eCredits

eCredits Whitepaper

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The people's currency

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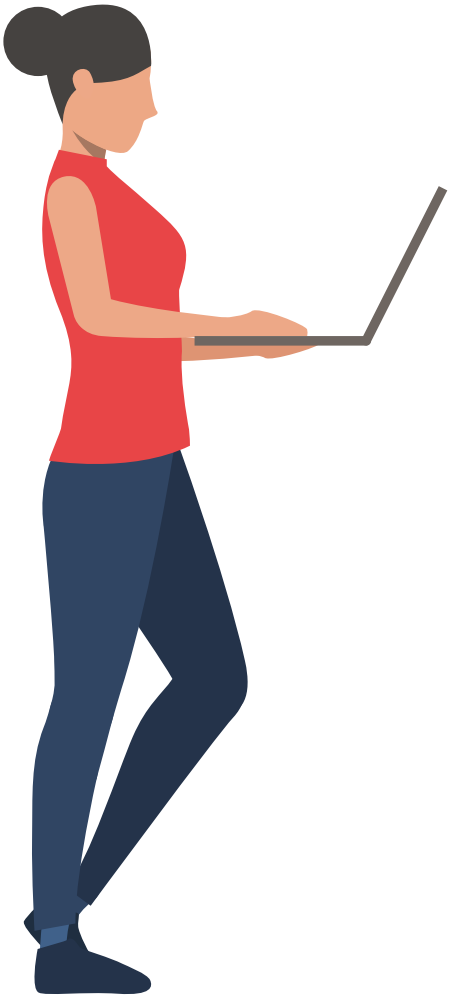

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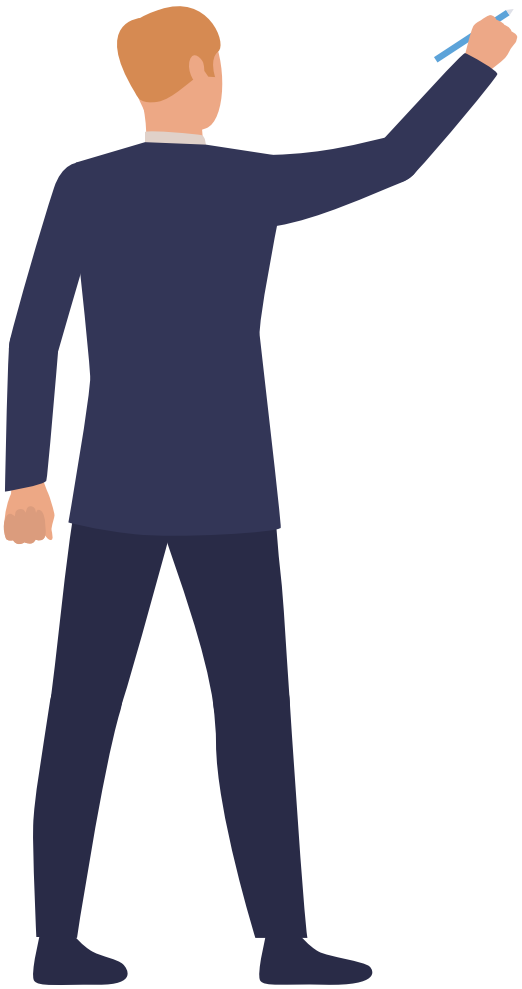


Summary

strengthen local and regional economies

We are living in a time in which monetary policies and the financial markets mainly benefit large corporations and their shareholders. As a result, it is quite hard for Micro-, Small- and Medium-sized Enterprises (MSMEs) to be competitive. eCredits' goal is to become "The people's currency" by bringing together the local business with the consumers and thereby **strengthen local and regional economies**.

an open enviroment

The eCredits Ecosystem is open, decentralised and based on the blockchain technology. Its blockchain provides various features, such as a native cryptocurrency, the eCredits (or short: the "ECS"), which can be used by any person in the world as a currency to pay for or sell goods and services and make transactions. The eCredits Ecosystem includes a non-custodial wallet (eWallet) with various additional features. The main focus of the eCredits Ecosystem is to provide **an open environment**/infrastructure for merchants and consumers to perform transactions, get rewarded for loyalty and make MSMEs more competitive again.

free-floating

ECS is a **free-floating** decentralised payment currency without any mechanism for maintaining a stable value and is not backed by or referenced to any legal tender, fiat currency, financial instrument, commodity, or other asset. As such, ECS are not provided with a claim in the form of a right to redeem against fiat currency, financial instrument, commodity, or other assets.

significantly reduce costs

The eCredits Blockchain with its ECS native cryptocurrency allows its users to **significantly reduce costs** on transaction fees as well as administrative expenses and enables them to use sales and marketing tools to increase their business reach and, thereby, potentially increase revenue.

values relevant for MSMEs

The eCredits Ecosystem is guided by a set of **values** deemed **relevant for MSMEs,** such as fairness, creating wealth, competitiveness, sustainability, egalitarianism, and stability.

Summary

community-run decentralised organisation — The eCredits Ecosystem will be supported by a **community-run decentralised organisation** that allows all users to participate and partake in the governance, but without any future dependence on it.

helping MSMEs and consumers alike — ECS are based on blockchain-technology, extended and enhanced with functions and features **helping MSMEs and consumers alike**.

open and community driven system — The eCredits Ecosystem is driven by its diverse global participants, all working together and contributing to the success of the eCredits Ecosystem. The eCredits Ecosystem is an **open and community driven system**.

apps and tools providing easy and convenient access — The eCredits Blockchain, ECS and its applications are designed to be easy and intuitive to use. Their integration into other systems, such as for instance Point-of-Sale cash systems is straightforward. The eCredits Blockchain and ECS come with a range of **apps and tools** such as a wallet app, a web portal and merchant applications, **providing easy and convenient access** to the core functionality and features of eCredits.

eWallet App — The eCredits Blockchain wallet app, the eWallet App, gives users instant and easy-to-use access to the ECS so they can be spent on goods and services in a fast and highly convenient way. The **eWallet App** is available for both Apple's iOS as well as for Android.

integrated reward program — The eCredits Blockchain and ECS come with an **integrated reward program**, the so-called "eActivity", rewarding the active use of ECS with reward tokens called "ACT".

privacy functions for merchants — The eCredits Blockchain also provides certain specially designed **privacy functions for merchants**.

Summary

different subscription models — Users can choose from **different subscription models** besides the free-of-charge services. Third-party app developers and service providers can build their apps and services on top of eCredits Blockchain and may implement a subscription model that covers different user types and includes varying functionalities suitable for each such user types.

transaction fees — **Transaction fees** are charged for transactions made with ECS. The transaction fees are paid by the initiator of the transaction, except in the case of a consumer initiating a transaction to a merchant. Transaction fee calculation is performed by the eWallet.

decentralised, secure and resilient system — The eCredits Ecosystem and ECS are based on the blockchain technology. The eCredits Blockchain allows the creation of a **decentralised, secure and resilient**, as well as transparent **system** perfectly suitable to generate the public trust required for the eCredits Ecosystem.

combine state-of-the-art technology and best tools — The eCredits Blockchain is an independent and separate blockchain protocol, but technologically based on Ethereum, a well-established and secure smart contract enabled blockchain protocol, and uses a Proof-of-Authority consensus mechanism. As Ethereum is an open-source protocol, the eCredits Blockchain was further developed and individualised to accommodate the functions and purpose of the eCredits Ecosystem. Instead of reinventing the wheel, the eCredits Blockchain aims to **combine state-of-the-art technology and best tools** in order to create a new level of service and accessibility.

