

White- paper

2018

IN THE PAST,
SECURITY FOR ASSETS
AND INFORMATION
WAS AN EXPENSIVE
PRIVILEGE FOR THE FEW
WHO KNEW HOW TO
GET IT.

IN THE FUTURE,
SECURITY WILL
BE AVAILABLE TO
EVERYONE.

BLOCKCHAIN IS THE
REVOLUTION THAT
MAKES THIS POSSIBLE.

EXECUTIVE SUMMARY

S4FE is a freely accessible, blockchain based technology dedicated to the protection of property, information and other assets worldwide.

It provides a global network for the registration and recovery of lost or stolen property.

Fast, efficient and anonymous, it serves the following important functions:

- It enables users to register assets they wish to protect
- It enables buyers to search an international database to check whether objects are reported lost or stolen before purchasing
- It rewards those who identify lost or stolen property
- It provides a secure platform for reward transactions
- It acts as a global deterrent to theft and the trade in stolen goods



IDENTIFY



PROTECT



REWARD



PREVENT

ABSTRACT

The Problem

Despite advances in information technology, there has never been previously a robust, global, readily accessible mechanism for reporting lost and stolen assets. Nor has there been a reliable platform for checking - in real time - the true ownership of many items offered for sale.

As a result, the re-sale of many stolen items has gone unchecked and unreported. The victims of theft have traditionally been able to do little else but report the details to local law enforcement bodies and the prospect of recovering lost or stolen items has often been very slim. Only criminals have benefited from the inadequacies of the existing infrastructure.

The problem is compounded when lost assets are suspected of crossing international borders. Different jurisdictions, laws, database formats and access rights have all hampered the development of an efficient, global framework for exchanging ownership data. Consequently, the process of determining ownership has been fraught with delays, complexity and frustration.

The Solution

S4FE is a user-friendly technology that enables the real-time identification and reporting of lost and stolen items. It's data is accessible worldwide.

- Owners of valued assets can register them, as a safeguard and a deterrent against theft.
- Those who wish to buy an item of questionable provenance can verify its status before purchasing.
- Those who identify a lost or stolen item can use the S4FE Reward Program to report it and claim a reward.

S4FE therefore acts as a deterrent against crime. It supports the work of law enforcement bodies, and it incentivises people to play an active role in the recovery of lost or stolen property. It operates efficiently across international borders and its blockchain technology enables users to remain safely anonymous at all times.

VISION

S4FE ACTS
AS A ROBUST
DETERRENT
AGAINST
THEFT AND
THE RECEIPT
OF STOLEN
GOODS. IT
IS FOUNDED
UPON
FOUR KEY
OBJECTIVES:

CREATE

a global network to register, check, identify and report assets.

ESTABLISH

a search engine for global search and ownership verification.

IMPROVE

the traceability of stolen goods and the prospects of recovery.

REWARD

participation in the network to increase its efficiency.

S4FE holds immense potential for enhancing the security of property and reducing crime on a global level. Users will be able to identify registered items as lost or stolen - in real time and from anywhere with an Internet connection. This will render protected assets considerably less attractive to criminals.

Alone, S4FE will not solve the global problem of theft but it will introduce valuable additional safeguards for individuals and organisations. It delivers a user-friendly tool that will benefit asset owners, police forces, insurance companies and many other groups worldwide.

As such, S4FE is set to become an important crime prevention service provider. Importantly, it will also be a 'first mover' in its field. This will further enhance the company's technological lead and reputation.

MARKET OVERVIEW

Many instances of lost or stolen property go unreported, and crime statistics vary from country to country. As a result, there are no definitive figures concerning the global impact of the problem. Nevertheless, there is no doubt that it represents a real and growing challenge for societies across the world.

This is true even in nations that are considered to be relatively safe, modern and well organised. For example, the following data are taken from Germany: from the Ministry of the Interior's official police report on crime statistics published in 2017.

- **Cases of theft (2016):** 2,273,774
- **Estimated reporting rate:** approximately 20% to 30%
- **Estimated total cases of theft (2016):** 7.5 million to 11 million

According to this report, theft represented by far the largest proportion of all crimes, with a share of 37.3%. Worse, only 1.2% of these cases (a total of 31,120) were satisfactorily resolved.

That means that of the 2.27m items originally reported stolen, over 2.24m were permanently lost. Considering the likely scale of unreported thefts, the real total will inevitably be much higher.

Only half of the problem:

It's important to note that these statistics cover only stolen items. They need to be augmented by more than 100 million items reported lost in Germany every year. Again, only around 30% of losses will be reported in any given year, so the actual numbers will be significantly larger. By any estimate, hundreds of millions of lost items will never be returned to their rightful owners.

The following statistics give some sense of the global volume of lost and stolen items.

- 400 MILLION** objects are reported as lost in the US each year.
- 7.1 MILLION** vehicles are stolen in 150 countries every year.
- 5.5 MILLION** reported burglaries worldwide per year.
- 3 MILLION** pieces of luggage are reported lost annually in the EU.
- 2.9 MILLION** laptops disappear every week at airports in the United States.
- 12.000** laptops disappear every week at airports in the United States
- 3.000** laptops disappear every week at the 8 largest airports in the EU.

A realistic annual estimate of the total number of lost and stolen objects worldwide might exceed 1 billion.

Sources:

Federal Criminal Police Office, Germany | Ministry of the Interior, Germany | Central Lost & Found Office, Germany | Federal Statistical Office, Germany | United Nations Office on Drugs and Crime | Interpol

S4FE: THE CONCEPT

Crime is a public concern that clearly has the potential to affect everyone. The scale and continued escalation of the problem demand innovative new approaches and technologies. As a partial solution, S4FE will address the shortcomings of existing systems for the reporting and verification of lost and stolen assets.

Importantly, S4FE will also create a global platform for incentivising the identification and return of such assets. It provides a fast and user-friendly means by which anyone can check the ownership of an item offered for sale. If it is found to be someone else's property, the finder can report it and earn a reward. Crucially, this can all be done anonymously, using the blockchain to protect the finder's identity and to keep any payments private and secure.

- Readily accessible - 24/7, anywhere in the world
- Available for anyone to use - not only specialist agencies
- Fast, efficient and easy to use
- Secure and anonymous

Changing the balance

Ambiguity about ownership provides a space in which criminals can deal in stolen goods - often at relatively little risk to themselves. However, a global database that enables assets to be logged, described and verified in real time would change the balance between risk and reward.

If an object cannot be re-sold or marketed because it is identifiable as lost or stolen, then it logically loses value. Moreover, greater transparency of ownership means that criminals dealing in these protected assets will face higher risks of detection. Taken together, these two factors greatly erode the motivations for theft-related crimes.

A two-pronged approach

S4FE addresses the problems of loss, crime and the trade in stolen goods from two sides:

- Protecting property by making it readily identifiable and localisable.
- Deterring crime by increasing its risks and by reducing the street value of stolen goods.

In short, S4FE has developed an effective solution to an urgent, global problem.



S4FE: BASIC FUNCTIONS

The basic functions of the S4FE network are available to all users free of charge. They include the following:

- Register as a network user
- Manage user data
- Register and manage inventory data
- Search, check & identify objects in the network (for example, when finding/buying)
- Report discovered (lost / stolen) objects

Once this process has been completed, users can register, organise or report objects. They can also manage their tokens. (S4FE Tokens are the basis of the reward programme and provide the foundation for other S4FE services.)

Asset Registration

Users can register objects through a choice of interfaces. The registration of an object requires unique identifiers such as serial numbers, which are entered with the corresponding product categories. If no such unique identifiers are present, users may log the item's characteristics via video or photographs. Object properties should also be recorded in text form to act as an additional safeguard.

Assertion of Ownership

During registration of any inventory, users must explicitly confirm that the asset is their legitimate property or that they are legally entitled to possess it. This clause prevents unauthorised persons from registering other people's property as their own. For example, this might apply if a user wished to register a found object in his or her name. This would constitute the criminal offence of intentional fraud. (In any event, it can be assumed that a user who unlawfully owns an object will not voluntarily document the fact in a searchable global network.)

Proof of Ownership

In cases of incomplete or doubtful information, and in cases of double registrations or identical identifiers, S4FE will ask users to provide proof of ownership. This might take the form of purchase receipts, purchase contracts etc. to determine legal ownership beyond any doubt.

S4FE: BASIC FUNCTIONS

Once an object has been successfully registered, users (owners) can report an item as lost or stolen at any time via the website or via S4FE's dedicated app. After reporting a loss or theft, the object is marked as lost or stolen in real-time on the S4FE network, making it instantly recognisable to all users worldwide.

Users search, review and identify objects via a simple search function. This feature displays relevant results (i.e. exact matches and similar items) based on the search terms entered by the user.

Data Protection

A registered user's personal details are never made visible to S4FE or any other user of the network without the individual user's consent. Every aspect of the process - from registration on the network to search, verification and the identification of objects - is anonymised or encrypted, in full compliance with international data protection regulations.

Reporting Found Objects

Users report found objects through the 'Reporting' feature, which is available as an option during the search process. When a user identifies an object while searching - i.e. if the network encounters a matching object that is lost or stolen - the system automatically displays a 'Report' option link alongside the item details. The user can then notify S4FE about the discovery.

The report message is sent with a double confirmation, and a notification stating that a number of specific identifying features must be declared and verified before submission. This prevents the system from generating multiple error messages.

