



Hybrid blockchain platform
with a conscience

Whitepaper



The Smilo platform was born from a spark of inspiration in June of 2017, when the founders of Smilo noticed some blockchain-based platforms were created with privacy and anonymity in mind, but none of these platforms could provide users with smart contracts and decentralised applications.

Smilo is different.

Introduction

Ethereum was initially proposed in 2013 in a white paper^[1] by Vitalik Buterin, a cryptocurrency researcher and programmer. In the white paper, Vitalik Buterin described Ethereum as a public, open-source, blockchain-based computing platform featuring smart contract functionality. Since the release of Ethereum in 2015, several other projects have emerged which can also host smart contracts and decentralised applications, but these platforms are unable to host both anonymous and public smart contracts.

For mass adoption of blockchain technology, the Smilo team firmly believe that there must be a connection between a blockchain and its actual use cases. In order to ensure this connection, it is important to choose the best platform to connect with the use cases. Currently, there is no suitable blockchain-based computing platform for the medical sector, nor one that is an all-in-one solution for private escrow arrangements. All of the current smart blockchain-based computing platforms are public, but few people prefer their medical records or escrow arrangements to be public.

To address these shortcomings, what is needed is an open-source, hybrid, blockchain-based computing platform: one that features hybrid transactions, hybrid smart contracts, and hybrid decentralised applications. This is where the Smilo platform shines.



Summary

What is the Smilo platform?

Smilo is a unique blockchain platform which supports the combination of hybrid transactions, hybrid smart contracts, and hybrid decentralised applications — with ‘hybrid’ referring to both public and private. Smilo's intent is to use blockchain technology to create an alternative protocol for decentralised applications.

What is Smilo’s unique selling point?

Smilo's unique strength stems from its combination of several features. The best affordances of the Smilo platform are the hybrid transactions, -smart contracts, and -decentralised applications. No other platform has yet to combine these features.

A combination of these features is very useful in many different scenarios, examples of which are explored further below.

Business overview

The core team of the Smilo platform consists of seventeen members with various specialities. In addition to the core team, the Smilo platform has access to over 200 developers to work for Smilo through freelance partnerships.

The leaders of the Smilo platform have over 30 years of business and IT experience.

Technical background

The intent of Smilo is to create a full-featured blockchain platform which hosts hybrid transactions, -smart contracts, and -decentralised applications. Since we are creating the platform in Java from square one, we can ensure it is completely open source.

Token management

For this new hybrid Smilo platform, two types of tokens will drive the network.

- Smilo tokens
- SmiloPay tokens

Smilo tokens are a part of the Smilo network itself, as they represent a user’s own personal shares and thus are emblematic of each user’s power to influence the network itself. SmiloPay tokens are the medium with which to pay for all service fees and upkeep of the Smilo network.

In total, 200 million Smilo tokens will be created, and these will generate 200 million SmiloPay tokens.



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Smilo platform

What is the Smilo platform?

The Smilo platform is a decentralised hybrid blockchain platform – ‘hybrid’ meaning both public and private. This platform is the first of its kind to support the combination of hybrid transactions, -smart contracts, and -decentralised applications.

Smilo's intent is to use the blockchain to create an alternative protocol for decentralised applications. Smilo's unique strength derives from the combination of multiple features:

- Hybrid smart contracts
- Hybrid decentralised applications
- Hybrid transactions
- Transparency
- Privacy and anonymity
- Connection to real life applications

Hybrid smart contracts

One of the best features of the Smilo platform is the hybrid smart contract functionality, which is a combination of both public and private smart contracts. Traditional blockchain platforms like X and Y provide their users with the ability to implement either private or public smart contracts as their code. Meanwhile, the Smilo platform is the first, and currently only, platform to provide developers with the means to combine both public and private contracts on one and the same chain. This element can prove very useful in many scenarios; take the social funding sector as an example.

Many people wish to donate their money to charity, but only if they know it will be spent responsibly by the organisation that receives it. Organisations which implement the hybrid technology offerings of the Smilo platform can show their benefactors the exact course of their donations through public smart contracts while using private smart contracts to keep open the option to donate anonymously.

For instance, Jacob loves nature, and he is very concerned about ongoing climate change. Therefore, he wants to donate a significant amount of money to Greenpeace. However, Jacob does not want to publicly share the details of his donation, though he does want insight into the expenses of Greenpeace. Greenpeace can use Smilo technology to keep Jacob's personal donation private, whilst the expenses of Greenpeace are public through the use of hybrid smart contracts. This hybrid process generates more transparency and trust in charities, and Jacob can anonymously donate money to his favourite causes.





Hybrid decentralised applications

Another great feature of the Smilo platform is the hybrid decentralised application option. Just as with hybrid smart contracts, hybrid decentralised applications offer uses for many different situations.

For a private and secure messaging app, for example, the Smilo blockchain network can host public messaging apps. However, some of the messages sent through the messaging app need to be private and secure. Therefore, it is very important that the Smilo platform can manage both private and public decentralised applications.



Hybrid transactions

Public transactions are completely transparent through Smilo, and they are visible through our blockchain explorer. On the other hand, when privacy and anonymity are necessary, we provide completely anonymous transactions that are both untraceable and not linkable.

Transparency

In this new digitalised world, transparency is a way for many companies to earn consumer trust, as transparent operations lead to a reduction of scams, overcharging, unnecessary and expensive intermediaries, and more.

With the inherent features of blockchain technology put in the form of mutualised record-keeping in a near-irrevocable time-stamped ledger, we bridge the gap of the trust deficit, which otherwise would not be possible. Transactions can be safer and much more transparent.

The Smilo blockchain will be publicly available through the blockchain explorer. We see this explorer as a source of competitive advantage. Through this explorer transparency, efficiency and security are guaranteed. It is the place where customers meet suppliers to validate their transactions, openly and transparently.

Privacy and anonymity

There are a number of successful platforms which host smart contracts and decentralised applications, but none of these platforms have the ability to host both public and private smart contracts and decentralised applications. This is why we made the Smilo platform. Smilo is able to make certain smart contracts, transactions and decentralised applications anonymous, if the user so desires.



Connection to real life applications

The team behind Smilo firmly believes that connections to actual use cases is critical for a successful blockchain platform. To ensure Smilo's connection with real-life applications, we want to link our platform to actual uses, including functions for the following:

- The medical sector
- The social funding sector
- Product tracking
- The insurance sector
- Public sector
- Logistics sector
- Escrow arrangements

With blockchain technology, the digitisation of these applications can be decentralised, trustful, traceable, highly transparent, anonymous (if desired), and free of intermediaries.



Use cases

In this chapter, we are going to elaborate on some of the use cases mentioned above.

The medical sector

The medical sector processes millions of patients' records every day. These records are confidential and not intended to be public, but leaks due to human failure unfortunately do occur.

With the Smilo platform, it is possible for the patient to host his medical records on the blockchain. By doing so, only the patient with the private key can access the records. The patient can choose to use a smart contract to give permission to others, such as a doctor or hospital, to view selected sections of the record for a period of time.