Proof-of-Authority consensus mechanism — The "**Proof-of-Authority**" (PoA) **consensus mechanism** comes with a number of general benefits: It helps to speed up the whole network and, therefore, to have more transactions per second compared to other methods. Moreover, it provides relevant security and governance features and allows a lean and efficient start of the network, by very low energy consumption.

Summary

secured by nodes — The eCredits Blockchain is **secured by nodes** which enact the Proof-of-Authority mechanism and verify transactions. The eCredits Blockchain's operative participants consist of Validator Nodes and the Supervalidator Nodes.

two tokens — At the time of the launch of the eCredits Ecosystem, there are **two tokens** on the eCredits Blockchain: The native eCredits Cryptocurrency, which is also used to pay gas, the fees to conduct transactions, and the eActivity, a token which is a reward program integrated into the eCredits Ecosystem.

Decentralised Governance Organisation — The eCredits Cryptocurrency is supported by an open, community driven organisation with a unique decentralised governance model (herein referred as: the "**Decentralised Governance Organisation**" or the "DGO") that includes various stakeholders as members. ECS may be listed on third-party service crypto-exchange platforms to improve liquidity. One of the possible distribution methods is to make ECS exchangeable through such cryptocurrency exchanges.

supply limited — The maximum total **supply** of ECS is **limited** and set to be 63,000,000,000 units.

community-driven governance model — The eCredits Ecosystem governance is decentralised and provided through various nodes, some of them being operated by the Decentralised Governance Organisation (DGO). The **governance model** that is **community-driven** and serves the success of the eCredits Ecosystem in the long-term.

sustainable financial resources — In order to fulfil its purpose of supporting the eCredits Ecosystem, the DGO needs sufficient and **sustainable financial resources** – in other words, it needs a valid business model to sustain its existence. The DGO generates income and remains financially independent through a business model primarily based on subscriptions and from verifying transactions in the network like other nodes do as well.

Summary

trend of alternative payments — eCredits are in line with the general **trend of** digital and online-driven **alternative payments** with crypto.

subject to certain risks — As with all cryptocurrencies, ECS are also **subject to certain risks** which have to be carefully considered, such as price volatility, liquidity, cyber risks and other security issues as well as regulatory uncertainty.

launch main features first — The general roadmap for the eCredits Ecosystem is to **launch** the block-chain and start the roll-out with the **main features first**, and after the rollout is done, further features will be implemented either supported by the DGO or also other third-party application developers or service providers.

eCredits

Glossary

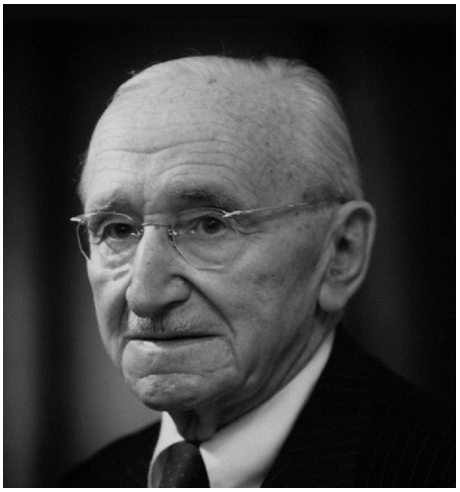
Glossary	
Term	**Term-Explanation**
ACT	Ticker for the eActivity token
Affiliates	Early adopters, partners, third-parties who are a part of the eCredits Ecosystem
AML	Anti-Money Laundering
API	Application Programming Interface, which is a software intermediary that allows applications to talk to each other
ATM	Automated Teller Machine
Bitcoin	The Bitcoin blockchain's native token
Block explorer	A web application that allows to inspect Blockchain data
Consumer	A natural person who uses ECS to purchase goods or services from Merchants on the eWallet App
DGO or Decentralised Governance Organisation	An independent (decentralised governance) organisation (DGO) which shall support the eCredits Ecosystem and develop and support the adoption of the eCredits applications
eActivity	The eCredits blockchain's loyalty program rewarding the active use of the eCredits system with eActivity tokens
eActivity Exchange Smart Contract	A smart contract within the eCredits Blockchain that converts eActivity to ECS
eCashback	A cashback system which is integrated with eCredits
eCredits	The eCredits Blockchain's native cryptocurrency
eCredits Ecosystem	System of eCredits applications and features (such as eWallet App, eCredits, eActivity and other) built on top of the eCredits Blockchain, including third parties and DGO
eCredits Public API	Application programming interface – a set of predefined standardised software intermediary messages used for communication between two software applications
ECS	Ticker for the eCredits Cryptocurrency
ERC-20	An Ethereum blockchain token standard supported also by the eCredits Blockchain
Ether	The Ethereum blockchain´s native cryptocurrency
Ethereum	One of the most established blockchain protocols for smart contracts

Glossary	
eWallet App	The eCredits Blockchain's native wallet application
Fiat	Government-issued, currencies ("Fiat Money") such as USD or EUR
Gas	Fees for the processing of transactions within a blockchain system
i.e.	id est (Latin), meaning "that is"
KYC	Know-Your-Customer
Member	A member of the eCredits DGO
Merchant	A user that accepts ECS for payments in a professional capacity, e.g. in retail or online shop
MSMEs	Micro-, Small- and Medium-sized Enterprises
PoA	Proof-of-Authority, a blockchain consensus mechanism
Point-of-Sale	Refers to any business location of Merchants where ECS are accepted as payment
PoS	Proof-of-Stake, a blockchain consensus mechanism, where the consensus is established by node voting in proportion to the amount of coins it holds
PoW	Proof-of-Work, a blockchain consensus mechanism, where the consensus is established by node voting in proportion to the amount of hashing power it holds
QR code	Quick Response code, a type of machine-readable matrix barcode
Supervalidator Nodes	High reliable network nodes within the eCredits blockchain validating transactions and securing the network with certain voting rights
"Third-party service" or "Third party"	Means applications or software or other services that are hosted, developed or operated by a third party
Ticker	Short symbol for a token
Transaction Fee	The fees to be paid for making transactions on the eCredits network
UI	User Interface
User	Anyone using the eCredits Blockchain or its applications

Glossary	
Validator	Person or entity operating a Validator Node
Validator Nodes	Network nodes within the eCredits Blockchain validating transactions and securing the network
Web Portal	Web Portal is a web-based application that allows merchants to manage their business profile, stores, subscriptions, user management and their business data. Merchants can access additional business-related functionalities, such as business reports, marketing functions

1. Foreword

„The great trouble is that money wasn't allowed to develop. [...] Money was frozen in its most primitive form. What we have had since was mostly government abuses of money. [...] That's why I am now pleading for what I have called denationalization of money."



Friedrich Hayek

(1984; Interview at the University of Freiburg in Germany by James U. Blanchard III, chairman of the National Committee for Monetary Reform and a member of the Cato Institute's Board of Directors)

The eCredits Ecosystem is a denationalised (and decentralised) solution enabling local value creation with a global scope. The main component of the ecosystem is also a cryptocurrency that not only has value, but also carries values. These principles provide the basis to build and secure wealth, social cohesion, and local economic circuits in a sustainable way and with a long-term vision.

Like Friedrich Hayek envisioned the future of money, the eCredits Ecosystem does not rely on any central authority, neither private nor national. That is why the eCredits Ecosystem is built on a decentralised technology and governed by the community supported from a legally sound and decentralised organisation.

This document provides information on all relevant issues that are important to introduce the readers to the eCredits Ecosystem. The aim is to give consumers, merchants, service providers and other interested parties a glimpse into a common future and to shed light on the potential of eCredits.

1.1 The challenge

Micro-, Small- and Medium-sized Enterprises (MSMEs) have only limited access to the financial markets and its tools. However, growth in competitive markets is only possible through modern infrastructure, from cashier systems to an interested banking partner, appropriate credit lines and modern marketing tools to retain customers.