Showcasing the Benefits

These free basic functions enable S4FE to demonstrate its core service and to promote its benefits to all potential users of the network. As a result, the network will be able to grow quickly, which will further increase the scope and value of the platform.



S4FE: ADVANCED FUNCTIONS

In addition to its basic features, S4FE has developed a reward programme based on the S4FE Token. This also provides the foundation for other S4FE services.

The Reward Programme

The reward programme provides an incentive for users to report discovered objects that are marked as lost or stolen. It also underpins the commercial sustainability of the network. A 25% commission on all reward transactions ensures that S4FE can continue to provide its basic functions free of charge, while generating the resources it needs to maintain its network, to facilitate the return of reported objects, and to sustain effective cooperation with authorities.

The Two-Stage Reward Process

Rewards will be earned in two stages.

Stage 1

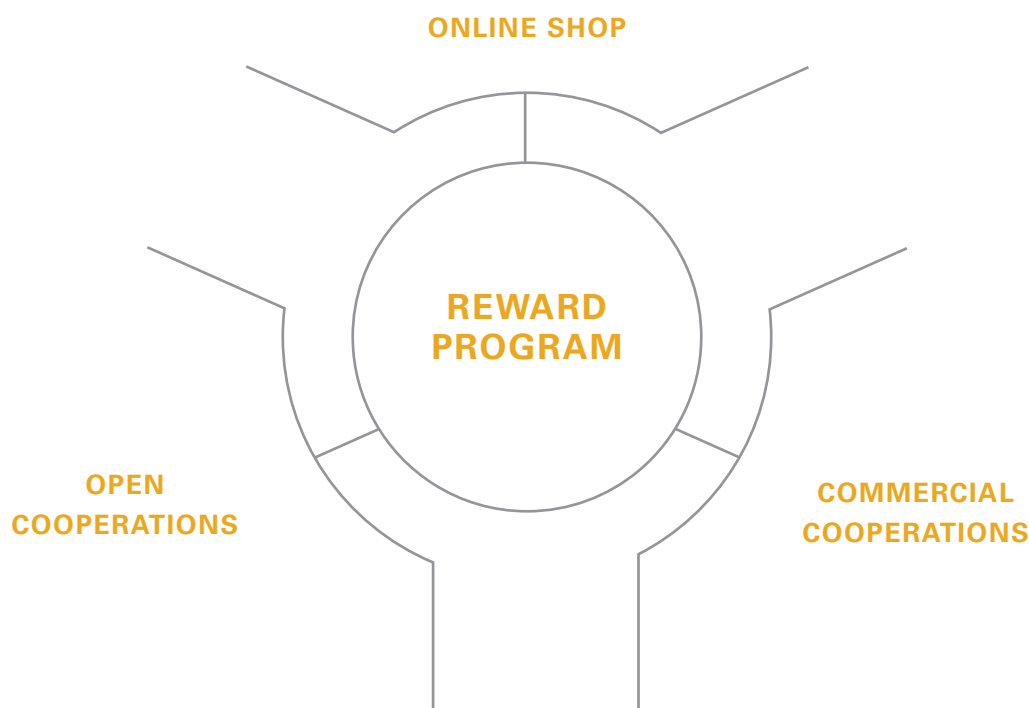
A reward (finder's fee) is granted when a user (the finder) notifies S4FE that he/she has identified an object that has been reported to the network as lost or stolen.

To claim the reward, the item's location must be noted and its identity verified. The user must therefore submit a report describing where the object is located, its condition and who is claiming to own it or -if applicable - who has offered to sell it.

In addition, the unique identification features have to be proven by entering serial numbers or uploading photos and/or videos. If possible, the location should be determined and transmitted via the Geo-data of the user's mobile phone.

If the user-submitted details confirm that the discovered object has been reported as lost or stolen, the user earns the first stage of the reward.

At this stage, S4FE will begin efforts to return the property to its rightful owner. Among other things, this can mean that the relevant information is made available to local law enforcement bodies, insurers etc. The exact procedures will depend on the nature of the asset, its location and other circumstances.



S4FE: ADVANCED FUNCTIONS

The reporting of discovered objects to official authorities leads to the second stage of the reward program.

Stage 2

A stage 2 reward (success component) is awarded when the information provided by the user results in an asset's return to its rightful owner. This might occur, for example, when the item is taken into the custody of a local police authority before being returned to the owner. This second tier of the reward is granted only after the owner recovers the asset and marks it on the system as 'received'.

The reward value is determined and advertised by the asset owner when he or she reports it as lost or stolen. To do this, the owner decides upon a total reward value, which is then divided as follows:

- 20% reward stage 1
- 80% reward stage 2

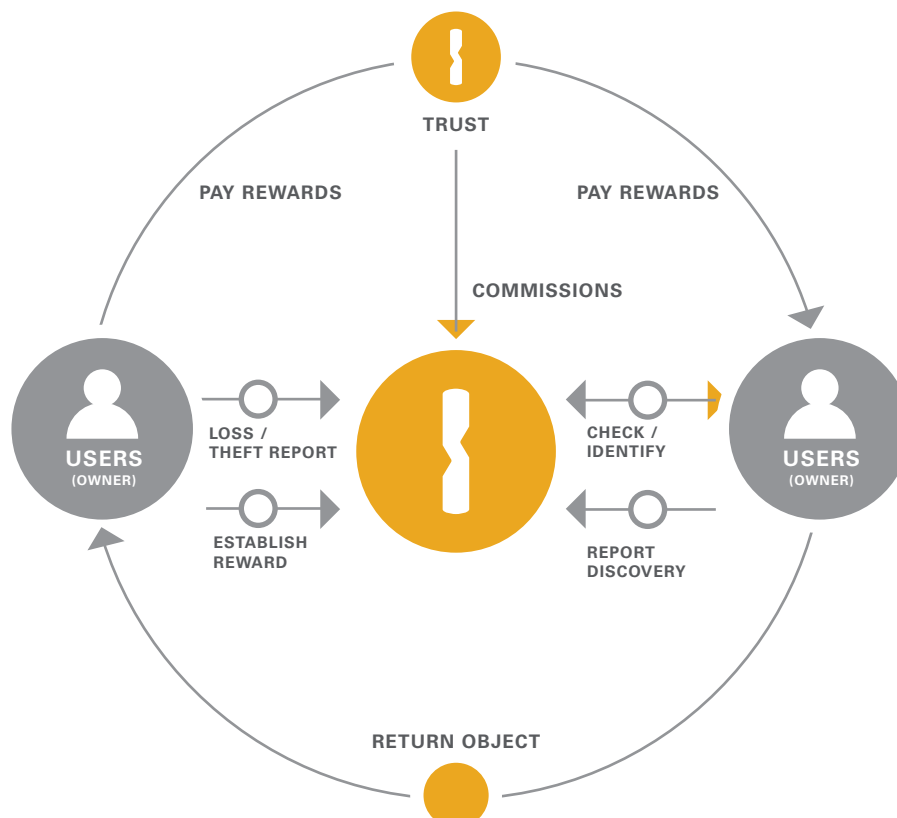
In addition, a period must be specified, during which the reward is offered. The fixed reward is then transferred to a trust account after deduction of S4FE's commission. It will remain frozen until:

- The owner's chosen deadline has expired.
- The reported object has been retrieved / returned and the reward paid out.
- The notification status of the object is removed. (For instance, this could apply if the object is wrongly reported lost and subsequently rediscovered by the owner.)

The transfer to the escrow account ensures that the offered reward can reliably be paid out to the finder of the asset. Users will receive their reward from the escrow account once the reward stage has been confirmed.

S4FE Reward Tokens

Rewards are paid in the form of S4FE Tokens, which are digital assets based on the blockchain. Consequently, users can keep their rewards in a digital wallet, reuse them for transactions on the network, or sell them on an external trading platform. Users also have the option of using the tokens when shopping in the S4FE Online Shop, which is described hereafter.



S4FE: ADVANCED FUNCTIONS

Use by Public Bodies

An important aspect of S4FE's work will involve active collaboration with public and official bodies, insurers, and institutions that are in the broadest sense linked to combating or resolving crime.

In recent months, S4FE's offering has been presented to a variety of public officials and government agencies, and has met with considerable interest.

It is widely recognised that cooperation between different national authorities could be greatly improved, and professionals within the sector are increasingly recognising the potential that S4FE offers for addressing this. It will:

- Operate across borders
- Provide a single, secure and accountable platform for reporting
- Encourage greater transparency and inter-agency cooperation

Importantly, S4FE also harnesses the power and reach of ordinary citizens to maintain constant vigilance at the 'grass roots' level.

Additionally, S4FE removes the need to consult multiple private databases in order to verify legal ownership. Likewise, asset owners no longer have to register property with a number of separate databases; they can log items on a single, globally accessible platform.

S4FE is therefore an effective tool that will support much more efficient investigation, prosecution and the recovery of lost goods. It should also significantly reduce administrative costs and expenses.