The social funding sector

In the social funding sector, transparency and trust are important. Let's take a charity organisation, for example:

A benefactor may want to support a charity but hopes not to show this choice to the world. As the Smilo platform offers the option to make transactions private, the benefactor can choose to make an anonymous donation. To offer transparency, the charity organisation chooses a public smart contract, which offer insights to ensure the public that the funds are being used as agreed.



Product tracking

The technology behind Smilo can also be applied to supply chains to establish provenance of products, which makes the supply chain more transparent and ensures full product information from not only producer to consumer, but raw resource to waste. Smilo verifies that the product has an authentic record and came from where it was supposed to come from. It is even possible to get a full historical footprint of a product from end to end, which so being audited is a breeze. Smilo's unique features allow information to be transferred in a trustworthy and anonymous way, as it essentially provides a trust network that allows information to move smoothly down the supply chain. Meanwhile, information moves without revealing the identities of people or large corporations, so there's no fear of losing competitive advantages.



This is far more effective in ensuring transparency than using a centralised supply chain, as relying on one party creates an inherent bias and weakness in the system, while blockchain overcomes that weakness with a greater level of authenticity.



The insurance sector

We see different scenarios throughout the global insurance industry which can benefit from Smilo. It was, and should still be today, a business of utmost faith that can benefit from opacity and Byzantine operating standards. The erosion of trust is bad for everyone, and therefore blockchain technology can hugely benefit this sector.



Public sector

Just like social sector, transparency and trust in the public sector is essential. Let's take a government as an example.

Alis is a resident of the European Union, she does not intend to publicly share her tax details with the world. However, she does want her government to be more transparent, and she would like to have greater insight into their expenses. Therefore, her personal file can be made private, while the governmental expenses can be made public using our smart contract platform. This duality generates more transparency and trust in the government, while giving Alis peace of mind that her personal details remain private.





Business overview

Background

Individuals have become the moral gatekeepers in society, largely thanks to the global access of information, and a societal shift towards accountability and transparency. With this movement, individuals have started to shift the balance of influence in their favour, and away from businesses, governments, and non-profit organisations. The challenge for these entities is thus to adapt and facilitate this increasingly demanding public in terms of speed of delivery, level of integration, sustainability, privacy, and security. In light of these developments, we identified the need for a hybrid blockchain platform that provided these public entities the right tools to reaffirm their relationship with its stakeholders, warranting transparency whilst protecting the individual's data.

Mission

Our mission is to create an environment that aligns the consumer's need for privacy and security with the processes of governments, NGOs, financial institutions and corporations by providing full accountability and transparency whilst safeguarding the mentioned consumer needs. All in a decentralised, safe, fast and sustainable way. We will be sharing all this in open code so future blockchains, organisations and its applications can apply this to their specific needs.

Vision

Our vision is to facilitate a culture of transparency by making collective data publicly available irreversibly, whilst protecting individual data. This will make most middleman redundant and significantly limit the chance of corruption, whilst simultaneously acknowledging the need to safeguard an individual's data. This combination of public and private transaction on the same platform based on the BFT protocol defines Smilo as a hybrid blockchain platform with a conscience.

Proposition

Smilo: Hybrid blockchain platform with a conscience:

- Sustainable: an eco friendly platform through our improved Smilo BFT+ protocol.
- Transparency: an open source environment which grants easy access for audits.
- Privacy protection: through the hybrid transactions and hybrid smart contracts.
- Anti-corruption: through the non-reversible data lock in for tenders and elections.
- Scalable and fast: over 100 times faster than Ethereum and other platforms.
- Security: through our improved BFT protocol with 66% votes.
- Affordable: the blockchain transactions require a negligible fee.



Relevant and applicable use cases:

- Medical records being owned by individuals and shared with medical institutions and insurance companies upon request.
- Elections or referenda being facilitated through secure and private voting to rule out any post-election influence.
- Donations through a private smart contract construction which ensures the anonymous donor that the money will be spent in an honorable way.
- Public tenders where the RFP's are being listed anonymously but also definitely and irreversible to avoid adjustments after the assignment has been granted.

The Smilo team and its beliefs

Smilo is being developed by an experienced, multi-skilled, ambitious and accessible team. The attitude overall is one of transparency, collaboration, dedication and straightforwardness. So no fake advisors but actual contributors, no corporate name dropping but actual value adding partnerships. All our efforts go into the successful development and implementation of the Smilo platform, since we are a firm believer of our concept and its potential. Nevertheless we will not sell you theories without tangible and verifiable data, we will not seek any funding before presenting a working prototype and sharing the source codes on Github.

Conclusion

The Smilo Platform will develop a significant and varied user base with a large amount of transactions, which requires a solid platform that can guarantee sufficient scalability, speed, security and low transaction costs, all executed in a sustainable way. That is why we have developed the Smilo platform the way we have.

Decentral, hybrid, fast, safe, cheap and sustainable.



Strategy

Smilo's strategy consists of multiple parts:

Smilo platform

The Smilo platform is a unique blockchain platform that can combine public and private smart contracts on one chain. We will implement our own improved version of the well-known Byzantine Fault Tolerance mechanism to ensure consensus can be reached.

The platform will be created with developers in mind and with our full attention so that we can launch Mainnet as soon as possible.

Smilo Knowledge and Smilo Support

When Mainnet has launched, an extensive knowledge base will be available for use within projects. Not only will there be a place for developers to find their documentation, there will also be training materials and presentations.

Smilo Modules

Smilo's ready-made easy-to-use modules are specifically for use in your projects. These modules come with a working proof of concept to present to your development team and also include technical documentation as well as presentations.

Marketing of the free

We at Smilo believe in an open world where knowledge and technology are created to benefit everyone. Therefore, Smilo will be free of charge under the Apache 2.0 licence^[8] for all to use.

Smilo will actively seek out consultancy opportunities. For clients who want more support with implementing their blockchain solution, we have Smilo Works. Here, our clients can receive help through co-creation: from concept creation and workshops, to proof of concept, and a fully tailored solution implemented on the Smilo platform. In Smilo Works, we tailor our services to your needs.

Thinking ahead

While our initial aim is to get the platform operational as soon as possible, the founders of Smilo strongly believe in building a product for the long term. Smilo's upcoming token sale has the objective to raise enough liquidity to do far more than just develop Smilo. The slow release of Smilo Pay tokens will ensure the continuous development of the Smilo platform for years to come.



Core team

Elkan Roelen – CEO

Hi, I am Elkan Roelen! I have over 10 years of experience in entrepreneurship, development, security and performance testing and DevOps. Furthermore, I have over 8 years of blockchain experience (the good and the bad) with a focus on security (penetration testing) and performance tuning.



Andy Kalbvleesch – Head of Operations

Hey, I am Andy Kalbvleesch. I have over 20 years of experience with entrepreneurship and business development. I have been a project manager in a wide variety of business applications, though mostly related to IT. In addition, I also have over 20 years of experience with full-stack development and over 5 years of blockchain experience.



