCoin's source code to the public on Github after thorough auditing and successful private bug bounties to identify any major weaknesses. Communication of SonoCoin's goals on social media and in conferences combined with cooperative workshops is fundamental to widening public awareness and better understanding of market needs.

Go-to-Market Plan

Commercial ecosystem

- Data-Over-Sound: Innovation in data-over-sound has benefitted numerous corporations thanks to the expertise offered by specialists *Lisnr* and *Chirp*. SonoCoin has opened conversations with both companies in respect to potential collaboration. We believe their commercial involvement and know-how can greatly benefit our effort in becoming an effective payment alternative. More in-depth discussion will take place following SonoCoin's ICO.

- Payment Processors: SonoCoin recognizes the role of payment processors in the industry as potentially pivotal in becoming accepted on a global scale. The strategic alliance with Coinpayments.net, the leading cryptocurrency payment processor boasting over 600,000

vendors across 182 countries, is the first stepping-stone in achieving widespread adoption. We plan to work closely with CEO Alex Alexandrov and his team on introducing SonoCoin to its existing 2,000,000 users.

- Asian Markets: Cryptocurrencies are largely accepted as means of settlement in Korea and Japan establishing a well-versed ecosystem of opportunities for blockchain-based payment coins. As a result, SonoCoin's management team is planning on developing relationships with legal and business stakeholders in their respective blockchain communities.

Initial proof-of-concept use cases

- Digital Advertisement: Due to SonoCoin's value within promotional campaigns, incentive programs, and increased customer engagement, our team is targeting key strategic prospects with a successful track record in the advertisement industry. The goal would be to establish a partnership with an advertiser seeking innovative technology to aid in television and online streaming advertising.

- Media: SonoCoin has initiated discussions with different media groups to explore the integration of SonoCoin's technology within their offering. Our team has reached out to local Radio stations opening the dialogue to use-case possibilities for radio contests.

- Gaming: Asian gaming corporations have been storming into the cryptocurrency industry investing in promising projects whose focus is to contribute to the overall experience. SonoCoin's inherently simple transactions methods offer gaming communities ease-of-use across all platforms. We have set forth a strategy to enter the mobile gaming industry and have already expressed our interest to implement SonoCoin within a Swiss-developed mobile game.

- Events: Our developers have begun beta testing of the broadcasting feature for future use within concerts, discotheques and festivals. We are in discussions with a well-known outdoor Italian nightclub interested in leveraging SonoCoin's broadcasting feature to better connect with its young audiences.

Unique Selling Propositions

Cutting-edge technology

SonoCoin allows for cross-device flexibility and bypasses the limitations of traditional wallet-to-wallet cryptocurrency transactions. It simplifies the methods of transaction giving laypeople the power to utilize the network.

Operational

After over a year of research and development activities our technical team has delivered nearly fully-developed network and back-end infrastructure. SonoCoin is operational and in the process of being tested for commercial use, available to the community on Windows, Linux, Android and iOS by invitation.

Expert Team

SonoCoin is backed by a team of corporate, finance, legal and political professionals in Switzerland. Financed by Crown Capital Group SA a well-established asset management firm that has recently pivoted as a blockchain venture capitalist. SonoCoin has since managed to develop key strategic relationships with the public authorities in Geneva including the economic department team of Geneva and the University of Geneva.

The technological development is the work of four expert cryptographers and sound programmers sourced from an unparallel scientific hub based in the Russian Federation. Working in conjunction with this team are website designers, client experts and UX/UI developers.

ICO Differentiation

Unlike most Initial Coin Offerings, SonoCoin has already developed a functioning front and back-end platform along with an initial community. SonoCoin will issue its native coins on its native main net, as opposed to offering Ethereum based tokens. In parallel, the team has secured the initial exchange listing post-ICO, on the EXMO platform. The partnership ecosystem around the project is advanced, with the legal, banking, technology, KYC/AML, and strategic partners on board.

Headquarters in Geneva, Switzerland

With the support of our investors and advisors, we have established our headquarters in Geneva, Switzerland. This will enable us to take advantage of Swiss economic and political stability as well as expertise as a key global financial center and thereby accelerating development and growth of the project.

Recently, the canton of Geneva has positioned itself as a European hub for blockchain-related ventures. To support achievement of this strategic objective, Geneva has created an enabling environment for the establishment and development of cryptocurrency organizations. Moreover, Geneva recently began implementing the Ethereum blockchain technology for the register of commerce, in an effort to increase the efficiency, security, and transparency of public services.

SonoCoin is a project that belongs entirely to Crown Capital Group SA. Crown Capital Group SA is a joint-stock company with its registered seat in Geneva and will issue SonoCoins in the course of an Initial Coin Offering. Crown Capital Group SA is member of the self-regulatory organization OAR-G Organisme d'Autorégulation des Gérants de Patrimoine.

Strategic Partnerships

The SonoCoin technology will be leveraged to provide an alternative form of enhanced remittance. We are targeting businesses active in the retail, gaming, entertainment and advertising sectors. We have already launched discussions – and in certain cases are in advanced stages of negotiations – with potential partners in our target industries. Our strategy is to establish direct partnerships and collaborations with key players with synergies in sound. Once the project has been implemented into the ecosystems of major industry leaders, the focus will then be adjusted to tailoring the software to specific community needs.

Scalable and User-Friendly

The vision behind SonoCoin is to provide the community with a fully accessible crypto-ecosystem, ease of use, cross-device compatibility, and scalability. The market has seen hundreds of peer-to-peer cryptocurrencies launched in the last five years often with few technological differentiators. SonoCoin is exceptionally unique to other solutions in that it combines the versatility of audible files allowing everyone to benefit from secure, frictionless transactions with minimal knowledge of blockchain. SonoCoin offers a certain level of familiarity for those unaccustomed with traditional methods of cryptocurrency transactions; SonoCoin's unique .WAV file format acts as a self-contained wallet, identifiable by a public address and secured by a private key. Transfers do not require the recipient's public address but rather can be accomplished freely across any electronic delivery channel, including audio, instant messaging, and email.

Methods of Transaction

The following features are fully-developed

Audible Transactions – The SonoCoin audio file is a sound interpretation of a code that can be recognized and recorded by any device that reproduces sound. Coins are embedded in unique sound waves using standard .WAV files played at frequencies between 6 and 16 kHZ and are convertible into any audio format. Once captured, the coin will appear in the user's application and must then communicate change of ownership through the reissuance of the coin. The reissuance of the coin can only be successful when the file is decrypted by the owner labelling the same file captured by nearby devices as "spent". One .WAV file can represent any denomination of SonoCoins and can be split and combined. Each coin file can be password encrypted to ensure the security of the transaction in the case of eavesdropping.

Messenger Transactions – SonoCoin .WAV files can be sent directly from the application via any form of online communication platform including e-mail, social networks and messengers. To finalize a transaction, the .WAV file must be uploaded to the SonoCoin application to communicate change of ownership onto the blockchain.

QR Code Transactions – This feature was developed to provide merchants and consumers a seamless method of exchange. QR codes contain specific data regarding the transaction amount and automatically debits and credits the SonoCoin application without the need of reissuance. These codes are widely used by existing payment providers and therefore easily adopted.

Bluetooth & WIFI - The SonoCoin application scans the Wi-Fi network or Bluetooth network for near-by devices connected to SonoCoin in order to directly send and receive coins.

The following features are currently under-development

Inaudible Transactions – Our team is currently developing ultrasonic frequency transactions that cannot be heard by the human ear. This technology has been pioneered by audio data encoding specialist *Chirp* and media giant *Amdocs* for development of push promotions from TV commercials to mobile / tablet device using ultrasonic data transfer. This update is intended to improve discretion and enable advertisers to embed SonoCoins in advertisements for promotional purposes related to the message. Advertisers could benefit by increasing sales through discounts on selected products by broadcasting coins during the message.