Consumers find it increasingly difficult to achieve prosperity, because money as a tool of politics serves many interests. Taxation and monetary policies have been coordinated so that consumers live in large numbers, although at a high level, without significant wealth, in dependence on the state. Taxes, inflation, and subsidies protect this system.

The problem lies in the gap between the interests of a globalised financial economy and its industrial clientele on the one hand and the local and regional value chains of consumers and MSMEs on the other. This gap hinders competition, harms the environment, dictates prices away from demand, ultimately weakening democratic participation.

1.2 Proposed solution

In the beginning, every ecosystem is about domination of the medium of exchange. By gaining autonomy over money, an ecosystem can be created that compensates for the shortcomings of the fiat world. Specifically, it is about easy access to a fast and transaction-friendly means of exchange that is not subject to politics.

ECS is a cryptocurrency that exists independently of the fiat world. Nevertheless, the system implements a bridge into a variety of currencies. Both the instant exchange into fiat currencies, such as EUR or USD, as well as other cryptocurrencies will be possible.

For business partners, the eCredits Blockchain and ECS enable security in business transactions even with unknown partners and replaces trust with modal contracts on a technical basis (smart contracts). Transactions are processed faster, while cumbersome bank processes are eliminated. Merchants can thus react quickly to changes in the market and remain competitive.

Moreover, in the future, the eCredits Ecosystem with its partners will provide functions that enable different forms of participation, financing and support for merchants, consumers and other users. All these functions are integrated into a reward system that honours socially conscious behaviour. You support who you trust.

2.Vision and mission

2.1 Vision

The eCredits Ecosystem creates the platform of a movement consisting of local and regional micro-ecosystems that create, offer, and sell services and products with the help of the eCredits Blockchain. These services are aligned to help MSMEs and establish parity with or even gain an edge over larger market players such as international multis.

The use of eCredits Cryptocurrency generates eActivity, which constitutes a reward system that provides remuneration for loyal relationships. On the basis of such trusting relationships, partners will introduce a variety of additional services in the areas of, for instance, marketing or sales.

The goal of eCredits Cryptocurrency is to become a currency of values, thereby creating good neighbourly relations as well as entrepreneurial helpfulness.

2.2 eCredits' Unique Selling Proposition

Why eCredits Cryptocurrency ECS and not another one of the many existing cryptocurrencies? ECS does not come from a tech lab, but from the reality of everyday people. ECS emerged from the aim of solving concrete real-life problems and is inspired and guided by the true needs of MSMEs and Consumers.

Furthermore, the eCredits Ecosystem is an inclusive, open system. Through its own affiliate and different partnerships it will be able to provide access to thousands of merchants and service providers, mainly in Europe but also on all other continents.
It is planned to continuously increase these numbers by engaging with further partners and collaborators. The eCredits Blockchain is used by partners as a vehicle for bonus, cashback, loyalty, whether in retail, the gaming industry, eSports or digital asset exchanges. As a result, the eCredits Ecosystem makes all parties more competitive, through automation of complex international transactions without the need for a clearing counterparty, cheaper cost structures, faster processing options and its own reward system that strengthens community growth and customer loyalty.

2.3 Mission

The eCredits Ecosystem is introduced in an initial rollout by various partners and docked onto existing retailer structures. In this way, the eCredits Ecosystem enables an exclusive advantage for large collectives that adopt ECS as an alternative means of payment in their systems. On the technical side, major adaptation and harmonisation projects have to be mastered.

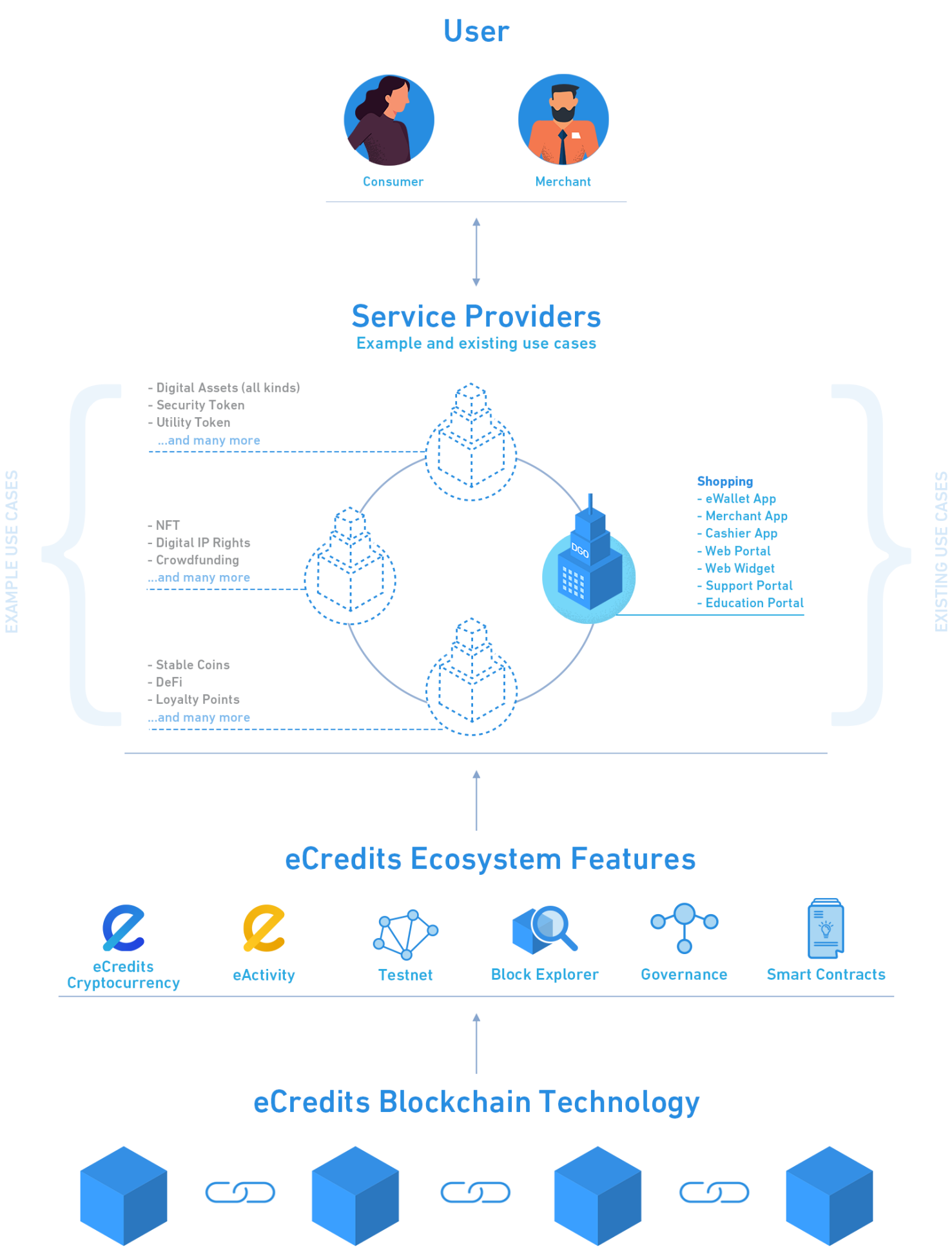
In parallel, corresponding training platforms and merchant marketing support materials are created to enable every user to quickly and successfully get started with eCredits.

The eCredits Ecosystem is supported by an independent organisation that allows to decentralise its decision making and governance, making the eCredits Ecosystem a truly community-driven ecosystem. This ensures the existence of the eCredits Blockchain and ECS beyond all developments and establishes the stability inherent in this system.