S4FE: ADVANCED FUNCTIONS

Supporting Law Enforcement

S4FE's goal is to make the S4FE app available to as many law enforcement officers as possible. It will be useful to staff in numerous roles. Examples include:

- Patrol officers
- Investigators
- Customs officers at airports and railway stations

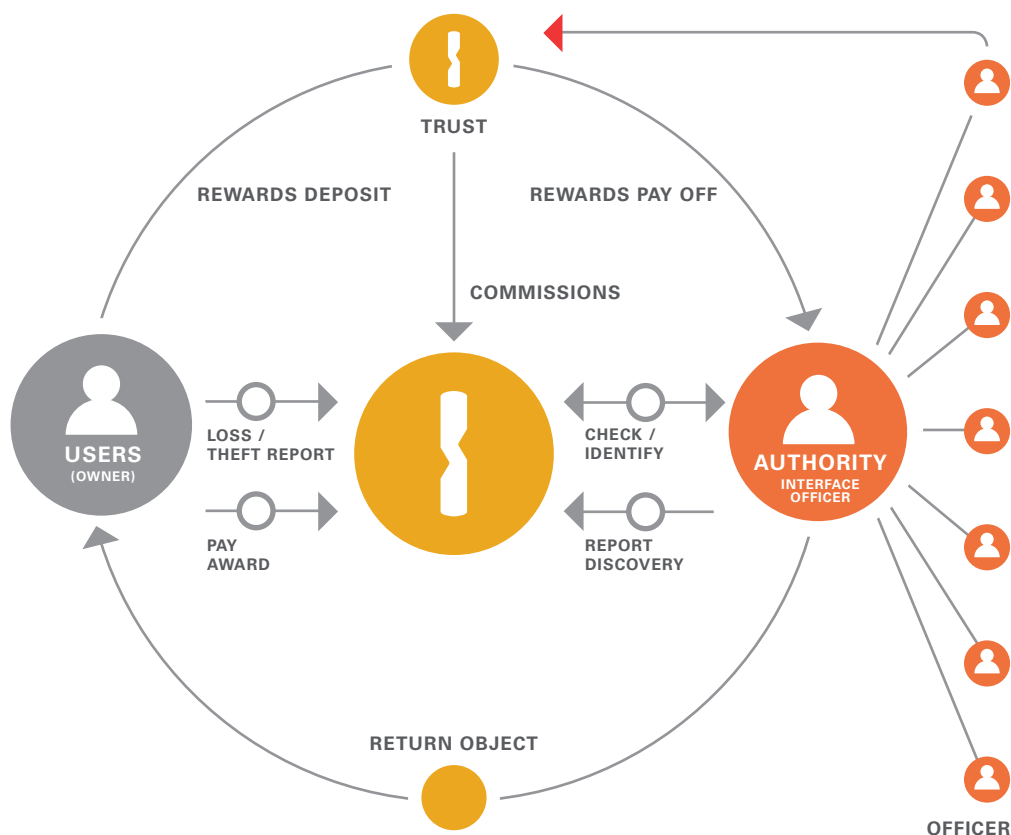
Delivering the app to such professionals should be easy since almost every civil servant now has a service mobile phone.

When suitably equipped, officers could check the ownership of valuable items in real time, and from any location. For example:

- Personal search
- Traffic stop
- Scene of crime
- Airport security check

This facility will increase the prospects of identifying stolen goods, thereby increasing the risks for criminals who seek to move or sell them. More generally, it will help to create a climate in which the risks of dealing in stolen goods begin to outweigh the potential rewards.

Public authorities will use S4FE as a mobile-accessible search facility, and they will also be eligible to take advantage of the reward programme. In such cases, S4FE becomes a fundraising vehicle that can help such bodies to support worthwhile initiatives such as community outreach projects.



S4FE: ADVANCED FUNCTIONS

Commercial Partners

Commercial partners such as insurers and retailers can also benefit from the S4FE network and its functions. They will use the network in much the same way as private users, except that they might register larger numbers of items - such as stock or equipment - or they might register multiple users under a single corporate account.

In addition, partners may wish to use the S4FE network on a white label basis and grant their own customers access to its services.

Partner Companies:

Commercial partners could include:

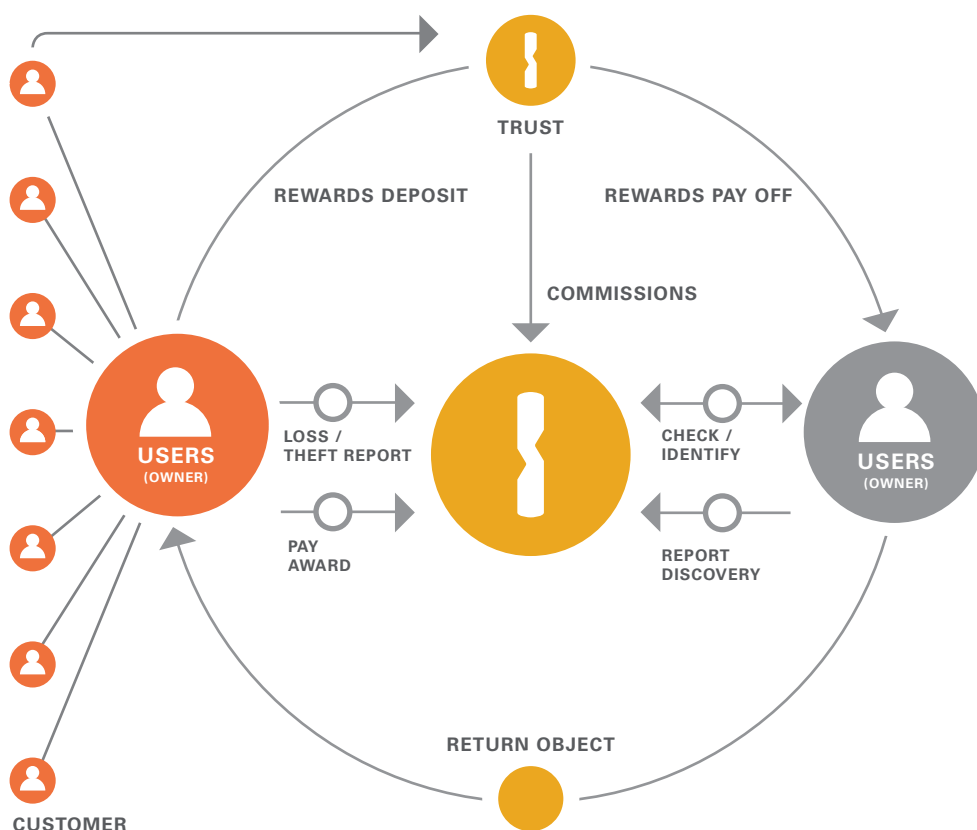
- Insurance companies
- Manufacturers
- Wholesalers
- Retailers
- Tourism businesses
- Any other business dealing in goods that may be subject to theft or loss.

Adding Value:

Partners can use S4FE to add value to their own services. For example, insurance companies could grant rebates on policies when customers register their property on the network. This would enhance price competitiveness and encourage customer loyalty.

Additionally, of course, partners can use the service to reduce costs associated with theft or loss. This could be particularly beneficial to insurance companies; faster and more efficient recovery will reduce the costs of customer claims.

In short, partners from numerous sectors can use S4FE to expand their portfolios and improve their profits.



S4FE: ADVANCED FUNCTIONS

Online Shop

The S4FE Online Shop is divided into areas for private and commercial users.

Private users can use the shop to purchase various third-party products and services as well as S4FE products. The shop mainly offers security-related products and technology. Purchases in the shop are made exclusively via Ethereum or Fiat currency.

S4FE Tracker

S4FE Tracker is a satellite-based positioning technology. It uses a hidden transmitter to allow almost any type of object to be located accurately in real time. This technology already exists, and S4FE is keen to support the development of ever smaller and more efficient tracker technologies.

S4FE C0D3

S4FE C0D3 is a system that allows users to tag almost any object with a unique code. This code is generated online or through the S4FE app. The user then receives a print-out that allows the code to be applied to the object - e.g. by laser engraving, which is available as an added service. As part of the market entry strategy, S4FE will engage with laser engraving suppliers to make the service as accessible and affordable as possible.

Commercial Users:

For commercial users, S4FE offers data services for risk assessment and forecasting. These services are billed in various contracts and subscription models and payable through Ethereum or Fiat currencies.

Data Protection:

As a service to commercial users S4FE can collect data in strict compliance with the General Data Protection Regulation (GDPR). Any data gathered for the purposes of risk assessment and forecasting will be collected anonymously. At no time will S4FE store, process or distribute personally identifiable data.

WHO BENEFITS?

THE LOSS AND THEFT OF ASSETS CAN CLEARLY AFFECT ANYONE SO, LOGICALLY, ANYONE CAN BENEFIT FROM USING S4FE. THE FOLLOWING EXAMPLES ILLUSTRATE SOME TYPICAL BENEFICIARIES.

Asset owners

Owners can use the network to protect individual assets: to report any lost or stolen items, and to offer rewards to encourage their recovery.

Consumers

Ordinary consumers can use S4FE to check the legal ownership of items they might intend to buy, or which they suspect to be stolen. They therefore enjoy significantly more security in their purchases and can ensure that they do not purchase lost or stolen items. Importantly, individual users can also benefit from advertised rewards if they play a part in identifying and recovering lost or stolen goods.

Businesses

Companies can use S4FE as a deterrent to theft and to assist in the recovery of lost assets. Insurance companies can also use it as a tool to reduce their risks and to aid recovery - thereby minimising their costs.

Authorities

Public bodies such as the police, customs officers or any other investigative agency can use the network to improve their detection rates and operational efficiency. S4FE offers authorities a simple, cost-effective tool that enables staff to check items at any time and from virtually any location.

Society at Large

S4FE will increase the risks that criminals face when dealing in stolen goods. The value of protected items will be reduced, so their rewards will be poorer, and the chances of detection and prosecution will be substantially increased. This should act as a robust deterrent to theft, creating generally safer societies.

As the network grows, so it will deliver increasing benefits and greater efficiencies for all participants.