Broadcast Transactions – Primarily targeted at advertisers, this feature will allow for one SonoCoin file to be equally divided into equal parts among thousands of users. Example: At half-time, beer stands in a football stadium play 1000 SonoCoins offering the first 100 individuals 10 SonoCoin each towards their next purchase. Using ultrasonic frequencies, one could embed SonoCoin in a song, movie, or advertisement without affecting the message perceived by consumers.

NFC Transactions - NFC (near-field communication) is a subset within the family of RFID (radio frequency identification) technology. This enables two electronic devices to establish communication by bringing them with 4 cm of each other. NFC devices are often used in contactless payment systems and smartcards. Implementation will offer users and merchants yet another form of means of exchange.

Market Overview and Competitive Analysis

Sound-based payment systems:

Lisnr

LISNR is a high frequency, inaudible technology; a new communication protocol that sends data over audio. LISNR uses inaudible sound waves called SmartTones™, to transmit data. These customizable packets of data can enable proximity data transmission, second-screen functionality, authentication and low-fi device to device connectivity on any LISNR enabled device. SonoCoin enables this functionality better and more efficiently than bluetooth (proximity), ACR (2nd Screen), and NFC/RFID (authentication).

Alipay

Alipay has launched a new payment system in the Beijing subway that uses sound waves to connect smartphones with vending machines. The sound wave payment system was introduced with the Alipay Wallet mobile app in January and uses white noise generated by a smartphone to carry digital information to another device. Initially used for smartphone-to-smartphone transactions, the Beijing Subway launch marks the first time the system has been used with a payment kiosk for consumer transactions, according to Xinhua.

Tez

Google made its foray into the burgeoning mobile payments sector in India by launching its mobile wallet app, Google Tez, at an event in New Delhi attended by Finance Minister Arun Jaitley. Here is all you need to know about the latest entrant to the digital payment marketplace. Google Tez is a mobile wallet based on the Unified Payments Interface (UPI) platform built by the National Payments Corporation of India (NPCI). UPI-enabled wallets permit users to transfer money without requiring the bank account details of the recipient. The UPI ID of the recipient is used as a proxy for the account number and IFSC code, thereby simplifying the process of money transfer.

Infosonic

Infosonic is an IT company offering a proximity data transmission technology using inaudible sound called “Sonic Code”. Devices with a built-in speaker and microphone are all you need. Sonic Code® is a proximity data transmission technology. SonoCoin’s software enables authentication and device-to-device connectivity using sound. The only hardware requirements are devices that have a speaker and a microphone—which are either cheap to add on or already built-in with many devices. Sonic Code® is a complimentary technology to barcode/QR code and it is the solution for industries with extreme security concerns like mobile payment/mobile authentication/IoT. With a combination of Sonic Code® software, sound, and existing hardware device, create a secure, seamless, cost-effective and customizable services to your end-users.

Blockchain-based payment systems:

Bitcoin

Bitcoin network energy consumption is costly and becoming increasingly problematic due to its negative impact on the environment.

Ripple

Limited to only financial and banking institutions, lack of decentralization allowing for high risk exposure to failure and the coin ownership represents potential price risks.

Litecoin

Client code is based on an obsolete Bitcoin version, and therefore tightly linked.

Dash

Masternode ownership still very top-heavy, meaning lack of decentralization, problems with anonymity, and serious concerns about the way the technology is handled.

SonoCoin -> Combining sound-based data transfer with blockchain

Innovative use cases: Besides the payment and advertising related use cases, SonoCoin's new revolutionary blockchain network and audio technology brings new ways of communicating between assets and individuals.

Data-over-sound: The **SonoCoin** solution has the uniqueness of transmitting data via sound, a seamless and efficient method. Not only payment data, but any real asset digitization system can be built and run on the SonoCoin audio technology.

Open platform accessible by anyone: Like Ethereum, SonoCoin provides the community with a unique platform to build their own projects. It is easily customizable as a simple SDK allowing anyone to develop tailored services.

Unique transaction process: SonoCoin functions without the need of a traditional digital wallet. To use SonoCoin, you only need the software application. However, the coins can be securely stored in a USB stick or cloud server.

Roadmap Going Forward

As past achievements were described in the milestones sections earlier on, below there is a resumé of the future goals and potential achievements:

Q4 2018

- Cantonal Tax Ruling
- Code & Protocol Audit
- Test Net Deployment
- KYC/AML Process Setup for Main Sale
- Public Coin Issuance Platform Setup
- Main Net Beta Release

Q4 2018/ Q1 2019

- Private Bug Bounty
- Public Bug Bounty
- Media, Entertainment and Advertising Reach Out Program
- Marketing Bounty Campaigns
- ICO Launch Main Event (native coin & protocol)

Q1 2019

- EXMO exchange listing
- SonoCoin neural network (AI) TX fee algorithm
- Ongoing Discussions with Commercial Partners
- Proof-of-Stake Node Software
- Mobile/Desktop Software Updates (UX)

Q2 2019

- Broadcast Transactions
- Ultrasonic Frequency Transactions
- NFC Transactions

Q3/Q4 2019

- Smart Contracts
- Initial Pilot Tests – Proof of Concept
- Proof of Contribution Consensus

Team Overview

Founder / CEO, Leon Afanasyev
Founder and Director of Crown Capital Group. Former Investment Advisor at Morgan Stanley.

CTO, Vlad Mitrofanov
Previous experience: Software Engineer specialized in Quantum Cryptography. Founder of BitCAD – voice authentication cryptocurrency

Senior Programming Expert, Tim DEV
Cryptography and Security Expert, Master's in Computer Science, Languages: C, C++, JavaScript.

Infrastructure Specialist, Lenar DEV
Master's Degree in System and Software engineering, Languages: C++, JavaScript, Python, STL, *openGL*

Code and Protocol Specialist, Alex DEV
Master's Degree in Mathematics, Languages: C++, JavaScript, Python, STL, openGL

Head of Investor and Corporate Relations, Erenik Yzeiraj
Investment Advisor at Crown Capital Group. Analyst M&A/Corporate Finance - BPDG and RAMPartners SA.

Head of Marketing, Evan Dean
Blockchain expert and crypto-trader. Front-end content developer and Founder of the Fintech Forum.

Advisors

Data-Over-Audio Expert, Prask Sutton
Interaction Design Consultant with +20 years global experience. Successful startup Founder and scaleup CEO.

Strategy Advisor, Alex Alexandrov
Founder & CEO of Coinpayments.net – a premium Bitcoin, Litecoin, Etherium and other alternative crypto-currency payment processor, trusted by over 600,000 vendors across 182 countries

Strategy Advisor, Daniel Haudenschild
CEO at Swisscom Blockchain. Former Partner – Financial Services Advisory at Ernst & Young

Tokenization Advisor, Sven Möller
Head of Tokenization Services at Swisscom Blockchain. Manager – Ernst & Young

Member of Advisory Board, Ivan Petuhovsky
Co-Founder of EXMO Finance LLP – one of Europe's largest cryptocurrency exchanges by trading volume.

