



The latest generation
hybrid blockchain platform

Whitepaper



Smilo, the latest generation hybrid blockchain platform.

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 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 eleven 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 a far more effective means of 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

Mission

Today, every business, institute, corporation, government organisation, and non-profit foundation face a lot of pressure from society to transition to a more sustainable position. Meanwhile, consumers and civilians demand increasingly fast, seamless, and sustainable products and services while expecting privacy, transparency, and security in their customer journey.

It is our mission to help governments, financial institutions, and corporations facilitate their transition. We can provide the best support to find the most fitting approach to handle the social and technical challenges they face so they can become future proof.

We aim to empower developers by enabling them to generate the decentralised applications of the future. We can provide them with the best documented support for designing their dreams.

Keywords that drive our mission's success: empower people, motivate transitions, connect the world.

Vision

To achieve our mission, we are building the Smilo platform: the best, and for now, only hybrid blockchain platform. The Smilo platform fits the nature of the public and private information of the people for whom we aim to build, and its capability of speedy transactions still retains the highest security standards.

Through Smilo Knowledge and Smilo Support, we will ensure developers have easy access to all the documentation and help they need so they can use their skills to build the applications and the web of the future.

We have ambitious keywords for our vision: international growth, facilitate apps, be future proof.



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 – Director of Technology 

Hi, I am Elkan Roelen! I have a professional background in entrepreneurship, technical software testing, and DevOps. From my professional background, 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 and performance experiences.



Andy Kalbvleesch – Director 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 – Director 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.



René van Reeuwijk – Full-Stack 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.



Mathyn Buiteveld – Full-Stack 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.





Robert Alblas - Full-Stack 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 - Full-Stack 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.



Daniël Leushuis – Full-Stack Developer 

Hi! My name is Daniel Leushuis, and I am 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 through my own companies Radiu and getAcryp. I will use my knowledge to contribute to the Smilo Platform, as they want to exploit the huge potential blockchain technology has to offer.



Dion Jakobs – Full-Stack 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.





Wai-Yip Pang – Commercial Consultant 

Hey, I am Wai-Yip Pang. I am an entrepreneur at heart, and I have over 15 years of experience in a variety of businesses. I am very passionate about new innovative business ideas, and I have started several businesses over the years. Considering my background, I have a lot of experience with marketing new and innovative ideas.



Michael Hassan – Asset Management Engineer 

Hey, I am Michael Hassan. I am an all-round asset management engineer who creates synergy between 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 – Quality Engineer 

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.



Niels muller – Business Developer 

Hello! I am Niels Muller. As a business developer for the Smilo platform, I strongly believe in blockchain technology. My aim is to inform companies, governments, and entrepreneurs about the possibilities of our platform for their sector. With my 10 years of experience in sales and my creative mind-set, I will always find a fitting blockchain solution for every sector.





Advisors

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.



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.



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.





Partners

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.



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

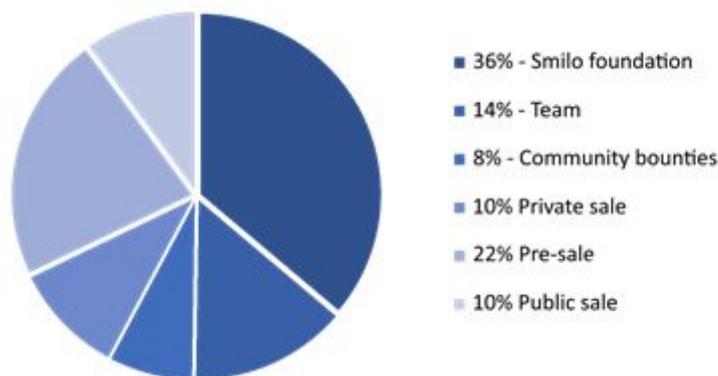
Token distribution

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

- Private Sale
- Pre-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 100 million Smilo tokens – 50% of the total amount of Smilo tokens. The remaining 100 million Smilo tokens will be released after the launch of the Smilo Mainnet through an inversely proportional relationship. This means that the remaining 100 million Smilo tokens will be distributed to the Smilo Foundation over years to come. 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.



For more information on our token distribution, we recommend reading about our token distribution on page 27.

Unsold tokens

In case not all tokens are sold, we have chosen to burn the remaining tokens of the circulating supply. We will also burn a proportion of the locked-up tokens.

For example: out of 100 million total tokens, 80 million tokens are sold. This means that 20% of the tokens are unsold. Considering this figure, 20% of the circulating supply and 20% of the locked-up tokens will be burned.

The Smilo platform decided to implement the burning of tokens so the remaining Smilo tokens will maintain their value in order to protect our investors and the platform itself.



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

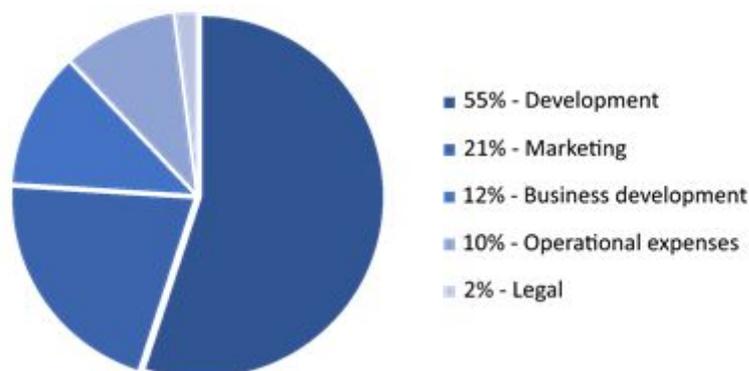
As stated before, the objective of our ICO is to raise \$18 million by selling 100 million Smilo tokens. We prefer to issue our Smilo tokens to as many different investors as possible, as we believe that this tactic will widen and accelerate the adoption of the Smilo platform. By raising \$18 million, 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 start-ups 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 proof of elapsed time (PoET).