3. eCredits Ecosystem

The eCredits Ecosystem aims to enable global adoption of the eCredits Blockchain, the eCredits Cryptocurrency called ECS which is an integral part of the eCredits Blockchain and support the growth of multiple eCredits Applications, delivered by an independent DGO, such as the Web Portal and eWallet App, while being supported by its users through a Decentralised Governance Organisation.

ECS is a cryptocurrency built on top of the eCredits Blockchain that is intended to be used by users worldwide. The eCredits Ecosystem comprises many different components and participants globally, all working together and contributing to the success of the ecosystem and its members. The key elements of the ecosystem can be summarised as follows and some of them are described in more detail further down in this document.


User
Consumer
Merchant
Service Providers
Example and existing use cases
EXAMPLE USE CASES
- Digital Assets (all kinds)
- Security Token
- Utility Token
...and many more
- NFT
- Digital IP Rights
- Crowdfunding
...and many more
- Stable Coins
- DeFi
- Loyalty Points
...and many more
DGO
Shopping
- eWallet App
- Merchant App
- Cashier App
- Web Portal
- Web Widget
- Support Portal
- Education Portal
EXISTING USE CASES
eCredits Ecosystem Features
eCredits Cryptocurrency
eActivity
Testnet
Block Explorer
Governance
Smart Contracts
eCredits Blockchain Technology

Functional elements of the eCredits Ecosystem:

> The eCredits Blockchain, a blockchain protocol based on the famous Ethereum protocol.

> eCredits Cryptocurrency called ECS, the native token of the eCredits Blockchain.

> eActivity, a program rewarding the active use of the ECS with its own separate token called ACT.

> The eWallet App, a mobile application enabling secure storage of private keys on the device and allowing seamless access to the eCredits Blockchain, designed to connect merchants and consumer worldwide.

> Other applications built by third parties on top of the eCredits Blockchain, for example eCashback. Users can opt-in to eCashback, a third-party application built on top of the eCredits Blockchain enabling cashback service. The cashback system can seamlessly be used with ECS, allowing the eCashback users to receive cashback by paying with ECS, once they have been registered with the eWallet App.

eCredits Ecosystem participants:

> Validators are operating nodes that confirm transactions and secure the eCredits Blockchain.

> Consumers who use ECS to purchase goods or services.

> Merchants who sell their goods or services for ECS.

> Affiliates who spread the word and support the adoption of eCredits.

> The community driven Decentralised Governance Organisation (DGO), acting as an independent governing entity for the products based on the eCredits Blockchain, and supporting the development and adoption of the eCredits Ecosystem and ECS. Every user can become a member of the DGO.

> The eCredits Ecosystem is embedded in a comprehensive network of business partners. With such international partnerships, eCredits is able to reach out to millions of customers and thousands of acceptance points which supports and accelerates the global adoption. It is thereby expected to quickly reach a substantial number of members, merchants, and customers within the ecosystem. Certain business partners also provide easy exchange, cashback and other functions which are directly integrated into the eWallet App.

> Cryptocurrency exchanges allow their users to buy and sell ECS, among other cryptocurrencies, against fiat currencies like EUR or USD. Users have to register separately with such platforms and are subject to all required Anti-Money Laundering (AML) and Know-Your-Customer (KYC) checks. It will also be possible to integrate partnering cryptocurrency exchanges directly into the eCredits wallet application, allowing the users to easily convert ECS. Thereby, the cryptocurrency exchanges provide the gateway to convert ECS to or from fiat- and other cryptocurrencies.

4. eCredits Blockchain

The eCredits Ecosystem is based on the eCredits Blockchain as the underlying technology. The following sections describe the reasons and advantages of the technology and provide further technical details of the eCredits Blockchain.

4.1 Why blockchain and decentralisation?

The eCredits Ecosystem with its vision to enable ECS to become "The people's currency", aims to be a system controlled and governed by its users, and not by a central entity. The blockchain, the technology on which cryptocurrencies such as Bitcoin or Ether are based on, provides perfect conditions for such an undertaking. The blockchain creates decentralised, secure, and transparent conditions perfectly suitable to generate the public trust required for the eCredits Ecosystem to succeed.

The eCredits Ecosystem uses its own blockchain which is based on a proven set of technologies, the Ethereum protocol, which is one of the most established open source blockchain protocols. This technology has been adopted and extended for this project, and provides the perfect foundation for building a rapidly growing ecosystem and can even be optimised further to accommodate the requirements for ECS to become the cryptocurrency designed for everyday use.

One of the key features of blockchain is its decentralisation, which is important for many different reasons:

- **Security:** It is much harder to hack a decentralised system, as there is no single point of failure.
- **Resilience:** A decentralised system can exist without requiring a central entity to run or administer it, making it resilient and autonomous.
- **Trust:** Users do not have to trust a central entity or organisation, they only have to trust in the technology, which is open, transparent, and auditable.
- **Transparency:** Each transaction on the blockchain is verifiable and immutable, increasing trust in the system.

For the eCredits Blockchain to be sufficiently decentralised, a lot of different independent participants must run the so-called Nodes - computers that verify and synchronise the blockchain. In reality, it is difficult to define what actual and sufficient decentralisation means, and how many nodes are required to achieve it. Besides that, the power of each organisation or individual participating in the blockchain must be taken into account, same as the way how upgrades of the blockchain work and especially how the governance is defined. The eCredits Ecosystem has various approaches on both a technical as well as an organisational and a governance level to achieve true decentralisation.

Here are some of them:

- At the beginning, the Decentralised Governance Organisation will run most of the Blockchain nodes and will support others to join.
- Early adopters of the eCredits Ecosystem, such as a range of initial node operators, which provides sufficient degree of decentralisation already at the start.

- Other node operators will follow as adoption gains traction. The goal is to quickly reach more than one hundred nodes of independent node operators.

- The eCredits Ecosystem is built in such a way that it allows its members to vote on important decisions through a first-of-its-kind decentralised governance organisation.

4.2 Standing on the shoulders of giants – Ethereum

The eCredits Blockchain was launched as a new network. It is based on the Ethereum blockchain and starts with a Proof-of-Authority consensus mechanism with a blocktime of 5 seconds. Instead of reinventing the wheel, the eCredits Blockchain aims to combine state-of-the-art technology and best tools, therefore, building on the foundations of the Ethereum blockchain.

Launched in 2015 Ethereum is the most established and stable blockchain technology in the world. It is the first generic smart contract platform created and, in many ways, still the reference project when it comes to smart contracts.

Ethereum has by far the largest community of all smart contract platforms. Many projects have been built on top of it. There are multiple stable coins (both centralised and decentralised) and a wide ecosystem of projects that interact with each other.
The large community and many companies and organisations are building tools on and for Ethereum. There are many wallets, block explorers, faucets, pre-built smart contracts, and other tools available. Also, the developer tooling of Ethereum is outstanding - there are many software libraries for different languages (Javascript, C#, Python etc.) which interact with Ethereum nodes. It supports two primary smart contract languages (Solidity and Vyper) and has tools for smart contract development and testing including security checks and others.

Existing solutions that are compatible with ECS are card-, soft- and hardware wallets, multisig contracts, contracts for decentralised autonomous organisations, distributed apps or developers tools such as truffle.

4.3 Securing the network with the Proof-of-Authority consensus algorithm

What is a consensus algorithm? "A consensus algorithm is a mechanism in computer science used to establish agreement on a single data value across distributed processes or systems. A consensus algorithm is a protocol through which all the parties of the blockchain network come to a common agreement (consensus) on the present data state of the ledger and be able to trust unknown peers in a distributed computing environment. For blockchain networks, the consensus algorithms are an essential element because they maintain the integrity and security of these distributed computing systems."
(https://analyticsindiamag.com/blockchain-consensus-algorithms/)

Launching a new blockchain can be difficult from a

security perspective, as there is increased risk of an attack on a blockchain network without sufficient decentralisation – the so-called "51% attack". Such an attack has already happened on certain blockchain protocols, e.g. Bitcoin Cash which at the time had already been established and up and running for a number of years.