Patrick Joore – Head of Marketing

As a seasoned international agency executive with over 25 years of experience in building brands around the globe, I have worked with a wide range of blue-chip clients. I hope to shine my light on the opportunities that Smilo has to offer in terms of strategic partnerships. In particular, I will focus on international private and public spheres, NGOs, and all other global organisations that will benefit from the safe proposition of transparency that Smilo will soon offer.



Thomas Modeneis – Head of Technology

I'm an IT professional with 15 years of experience in software development and various other roles across the board, from engineering to solutions architect and technical testing. Some of my clients are: IBM, William Hill, MDL, SKY and Brobot. During my career, I developed some solid knowledge of team leadership, vendor management and contracting as well as managing large data pools, data streaming, smart contracts and blockchain core development.





Fabio Cruz — Blockchain Architect 

Hey! I'm a Software Engineer with 20+ years experience, working as a Solution Architect on large enterprise projects around the globe for IBM customers. I strongly believe that blockchain and smart contracts will disrupt the way the world is doing business today.



Cristiano Mazzon — Blockchain Developer 

I started programming at the age of 9, just over 30 years ago. I am a BCS at USP (renowned educational institution in Brazil) and I love to see little hexadecimal numbers smiling at me. As a Blockchain early adopter, I love to see how it's evolving. Well, in fact I saw a lot of rising and fading technologies and became charmed by start-ups and new challenges.



Rodrigo Catalan - Blockchain developer 

I am Rodrigo Catalan, a software developer with 10+ years of experience and solid knowledge of web technologies and the agile work methodology. With my self-learning profile and straightforward thinking, I have been helping companies to swiftly start projects and build solid and independent teams. I believe the key for any successful achievement relies upon people and creativity.



René van Reeuwijk – Blockchain Developer 

Hi! I am Rene van Reeuwijk. I am an entrepreneur and a full-stack developer. I have over 10 years of experience as a software architect with Java technology. In addition, I also have experience with MS SQL Server, Sybase SQL Server, Oracle, and Microsoft.NET.



Robert Alblas – Blockchain Developer 

Hello! I am Robert Alblas, and I am a software developer graduated from the Hague university in 2015 with a degree in Computer Science. My specialty lies within Java systems and I have a lot of experience in Java EE and Spring Boot in combination with Postgres, MongoDB and MySQL. As a front end developer, I have experience with AngularJS (1.5), JSP and JSF, although my main interest lies in backend developing.





Kelly Robles de Medina – Blockchain Developer 

Hey, I am Kelly! I am an ambitious all-round software engineer with a broad knowledge of programming languages. My goal oriented working attitude has resulted in strong solutions for my clients, such as: the Open University, the Utrecht University, and the ANWB. I excel in Agile/Scrum settings where intensive interaction with the end-users is key.



Mathyn Buiteveld – Front-end & Mobile App Developer 

Hello, I am Mathyn Buiteveld! I am a resourceful software developer graduated from the Windesheim University of Applied Sciences in 2013. Since my graduation, I have been actively involved in multiple technology start-ups, such as Movin. Consequently, I have extensive experience as a software developer and entrepreneur.



Daniël Leushuis – Front-end & Mobile App Developer 

Hi! My name is Daniel Leushuis, a software developer graduated from the Saxion University of Applied Sciences. My career as a software developer started at VUORA, and since then I contributed to multiple software related companies. Furthermore, I have two years of experience with blockchain technology by my own companies Radium and getAcryp. I'll use my knowledge to contribute to the Smilo Platform, exploiting the huge potential blockchain technology has to offer.



Dion Jakobs – Front-end & Web Developer 

Hey! My name is Dion Jakobs, and I am currently a full-stack developer. As a kid, I was always interested in technology. During high school, I kept trying to turn off the teacher's computer through the network, and in fact, I actually succeeded at one point! Then, at the age of 16, I became an entrepreneur and started developing websites. Later, I evolved to full-stack development. Ask me to build anything, and I am your man.





Michael Hassan – Project Manager 


Hey, I am Michael Hassan. I am an all-round project manager who creates synergy between the different assets. In the last few years, I have been working on innovative projects which got me interested in the opportunities blockchain has to offer the market. What I've learned from my projects and studies is that blockchain has huge potential in a wide range of applications when it is developed properly. With the Smilo platform, I want to contribute to the development of blockchain to its full potential.



Nickel van de Mortel – Content Manager 

Hi! I am Nickel van de Mortel. I am very passionate about new technology, and I always want to learn more about it! My first encounter with blockchain technology was in 2013, and since then, I have been following the blockchain space. My experience lies with professional writing, translation, and development. My goal is to contribute to the world using the Smilo platform.



Jesper Winkelhorst — Technical Writer 

Hey! I am Jesper Winkelhorst, a data analyst and consultant who became heavily involved in blockchain and cryptocurrencies in 2017. Since then I have been contributing to informative cryptocurrency groups (such as BitcoinBravado) as a technical analyst, doing workshops for interested clients and contributing to blockchain projects such as Smilo. My creative ideas combined with my critical mindset add value when discussing relevant blockchain-related topics, where I transform thoughts into text.





Advisors

Marc Wesselink

Serial Entrepreneur who started multiple companies in FMCG, Home Electronics, Healthcare, E-Commerce, HR, and Finance, both B2B and B2C. Due to his experience, he has an in-depth knowledge in many fields, which can help entrepreneurs maintain a 360-degree view of their business. He is a motivator, business coach, and critical optimist. With his skills and experience, he is currently in charge of 148 Alumni of Startupbootcamp Amsterdam and initiator of the SBC Blockchain Acceleration Program.



Eyal Shalev

Eyal is a blockchain expert who is involved in several big projects and ICO's. He has earned the respect of the crypto community by the various contributions he made to the blockchain space over the last few years. Eyal Shalev has over twenty years of experience in the IT industry, and his skills include business development, startup projects, and architecture in software and hardware products. His skills and experience have contributed to a number of projects that can be found in today's top 100 cryptocurrencies.



Stephan De Haes

Stephan is the COO at Krypt.ly, a crypto FinTech start-up. He takes the lead in all social media and ICO-related subjects and oversees the general operations of the company. Stephan has grown an extensive network of connections by working with successful companies for promotional advisory in the ICO and crypto space.



Marcel Bodde

Marcel has been the ICT Manager of KroeseWevers since 2000, which means that he has over 15 years of experience with ICT and accountancy. His specialties include people management, ICT specialism, and business administration.



Hans van Egmond

Hans has a background characterised by a stellar combination of general management, project management, and extensive experience in the field of IT, which is enhanced by his in-depth knowledge and involvement in the energy sector. In recent years, he has gathered extensive understanding through his experience with innovation and business development.





Partners

Startupbootcamp

Startupbootcamp has been accelerating startups since 2010, and is an award-winning global network of industry-focused innovation programs. With 20+ programs in Europe, Asia, North & South America, MENA & Africa, selected startups get access to the most relevant mentors, partners, and investors in their industry. Furthermore, Startupbootcamp has over 650 companies in their portfolio, backed by partners including leading tech companies, such as Amazon, Cisco, and PwC.