Member of Advisory Board, Jean-Henry Morin
Professor of Information Science at University of Geneva *ThinkData.ch.*

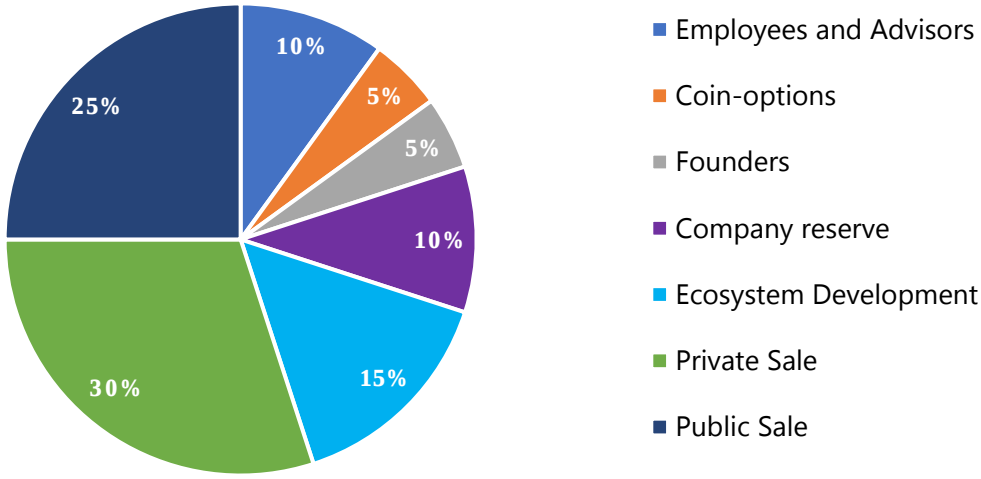
Member of Advisory Board, Arnaud B. Perdrizet
Founder & CEO of World Payment Solutions Senior Advisor to Wirecard Group.

Member of Advisory Board, JJ Sendelbach
Founder of Doublejay Consulting and serial tech start-up advisor. Former MD Deutsche Bank.

Initial Coin Offering

In order to build a viable ecosystem around the SonoCoin blockchain Crown Capital Group SA will issue SonoCoins in the course of an Initial Coin Offering (ICO). This will lead to a network of coinholders laying down the basis for an active ecosystem. The funds paid in exchange for SonoCoins will be used for promoting the project and enter into partnership as well as further develop the SonoCoin technology. Crown Capital Group SA commits to undertake all reasonable efforts to lead the SonoCoin project to success.

Coin Sale Model



Coin Allocation Model	Coins	Percentage
Total Coins in circulation	100,000,000	100%
SonoCoin Reserve*	30,000,000	30%
Employees and Advisors	10,000,000	10%
Coin-options	5,000,000	5%
Founders	5,000,000	5%
Company reserve	10,000,000	10%
Ecosystem Development	15,000,000	15%

Coin Sales	Coins	Percentage	Price	Amount
Private Sale	30,000,000	30%	€ 1.00	€ 30,000,000
Public Sale	25,000,000	25%	€ 1.50	€ 37,500,000

*the SonoCoin Reserve consists in Employees and Advisors, Coin-Options, Founders and a Company Reserve. More details below

Coin Allocation Strategy

30% of the total coin supply will be retained in the SonoCoin Reserve. This Reserve will be used for SonoCoin future development such as employee salaries and performance-based bonuses (coin-options), as project reserve (Company Reserve) and for an allocation to original founders .All these coins will be locked until Q4 2019. The SonoCoin Reserve will be split between employees and advisors (10%), coin-options compensation allocation (5%), founders and stakeholders (5%), and the Company Reserve for the SonoCoin operating and marketing activities (10%).

55% of the total coins in circulation will be sold to third parties from which 30% are allocated to the pre-sale (having taken place from December 2017 until May 2018) as well as the private sale and 25% will be sold in the course of the ICO. The public sale event is expected to provide important marketing, visibility and awareness to the SonoCoin project in the blockchain community, in addition to the funding.

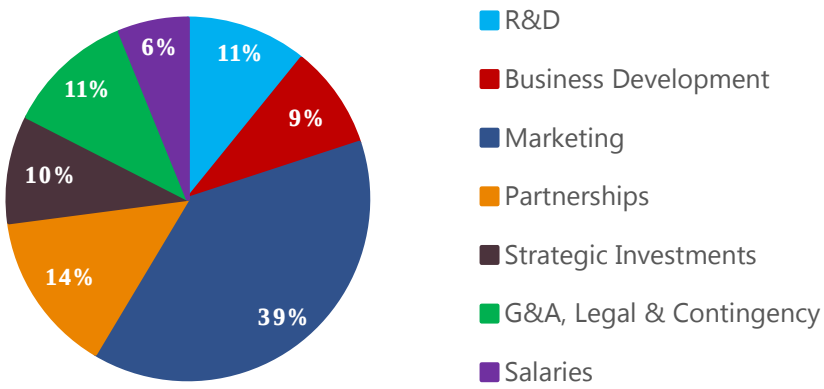
The estimated coin sales will result in a **soft cap of €12,500,000** and **hard cap of €67,500,000.** If the soft cap will not be reached, the founders and existing shareholder of Crown Capital Group SA will provide the additional funds to continue the project.

Any unsold coins during private and public sales will be allocated to the Ecosystem Development, a fund of coins used to engage, incentivise and develop SonoCoin's global community, including bug bounty program, software developer community, academics researchers, commercial partners, financial partners, media partners, etc.

After the end of the lock-up period in beginning of 2020, the coins from the overall SonoCoin reserve will be sold in the markets based on the following schedule: 5% of the monthly trading volume to be offered during the following month in equal amounts daily.

From December 2017 until May 2018, 1,090,000 SonoCoins were sold in the pre-sale at a price of USD 1.25 and USD 1.50. These pre-sales are part of the private sale allocation in the coin allocation model above.

Use of Proceeds from Coin Sale



Public and private sale proceeds will be divided accordingly as shown above. Up to 39% of the crowdfunding sales will be allocated to building solid and sustainable marketing campaigns to build the necessary awareness among cryptocurrency communities and targeted industries. Considering the current readiness of the SonoCoin technology, we believe it is important to allocate the majority of the proceeds to the go-to-market strategy. A combination of advertisement techniques like TV advertisement, digital marketing, events & conferences, social media, community development, sponsorships, etc., along with the marketing team's salaries will constitute the SonoCoin marketing strategy.

Once the marketing strategy is in execution, SonoCoin will allocate 14% of funds to actively pursue corporate partnerships to aid the adoption and acceptance across various targeted industries.

Strategic investments within synergistic ecosystems is another crucial pillar of our commercial ecosystem build-up strategy, accounting for 10% of proceeds. Business development reserves are projected to finance investor and commercial road shows, prestigious business development advisors, conference presentations and overall international business outreach.

SonoCoin will be launched and operated out of Geneva, Switzerland. Being one of the most prestigious international cities with a solid business, technology and financial infrastructure, the cost of talent in Switzerland is relatively high compared to other global centers. Nevertheless, we believe the canton of Geneva represents one of the most advanced and dynamic cities in the world in terms of cryptocurrencies and blockchain, coupled with the stability, safety and security of the overall Swiss environment. Therefore, only administrative and senior management salaries will represent 6% of the total use of proceeds, without taking into account sales & marketing personnel or software engineers.

Ultimately, SonoCoin envisions to couple its scientific hub in Russia with a research & development unit in Geneva, in order to foster the development of the technology as planned in the roadmap. Combining these expertise and hubs together is expected to result in a successful and efficient milestone delivery.

Partnerships & Advisors

Swisscom Blockchain Partnership

Swisscom Blockchain AG is a leader in providing ICO advisory services in the Swiss market. Thanks to their technical and advisory services our fund raising will benefit from a secure and compliant infrastructure.

Workstreams & Phases

We have onboarded Swisscom Blockchain in order to provide a first certification of our blockchain network. Required activities are code auditing, protocol stabilization, but also infrastructure provisioning.

ICO Launch

The first workstream will focus on the ICO sales and launch effect. It begins by legal and ground clearing exercise and establishing the coin protocol to be used for the initial launch. It then covers the investment rounds, live tests, community building (including the bug bounty program), and then covers the main event.

Protocol Release

Swisscom Blockchain's team will be closely reviewing the code for any errors. Their aim will be to mitigate the risk of potential vulnerabilities by building circuit breakers that pause transactions in the case anything goes wrong. The protocol release will be closely monitored and remain prepared for effective upgrades and bugfixes.