BENEFITS TO COMPANIES

THE
FOLLOWING
EXAMPLES
ILLUSTRATE
SOME OF
THE WAYS
IN WHICH
COMPANIES
IN DIFF-
ERENT
SECTORS
CAN BENEFIT
FROM
ENGAGING
WITH S4FE.

Tourism

Operators in the tourism industry can offer S4FE services as a means of differentiating themselves from the competition, and maintaining customer loyalty. For example, they can use the S4FE Tracker to verify the location of customers' luggage items at any time. Likewise, they can offer to register customers' property during a trip, a cruise or a stay in a hotel.

The Insurance Industry

As noted previously, S4FE can be used to reduce policy premiums, and therefore improve price competitiveness. It can also help to reduce the costs of claims - both by improving recovery rates and by deterring theft in the first place.

Distribution

Manufacturers, wholesalers, retailers and distributors can use S4FE to monitor and protect their entire logistics operations. Notifying would-be thieves that the contents of vehicles or warehouses are 'S4FE-protected' will also act as a powerful deterrent to theft. Using the S4FE Tracker or S4FE C0D3 will further increase this effect. As a result, businesses can reduce their losses, administrative expenses and associated costs.

In general, using S4FE affords two key benefits:

- It protects assets - e.g. via registration or the application of the S4FE Tracker and S4FE C0D3.
- It has a strong crime-deterrent effect.

The deterrent effect is important. S4FE does not rely on removable tags or physical means of security, so criminals can never visibly detect whether an object is protected. The mere presence of the S4FE logo in a shop window, or a notice on a shelf or shop counter, will often be enough to make criminals think twice. This effect will become stronger as the network grows in scale and reputation.

S4FE: EFFECTIVE SOLUTIONS

S4FE tackles real-world problems and offers straightforward solutions.

User Problems	The S4FE Solution
Losses happen frequently	Losses can more easily be recovered
Theft is commonplace	S4FE deters crime and aids detection
Assets are hard to protect	S4FE offers easy and affordable protection
Locating lost items is often impossible	S4FE incentivises public vigilance and recovery, and offers effective tracking solutions
Buyers can unwittingly buy stolen goods	S4FE provides a simple, user-friendly platform for verifying rightful ownership in real time
Consumers have no easy way of pursuing their suspicions about stolen goods	S4FE provides a fast and easy way of testing suspicions and reporting stolen items
Notifying authorities of thefts or losses can be slow and bureaucratic	S4FE enables near instant notification on a globally accessible platform

Partner Problems	The S4FE Solution
It is hard to offer proactive crime prevention support	S4FE makes effective protection available to all
It is often hard to identify the owners of lost or stolen goods	S4FE provides a global, searchable database to verify legal ownership
Dealing with losses entails expensive, time-consuming administrative work	S4FE provides a fast, cost-saving solution
Theft is a source of significant costs to insurers and pushes up customer premiums	S4FE deters theft and facilitates recovery, helping to reduce costs and improve insurers' price competitiveness
Data is hard to share / access across national borders	S4FE operates globally, free from delays due to administration, jurisdiction etc.

BUSINESS MODEL - KEY CONSIDERATIONS

Key Challenges

- Expand the service
- Introduce further innovations
- Add new products
- Improve system efficiency
- Appoint relevant experts
- Make new stakeholder alliances

Important Stakeholders

- Developers, engineers, inventors and networks
- Communities and associations
- Public authorities
- Businesses

Important Resources

- New technology
- Artificial intelligence
- Partner expertise

User Benefits

- Core services available free of charge
- Property can be protected, identified and located
- Reduces the risks of falling victim to crime
- Rewards for finding / returning property
- Deters the trade in lost / stolen property
- Safeguards against buying stolen goods unwittingly
- Reduces costs to businesses
- A valuable new resource for law enforcement bodies
- Aids in the detection, prosecution and prevention of crime

Stakeholder Relationships

- Customers - via newsletters, news releases, updates, videos and tutorials
- Personnel
- Research and Development teams
- Consultants and legal counsel
- Products and suppliers
- Interaction through social media, forums, marketing, consulting and information

User Engagement

- Users interact with S4FE via email, website, app and call centre

Market Segmentation

- Individual asset owners - of objects, documents or information
- Insurance companies
- Businesses with assets to protect (i.e. their own or clients' property)
- Law enforcement, public authorities, emergency services and other institutions

S4FE - Business Costs

- Personnel
- Research and development
- Consultants and legal counsel
- Products and suppliers

S4FE - Sources of Income

- Commissions on rewards
- Stakeholder agreements
- Online shop

THE BLOCKCHAIN REVOLUTION

A digital revolution is currently taking place that has the potential to affect almost every sector of society.

Blockchain technology - perhaps best known in the context of supporting cryptocurrencies - is now being adopted for a host of new purposes by governments, banks and corporate bodies. This is because it offers some important benefits:

- Global accessibility
- Exceptional security
- A robust, tamper-proof architecture

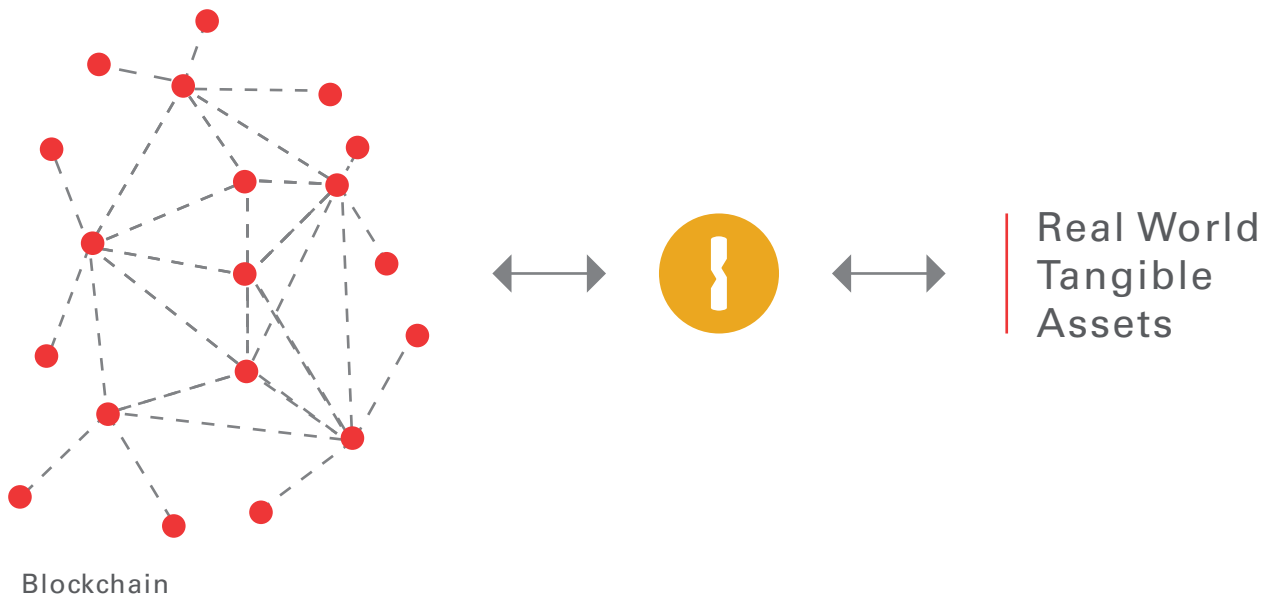
One of the main causes of poverty and economic underdevelopment is the fact that nearly half of the world's population does not have the opportunity to participate in the market economy. Now, however, anyone with a PC or smartphone can access the internet, and blockchain technologies mean they can participate securely in a wide range of transactions.

The blockchain is democratising access to the world economy - because values can now be created, managed and transferred in a simple, secure and unrestricted way.

Blockchain Transactions:

In the future, contracts and the transfer of assets or payments will increasingly be handled via blockchains and cryptocurrencies. More immediately, the same tamper-proof technology means that property, information, documents and other assets can all be made secure - and that security is available to everyone.

S4FE is a leading edge interface between the digital blockchain and the real world of tangible assets. It is now taking advantage of this technology to create the world's first truly global and fully accessible asset protection platform.