42

In February of 2018, the Smilo platform partnered with the company '42'. In 2003, 42 started as a Java-specialised company. Since then, 42 has grown to a full-service IT organisation with a multitude of talented IT professionals, and 42 acknowledges the need for more blockchain platforms and decentralised applications. This company will be responsible for developing the first dApp on the Smilo platform in cooperation with the Smilo founders.



SPACE

With offices in Amsterdam, Johannesburg, Lagos and Nairobi, SPACE will be providing their extensive digital marketing expertise as well as data and insights, strategy support, content creation and event management. SPACE has a proven track record working for many global brands such as Discover/Diners Club, Estee Lauder, Whirlpool, BMW and Converse.



Anycoin Direct

As a leading Dutch cryptocurrency broker, this partnership will have a significant positive contribution in establishing a clear presence for our platform and will help us in developing a bright future for Smilo and its supporters.





Radiu

On the 1st of May 2018, the Smilo platform partnered with RADIU. RADIU is an AI-controlled search engine for internet radio, which automatically combines your favorite music out all of radio stations around the globe and compiles it into one personal ad-free radio stream which exactly tailors to your taste.

Besides streaming your favorite music, RADIU is launching their own token, which unknown artists can use to promote their music. These tokens will then be used to reward listeners to listen to their music. In other words, you can earn money by listening to your favorite music!

Smilo and RADIU will collaborate to make RADIU tokens available on the Smilo Platform allowing low transaction fees and fast block creations.



Altus Staffing

In January of 2018, the Smilo platform partnered with Altus staffing and underlying companies. We decided to partner with Altus Staffing because they provide complete solutions for IT expertise. Altus Staffing has an extensive network with over 200 experienced IT specialists. These specialists will work for the Smilo platform on a freelance basis.



Spilberg – IT Dev Careers

Spilberg Development specialises in mediating IT professionals. The world of IT is growing at an incredible rate, and due to this dynamism, it is important for a company to rely on specialists. Spilberg development has all of the relevant knowledge to be able to offer the best specialist for a specific job.





Perca – IT Executive Search

Perca Search is an executive search firm. Perca Search's specialty is filling IT management and executive positions for both permanent and contract positions.



According to Perca, the technologisation of recent years has dramatically changed our society within a relatively short period of time. They believe that we are only at the beginning of this development. Changes in terms of IT are fast and common, and thus, many organizations need to invest in IT housekeeping to keep up with these changes. This is the only way to continue to achieve optimum growth. Fixed or interim, we believe IT management and executive positions are the crucial positions for the future of an organization. Perca Search has the experience and the network to support companies when filling these leadership positions.

Tergos – ICT Infrastructure Recruitment

The ICT landscape in year 2018 is broad and complex. That's why Tergos believes in the power of specialisation: 'know more of less'. Therefore, Tergos specifically focuses on a distinct niche: ICT Infrastructure. Tergos also clearly distinguishes between the interim and recruitment market, and thus Tergos can very specifically advise both organisations and specialists.



Visser & Van Baars – BI and Big Data Network

Visser & Van Baars is a specialist in business intelligence recruitment. Recently, Visser & Van Baars became the market leader in business intelligence recruitment in the Netherlands. Visser & Van Baars mediates professionals for fixed and interim positions.



Eswelt – ERP & CRM Recruitment

Eswelt is a mediator in the world of enterprise systems. As a mediator, Eswelt specifically focuses on recruitment in ERP and CRM specialists. Eswelt is synonymous with expertise and specialisation with an international scope.





ICO

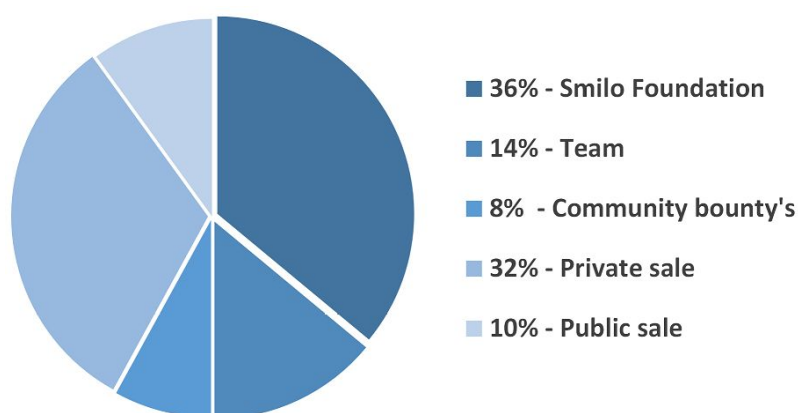
Token distribution

The Smilo platform will have an ICO with the following structure:

- Private Sale
- Public Sale

In order to participate in our ICO, all participants must join our whitelist and pass the KYC procedure. Unfortunately, residents of some countries, which are mentioned in the KYC form, can only participate in the ICO if they have received the legal status of 'accredited investor'.

The goal of the ICO is to raise USD\$18 million by selling 84 million Smilo tokens – 42% of the total amount of Smilo tokens. 16 million Smilo tokens will be distributed to the community in the form of bounties. Of the remaining 100 million Smilo tokens 72 will be released after the launch of the Smilo Mainnet through an inversely proportional relationship. This process will provide a virtually endless supply of income to keep the Smilo network operating on the highest standards, while slowly distributing tokens on the market. The last 28 million tokens are distributed to the team and partners of Smilo platform.



For more information on our token distribution, we recommend reading the paragraph; token distribution.

Unsold tokens

All unsold tokens from the private sale and public sale will be distributed amongst all Smilo ICO participants through an airdrop.

For example: out of 84 million total tokens, 75,6 million tokens are sold. This means that 10% of the tokens have not been sold. Considering this figure, ICO participants will receive this 10% as additional Smilo tokens.



The Smilo platform decided to implement this airdrop, so that the total supply of Smilo tokens remains the same, while also making sure that the ICO participants are getting their full invested value in Smilo tokens.

The reasoning

As previously stated, Smilo made the decision to have three phases of token sales in a short period of time to raise \$18 million. We chose this route due to our experience with raising funds.

When looking at current tech companies, the most significant problem they all encounter is the need for growth capital. The funds are available, but many companies never succeed due to the time, energy, and work it costs to successfully close a series of funding rounds. Venture capitalists or seed investors can certainly relate to this challenge as they are involved in raising funds in order to grow a company. Smilo will raise enough capital to thrive for many years to come through an inversely proportional relationship, which means that a small amount of Smilo tokens will be released every month to facilitate the growth of the Smilo network. The total number of Smilo tokens is capped at 200 million.

Token value

The first decentralised application to be hosted on the Smilo platform will be the Smilo tokens and SmiloPay tokens themselves. In the first instance, the Smilo tokens will add value to the platform in two ways:

- Smilo tokens can influence the Smilo network
- Smilo tokens generate SmiloPay tokens

Due to the unique possibilities of the Smilo platform, we expect a booming decentralised application market. As soon as the dApp market expands further, there will be more transactions on the Smilo network, which in turn increases the price of SmiloPay.