If one starts a new blockchain which uses a Proof-of-Work (PoW) consensus mechanism (i.e. the consensus is driven by solving mathematical problems by raw hardware power), then its important, that no potential malicious attacker is able to control more than 50% of the hash power of the whole network. This means that already at the launch of the blockchain, enough node operators must ensure sufficient hash power in order to avoid the risk that other node operators with more powerful hardware take over the majority of the network and potentially manipulate the blockchain.

One way to prevent such an attack is to launch the network with a large pool of node operators. However, this can be very costly and results in an ecologically questionable energy consumption, basically wasting precious resources. Another way is to use a completely different consensus mechanism.

Such an alternative consensus mechanism is for instance the "Proof-of-Stake" (PoS) algorithm. For Ethereum, however, such PoS is currently still under development and being tested. It is expected that it will take some time until Ethereum 2.0 is fully operational and deployed.

For the eCredits system as a blockchain network, the security of the network and its stability is highly important, so using experimental technology is not a viable option.

Another alternative is the "Proof-of-Authority" (PoA) consensus mechanism which has been tested and used for some time now. This method comes with some general benefits: It helps to speed up the whole network and, therefore, to have more transactions per second compared to e.g. PoW. Additionally, 51% attacks can be prevented more easily as existing validator nodes must allow new nodes to join the network by voting for the acceptance of the new nodes. This allows the network to start with less nodes without the risk of being threatened by malicious participants.

However, at least at the beginning, this means that the initiating organisation has some centralised influence over the network. But it is in the core interest of the eCredits Blockchain to decentralise the network quickly and as much as possible in order to mitigate potential single-point-of-failure and to stabilise the network and trust in the eCredits Blockchain and the Ecosystem.

In summary, the PoA mechanism proves to be a great way to launch the eCredits Blockchain, ensuring its stability, allowing higher transaction speed, and preventing malicious 51% attacks. This fosters the ecosystem's trust in the eCredits Blockchain and, ultimately, in the eCredits Ecosystem. Furthermore, PoA is much more eco-friendly than Proof-of-Work since

there are no intensive computer calculations needed to achieve consensus between the nodes. And it does not favour inequal distribution of the decision power, as it is the case with Proof-of-Stake where those with the biggest stake (i.e. wealth) have the greatest power. Nonetheless, such consensus mechanisms are continuously reassessed, and the network may collectively decide to change to better-suited consensus method at any stage in the future.

4.4 Nodes and transaction validation

To make the eCredits Blockchain secure, its integrity needs to be ensured by different participants, so-called node operators. The node operators implement the PoA consensus method by verifying transactions and keeping the ledger up-to-date across the network. The eCredits Blockchain knows two different kind of nodes: Validator Nodes and Supervalidator Nodes. This is also important for the governance of the eCredits Blockchain and the Ecosystem itself. The different node types function as follows:

Validator Nodes: Validator Nodes verify the transactions, keep the ledger up-to-date, and vote on the acceptance of new validators. If the majority (>50%) of the Validator Nodes vote for acceptance, the new node is accepted and added as a validator. If, for example, there are ten validators and only three of them vote for acceptance, the new node is not accepted, while if 6 of them vote for acceptance, the new node is accepted.

Supervalidator Nodes: Supervalidator Nodes are high quality nodes which means that they operate with high reliance around the clock (24 hours, 7 days a week and 365 days a year) with a stable internet connection and powerful hardware. They verify transactions, keep the system up-to-date and participate in the voting.

The Supervalidator Nodes form their own voting group. If a new Validator Node wants to join the network or if a Validator Node wants to become a Supervalidator Node, either 50% of Validator Nodes or 75% of Supervalidator Nodes must accept the vote so that the new Validator Node is accepted. This mechanism allows the Supervalidator Nodes to accept new validators even if the other Validator Nodes do not care about voting. Hence, Supervalidator Nodes play an important role to achieve a sufficient level of decentralisation while removing the risk of node passivity in such decisions.

The Supervalidator Nodes are a group formed in the beginning and exist only as long as needed. If the community decides, sooner or later, that the network is decentralised enough, then the Supervalidator Nodes can be completely removed from the system which will result in a network solely governed by the Validator Nodes.

The Validator and Supervalidator Nodes earn equally transaction fees for keeping the blockchain secure and up to date.

4.5 Building on the eCredits Blockchain

eCredits aims to be a global cryptocurrency used by many people around the globe, especially non-technical, non-crypto people. This opens a huge potential for lots of other applications. The non-fungible token (NFT) market as an example, is a great use case which is already used worldwide and has even more potential in the future. Currently, such use cases are already implemented in a great way, but those are still mainly used by people with technical or cryptocurrency background. Also the transaction fees on existing technologies such as Ethereum are quite expensive leading to a situation, that a piece worth 10$ would cost a transaction fee of 30$. This results in a high unused potential as it is currently simply not economical to buy such goods.

The eCredits Blockchain with its cheap transaction fees and with the power of the Ethereum technology opens many blockchain use cases to a big, new audience which will join the Blockchain revolution soon. Such use cases include, but are not limited to:

Non-Fungible Tokens

Non-Fungible Tokens (NFTs) are digital representations of goods on the blockchain. Such tokens are unique and identify one piece, like collectibles, stamps, a piece of art, music or other goods, that are unique. NFT's can be maintained and transferred on the eCredits Blockchain and one could even sell such rare pieces to others.

Tokenised Equity, Securities

Securities are regulated, financial instruments (stocks, commodities, debts, real estate) issued by governments or organisations. A Security Token is a representation of such a security on the blockchain. While it is complicated to transfer stocks from one to another, a transaction on the blockchain is simple and fast. Also profit shares can be distributed more efficiently via blockchain as those are peer-to-peer transactions and no intermediaries are needed.

Tickets

One could issue entrance tickets for Formula 1 races, concerts and other events on the blockchain. Such tickets are tamper-proof and allow the owner to transfer it. Such a solution prevents ticket fraud and protects the buyers of such tickets as well as the event organizer. Even if someone is unable to attend an event, the money for the ticket is not lost as it can be sold globally because potential fraud is prevented by using blockchain technology. eCredits aims to be a legally-compliant solution and every measure or feature that reduces illegal activity is in the interest of "The people's currency".

Charity

There are many charity organisations that could benefit from a global, decentralised blockchain solution. Just to name a few:

> Plant a tree: Pay for trees or seedballs with eCredits to ensure that as little money as possible is lost on transaction fees. Maybe you can even get a digital representation of your tree on

the eCredits Blockchain. You can therefore use an eco-friendly blockchain solution to help the fight against climate change.

> Protect the whales: Much more interesting than the “crypto whales” are the whales in the ocean that are highly important for our climate. Become a patron of a whale and get a certificate on the blockchain, maybe even an NFT, showing your support for such important topics.

> Donations: reduce costly (crossborder) transaction fees for donations by using eCredits.

Other Token use cases

There are many other use cases around tokenisation. The issuance of a stablecoin on the eCredits Blockchain and the integration of such a stablecoin could provide price stability where it is needed. Vouchers in general, but especially meal vouchers are currently hard to handle. A digital representation would allow everyone to have all vouchers in the eWallet.

Those vouchers are tamper-proof and create a win-win situation for consumers and the providers of such vouchers. University or course certificates signed by the issuer to prevent fraud. Certificates, seals and other proofs of the nature and the origin of goods.

Other Blockchain use cases

There are many other use cases ranging from self-sovereign identity to certificates and intellectual property to crowdfunding.

eCredits chose Ethereum as base technology to allow the implementation of the many different use cases mentioned above.