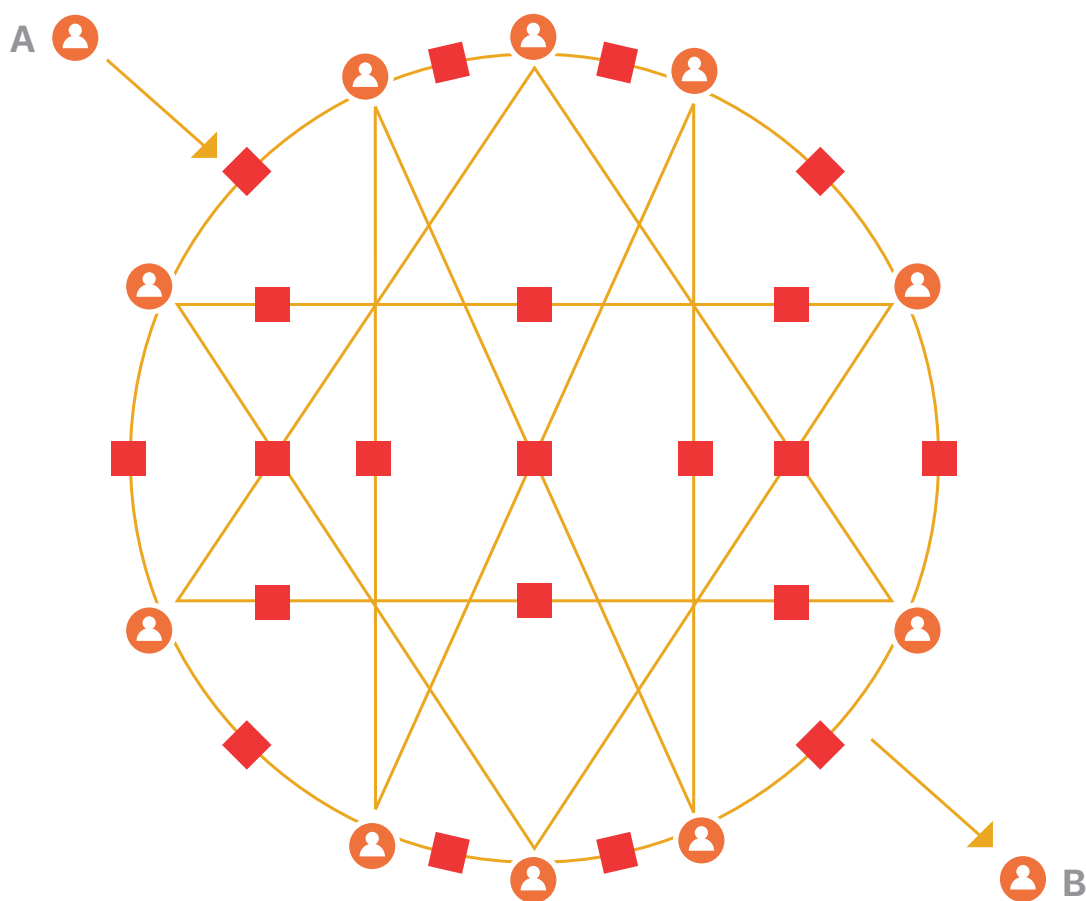
THE BLOCKCHAIN EXPLAINED

Blockchain technology combines a number of different elements, including cryptography, game theory and decentralised networks.

One of its main advantages is that it supports secure, non-modifiable transactions. Unlike conventional data storage systems and networks, it has a decentralised structure, which means it cannot be controlled or altered by a single owner or entity. Changing the structure or its data requires the permission and co-operation of many different parties, so it makes unauthorised alteration (e.g. fraudulent or malicious activity) essentially impossible. This renders the system exceptionally secure, transparent and reliable.

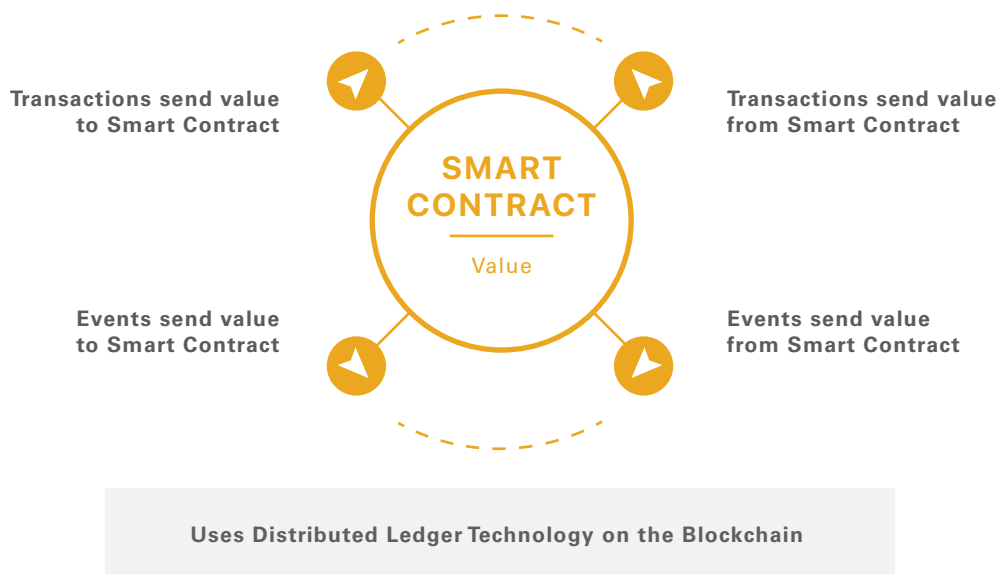
As an additional safeguard, identical data is made visible to all network participants in the ledger - effectively the digital 'cash book'. Transaction records are therefore permanent and unchangeable. This is referred to as „DLT“ or Distributed Ledger Technology. The integrity of the data is ensured via special consensus algorithms, which are written to the ledger, and which help to prevent problems such as 'double spending' of the same asset.

Blockchains are therefore ideal for displaying transactions of all kinds. They can simplify contractual relationships and they greatly reduce the risks of fraud.



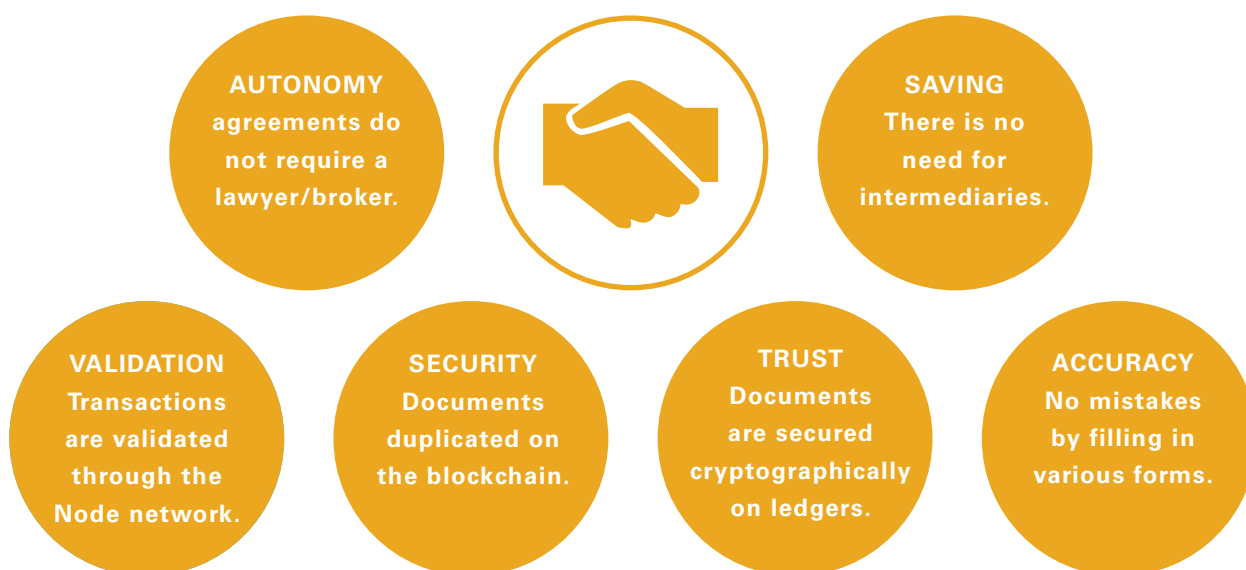
SMART CONTRACTS

With the development of the Ethereum Protocol and Smart Contracts, more complex exchanges were made possible for the first time. The idea was to link all network participants into a large 'organism' in which both transactions and programme code could be executed. All of this happens on the Ethereum Virtual Machine (EVM), a data processing facility that's supported by each network participant.



In this way, sophisticated processing functions can be performed in a decentralised way, free from the risk of malicious interference or manipulation. These principles have enabled new consensus algorithms to be created that support the creation of individual 'coins' and tokens, as well as more complex functions such as decentralised apps.

ADVANTAGES OF SMART CONTRACT ADOPTION



S4FE.IO - THE BUSINESS

S4FE IS A COMPUTER SOFTWARE AND SECURITY PRODUCTS COMPANY. OUR GOAL IS TO CREATE SIMPLE WAYS OF REGISTERING, SEARCHING AND IDENTIFYING OBJECTS AND, IN THE EVENT OF THEIR THEFT OR LOSS, TO CREATE EFFECTIVE MECHANISMS FOR RETURNING THEM TO THEIR RIGHTFUL OWNERS.

Through investment in hardware, software and class-leading expertise, S4FE has developed a platform that offers:

- Secure registration, search and review functions
- A versatile reward programme to encourage users to help recover lost property
- Tracking and security coding services for valued items
- An open API for connecting third parties, service providers and public authorities

The S4FE Network

The S4FE network utilises a Smart Contract-based system. This introduces further benefits - most notably, much greater speed of processing data. Traditional systems have tended to operate on small, localised networks, supported by paperwork and subject to lengthy administrative delays. By contrast, the same search and verification functions can be handled by S4FE Smart Contracts in near real time, and with no geographical restrictions.

S4FE uses a public decentralised ledger, which delivers complete transparency on transactions and data integrity, but which keeps its users securely anonymous. The latter is of fundamental importance, as users rightly demand data privacy and the protection of their own personal information.

S4FE Rewards

S4FE and the S4FE Token form the basis for a reward and accreditation system, which encourages users to register and to participate by reporting lost, stolen or found objects.

The S4FE Token creates a unique collaborative economy in which users are incentivised to interact, and thereby drive constant improvement and expansion of the network.