Therefore, the Smilo tokens and SmiloPay tokens will maintain value due to their usage in the Smilo network.

The objective

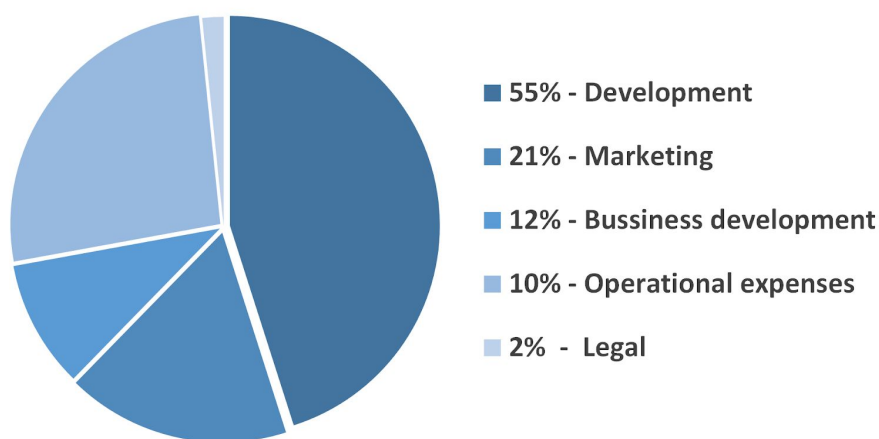
As stated before, the objective of our ICO is to raise \$18 million by selling 84 million Smilo tokens. We prefer to issue our Smilo tokens to as many different investors as possible, as we believe that this tactic will widen and accelerate the adoption of the Smilo platform. By raising \$18 million, we can continue the development of the Smilo platform and related decentralised applications for many years to come.

The current market cap of the already outdated blockchain platforms is far above \$2.5 billion. Our goal is to reach a market cap of more than \$2.5 billion by 2023.



Allocation of funds

The total amount of \$18 million will be spent over a period of five years. However, we want to launch Mainnet as soon as possible, so the development of dApps can commence. Considering this goal, we expect to spend quite a large percentage in the first year compared to other years. Our figures will be made public so that we can practice what we preach: transparency.



To ensure a fast launch of the Smilo Mainnet and smooth transition to dApp development, we have allocated 55% of our funds to development.

Since we are a tech company and our focus is on building a next level hybrid blockchain platform, we will attend international blockchain events and show our presence. Next to the international events, we plan to organise blockchain events ourselves to build awareness of the possibilities of our blockchain technology. It is also part of our mission to find partners and co-create solutions based on the Smilo platform.

We plan to create several dApp events for external teams to develop solutions on our platform. Next to these events, we foresee the possibility of acquiring some smaller startups that can add value to the Smilo platform.

We have reserved 10% of the budget for all operational expenses such as rent, equipment, payroll, and miscellaneous costs. Furthermore, we reserved 2% of our budget for legal and accounting fees.



Technical background

The intent of Smilo is to create a full-featured hybrid blockchain platform which hosts smart contracts and decentralised applications. The platform will be programmed in Java and created from square one, its Apache 2.0 license^[8] means it is cost free.

Smart contracts

One of the most alluring characteristics of the blockchain is the decentralised nature of the system so that it is accessible to all permitted parties with no need to pay intermediaries.

In 1994, Nick Szabo, a legal scholar, and cryptographer, realized that the decentralised ledger could be used for smart contracts, otherwise called self-executing contracts, blockchain contracts, or digital contracts. In this format, contracts could be converted to computer code, stored and replicated on the system and supervised by the network of computers that run the blockchain. This would also result in ledger feedback such as transferring money and receiving the product or service.^[2]

The best way to describe smart contracts is to compare the technology to a vending machine. Ordinarily, you would go to a lawyer or a notary, pay them, and wait while you get the document. With smart contracts, you simply drop a bitcoin into the vending machine (i.e. ledger), and your escrow, driver's license, or whatever drops into your account. More so, smart contracts not only define the rules and penalties around an agreement in the same way that a traditional contract does, but also automatically enforce those obligations.^[2]

In this way, smart contracts help exchange money, property, shares, or anything of value in a transparent and conflict-free way while avoiding the services of a middleman.

Hybrid smart contracts

One of the Smilo platform's best features is the functionality of hybrid smart contracts. A combination of both public and private smart contracts is very useful in many different scenarios.

Take a government, for example: Alis, from our above example, is a resident of the European Union, and she wants to keep her tax details private from the rest of the world, but she also wants her government to be transparent and give insight into their expenses. Therefore, her personal file can be made private while the governmental expenses can be made public by our smart contract platform. This option generates more transparency and trust in the government, and Alis' personal details remain confidential.

The private smart contracts are hosted on full-node clients and are only visible by the author. The public smart contracts are hosted on the same full-node clients, but these public smart contracts are visible through the blockchain explorer.



Transactions

A transaction is a transfer of cryptocurrency. Transactions are initiated by the users of the Smilo platform in the normal course of business. These transactions are collected into blocks, and these blocks are automatically generated by users who manage 'nodes'. These nodes are designed specifically to create and process blocks.

Hybrid transactions

Another great feature of the Smilo platform is hybrid transactions. Where privacy and anonymity are necessary, we provide completely anonymous transactions that are both untraceable and not linkable. Our technique for these anonymous transactions relies on zk-SNARKS protocol. This technique was first presented by several MIT researchers^[3] back in the 1980s.

The zk-SNARKs protocol works on what is known as zero-knowledge proofs systems. In simple terms, zero-knowledge proofs means that between two parties of a transaction, each party is able to verify to the other that they have a specific set of information, without revealing what that information is. This is significantly different than other systems of proof where at least one party needs to know all the information.

An important aspect of our solution is its autonomy. The sender is not required to cooperate with other users or a trusted third party to complete transactions, hence each participant produces a transaction independently.

Where transparency is important, we provide public transactions. These transactions can be viewed via the nodes or a blockchain explorer.



Applications and ecosystem

Smilo offers a platform for a wide range of possibilities in many areas:

- Industry applications
- Financial applications
- Semi financial applications
- Governance applications

The industrial market has already shown their interest in the many advantages of blockchain technology. Smilo offers this vast market a productive ecosystem in addition to guidance and support for building their applications on our platform.

Following industrial applications, we can further narrow our focus to financial applications. Financial applications are built to provide users with effective ways to control and manage smart contracts using their own cryptocurrency.

In contrast to financial applications, semi-financial applications are not built solely for managing money. Semi-financial applications mix the monetary side of financial applications with information from outside of the blockchain. A perfect example for semi-financial applications are contracts that rely on an outside weather feed.

Governance applications are intended for purposes such as online voting and decentralised autonomous organisations. With governance applications, it becomes possible to form leaderless companies.