5. eCredits Cryptocurrency – ECS

At the time of the launch of the eCredits Ecosystem, there are two tokens on the eCredits Blockchain: The native crypto-currency ECS, which is also used to pay so-called “gas” – the fees to make trans-actions, and eActivity – a token which is a reward program integrated into eCredits Blockchain.

5.1 The future of consumer-merchant transactions

ECS are the eCredits Blockchain's main cryptocurrency (technically called a native token). eCredits Cryptocurrency has the ticker ECS, similar to USD or EUR as the abbreviations for US-Dollar or Euro, respectively. As the eCredits Ecosystem is based on blockchain-technology, ECS is a cryptocurrency such as Bitcoin or Ether, created on top of the eCredits Blockchain. ECS is intended to be a cryptocurrency for everyday life. The eCredits Blockchain supports fast transactions which makes ECS attractive for merchants. Furthermore, the eCredits Blockchain uses an eco-friendly approach for verification of transactions (a different consensus algorithm compared to Bitcoin's proof of work which is very energy-intensive). To foster the accessibility and openness, ECS is a free-floating and publicly tradeable cryptocurrency. Additionally, ECS allows users and businesses to optimise transaction speed and costs while enabling ECS transactions with online shops. **To achieve its ambitions of becoming "The people's currency", the ECS embodies the following core principles:**

> The ECS is a decentralised, community-run cryptocurrency.

> It must be ensured that in the long term the operation of the eCredits Blockchain is not depending on a centralised body to maintain it.

> ECS must be accessible and transferrable without reliance on a central entity.

> The private keys needed to control and manage ECS lies in the hand and in the responsibility of each user themself. No party other than the user has access to the private keys.

5.2 Benefits of ECS for merchants

We are living in a time that mainly benefits large corporations and their stake- and shareholders. As a result, it is quite hard for MSMEs to be competitive. eCredits benefits regional suppliers and service providers who will be able to save costs on transaction fees as well as administrative expenses.

The advantages for merchants at a glance:

> A solution that is simple and highly convenient to use including tools for maintaining bookkeeping, user rights management, exchange options and many more features.

> Secure, decentralised cryptocurrency

> Fast transactions without long waiting time and instant accessibility of funds.

> Offers merchants a wide range of marketing opportunities

> Receive eActivity rewards for consumers paying with ECS.

> Increasing profits by lowering your costs on transaction fees drastically

> Drastically reduced fees for refunds

> Privacy and confidentiality for your business account information

5.3 Benefits of ECS for consumers

Some cryptocurrencies out there might suit specific utility purposes, but it is rather less realistic to use them for daily purchases of goods and services. The eCredits Ecosystem with ECS was born to fill those gaps and to provide major advantages for its consumers. The eCredits Blockchain, eWallet App and other applications will make transactions more affordable and convenient.

The advantages for consumers at a glance:

- Quick, reliable, and easy solution
- Receive eActivity rewards for using and supporting the eCredits ecosystem
- Special offers that are only available within the eCredits Ecosystem
- One global currency that consumers can use all around the world
- A secure wallet app that is easy to use
- Privacy and confidentiality of your sensitive customer data
- Safe & secure infrastructure

5.4 ECS Definition

The eCredits Cryptocurrency ECS has the following definition:

Name	eCredits
Symbol	ECS
Technical Base	eCredits Blockchain
Type	Payment Token
Decimal precision	18 for blockchain, 2 on UI
Use Case	Transactions, shopping
Supply	63,000,000,000
Tradeable	Yes, potentially at various third-party cryptocurrency exchanges
Transferable	Yes
Transaction fee (may vary)	**Fees within eWallet:** > 0.1% of eCredits Transaction amount > 0.5% for merchants incoming transactions > minimum 0.01 ECS Gas Price for custom wallets
Distribution	Airdrop, listed on third-party cryptocurrency exchanges

5.5 Transaction fees on the eCredits Blockchain

For making transactions with ECS, transaction fees are charged. The transaction fees are paid by the initiator of the transaction, except if a consumer makes a transaction to a merchant, for instance if the consumer buys a shirt at a local shop and pays with ECS. The eWallet and the smart contracts on the eCredits Blockchain take care of all transaction fees without the need for the cumbersome calculation of gas fees. The transaction fees handled by the eCredits Blockchain are as follows:

For consumers:

> For sending ECS to another consumer: 0.1% of the transaction amount

> For sending ECS to a merchant and for receiving ECS: free

For merchants:

> For receiving ECS: 0.5% of the transaction amount

> For sending ECS: 0.1% of the transaction amount

For all transactions handled by the eWallet, a minimum limit for the fee of 0.01 ECS applies. The transaction fees might be subject to changes in order to keep track with the scale and the demand of the eCredits Network.

To protect the eCredits Blockchain from malicious users overflowing the network with transactions or draining resources with indefinitely running smart contracts, the eCredits Blockchain knows so-called "gas" fees (as it is usual with blockchains). To make it simpler for all users of the eWallet, such gas fees are already included in the transaction fees and do not need to be calculated or paid separately. However, other providers can set different fees.

6. ECS token economics

The design of the token economics is essential to how the eCredits Blockchain and its cryptocurrency create and maintain value for the intended purpose of becoming “The people’s currency”. Key elements of the token economics are how the distribution and allocation of the tokens takes place and what kind of “monetary policy” the ECS are governed by. These aspects are introduced in the following sections.

6.1 Creation and distribution of eCredits

ECS are supported by the Decentralised Governance Organisation (DGO). One of the potential ways to distribute the ECS is to sell them through a third-party cryptocurrency exchange, whereby the tokens are not directly offered and sold to potential buyers but shall be accessible on various third-party cryptocurrency exchanges.

A suitable exchange has already been identified which could act as the partner to support the wider distribution of the ECS. The exchange has a strong focus on a broad population, especially within the EU, and provides technological openness allowing for an easy integration. Further information will be introduced at a later stage.

The eWallet allows to conveniently buy or sell ECS through partnered third-party cryptocurrency exchanges, allowing merchants an instant exchange functionality and generally making the exchange functionality easy to use.

6.2 Token allocation and distribution

The maximum total supply of ECS is limited to 63,000,000,000 units.

A portion of this maximum total supply amounting to two thirds, i.e. 42,000,000,000 units of ECS (66.6% of the total supply), will be locked in the eActivity exchange smart contract for further use for the in-built eActivity reward system (for further details, please refer to eActivity section of the Whitepaper).

A further portion of the maximum total supply in the amount of 21,000,000,000 units of ECS (equalling 33.3% of the total supply) is distributed to the Decentralised Governance Organisation (DGO) and will be made available to the public either via selling units via cryptocurrency exchanges, distribute them via airdrops, team supply, for further research & development, and use it to support third-party projects built on the eCredits Blockchain.

6.3 Token economics explanation

ECS is a free-floating, semi-inflationary cryptocurrency on a fully distributed ledger operated on a Proof-of-Authority eCredits Blockchain at the beginning. What does this mean?

Free floating:
ECS is not backed by or referenced to any fiat currency, commodity or any other underlying assets and doesn't have any mechanisms aimed to stabilise its value. The price of ECS is fully dependent on the supply and demand.

Non-redeemable:
ECS do not impose a claim in the form of a right to redeem against fiat currency, financial instrument, commodity, or other asset.

Semi-inflationary:
All ECS were fully minted after the creation of the eCredits Blockchain. That means the total supply is limited and embedded within the code of the eCredits Blockchain itself. Generally, the supply can therefore never increase, only decrease by burning ECS. However, the circulating supply issued is only a fraction of the total supply (as described above). Thus, from an economic perspective ECS can be considered semi-inflationary until the circulating supply equals the total supply.