S4FE AT A GLANCE

THE TOKEN, WHICH IS BASED ON THE ESTABLISHED ERC-20 STANDARD, WORKS IN CONJUNCTION WITH VARIOUS SMART CONTRACTS TO REGULATE THE NETWORK AND THE INCENTIVES TO USE THE NETWORK. THE APPLICATIONS - THE SOFTWARE RUNNING ON DIFFERENT DEVICES - ARE THE INTERFACE BETWEEN THE (LARGELY SELF-REGULATING) NETWORK AND USERS.

Mobile Application

This application is the central access channel for users. It offers the following services:

- User account creation
- S4FE Token management
- Registration of objects
- Search, verification, and identification of object
- Reporting lost or stolen items
- Reporting discovered items
- Digital signing of transactions

Web and Desktop Applications

These provide alternative access to the network. Variants of this application will serve as B2B interfaces and will be suitable for ERP systems and for handling large numbers of transactions - e.g. bulk registrations by manufacturers, wholesalers or distributors.

Costs and Subscriptions

Registration, verification, general access, and the reporting of discovered objects are free of charge for all users.

Rewards and Fees

Reward values are determined by the owner of the lost assets, and rewards are paid in two phases - the first (20%) upon identification, and the second (80%) upon successful recovery.

The S4FE business model is partly based on commissions paid on rewards.

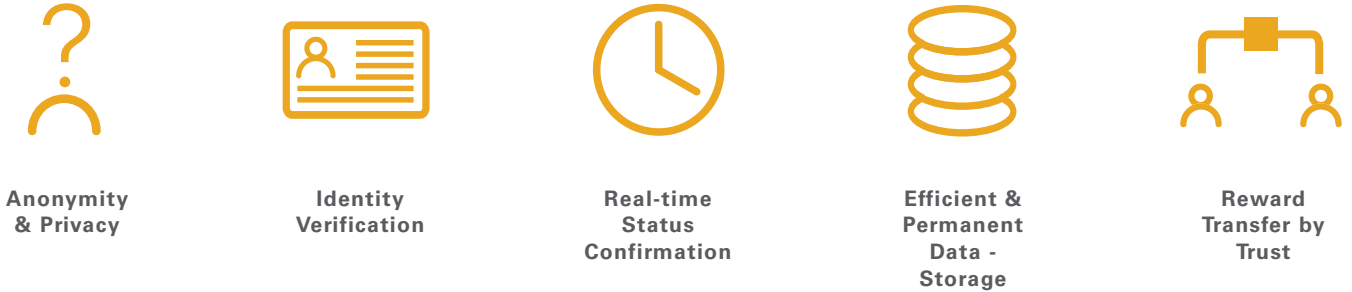
SYSTEM OVERVIEW

S4FE uses established standards to ensure maximum transparency, stability, scalability and security. It uses a mixed architecture of centralised and decentralised components, and has been engineered to provide the best usability at all points of contact.



S4FE NETWORK PROPERTIES

S4FE creates a new blockchain, based on proven standards. It applies proven strategies for high user security and token utility.



The S4FE Token is the heart of S4FE, and a vital component for users who join the network. High security, functionality and excellent service quality help to guarantee user satisfaction. This, in turn, will drive a steady groundswell of awareness rate and enhanced network efficiency.



ECOSYSTEM

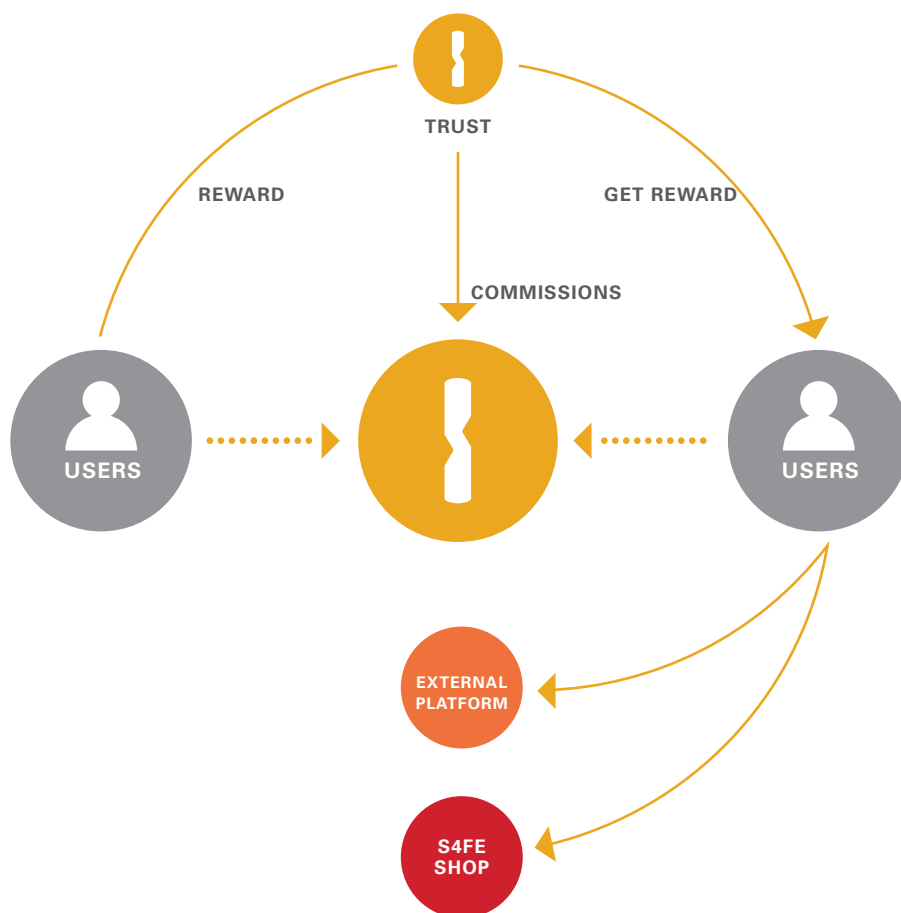
The S4FE Token is used within the network to regulate transactions such as rewards, commissions and the interaction of network participants.

The tokens used for this purpose are based on the ERC-20 standard and the open-source OpenZeppelin libraries, which already serve as a basis for several successful token systems in use elsewhere. Thus, they form a solid foundation for future developments.

Although the token simplifies many processes, it would be inefficient for the network to map all transactions types in the Ethereum Main Net. Doing so would expose S4FE to volatility, potentially higher costs, and the risk of flooding the Main Net with micro-transactions. Consequently, the S4FE team is developing Phase II 'side-chain' mechanisms that allow free transactions and a significantly higher throughput of transactions.

Tokens: Trust and Reward

S4FE Tokens represent the fuel in the S4FE ecosystem; they are necessary to start the entire process.



THE S4FE ECOSYSTEM

Basic functions, such as the registration of user accounts, are served free of charge. However, certain processes require a real transaction at the network level below. These include:

- Account data processing
- 'Know Your Customer' operations (KYC)
- Anti Money-Laundering operations (AML)
- Encoding data to allocate objects to their rightful owners

Anonymity

A search within the network will initially deliver anonymous results. Only when the owner releases the relevant information will objects be made visible and displayed (in the form of plain text and images.)

Unregistered Objects

Unregistered objects can be reported on the network. Rewards may still be earned if their loss / theft is subsequently notified on the system by the owner.

Access to Other Stakeholders

Properly regulated access to public interfaces and software will enable external service providers, ERP systems and authorities to integrate easily into the growing network.

Network Incentives

The principal purpose of S4FE is to facilitate and encourage the identification and return of lost or stolen property. However, it also makes practical and commercial sense to incentivise the actual use of the network.

As the number of active users increases, so does the network's security, its reach, its reputation and success rate. Therefore, increasing the user base is a crucial goal. The S4FE Reward system plays an important role making this achievable.

SCALING

As outlined above, restrictions exist when As previously noted, there are problems associated with mapping transactions directly to the Ethereum Main Net.

- Transaction bottlenecks: too many transactions loading the network
- Unpredictable costs per transaction
- High costs in comparison to Single Euro Payments Area (SEPA) transfers
- Main Net transactions are not inherently anonymous