Examples of dApps:

- Token systems
- Financial derivatives
- Decentralized file storage
- Decentralized autonomous organisations

Smilo's intent is to create an intelligent blockchain-based platform with smart contracts and decentralised applications. In order to build such a platform, it is essential to have an excellent ecosystem which developers can use to construct their applications. Smilo will provide the developers with development tools, detailed tutorials, training activities, and financial support.

Development of decentralised applications

The Smilo platform will develop several decentralised applications, including the following:

- A decentralised exchange
- Social funding solutions
- Product tracking solutions
- Public sector solutions
- Insurance sector solutions
- Medical sector solutions
- Escrow arrangement solutions
- Logistics sector solutions



In addition to the decentralised applications developed by Smilo, we also encourage our community to develop decentralised applications – there are no special requirements to start developing decentralised applications on the Smilo platform. Furthermore, the Smilo platform will provide developers with an SDK development kit for the development of decentralised applications. We are happy to offer support for Solidity, Java, Python, and JavaScript.

Consensus mechanism

After investigating and studying the crypto industry and blockchain technologies, Smilo came to the conclusion that the Byzantine Fault Tolerance (BFT) mechanism is best suited for our blockchain application. However, the BFT mechanism is not perfect, which is exactly why Smilo opted to improve the standard BFT mechanism by creating our own improved version of it: the Smilo Byzantine Fault Tolerance mechanism (SBFT).

The SBFT mechanism provides fast transaction verification times, demotivates most attack vectors and upholds a single blockchain version with no risk of forks or alternative blockchain records emerging — regardless of how much computing power, or coins an attacker possesses. ^[4]

Our improved SBFT is a consensus mechanism that enables large-scale participation in consensus through Smilo Proof of Resources and Time (SPoRT).

The objective of the Smilo platform is to allow everyone to digitise real-world assets, such as medical records and escrow agreements. Since Smilo platform is a blockchain-based platform with SBFT as a consensus mechanism, attacks on our blockchain-handling securities of this sort are close to impossible.

Network speed

Within the blockchain community, the notion of scalability is currently heavily debated. Many blockchain-based platforms struggle with a large amount of transactions; Bitcoin, for example, can only handle three to four transactions per second. As blockchain platforms continue to grow and become more mainstream, there is a necessity for the capacity to process more transactions per second. The Smilo platform tackles this hindrance. Theoretically, Smilo can handle around 8,000 transactions per second, but it is very important to note that this theoretical amount of transactions can only be reached with 16-second block times.





Security

When a computer initiates transactions, the system uses digital signatures for authentication purposes. However, while that protection layer may offer strong enough encryption to secure those exchanges today, they will be unable to withstand quantum computers.

What is quantum computing?

Quantum computers are incredibly powerful machines that take a new approach to processing information. Built on the principles of quantum mechanics, they exploit complex and fascinating laws of nature that always exist but usually remain hidden from view. By harnessing such natural behaviours, quantum computing can run new types of algorithms to process information more holistically. They may one day lead to revolutionary breakthroughs in materials and drug discovery, the optimisation of complex man-made systems, and artificial intelligence.^[6]

Why is quantum computing a threat to cryptography?

Quantum computing technology could potentially allow a computer to be powerful enough to crack modern cryptography, which means that a quantum computer would potentially be powerful enough to generate a private key from the corresponding public key. This possibility poses a major challenge to all cryptographically based mechanisms, but especially for the Rivest-Shamir-Adleman (RSA) algorithm- and Elliptic Curve Cryptography (ECC)-based cryptographic mechanism. Quantum computers could, in theory, solve the enormous sum of decomposition problems on which RSA relies, and they could presumably unravel the elliptic curve discrete logarithm on which ECC depends.

Anti-quantum cryptography

The cryptography of Smilo is a lattice-based cryptographic mechanism. At present, quantum computers are presumably unable to quickly solve the shortest vector problem and the closest vector problem, which are the foundation of the Smilo platform's cryptography.



Clients

The Smilo platform can be accessed through different clients with many use cases. The typical user most likely needs the light client, while developers probably prefer the full node client. Both the full node client and the light node client will be available for Windows, Mac OS, and Linux.

Full node client

The full Smilo platform client is the best solution for developers. All full client users can download the blockchain from each other through a peer-to-peer connection and enable the ability to install private and public smart contracts.

Web client

The web client is a lightweight Smilo platform client. This client does not require an installation process nor act as a network node, as it only connects to other peers which are online via an internet connection. The web client does NOT store private keys.

Light client

The light client is a lightweight Smilo platform client. This client does require a small installation process and will be available for Windows, Mac OS, and Linux. The light client does not act as a network node, as it only connects to other peers which are online via an internet connection.

Android and iOS client

The mobile clients allow the users to access the Smilo platform while on the go. The mobile client will be available for both Android and iOS.

Hardware wallet

We are planning to support hardware wallets for the web client and light client. For more information on the timeframe, we recommend consulting the roadmap^[7] of the Smilo platform.



Token management

Economic model

With the dawn of the new hybrid Smilo platform we will create two types of tokens that drive the network.

- Smilo (abbreviated symbol XSM)
- SmiloPay (abbreviated symbol XSP)

The first type is the Smilo token, which will be created within the Smilodon block — the genesis block. The second type is the SmiloPay token, which will be generated every block following the Smilodon block.

The two types of tokens fulfil different roles in the network.

Smilo

Smilo tokens are a representation of the stakes held by a user, and as such they represent a user's ability to influence the Smilo network evolution. In total, 200 million Smilo tokens will be generated. Every Smilo token counts as a vote, so the more Smilo tokens you own, the more influence you will get over the Smilo ecosystem's evolution. As a Smilo token holder, you have the following privileges:

- Receive SmiloPay
- Voting for network parameter changes

You will be able to vote for the following:

- Changing the price of Tx fees
- Changing the price of smart contract execution fees
- Changing the price of smart contract deployment fees

Each block of the Smilo blockchain generates twenty SmiloPay tokens, which will be distributed amongst Smilo holders. Since there are only 200 million SmiloPay tokens, the amount of SmiloPay per block will slowly decrease, more on that later.





SmiloPay

SmiloPay tokens are the medium to pay for service fees and upkeep of the Smilo network. Every user intending to register or alter their assets will use SmiloPay for the service fees. This service fee will then be distributed proportionally to all Smilo owners, meaning SmiloPay will be circulated through the system.

After Smilo platform's mainnet launches, there will be no immediate transaction fees for using the network. At this stage all token holders will receive the maximum amount of SmiloPay per block.

However, after the first million Smilo blocks have been generated, the SmiloPay reward will be decreased slightly. Just like the SmiloPay reward will decrease slightly after two million Smilo blocks, and so on. After ten years, all the 200 million SmiloPay tokens will be distributed and the block reward will consist of transaction fees only, as shown in the chart below.