Distributed and decentralised system:
The eCredits Blockchain is sustained by nodes (Validator Nodes and Supervalidator Nodes). These processing units run by independent actors check transactions for certain criteria.

Inflationary aspects:
Inflation allows for two things in the eCredits environment:

- Inflation increases spending attractiveness, meaning that by increasing the circulating supply of ECS, the relative value of ECS decreases, making the spending of ECS more attractive than holding them over longer time. This leads to the strengthening of one of the main selling propositions of using ECS as a means of payment (and not as a means of value storage). In conclusion, a marginal inflation is expected and fully intentional by the design.

- Inflation increases usage attractiveness. The inflation is partially created by incentivising users to be active and use ECS by rewarding the activity with eActivity which can be converted to ECS. eActivity will be issued to consumers for their activity in the eCredits Blockchain such as participating in votes, inviting new users and joining events. The main aspect for issuing eActivity will be purchases, where both merchant and shopper get eActivity for transactions. The conversion from eActivity into ECS will be handled via a smart contract that holds an ECS treasury. For any eActivity exchanged (e.g. sent to the smart contract by the user), there will be a fixed rate of ECS paid out to the user. While this is not minting new ECS in the traditional sense, it still introduces new currency units to the circulating supply and therefore has an inflationary effect. If needed, the treasury of the eActivity smart contract can be refilled (for instance in the course of burns or if required due to deflation).

Ongoing sales:
While there is only a limited amount of ECS generated, the Decentralised Governance Organisation (DGO) may hold a treasury of its own.

Deflationary aspects / “burns”:
While ECS overall has a limited supply, some events might lead to a decrease in supply and, thus, to deflation. Such events could be the loss of private keys by a user and thereby the loss of access to ECS funds on a certain wallet address.

Another possible deflationary mechanism available to the community is that the Decentralised Gover-

nance Organisation (DGO) is able to "burn" ECS from the DGO's own supply at its own discretion and as decided by its members. By burning ECS, the circulating supply of ECS is decreased. Such burns initiated do not necessarily destroy the ECS. Rather, such ECS are sent to the eActivity smart contract, thus prolonging the time until the contract runs out of ECS. By doing this, the "burned" funds are essentially taken off the market and made inaccessible to anyone but the transparent logic of the eActivity smart contract.

Gas fees:
Gas fees are being distributed to the Validator and Supervalidator Nodes as a reward for confirming transactions and providing additional security to the blockchain. As opposed to other blockchain protocols, the transaction fees on the eCredits Blockchain are intended as a percentage value instead of an absolute value. However, this is not implemented on the blockchain protocol itself (i.e. on a technical level) but is rather a suggestion to all providers of wallets. It is important to note that Validator and Supervalidator Nodes do not create ("mint") new ECS. Hence, this process does not increase the supply of available ECS and does therefore not have an inflationary effect. It is rather a redistribution of the transaction fees.

The goals of this approach are the following:

> Introduce a fairer ranking for transactions to be mined

> Generally lowering transaction costs due to removal of the bidding mechanic of gas fees (usually, faster transactions cost most gas)

> Reducing the impact and the concern about current gas fees

> Allowing bigger transactions to be given higher priority

With these measures, the eCredits Blockchain creates a more democratic and equal transaction system for everyone, aligning it with its vision of ECS becoming "The people's currency".

6.4 Instant trade feature

Merchants might be interested in low volatility of the prices for the currency they get their receivables in. If a merchant receives the equivalent of EUR 800 in eCredits in the morning for a sold TV, then it should still be worth EUR 800 in the evening, so that the merchant can pay its supply chain. After due consideration, the eWallet App implements an instant trade option with integrated third-party cryptocurrency exchange platform. Among other things, this helps to speed up the go-to-market, reduces the time risks, and mitigates the dependency on changing or yet-to-be-released regulatory frameworks.

In conclusion, the price of ECS is free-floating and determined just by demand and supply without any value stabilisation mechanisms. While this does not fully mitigate volatility and thereby bears the risk of value loss, it also gives the opportunity for value increases, which is undeniably attractive in current cryptocurrency markets. It also ensures complete independence from any centralised entity, making the eCredits Ecosystem able to exist without drawbacks or disadvantages even if the ecosystem develops further and the DGO does – for whatever reason – cease to exist or would be dissolved. Due to the instant trade mechanism, it can still be ensured that merchants always get the amount charged to the customer in their reference fiat currency.

7. Rewarding active users with eActivity

Active users of the eWallet App should be rewarded. For that, the eCredits Ecosystem has “eActivity”, a program rewarding the active use of the system with reward tokens called “ACT”. These tokens are automatically added to users’ corresponding eWallet addresses. Users can collect them and try to reach the highest amount in the network and it is planned to exchange them in the future into ECS.

Users can get eActivity rewards for activities such as:

- Consumers for using ECS for purchases at merchants: 1% in ACT
- Merchants for accepting ECS for purchases: 50% of the paid transaction fee in ACT
- Spreading the word and bring other people to the eCredits ecosystem ("invite bonus"), e.g. if user A invites a new user B, user A receives a certain amount of eActivity as a reward
- Participating in the Decentralised Governance Organisation (DGO) by becoming a member of it or vote on decisions

The DGO has the right to mint eActivity and can also do some special promotional events and reward those with eActivity, such as for instance rewards for joining during a limited time period in order to get a certain amount of ACT as a starting bonus (e.g. as ACT airdrop).

eActivity is not transferrable because of the purpose and nature of eActivity which is guided by the credo that "loyalty cannot be transferred and cannot be bought or sold". However, the ACT is planned to be exchangeable exclusively for ECS. This feature will be enabled by a smart contract, which will be deployed sometime after the launch of the eCredits blockchain. eActivity is only transferrable to this smart contract which receives eActivity and send ECS back.

7.1 ACT Definition

Name	eActivity
Symbol	ACT
Technical Base	Token, similar to an ERC-20 Token, but with some specific modifications
Type	Utility Token
Decimals	18 for blockchain, 2 on UI
Use Case	Reward program, can be exchanged to ECS
Supply	Unlimited - minted when granted
Transferable	No
Tradeable	No, only exchangeable to ECS
Transaction fees	Only for exchanging to ECS – Gas price for execution of exchange smart contract
Distribution	eActivity are minted in an eCredits purchase (in consumer to merchant transactions) or by the DGO

7.2 eActivity exchange Smart Contract

eActivity is a reward system and an ECS inflation mechanism. eActivity is planned to be exchanged against ECS after some time through a smart contract developed on the eCredits Blockchain whose purpose is to receive eActivity and returns ECS.

As soon as this smart contract is available, users can send an amount of eActivity to the smart contract. This amount is limited on a monthly basis and depends on the growth of the system.

Approximately every 30 days, every user is allowed to exchange 5% of their eActivity balance plus additional up to 10% of their balance depending on the growth in the amount of minted eActivity in the eCredits Ecosystem. So, the maximum exchange amount is 15% of the user's balance per month.

Calculation Details

Roughly every 30 days (technically speaking every 518,400 blocks), all addresses on the eCredits Blockchain are allowed to exchange a calculated maximum amount of eActivity via the smart contract to ECS. When the smart contract receives eActivity, it will send back ECS with an exchange rate that will be announced soon. If an address is allowed to exchange, for example, a maximum of 120 eActivity and it sends 130 eActivity to the smart contract, the address will receive 120 ECS from the smart contract and the smart contracts returns the excess of 10 eActivity, in case of an exchange rate of 1:1.

The maximum exchangeable amount per 518,400 blocks consists of the following parameters:

1. **Base Rate:** 5% – percentage value of the addresses eActivity balance that can be exchanged, independent of the growth of the Ecosystem.