Bug Bounty

A bug bounty program allows for a mass approach to identifying issues in the code without placing too much at risk. The bug bounty pays coders to view a limited release and find faults.

Initial Coin Offering digital KYC/AML services

Swisscom Blockchain offers a KYC service that complies with the regulatory guidelines in Switzerland. The KYC and AML run over the digital identity services (DIS) from Swisscom AG. For SonoCoin the KYC and DIS services will be combined into the ICO platform and the distribution system behind the issuance.

EXMO Partnership

The British-based cryptocurrency exchange was founded in 2013 and has showcased steady performance ever since. In fact, it saw a trading volume of $192 mln back in 2014, growing to $1.8 bln in 2017, and currently boasts over 700,000 active traders. EXMO is currently one of few European exchanges to offer FIAT currency pairs including USD, EUR, RUB, PLN, and UAH.

A listing agreement on the EXMO exchange for SonoCoin has been signed allowing investors to trade the coins on the open market following the SonoCoin ICO. Additionally, SonoCoin will benefit from ICO marketing exposure to the platform's traders facilitating the fundraising process.

We are fortunate to have recently welcomed Ivan Petukhovsky, Co-Founder of EXMO Finance LLP, to SonoCoin's advisory board. His expertise in cryptocurrency markets will aide in the forward expansion of the project.

Coinpayments.net Partnership

Our team is fortunate to welcome the leader in alt-coin payment processing. SonoCoin plans to leverage the Coinpayments ecosystem and services to further promote our upcoming ICO. It is our firm belief that Mr. Alexandrov's combined expertise and extensive network will provide valuable insights in the coming months.

Iex Alexandrov is a pioneer in the blockchain industry having started-off as Forex trader and EA platform developer prior to launching his successful Coincable.com venture supplying bitcoin mining hardware. As Founder and CEO of Coinpayments.net, Mr. Alexandrov has facilitated real-world use for cryptocurrencies by processing payments on behalf of thousands of merchants worldwide. Today, Coinspayments' is a trusted name in the industry boasting over 2,000,000 vendors across 182 countries.

Wenger & Vieli Ltd.

Wenger & Vieli Ltd. is a law firm with offices in Zurich and Zug. For more than forty years, they have been advising national and international clients primarily in all areas of business and tax law. They are a leader in blockchain technologies consulting and will provide advice on regulatory framework conditions for SonoCoin.

Banking Partnership

For every participation into FIAT currencies during the SonoCoin main sale event, Hyposwiss Private Bank Genève SA will be the banking counterparty. Crown Capital Group SA has gone through the onboarding process and has opened a corporate bank account for SonoCoin's Initial Coin Offering proceeds in FIAT currency.

SonoCoin Technology

Operational	✓	✓	✓	✓	✓	✓	✓
Consensus Mechanism	PoS Now **PoC ComingSoon**	PoW	PoW	DPoS/LPoS	PoW	DPoS	PoS
Block Target Time	1-2 min	10 minutes	15 second	1-30 second	2 second	2 second	1 minute
Maximum TPS	>10,000 tps	200 tps	2,000 tps	1,000 tps	1,000 tps	100,000 tps	800 tps
Blockchain size	--	90.9 Gb	75 Gb	--	--	--	--
Maximum supply	100,000,000 SONO	21,000,000 BTC	102,362,252* ETH	100,000,000 WAVES	295,824,891 STEEM	3,600,570,502 BTS	998,999,495 ARDR
Decentralized application	Post-ICO	✓	✓	✓	✓	✓	✓
Language used	Golang	C/C ++	C/C ++	Javascipt	Python	C/C ++	Java

Why Proof-of-Stake?

The most blockchains use Proof-of-Work (PoW) for the consensus algorithm. To create a new block so called miners must solve complex mathematical puzzles. If a miner can create a block which is accepted in the network, he will get rewarded in crypto. But the problem is that to solve these puzzles it often needs very specific hardware and professional equipment. In addition, the power consumption is enormous for these calculations.

Bitcoin's underlying technology, blockchain, functions by validating transactions using a protocol known as Proof-of-Work (PoW). This process is carried out by solving complex algorithms using high performance computers. The solution to the algorithm verifies a block of transactions and is rewarded in the form of Bitcoin. Sizable supplies of CPU's, electricity, and space are required for profitable operations – resulting in the disproportionate allocation of rewards to transaction costs.

Proof-of-Stake (PoS) has another approach. Everyone owning a specified amount of coins has the possibility to join the consensus algorithm and create new blocks in return for rewards. The selection for the next creator of a block is based on various factors such as: random selection, and stake size.

Proof-of-Stake (PoS) validation is an alternative approach unencumbered by these problems. 100,000,000 coins have been pre-mined to be supplied to the ecosystem over time. Verification of transactions is executed through "staking" (holding) coins on the network. The staking of coins builds a trusted network of validators who will process and forge a block of transactions to the

chain. In essence, it is the amount of digital currency staked that brings consensus to the current state of the blockchain. SonoCoin's users will be provided downloadable software enabling them to stake. Validators are rewarded by collecting transaction fees over a period of time in exchange for staking. The larger the position staked, the more transaction fees awarded. As a result, the PoS approach incentivizes sizable, long term investments as a constant stream of revenue, with minimal overhead.

SonoCoin Proof-of-Stake Algorithm

Terms and definitions

SonoCycle – a limited time period and number of blocks. Each **SonoCycle** is made of 600 **SimpleBlocks +** one **CycleBock**;

CycleBlock – a block which contains a list of nodes allowed to create blocks in the current **SonoCycle**;

SimpleBlock – Includes the list of transactions – not to be confused with a **CycleBlock**;

NodeID – Each node contains both a secret and public key. The public key is the Node identifier and secret key used to generate a **BlockSign;**

BlockSign – The block creator's signature identifying the block number;

TxQuery – A query or "special transaction" must be broadcasted to the network to show its intention of producing blocks within the next **SonoCycle**. This transaction will include the **NodeID**. A required 10,000 SonoCoins is required to generate a **TxQuery.**

At the end of a **SonoCycle** each node must define the next algorithm by the following:

1. Collect all **TxQueries** from previous **SonoCycle;**
2. Lexicographically sort the list of the **TxQueries** by **NodeIDs;**
3. Produce a list of potential nodes for next **SonoCycle;**
4. Collect all **BlockSigns** from previous **SonoCycle;**
5. Produce a MerkleTree from **BlockSigns** which will result in a **SonoSeed. SonoSeeds** are used to synchronize the random function between all nodes in SonoCoin network. The algorithm is deterministic;
6. Using the time periods of a **SonoCycle** and block time the number of blocks for next **SonoCycle** is calculated.

e.g. SonoCycle – 20 hours, block time – 2 min

20hrs * 60 min / 2 min = 600 blocks per SonoCycle;

7. The **SonoSeed** is used to randomize the function;
8. Final step includes calling the random function as many times as blocks in next **SonoCycle** to synchronize all nodes;

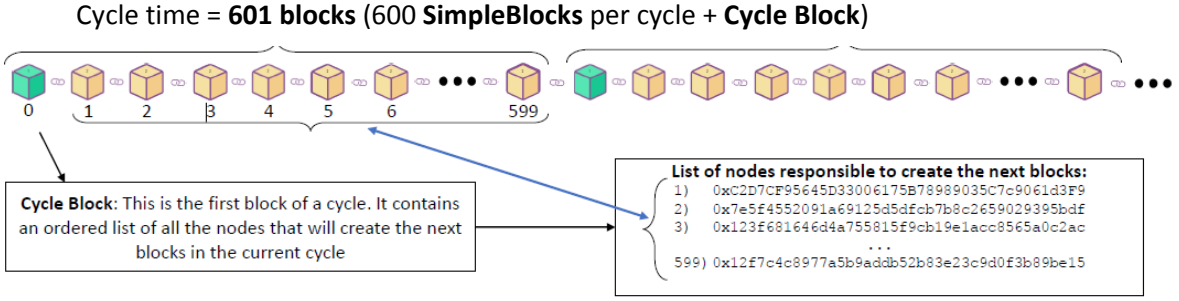
The selection criteria of nodes to create new blocks is currently solely based on the amount of SonoCoins staked. Therefore, the higher amount of coins staked the higher the chances a node will be selected to create a block and receive fees.

e.g. A node holding 20,000 SonoCoins has 2x the chances of being selected over a node holding 10,000 SonoCoins.