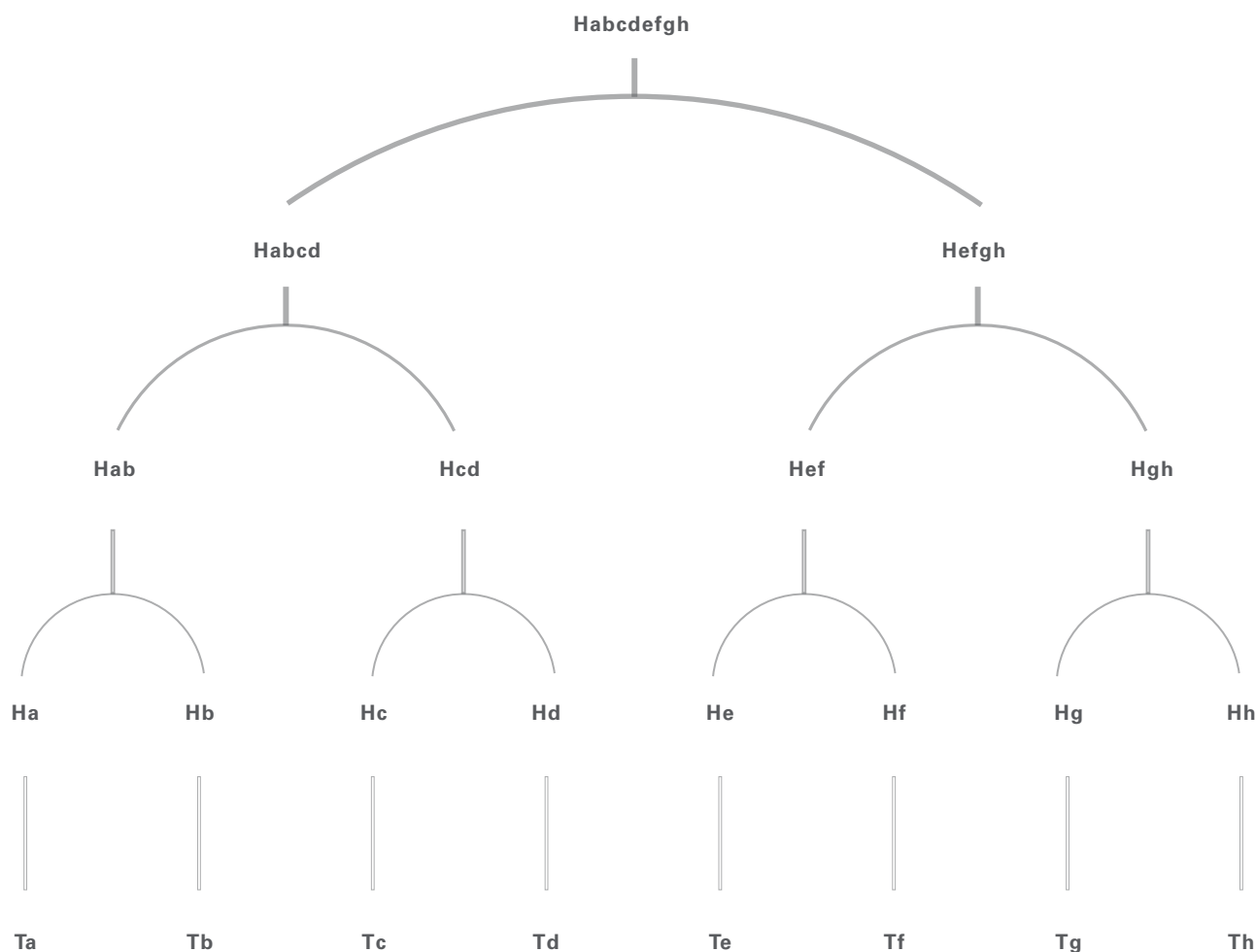
Fortunately, there are viable approaches, now being tested, that could solve all of these problems.

The proposed approach starts with a semi-decentralised system, whose separate components are subsequently transformed into a completely decentralised system.

Thus, S4FE begins in Phase 1 with centralised access points that will facilitate account management, object management and payments. In Phase 2, the following methods for decoupling the data and systems will be established.

Side Chains

Because of the way ledgers work, there are ways to use Merkle trees to interlock parallel existing blockchains. (See Merkle tree diagram, below.)



SCALING

THE ESSENTIAL IDEA IS TO ANCHOR TRANS- ACTION BLOCKS OF A PARALLEL BLOCKCHAIN OF ALL BLOCKS IN OUR MAIN CHAIN.

As a result, these blocks can be represented at a fraction of the cost and energy.

Sidechains — that is parallel interlocked blockchains — are a simple way to reduce transaction volumes and reduce (potentially high) transaction costs in the Main Network.

This approach addresses two of the key challenges noted above. However, the S4FE network model will have important additional features.

In order to eliminate the need for intermediaries in the future - and thus generate a completely self-regulated, decentralised network - S4FE will support direct payment channels between individual network participants. This will facilitate direct payments and transfers of asset classes. Taking intermediaries out of the process will reduce costs for users and the network alike.

Consensus

A vitally important aspect of blockchains is the consensus algorithm. This allows all network subscribers to determine and agree upon the current state of the entire chain, or the validity of individual blocks or transactions.

Delegated Proof of Stake

DPoS is a consensus algorithm that identifies individual delegates, who then receive a vote to confirm transactions. In comparison to the principal alternative - Proof of Work (PoW) - this approach is capable of higher transaction throughputs and requires only a fraction of the energy to operate.

Delegates are selected on the basis of various factors, such as the number of tokens held over a long period of time, the consistency of confirmed transactions, and reputation as determined in the network. The confirmation of transactions is rewarded with tokens. DPoS therefore incentivises long-term engagement in the network, as well as the retention of tokens.

A key feature of this approach is that delegate behaviour is completely transparent, so any malicious actions are easily and quickly detectable. This acts as a strong deterrent to attempts at fraud and manipulation. Any such actions result in the expulsion and replacement of the delegate concerned.

S4FE TOKEN SALE

KYC & AML Process

The S4FE corporation is obliged by law to take all necessary measures to prevent organised crime and money laundering.

In order to participate in the token sale, all participants must verify their identity. This process requires a video recording (webcam or smartphone camera) or uploading a scan. Options are as follows:

1. Live video of a valid ID document.
2. Live video of the valid identity document next to the face of the cardholder.
3. Recording a proof of address (utility bill: electricity, gas or telephone bill) of the participant at the tax residence.

Based on this information, an identity check is carried out. The resulting data will be held in strict compliance with data protection and privacy requirements.

The result of this review determines whether the participant may be admitted to the token sale. Individuals with tax residence in the USA or North Korea are explicitly excluded from the token sale.

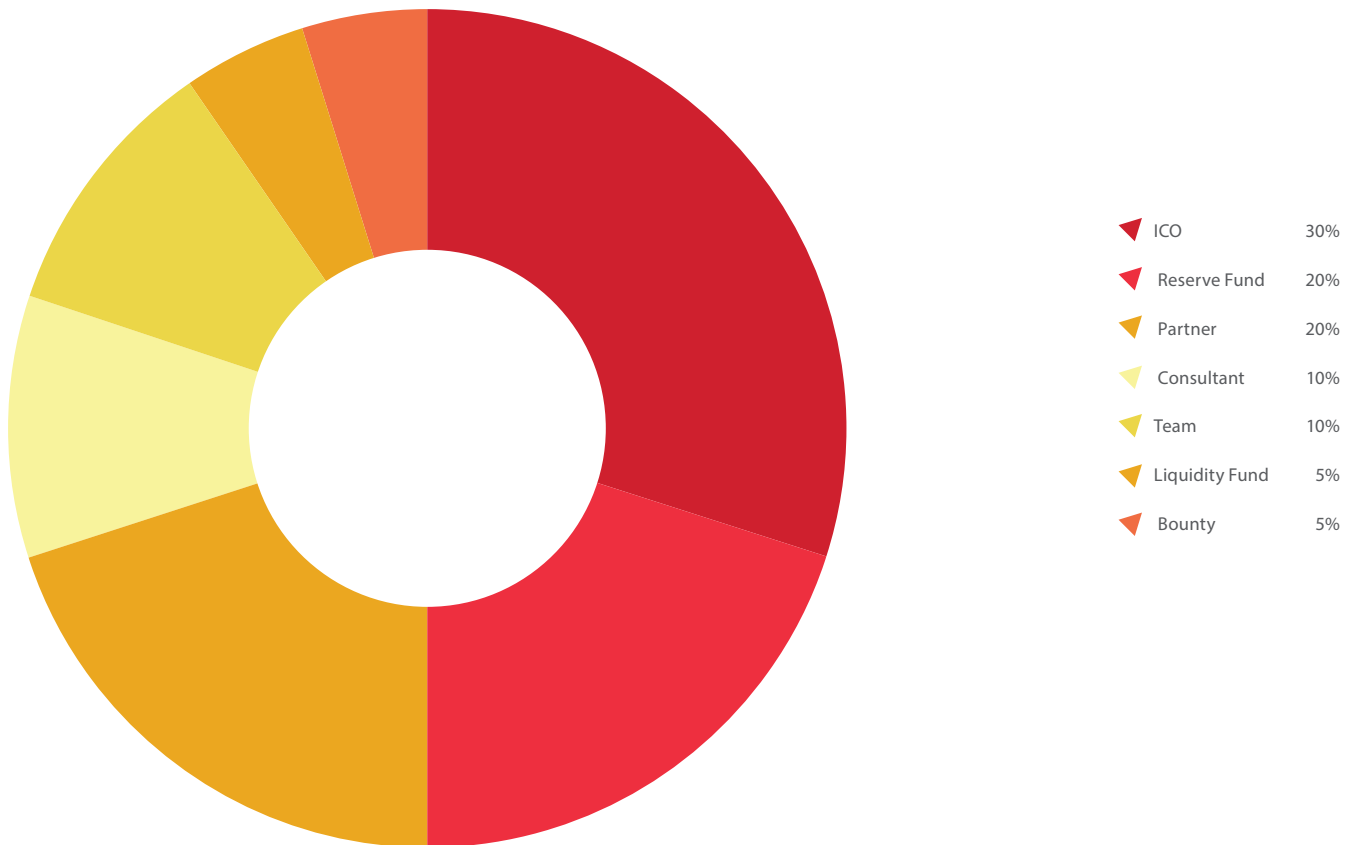
Token sale

In total, 1,000,000,000 tokens are to be issued, according to the following breakdown.

- During token sale, 300,000,000 tokens are offered.
- The token sale is handled through a smart contract and ends, when all 300,000,000 tokens were sold.
- The purchase price per token will be announced before the sale. Buyers will receive ERC-20 tokens in exchange for completion of the sales period.
- The lower limit (soft-cap) for sale is \$ 5,000,000, the equivalent in ETH is set at the beginning of the sales period.
- A cap of \$ 50,000,000 is targeted. The hard-cap limit is at about 300,000,000 S4FE tokens.
- Remaining tokens can be offered separately, invalidated (burned) or frozen after the sale, depending on the recommendation of the Token Management System.