At a high-level, PoET stochastically elects individual peers to execute requests at a given target rate. Individual peers sample an exponentially distributed random variable and wait for an amount of time dictated by the sample. The peer with the smallest sample wins the election. Cheating is prevented through the use of a trusted execution environment, identity verification and blacklisting based on asymmetric key cryptography, and an additional set of election policies.^[5]

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 of token is the Smilo, which will be created within the Smilodon block — the genesis block. The second type is SmiloPay, 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 part of the Smilo Network itself, as they are a representation of the shares held by a user, and thus they represent a user's power to influence the network itself. In total, 200 million Smilo tokens will be created within the Smilodon block. The more Smilo tokens you hold, the more influence you have to alter the Smilo Ecosystem. As a Smilo token holder, you have the following rights:

- Voting for (consensus) nodes
- Parameter changes
- Receive SmiloPay dividends

For example, with the voting right for nodes, which generate the blocks, you can influence the service fees for the blockchain. Besides voting rights, every Smilo token serves as a right to earn dividends in the form of SmiloPay tokens.





SmiloPay

SmiloPay tokens are the medium to pay for all of the service fees and upkeep of the Smilo network. Every user who wants to register or alter their assets will use SmiloPay for the service fees. This service fee will be distributed to all Smilo owners, so SmiloPay is circulated through the system. If Smilo tokens are moved to a new address, the subsequent SmiloPay tokens are credited to the new address. The SmiloPay tokens are transferable to other users in the same way as Smilo tokens.

When Smilo platform's Mainnet goes live, there will be no immediate transaction fees for using the network. In the future, however, when all SmiloPay has been generated, the nodes will have the power to raise the transaction fee. In this way, the nodes will be rewarded for their work, as the fee will be distributed among the nodes only, not to all Smilo holders.

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. If high transactions fees are being charged by a node, then the Smilo holders have the right to vote out that node. This creates a transparent economic system which is both positive for the Smilo nodes and Smilo holders and prevents the misuse of resources on the network.

In short, more users means more registered assets, resulting in more SmiloPay distributed amongst the Smilo holders. More Smilo users increases the number of transactions, resulting in more fees paid to the nodes.

smilo pay.



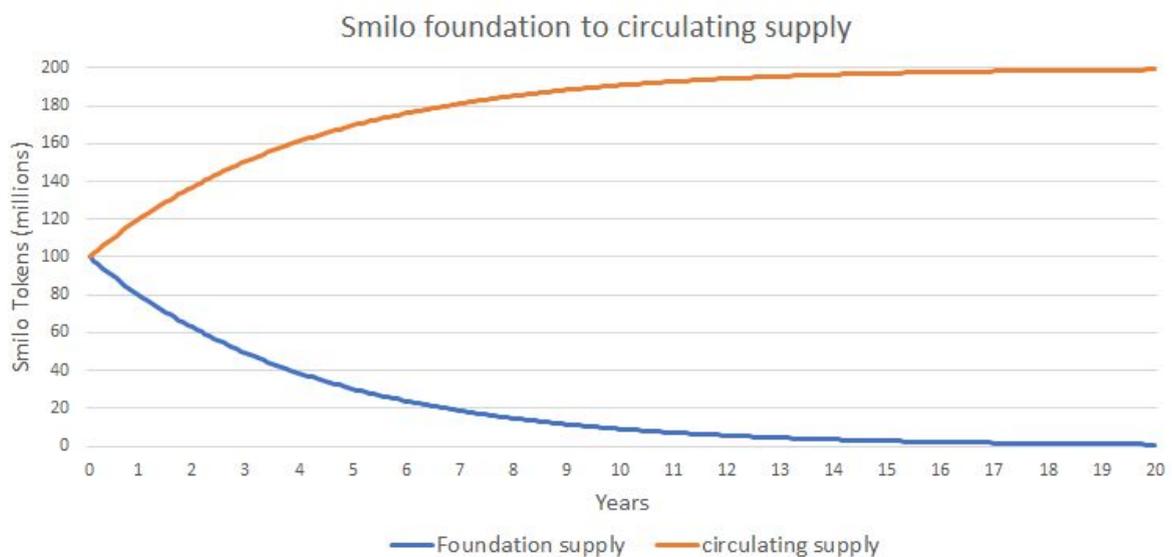
Token distribution

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 community bounties during the crowdfunding. A second portion of 28 million Smilo tokens will be divided between the founders as compensation for their investment of time and money, though these tokens are locked up till 1 July 2019. 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 till the total number of SmiloPay tokens in circulation matches 200 million. The initial supply is 0, but it will increase by 10 with every block generated. Each SmiloPay token will be distributed equally to all Smilo holders in proportion to the amount of Smilo tokens owned. Generating a block takes around 15 seconds, and after the SmiloPay token cap of 200 million is reached, the blocks stop generating SmiloPay tokens. On average, Smilo tokens will generate approximately 9.5% SmiloPay tokens each year.

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

Last updated: March 20, 2018

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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.