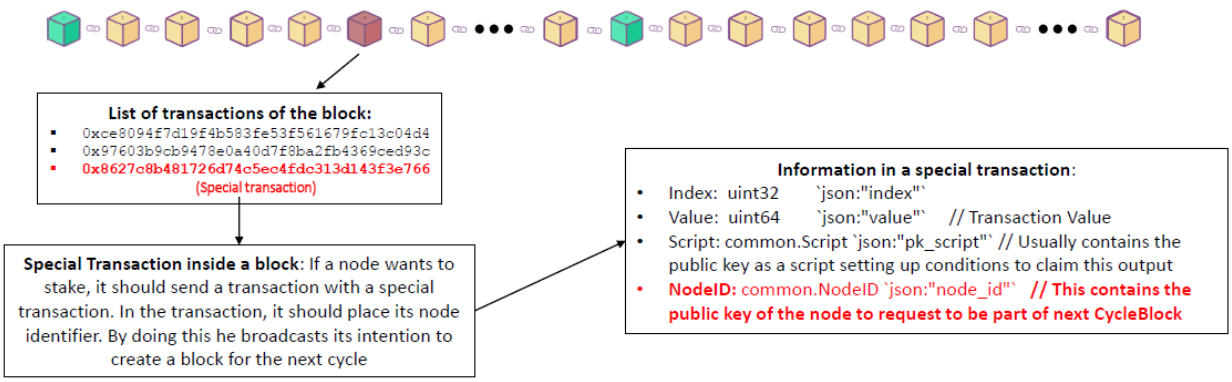
(!) The majority of SonoCoin stakers – 51%. Minimum needed to achieve consensus on the SonoCoin Blockchain.

(!) The **SonoCycle** is allowed to skip **SimpleBlocks**. Minimum of 51% of blocks are required to be validated in a SonoCycle.

Cycle Block structure

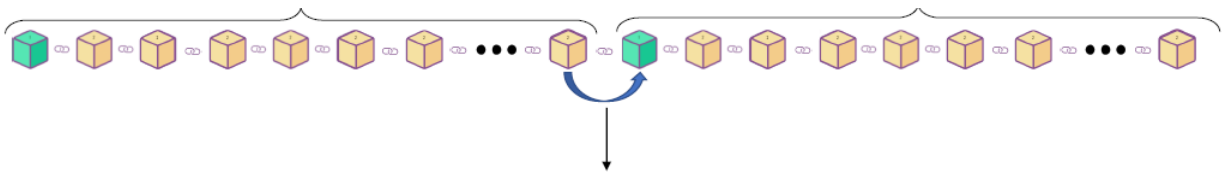


A node entering the network



All nodes attempting to stake must send a special transaction to the network to register itself as a block creator in the following block cycle.

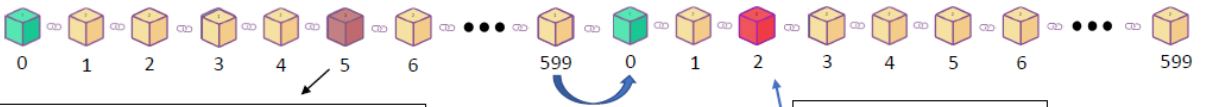
End of a block cycle



The first block for the next cycle (Cycle Block) is calculated following the next steps:

1. Collect and sum all digital signatures from each block from the current cycle and make a seed for random function.
2. Collect all nodes identifiers from the ***special transactions*** of the current cycle
3. Call the random function with the list of node Ids to select the ones that Will create the blocks of the next cycle
4. Create a Cycle Block from this list
5. Each node have the same Cycle Block for the next cycle

A node is selected to create a block



List of transactions of the block:

- 0xce8094f7d19f4b583fe53f561679fc13c04d4
- 0x97603b9cb9478e0a40d7f8ba2fb4369ced93c
- **0x8627c8b481726d74c5ec4fdc313d143f3e766**

(Special transaction)

The node got selected to create a block in the cycle

List of nodes responsible to create the next blocks:

1) 0xC2D7CF95645D33006175B78989035C7c9061d3F9
2) **0x7e5f4552091a69125d5dfcb7b8c2659029395bdf**
3) 0x123f681646d4a755815f9cb19e1acc8565a0c2ac

...

599) 0x12f7c4c8977a5b9addb52b83e23c9d0f3b89be15

Information in a special transaction:

- Index = 2566548
- Value = 0
- Script = <pubKeyScript>
- **NodeID = 0x7e5f4552091a69125d5dfcb7b8c2659029395bdf**

Description of the transaction model

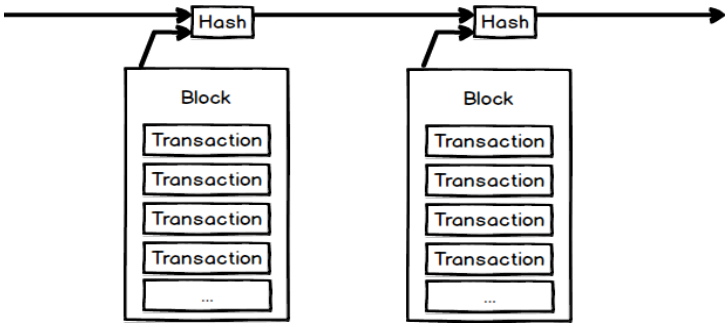
The transfer of SonoCoin is executed by the re-issuance of new coins to the subsequent owner and encryption through a public key while preserving the hash from the previous transaction. The verification of transactions is accomplished by validation of the chain.

Challenges, such as preventing “double-spending”, are solved with the help of a trusted network verifying the chain’s authenticity. This is done through introduction of the protocol “Epoch”, which provides an additional level of security allowing blocks to be added to the blockchain within a specific timeframe. The blocks are public and available on the block explorer. Each block contains the hash of the previous block and a timestamp. The addition of each timestamp strengthens the validity of the chain as whole.

Transactions per second

- Block time – 2 min (120 sec)
- Transactions per block – 1,200,000
- Transactions per second 1,200,000 / 120 = 10,000 TPS

Transaction model



Transaction process

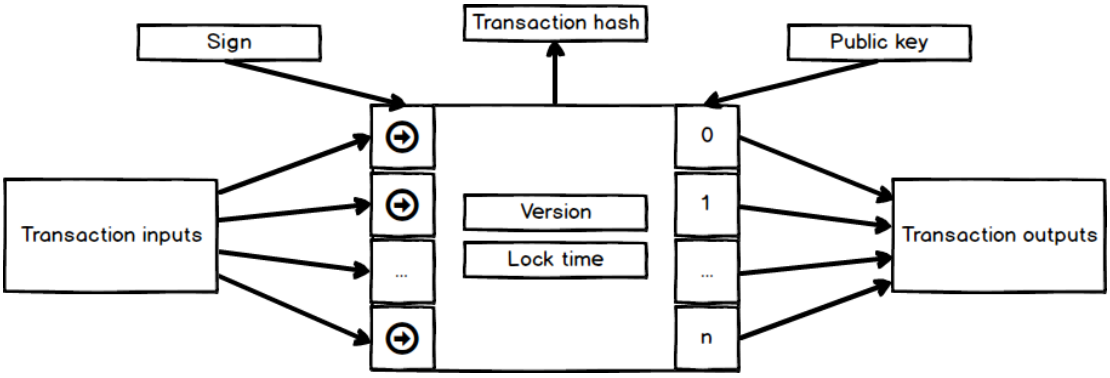
The details of creating and processing a SonoCoin transaction are as follows:

1. Each transaction has the following parameters
   - Transaction hash
   - Blockchain transaction type
   - Block number or timestamp at which the transaction is unblocked
   - Number of used transactional inputs
   - List of used transactional inputs
   - Number of created transaction outputs
   - List of created transaction outputs

2. All values for transaction inputs are verified before they are processed
   - Specification of the required parameters must be reviewed. For example, commissions cannot be less than or equal to zero. If the transaction in question is not confirmed, the transaction will not be processed.