It is in the main interest of the Smilo nodes to keep transaction fees low in order to lead to more Smilo users, which in turn leads to more registered assets and transactions, and thus resulting in more fees paid to the nodes. Moreover, this mechanism creates a healthy demand for SmiloPay, and a fair competition between the nodes in the network.

Furthermore, full nodes clients will earn additional SmiloPay for executing smart contracts, registering new tokens and other similar executions which creates the incentive to run a full node client.

From block	To block	Total reward per block	Reward per Smilo per block	Reward per Smilo per day	TX fee	Expected TX/block	Extra block rewards out of TX fee	TX/s
1	1.000.000	20 XSP	0,0000001 XSP	0,00054 XSP	0 XSP	100	0	6,25
1.000.001	2.000.000	18 XSP	0,00000009 XSP	0,000486 XSP	0,001 XSP	1000	1 XSP	62,5
2.000.001	4.000.000	16 XSP	0,00000008 XSP	0,000432 XSP	0,001 XSP	2000	2 XSP	125
4.000.001	8.000.000	14 XSP	0,00000007 XSP	0,000378 XSP	0,001 XSP	4000	4 XSP	250
8.000.001	10.000.000	12 XSP	0,00000006 XSP	0,000324 XSP	0,001 XSP	8000	8 XSP	500
10.000.001	12.000.000	10 XSP	0,00000005 XSP	0,00027 XSP	0,001 XSP	12000	12 XSP	750
12.000.001	14.000.000	8 XSP	0,00000004 XSP	0,000216 XSP	0,001 XSP	16000	16 XSP	1000
14.000.001	16.000.000	4 XSP	0,00000002 XSP	0,000108 XSP	0,001 XSP	20000	20 XSP	1250
16.000.001	18.000.000	2 XSP	0,00000001 XSP	0,000054 XSP	0,001 XSP	20000	20 XSP	1250
18.000.001	20.000.000	1 XSP	0,000000005 XSP	0,000027 XSP	0,001 XSP	20000	20 XSP	1250
20.000.001	∞	0 XSP	0,0 XSP	0 XSP	0,001 XSP	20000	20 XSP	1250

smilo pay.



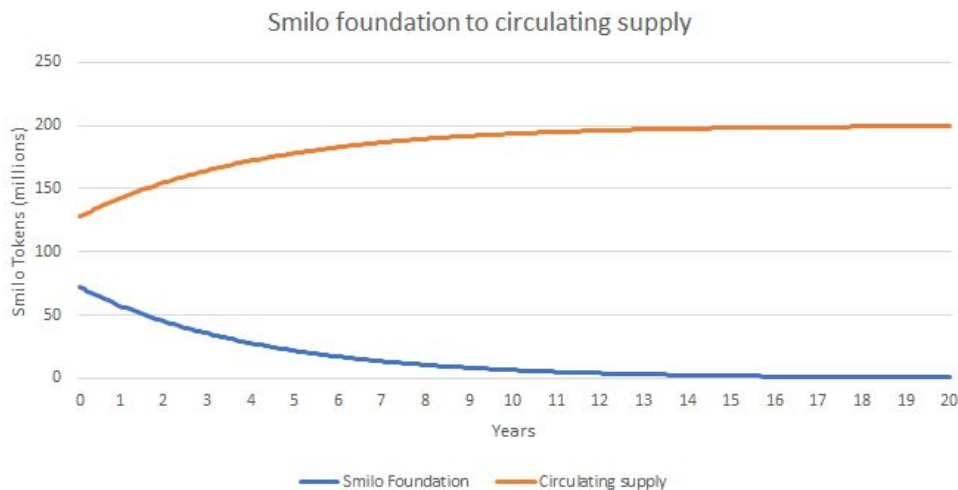
Token distribution

Smilo

The 200 million Smilo tokens will be divided into three portions. The first portion of 100 million Smilo tokens will be distributed in the private sale, pre-sale, public sale and as community bounties during the crowdfunding. A second portion of 28 million Smilo tokens will be divided amongst the team as compensation for their investment of time and money. Each half year 25% of these tokens will be unlocked and distributed, after 2 years all the Smilo tokens of the founders will be unlocked. The third portion consists of the 72 million remaining Smilo tokens, which are managed by Smilo management to support the platform's long-term development, operation, maintenance, and ecosystem.

After the launch of Mainnet, the third portion of Smilo tokens will be released through an inversely proportional relationship. Every month, 2% of the tokens which are left over from the previous month will be distributed on the market. Thus, every month there will be fewer tokens distributed than the previous month, which provides a virtually endless supply of income to keep the Smilo network operating at the highest standards, while slowly distributing tokens on the market. Due to this slow distribution, we prevent price drops caused by selling the Smilo tokens.

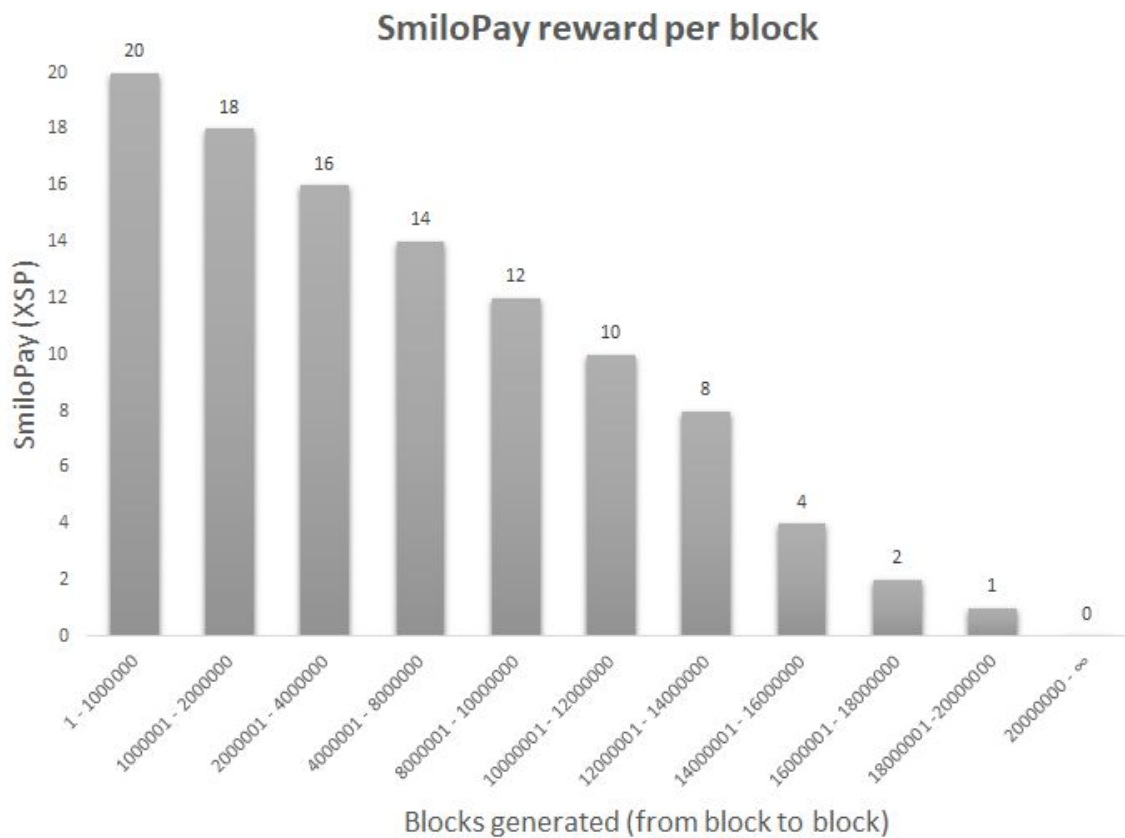
The 2% of the tokens we distribute on the market only have a 0.66% effect on the market, as the total circulating supply is larger in comparison to the foundation supply. This number also decreases proportionally each month as we distribute tokens on the market.