S4FE TOKEN SALE

TOKEN ALLOCATION



S4FE TOKEN SALE

Token facts

The S4FE Token is based on the ERC-20 Token Standard. All contracts are publicly available at

<https://github.com/s4fe-io/contracts>

- Token Name: S4FE
- Token Category: Utility Token
- Network: Ethereum
- Start token sale: Q3 2018
- Amount offered: 300,000,000 tokens
- Type of issue: Fix
- Soft Cap: \$ 5,000,000
- Hard Cap: \$ 50,000,000
- Currencies: BTC, ETH, BCH, XRP, FIAT

S4FE TOKEN SALE

Legal Status of the S4FE Token

The S4FE Token is a functional token (utility token) specially designed for use on the S4FE platform. It grants users access to the network and to its associated services and features.

- Buyers of Tokens are not investors and the token is not an investment.
- The S4FE token is a pure application token (utility token).
- Purchasing a S4FE Token grants the owner access to the system, to the software and to the data provided.
- Dividends are not distributed, not are dividends expected to be distributed in the future.
- The token is not a bond and the issuer does not make any interest or other payments to the token holder.
- The token is in no way used to generate any profits.
- The token's circulation is unlimited.
- Users are entitled to buy tokens from third parties and sell them to third parties.
- The first version of the software will be available at the time of the token sale.

FINANCIAL PLANNING

USE OF FUNDS



Escrow Account

To ensure that the available funds are used exclusively for the purpose described in this document, an escrow account has been opened. The transfer of funds can only take place if the Boards of Directors approve the action with their signature.

SWOT ANALYSIS

Strengths

- Innovative business model
- First mover in the market
- No direct competition
- Sound business model
- System already developed
- Targets B2C and B2B customers
- A valuable public service
- Regulated ICO

Weaknesses

- Reaction of market uncertain
- Dependency on acceptance of reward programme
- Dependency on blockchain
- High capacity utilization of the system
- Ethereum volatility
- Limited protection of intellectual property

Opportunities

- Unmet global demand
- Increasing crime rates worldwide
- Immense global potential
- Expansion potential (products)
- New collaborations and stakeholder alliances
- Viral marketing effects
- ICO / cryptocurrency market is booming

Threats

- Rising product costs (blockchain)
- Development of cryptocurrencies
- Changing regulations
- Possible imitators/competitors
- Negative reporting
- Negative image trend in the ICO market
- Non-acceptance
- Collapse of ICO market



SWOT ANALYSIS

Innovation

As an innovation-driven company, S4FE responds to a previously unmet demand. The S4FE platform introduces an entirely new facility for deterring crime and minimising its impacts.

A Public Service

S4FE's services and facilities will support the public good. All its key functions will be delivered free of charge, yielding benefits for all stakeholders.

High Added Value

Participation in the S4FE network will add value for private, public and commercial users alike. The principal common benefits include:

- Improved asset protection
- Stronger crime deterrence
- Improved detection and clear-up rates
- More effective asset recovery
- Reduced costs and loss-related disruption
- Improved administrative efficiency

Active Participation in Crime Prevention

By participating in the S4FE Network, each individual user contributes to the prevention of crime. The more widely S4FE is used and adopted, the greater its value as a global public service.

Expansion

S4FE is planning a worldwide expansion of its offer, which is supported by the development and introduction of innovative products and services.

An Experienced Team

The S4FE concept is founded on more than 200 years of combined experience, passion and determination. Its team members have achieved notable international successes, and S4FE is supported by a network of recognised technical experts.

MARKETING STRATEGY

Raising public awareness of the S4FE brand will be a vital early step towards realising the network's objectives. The effectiveness and operational efficiency of S4FE will increase in proportion to the number of its users. Therefore, supporting the market entry strategy with intensive marketing efforts will be crucial.

Once a user base has been established, S4FE will begin to benefit from economies of scale. Marketing costs will begin to fall as viral effects, such as word of mouth, gain traction and raise additional market awareness at very little cost. In the longer term, these viral effects will have more credibility and promotional value than any advertising campaign.

S4FE will constantly encourage user engagement by clearly communicating the benefits of the reward programme. Collaboration with key stakeholders will lend further impetus - using their collective contacts to extend the invitation to take advantage of S4FE rewards.

Through these and other strategies, S4FE will seek to reduce its marketing costs as quickly as possible so as to increase operational efficiency and channel more of its resources into R&D and customer service.

S4FE has already developed a marketing communications plan that covers all the commonly available digital and analogue media. Its campaigns will be especially focused on social media channels, because the viral and dynamic effects are most pronounced here.

Generally, the strategy is divided into two segments:

- Classic Marketing
- Dynamic Marketing

Classic Marketing

S4FE pursues a proven brand-building strategy that is based on decades of experience in the fields of international brand management. This strategy will be duplicated for every country into which S4FE will be actively introduced.

The strategy will be tailored according to local market conditions, but it will generally feature the following milestones:

1. Position S4FE in relevant online/offline publications.
2. Establish relationships with affiliated networks and distribution channels.
3. Issue news releases and provide media packages in local languages.
4. Secure media coverage
4. Pursue collaboration with local commercial partners.
5. Pursue collaboration with public authorities and similar organisations.
5. Develop relationships with key individuals - influencers, opinion-formers etc.

MARKETING STRATEGY

Dynamic Marketing

The term ,dynamic marketing' has become almost synonymous with social media marketing. Social media platforms such as Facebook, Twitter, Reddit etc. have immense potential to raise awareness and shape opinions about the brand, as have the innumerable blogs and forums now active on the internet.

S4FE's strategy is to encourage and facilitate online discussions in order to build exposure, recognition and reputation. Third party testimony is often more compelling than content generated by the brand owner, so S4FE will nurture user discussions and reviews wherever possible. It will also seek to prompt new conversations and brand engagement through incentives and similar initiatives.

Recognising that the network itself will gain in value and effectiveness as more users engage with it, S4FE seeks to create a virtuous circle of growth.

One risk is that bad news can travel faster than good news, so a vital challenge will be to position the brand on appropriate platforms and demonstrate that S4FE is delivering first class customer service. It is essential that participants and potential users can see the system working well, delivering tangible user benefits.

The S4FE management team have considerable experience of using dynamic marketing channels to excellent effect.

Dynamic Marketing Goals

The strategy seeks to achieve the following goals:

1. Establish a strong presence on relevant social media platforms.
2. Sustain proactive communications with platform participants and operators.
3. Develop affiliate programmes for blogs / forums / portals.
4. Build relationships with bloggers, social media personalities and other ,multipliers'.
5. Build relationships with relevant companies in sectors such as security, insurance, tourism, hospitality, rentals and events.

Together, these strategies will make S4FE visible and credible to potential users across most age groups and across all social classes.

Demonstrating and delivering clear added value to all these users will add momentum to the marketing campaign. This will be key to the sustainability and growth of the S4FE model.

ROADMAP



TEAM



Rolf Seeger
Director*



Daniela Hofer
Chief Operating Officer*



Florian Sopa
Chief Operating Officer*



Rene Laemmle
Chief Marketing Officer*



Diego A. Tanner
Chief Investment Officer*



Narek Terteryan
Chief Technology Officer*



Alexandre Sousa
Video Producer*



Jure Brekalo
Head of Communication*



Husen Cutpiecewala
Lead Blockchain & Smart Contract Developer*



Haykaz Kotanjyan
DevOps Engineer*



Sasun Sakanyan
Full Stack Developer*



Vladimir Anoyan
Front End Developer*



Vehan Khachiyan
Video Producer*



Tigran Khachiyan
Film director*



Hermine Sanasaryan
Android Dev Lead*



Lusine Sargsyan
IOS Developer Lead*



Caitlin Carter
Head of Design*



Siegfried Nägele
Key Account Manager*

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This document and any copies thereof must not be shipped in any form to or within countries in which the distribution or dissemination of such documents is not allowed by law. All participants are strongly advised to obtain advice from an independent legal counsel regarding participation in the token sale described in this document, in order to verify the validity and applicability of the laws, regulations or rules applicable in their respective countries.

Buyers of S4FE Tokens are strongly advised to carefully evaluate and consider all risks and uncertainties associated with the purchase of S4FE Tokens. In the case of an acquisition of S4FE Tokens, it is expressly stated that the acquisition is not exchangeable, returnable or refundable.

S4FE expressly states that there is no assurance that there exists a demand for the S4FE Token in the market, or that the issue or sale price is in some way an indication of a later market price that can be achieved after the tokens are available on a stock exchange or trading platform for cryptocurrencies.

S4FE gives no guarantee of the success of the token sale or of the business endeavour, which still needs to be developed as described in this document.

The value of, as well as the demand for, the S4FE Token depends heavily on the business results of the company and the business plan and the continued commitment of the users respectively. There is no assurance that the token sale will be successful or whether the business plan that is yet to be developed will be successful.

S4FE has carefully prepared all information, in particular assumptions, estimates, and forecasts, and has taken extremely realistic performance indicators into account in all areas considered. Nevertheless, there is no assurance that the cryptocurrencies collected through the token sale will be enough to implement the business model of the company.

In light of the above information and for reasons that are unpredictable at this time, it is understood that the development and launch of the S4FE Token and the S4FE network, including all functionalities, services, and products may not be completed or implemented, and that there is no assurance that a launch of the S4FE network will be realised.

Seeking independent financial advice is recommended before starting any commercial activities.