3. Verification that the nominal value of the transaction is sufficient to carry out the following:
   - New transaction creation
   - New transaction identifier generated for the coin
   - Signature of the new coin by the owner
   - Encrypted of transaction data placed inside the message instructing the network nodes to process the transaction
   - Transmission to all nodes of the network

Transaction structure



Transaction confirmation

All SonoCoin transactions are considered unconfirmed until they are included in a valid block. Recently created blocks are distributed to the network by the node that creates them. Since new blocks are added to an existing chain of blocks, each additional block adds one more validation of transaction confirmation. A transaction that is sent to the network but not included in the block remains unconfirmed. Transactions are prioritized based on the size of their related fees.

Transaction fee

When a combination, division, or re-issuance of a coin is added to the block, all transaction fees related to the block are distributed among the nodes in the network. Nodes receive rewards in the form of SonoCoin from all transactions in the blocks in the order of which they were elected by the network.

As long as the size of all transactions in the block does not exceed 1 MB, the minimum fee will be sufficient to cover all charges related to processing. This minimum fee will take effect when the network goes live following the ICO public sale. In situations when the number of unconfirmed transactions exceeds the number that can be placed in the block, the transactions with the highest commission will be selected by the node.

The following is an illustrative example of how the solution works:

- 600 individuals are selected as nodes
- 600 blocks are placed in the Epoch
- Each block had on average 1000 transactions, none of the blocks exceeded 1 MB
- Result: (1000 * 0.01) = 10 SonoCoins are rewarded to each node

It is important to note that SonoCoin transaction fees are currently fixed at 0.01 SonoCoins regardless of transactions value. This temporary model is to be replaced by SonoCoin's Neural Network following the ICO public sale.

SonoCoin Neural Network (under-development)

A neural network is a series of algorithms used to identify relationships and patterns in a set of data. The network has the ability to adapt the inputs so that it generates the best possible result without needing to redesign the output criteria.

The algorithm will be derived from the historical data of the following:

- Numbers of SonoNodes
- Transactions per SonoCycle
- Special transactions of the SonoCycle

The neural algorithm will optimize the following:

- SonoCoin node network
- Block size
- Block time
- Increase TPS
- Increase staker's motivation (transaction commissions)

Alrogrithm changes be done dynamically according to the following:

- Time per SonoCycle
- Time per block
- Transactions per block

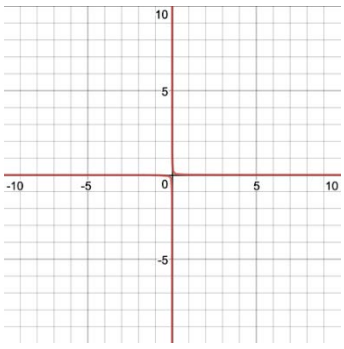
Future transaction fee model

The commission for a transaction on the SonoCoin network will be algorithmically decided based on the average price between one or more cryptocurrency exchanges using the following formula:

X – Price of SonoCoin

K – Coefficient

Y – Commission of a transaction



K = X / 1.5

Y = 0.01 / K

Implementation of the above model will take effect following SonoCoin's listing on EXMO's exchange platform.

Transaction hash generation

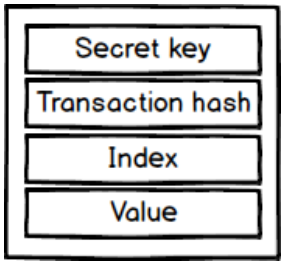
The transaction hash is generated using the sha256 algorithm, which is calculated twice for additional verification. The hash of the block contains the following data:

- Version
- Locktime - 0
- Transaction input
- Hash–Transaction hash-
- Index – Transaction index
- Value – Amount of the coins
- Signature script - Signature
- Transaction output

Coin structure

A coin is formed in the transaction process and has the following structure:

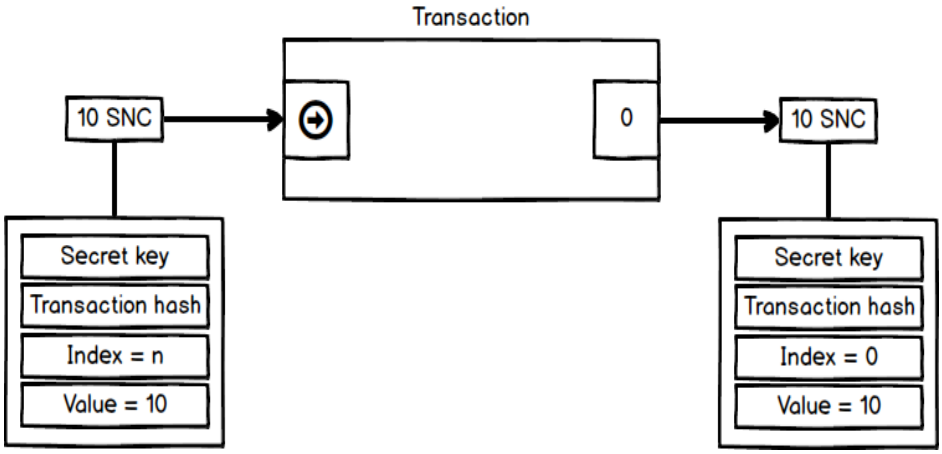
- Secret key (generated for that transaction)
- Transaction hash (exists from the moment of creation of the coin)
- Index (number of outputs when the coin was formed)
- Value (coin volume in SNC)



Coin re-issuance

Below is an illustrative example of a coin re-issuance involving 10 SNC coins

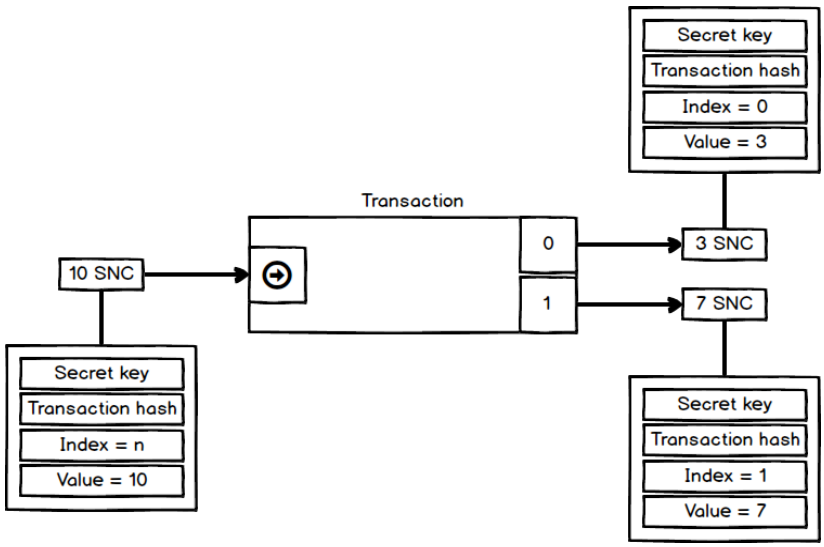
- A transaction is formed with one input and one output
- In the first input there is 10 SNC based on information from the previous transaction
- The output therefore has 10 SNC based on the current transaction