SmiloPay

SmiloPay tokens will be generated with every new block created until it equals the total circulating number of Smilo tokens, being 200 million. The initial supply of SmiloPay is 0, which will increase with each block. The amount of SmiloPay generated will slowly decrease while the blocks being generated increases, as shown in the graph below.



Generating a Smilo block takes sixteen seconds, and after the SmiloPay token cap of 200 million is reached, the blocks will stop generating SmiloPay tokens. On average, Smilo tokens will generate 9.5% SmiloPay tokens per year. In other words, the total of 200 million SmiloPay tokens will be distributed proportionally amongst the Smilo token holders portfolio's.

Network management

There are two ways in which the network will be managed. The first is through Smilo holders, who can vote for certain parameters and rights to control the network on the blockchain itself by using SmiloPay tokens. This can also be used to give the user options like registering or altering assets.

The second way the network will be managed is by Smilo platform B.V. itself. Smilo holders will be able to vote for strategic and technical decisions of the Smilo platform, which will then be implemented by the employees of the Smilo platform.



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Disclaimer

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- The purpose of this white paper is to present the Smilo platform and the Smilo tokens to potential Token holders in connection with the proposed Token sale.
- The information set forth herein may not be exhaustive and does not imply any elements of a contractual relationship. Its sole purpose is to provide relevant and reasonable information to potential Token holders in order for them to determine whether to undertake a thorough analysis of the company with the intent of purchasing Smilo tokens.
- Nothing in this white paper shall be deemed to constitute a prospectus of any sort or a solicitation for investment, nor does it in any way pertain to an offer or a solicitation of an offer to buy any securities in any jurisdiction.
- This document is not composed in accordance with, and is not subject to, laws or regulations of any jurisdiction, which are designed to protect investors.
- Smilo tokens are not a digital currency, security, commodity, or any other kind of financial instrument and have not been registered under the Securities Act, the securities laws of any state of the United States, or the securities laws of any other country, including the securities laws of any jurisdiction in which a potential Token holder is a resident.
- Smilo tokens are not intended for sale or use in any jurisdiction where the sale or use of digital tokens may be prohibited.
- Smilo tokens grant no other rights in any form, including but not limited to any ownership, distribution (including but not limited to profit), redemption, liquidation, proprietary (including all forms of intellectual property), or other financial or legal rights, other than those specifically described in the white paper.
- Neither by Smilo platform B.V. or their respective directors, executive officers, core development teams, employees, or team representatives acting on behalf of Smilo platform B.V. (as the case may be), nor any affiliates, representatives, or advisors are under any obligation to update, supplement, or correct this white paper or accompanying materials in any respect, or otherwise to provide any recipient or reviewer of these materials with access to any additional information. In addition, the project management and core development teams, Smilo platform B.V. and the development teams reserve the right, without prior notice to any reviewer or recipient of this white paper or any accompanying materials, to terminate, at any time, further participation until tokens are generated. We reserve the right to modify any applicable procedures without giving advance notice thereof and without providing any reason therefor.
- All statements contained in this white paper, made in press releases, or expressed in any place accessible by the public, in addition to any oral statements that may be made either by Smilo platform B.V. or their respective directors, executive officers, core development teams, employees or team's representatives acting on behalf of Smilo platform B.V. (as the case may be), nor any affiliates, representatives or advisors, that are not statements of historical fact, constitute "forward-looking statements". Some of these statements can be identified by forward-looking terms such as "aim", "target", "anticipate", "believe", "could", "estimate", "expect", "if", "intend", "may", "plan", "possible", "probable", "project", "should", "would", "will", or other similar terms. However, these terms are not the exclusive means of identifying forward-looking statements. All statements regarding the financial position, business strategies, plans, and prospects of Smilo platform B.V. and the future prospects of the industry in which Smilo platform B.V. exists are forward-looking statements. These forward-looking statements, including but not limited to statements of the revenue and profitability,



prospects, future plans, other expected industry trends of Smilo platform B.V. and other matters discussed in this white paper regarding Smilo platform B.V. are not historical facts but rather predictions.

- This white paper can be modified to provide more detailed information. This English-language white paper is the primary official source of information about the Smilo platform.
- The information contained herein may from time to time be translated into other languages or used in the course of written or verbal communications with existing and prospective customers, partners, etc. In the event of any conflict or inconsistency between such translations and communications and this official English language white paper, the provisions of this original English-language document shall prevail.
- The white paper may be updated or altered with the latest version of the document prevailing over previous versions. Smilo platform B.V. is not obliged to give notice of changes. The latest version of the white paper in English is available at the website <https://www.smilo.io>. While we make every effort to ensure that all data tendered in the white paper are accurate and up to date at the point in time that the relevant version has been disseminated, the proposed document is not an alternative to consulting an independent third-party opinion.
- Due to the very short history of crypto tokens and crypto-economic systems, there are several challenges that token holders face when trying to value these projects and underlying tokens. The short history of crypto tokens has generally shown an even shorter lifespan of many of the projects. This is especially true because projects present a significant principal-agent problem. This challenge differs from those of a start-up, which usually raise money in a series of rounds over several years. Secondly, there is some level of systemic risk associated with the crypto markets that cannot really be diversified away. The industry is too nascent for such an option. Therefore, no refunds will be given by Smilo platform B.V. in any form.
- Token holders take on both project-specific risks and market risks when they acquire tokens in a specific sector. Systemic risks are very hard to predict due to the short time span and are unique to the industry. Everything from hard forks to new crypto attacks are a source of systemic risk from which traditional investments do not suffer. Generally, as the development of blockchain tokens continues to enable new business models, new legal issues come into focus. For developers, legal and regulatory uncertainty can be one of the main barriers to building new blockchain protocols and applications. We emphasise in the strongest possible way that Smilo tokens do not represent ownership or a security interest over any entity, asset, or property. They do not represent a debt owed by any entity and shall not be considered a debenture under any applicable law. It is for these reasons that we believe that our tokens are not securities and may be purchased by anyone. If you determine that our tokens may constitute securities subject to regulation in any country, we strongly advise you against acquiring them and suggest you immediately notify us of the possible risks. Again, there will be no refunds given by Smilo platform B.V. in any form.