Coin division

Below is an illustrative example of coin division involving 10 SNC:

- Dividing 10 SNC into two parts: 3 SNC and 7 SNC
- The transaction will include one input and two outputs
- 10 SNC will be the input along with the information of the previous transaction
- There are two new coins on the outputs: 3 SNC and 7SNC (see diagram)

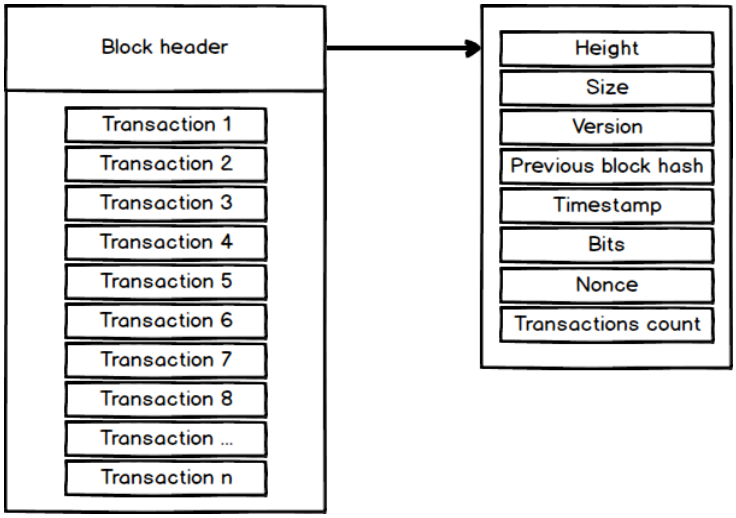


Formation of blocks

Each block must be confirmed by the nodes before being admitted into the blockchain. Each member verifies all transactions placed in the block, confirming the following data: transaction amount, inputs, digital signature, and outputs. If successful, the signature is broadcasted to the rest of the network for final verification before incorporating the transactions into the blockchain. To participate, a node must inform the network (via the downloadable node software made available after the ICO) of its intentions in order to receive a unique coin used to store remuneration data for work completed during a lifetime. Criteria for the selection of a new node is as following: activity time of the node in the network and size of stake.

The block header consists of the following parameters:

- Height (height of block)
- Size (size of block)
- Version (blockchain version)
- Previous block hash
- Timestamp (current time in seconds)
- Bits (command window)
- Nonce (command window)
- Number of transactions in one block

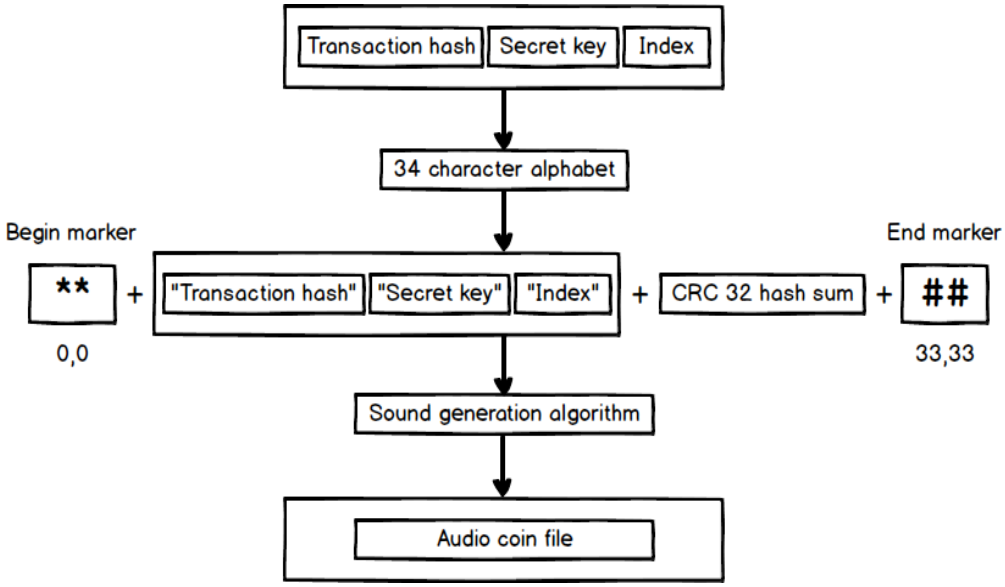


Coin transfers

The SonoCoin structure makes it possible to transact via popular messengers and social networks. The variety of ways to transfer and store audio files gives SonoCoin the added flexibility to transmit coins using innovative marketing programs that incentivize customers to spend. The exchange of coins among users can be as simple as saving the file on a USB key, and/or as an audio file on a CD.

Audio file creation

The following diagram illustrates the process by which the SonoCoin algorithm is used to produce an audio file (WAV format).



Security

All data is stored in an AES-256 encrypted file and checked by sha-2 HMAC. A randomly generated 64-byte key will be provided to the user when the mobile app is first launched. The key can be stored in either the Android Keystore or iOS Keychain; both of which are encrypted keychains provided by Google and Apple.

SonoCoin users have the ability to create a backup of their funds from within the application to any desired location. By navigating to settings and clicking on "Backup", the application will ask the user to manually encrypt the files with a password before choosing a location to safely store the coins. Cloud-storage is convenient location to store coins in case the main device is lost or stolen. As long as no further transactions took place after the backup, the user can easily reload his coins to the new device. This is a recommended step to mitigate risk in case of loss or damage to the device.

Additional security features:

The mobile application is equipped with password, touch ID or fingerprint security technology. Users can also directly lock the coin with a password, when processing a transaction. Thus, users will need a password in order to combine, re-issue or divide a coin. The password is hashed by the Argon2 and AES algorithms that encrypt the private key required for the transaction.

Users have the possibility to change the device where the mobile application is installed, choose a different storage method or use third-party encryption tools, for example, such as:

- Folder Lock
- CryptoForge
- SageHouse
- Secure IT
- Kruptos 2
- Advanced Encryption Package

Not all the encryption algorithms are directly related to the SonoCoin blockchain. In case the user has set the password directly on the coin, this file is decrypted in the node at the coin processing stage. If the user sets a password or touch ID to access the application, the algorithms are decrypted at the client level and do not reach the node or the SonoCoin blockchain.

SonoCoin is securely transferred using the PoS network. Coin verifications are processed through decryption within the mobile application. Once decrypted, the user can split and transfer coins freely.

1. What is the most secure method of storage/backup of SonoCoins?

   We recommend the following: Users should store and backup coins outside of the application in a secure location. The SonCoin file is exported within encrypted containers with an additional security password protection set manually.

Our team is developing two additional security features.

a. SonoCoin Cloud – this will be an additional encrypted storage container for each client allowing for the synchronization of funds across multiple devices.
b. Backup recovery – Similar to Bitcoin and Ethereum, SonoCoin will enable users to set a seed phrase of 12 unique words in case of loss of funds.

2. How will transactions function when sending funds to an exchange (EXMO)?

   The team is developing classic P2P transactions utilizing public keys and private keys, therefore not relying on 3rd party delivery applications such as Whatsapp, Telegram or email. More information will be available shortly.

   This method of transaction will likely be used for the secure distribution of coins during Private and Public sales.

3. Smart contract for coin circulation?

   Our Team is considering whether to develop SonoCoin smart contracts or potentially having the SonoCoin blockchain interact with solidity smart contracts to prove coin circulation.

SonoCoin Proof-of-Contribution Consensus Transition

Pending update using Artificial Intelligence in the SonoCoin Consensus Algorithm (Proof-of-Contribution)

SonoCoin's Proof-of-Contribution is being developed with the objective of optimizing the selection criteria of nodes for block creation. This new consensus algorithm solves the unfair monopolistic effects large stakes have over new participants by introducing a ranking system. A ranking of each node will be the determining factor of likeliness of being chosen rather than strictly the amount of SonoCoin a holder is willing to stake. The ranking system will be calculated upon several variables classified as "contributing" factors to the network.

A list of activities to be considered "contributions" is being determined with a predefined weight for each. Artificial intelligent algorithms will be designed to actively evaluate contributions of nodes and their effect on the network to efficiently rank participants accordingly. The active role of AI is fundamental to the continual improvement of selections by incentivizing progressive tasks. A

community in turn benefits from an evolving ecosystem where the greatest contributors are rewarded for their commitment to the network.

Examples of possible activities considered to be “contributions” – each weighted individually:

- Amount staked
- Number of blocks created
- Amount of time a node is active in the network
- Number of transactions a user publishes (node is connected to individual’s transaction activity)
- Amount of processing power provided to external research projects (distributed computing)

SonoCoin’s Neural Network (NN) will have an anti-fraud detection system to ensure transactions are legitimate for node ranking.

Possible fraudulent activities:

1. Frequent transactions to the same wallet addresses
2. Amount of coins do not correspond to the amount of transactions
3. The same or close transaction timeframes
4. Other fraudulent operations (other parameters will be calculated with learning models)

Increase node ranking through Volunteered Computing processing (distributed computing)

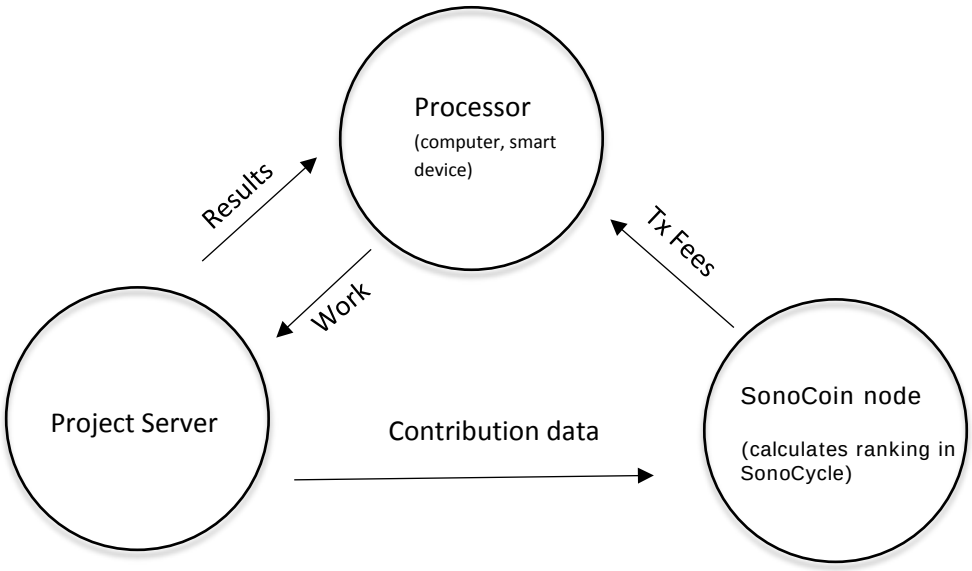
SonoCoin’s goal to build a trustless consensus algorithm in which contribution is the primary objective, is harmonious with the concept of volunteered computing processing.

Volunteer computing is a form of distributed computing in which a party voluntarily offers computer power to projects; these projects often include CGI rendering, facial recognition, and video transcoding. Computing power can be generated through inactive consumer devices such as computer, phones, gaming systems and smart appliances. Academic projects run by graduate students and institutions lacking the funding for supercomputers will use distributed computing to gain access to similar processing power.

From a researcher’s point of view, it is required to estimate details of the project’s needs in terms of resources to generate the end results. BOINC, an open source platform facilitates scientific computing jobs by providing a downloadable software to connect projects to a grid of available computing, known as ‘middleware’. SonoCoin plans on developing its own middleware to offer the the same ability to leverage unused processing power by calculating the contribution in return for SonoCoin. Rather than using GPUs and electricity as means of charity, users would have the option of monetizing their resources in return for increasing their node rank and chances of earning SonoCoin. The same can be applied to individuals mining Proof-of-Work cryptocurrencies.

Major players in distributed computing include Amazon, Google, Microsoft and IBM; each of which ensure substantial margins. SonoCoin plans to tap into this market by offering open source access to processing power to consumers while allowing the community to compete for block creation (transaction fees) through an alternative form of contribution.

SonoCoin stands to benefit from distributed processing by diversifying its consensus algorithm, expanding its ecosystem of nodes by leveraging idle processing power and therefore increasing competition for transaction fees.



Disclaimer

This version of the whitepaper is pending legal clearance from Crown Capital Group SA's legal counsel. Modifications, amendments and updates can be brought to this version of the whitepaper in the near future.

SonoCoins do not represent or confer any direct or indirect (e.g. conversion right) equity stake of Crown Capital Group SA or any other ownership right, share or equivalent right, voting right or any right to receive future profit shares, intellectual property rights or any other form of participation in Crown Capital Group SA and its corporate affiliates or any other rights whatsoever, other than the rights set out in this document.

Crown Capital Group SA as well as all people working for and in connection with the SonoCoin project will not be responsible for losses, damages or claims arising from but not limited to:

- Mistakes made by the user of any SonoCoin-related software or service, e.g., forgotten passwords, payments sent to wrong SonoCoin addresses.
- Software problems of the SonoCoin website and/or any SonoCoin-related software or service, e.g., incorrectly constructed transactions, unsafe cryptographic libraries, malware affecting the SonoCoin website and/or any SonoCoin-related software or service.
- Technical failures in the hardware of the user of any SonoCoin-related software or service, e.g., data loss due to a faulty or damaged storage device.
- Security problems experienced by the user of any SonoCoin-related software or service.
- Actions or inactions of third parties and/or events experienced by third parties, e.g., bankruptcy of service providers, information security attacks on service providers, and fraud conducted by third parties.

All cryptocurrency investments, including SonoCoin, involve substantial risk.

Specifically Disclaimed Risks

Crown Capital Group SA as well as all people working for and in connection with the SonoCoin project further specifically disclaim and shall have no liability to user for the following risks: a) operating system failures (mobile or desktop); and, b) interactions between user's hardware, software and the sono.money software; and, c) cloud backup software (e.g. certain Android distributions) may upload user private information to third party services; and, d) malware, viruses or other malicious software on user's device that is able to take control of or interfere with the sono.money software; and, e) communication delays between users sono.money software and a node or relay service for SonoCoin; and, f) failure to achieve a certain market value/price for SonoCoins, whether through a third-party service or any other kind of transaction; and, g) theft of SonoCoins.

Cancellation and Refund

All coin orders are deemed firm and final. No order confirmed on the SonoCoin website may be subsequently canceled at the client's request. The buyers acknowledge that they are fully aware that they will not be entitled to claim any full or partial reimbursement. As the sale of the proposed coins is strictly reserved for an experienced professional clientele, the buyer may not claim any right of return against SonoCoin.

No Guarantee

Although Crown Capital Group SA will undertake all reasonable efforts to lead the SonoCoin project to success, it may be partially or fully abandoned or fail for a number of reasons, including but not limited to lack of interest from the public, lack of funding, lack of commercial success or prospects (e.g. caused by competing projects) and changes in the regulatory environment.

No claim may suspend payment for SonoCoins bought in the ICO. As the coins offered for sale are not having any value or functionality other than the SonoCoin service credit that they represent, no guarantee is attached to them following delivery. Although ownership of the coins depends on smooth operation of the SonoCoin network, Crown Capital Group SA may not be held liable for any failure of said network that could result in the client losing or being unable to use the coins.