2. **Variable Rate:** 10% – percentage value of the addresses eActivity balance that can be exchange, depends on the growth of the Ecosystem.

3. Round up the amount per user to remove values after the comma (for example, 41.1 will be 42).

Therefore, the minimum amount of eActivity that can be exchanged monthly per address is 5%, the maximum is 15%.

The variable rate depends on the growth of the ecosystem which is measured by the total amount of minted eActivity.

The maximum exchange amount is calculated as follows:

$$E(a) = \left\lceil a * (0.05 + 0.1 * min(\frac{A_t}{A_{t-1}} - 1, 1)) \right\rceil$$

Maximum Exchange Amount = Ceiling(eActivity Balance of user * (Base Rate + 0.1 * Min((Total Minted eActivity (this cycle) / Total Minted eActivity (last cycle)) - 1, 1)))

This formula can be split into the following elements:

> Ceiling (eActivity Balance of user * Exchange Rate)

> Exchange Rate = Base Rate + Variable Rate

> Base Rate = 0.05

> Variable Rate = 0.1 * Min(Growth, 1)

> Growth = (Total Minted eActivity (this cycle) / Total Minted eActivity (last cycle)) - 1

EXAMPLE

> May – Total minted eActivity: 1,000,000

> Jun – Total minted eActivity: 1,200,000

Base Rate = 0.05 or 5%
Growth = (1,200,000 / 1,000,000) - 1 = 0.2 or 20%
Variable Rate = 0.1 * Min(Growth, 1) = 0.1 * Min(0.2, 1) = 0.1 * 0.2 = 0.02 or 2%
Maximum Exchange Amount = Base Rate + Variable Rate = 0.05 + 0.02 = 0.07 or 7%

Therefore in the example above, every user is allowed to exchange 7% of their total eActivity.

For example, If a user has 927 eActivity, the maximum amount allowed to exchange is:
Ceiling(927 * 0.07) = Ceiling(64.89) = 65 eActivity

eActivity exchange into ECS can be triggered by any user by calling the exchange smart contract. However, the calculation of the growth of the eCredits Ecosystem happens when the first one calls the smart contract within the 30 days (every 518,400 blocks) cycle. The growth is calculated based on the issuance of new eActivity tokens at this first call in the current cycle compared to the first call in the previous cycle.

In the following simplified example, 30 days for exchanging the eActivity start with 1st of October.
Lets assume the following, total eActivity amount:

01.09.2021: 1,000,000 eActivity

01.10.2021: 1,200,000 eActivity

10.10.2021: 1,300,000 eActivity

If the first user exchanges eActivity on 01.10.2021, then the growth is 20%.

If the first user exchanges eActivity on 10.10.2021, then the growth is 30%.

So, the later the first user executes exchange, the higher the growth in this month and the lower the growth in the next month.

8. eCredits Ecosystem Decentralised Governance

Cultivating and fostering the governance, participation, and further development of a blockchain project are key for their successful adaption, now and in the future. Major decentralised projects are using independent bodies to contribute to drive the project forward inclusively and sustainably, for example the Swiss foundations for Tezos, Ethereum, or Cardano.

The eCredits Ecosystem aims to improve this open approach and set up an independent organisation that helps support the development of the eCredits Blockchain-technology and foster the adaption of ECS while being managed by its community. Such organisation – which is called "Decentralised Governance Organisation" in this whitepaper, DGO for easier reference – is independent, ensuring full transparency and inclusion, and allows the participation from the community in its governance and decisions.

The eCredits Ecosystem stands for decentralisation not only on the technological level, but also on its governance level.

The DGOs structure, legal form and governance, will be introduced in a separate mission paper by the DGO itself late 2021.

The goals of this decentralised approach to managing the eCredits Ecosystem are:

- to increase the participation of the users and other participants in the eCredits Ecosystem.
- to increase the diversity of the participants in the eCredits Ecosystem.
- to increase the efficiency in the decision making.
- to align incentives for all participants of the eCredits Ecosystem.

9. Values of the eCredits Ecosystem

eCredits' Decentralised Governance is guided by a set of values deemed relevant in building local and regional economies. They are the pillars of success that can put MSMEs on an equal footing with global multinationals. Therefore, these values are not only embedded in our actions, but also at the technical and structural level.

9.1 Fairness

This is about the balance of interests between merchants and consumers, as well as in the loyalty that is established through fair conduct. In international trade, there are few common interests between consumers, producers, and merchants. Products are often offered in the lowest possible quality at the highest possible price.

This is at the expense of domestic jobs, regional value creation, has disastrous effects on the environment, and creates a culture of low product appreciation and short half-life. This is unfair to everyone who cares about quality, the environment, or relationships. It is also unfair to the products that more often grace waste dumps instead of households.

Fair is a currency that provides opportunities for local suppliers to reward their customers, for customers to earn discounts and bonuses through repeated purchases, or ultimately to help grow quality businesses through participation and care. Fair is when both merchant and consumer together respect their environment.

9.2 Creating wealth

The key point is to connect local businesses on a whole new direct level with their consumers. This will be achieved by educating consumers about how important they are – for their personal future in terms of sustainability, contribution to local communities, e.g. in terms of paying taxes locally, job creation, and innovation.

Ultimately, it all comes down to the existence of a decentralised wallet with added-on services. Why is that? Shopping locally with an included loyalty mechanism serves both the merchant as well as the consumer. The consumer on the one hand supports the local business and growth but is additionally incentivised to increase spending with its local businesses. The merchant on the other hand is able to leverage an easy and seamless blockchain transactions while at the same time increasing customer loyalty.

As these incentivisation will at-heart and at the start work like simple reward systems that already exist, over time it creates a whole new experience and emotional wealth, transiting to a completely new kind of loyalty system: an eco-loyalty-system.

9.3 Competitiveness

MSMEs lose out in competition with large international companies, even though their products and services are often of higher quality. This has little to do with the products and much more to do with the marketing capabilities and the packaging skills of globalised industrial production. Marketplaces like ETSY have shown that this can be different. The eCredits Ecosystem offers the right solution for this.

An old merchant's saying goes: "Nothing into the packaging, everything into the chocolate". This testifies to an attitude that is rare today. It is not true that quality always has to be expensive. If one calculates the true price of industrial packaging and standardisation, it becomes obvious that it often exceeds the cost of the actual product.

The eCredits Ecosystem enables MSMEs to access the market at the level of the big players. In the eWallet App, the merchants have the possibility to advertise in real-time, make offers and respond to customers based on location and need. "Everything into the chocolate" has a future again with the eCredits Ecosystem and the embedded reward systems will make it attractive for customers to re-buy.

9.4 Sustainability

When a leaf falls off a tree it does not become waste but nourishment for the ecosystem!

Fossil fuels were primarily used to generate steam power and electricity. With many industries becoming automated, output from these sources increased. The burning of fossil fuels led to a massive increase in urban air pollution, although most people felt that such a disadvantage was not significant in the context of their newly found prosperity.

Today, industrialisation continues in the less well-developed areas of the world. Society has gradually become aware that there are many environmental impacts but also that we have the ability to take the appropriate actions to stop all of that and ensure a safer and better world for all of us!

The eCredits Ecosystem aims at taking a first but firm step towards a more circular system. The goal is to ultimately reconnect people! By again bringing local suppliers and service providers together with consumers, the environmental impact of goods and services can be reduced.

It might also increase the level of quality as personal relationships potentially lead to more tailored products and services and eventually to less pollution. One good example is so-called Fast Fashion which is intended to getting the newest trends quickly to consumers. But in reality, it just makes consumers buy more often and wear it for a shorter period, creating unnecessary waste and short-lived products.

9.5 Egalitarianism

The eCredits Ecosystem is supporting the diversity of life, thus will incorporate social values like equality in its core, code and functionality.

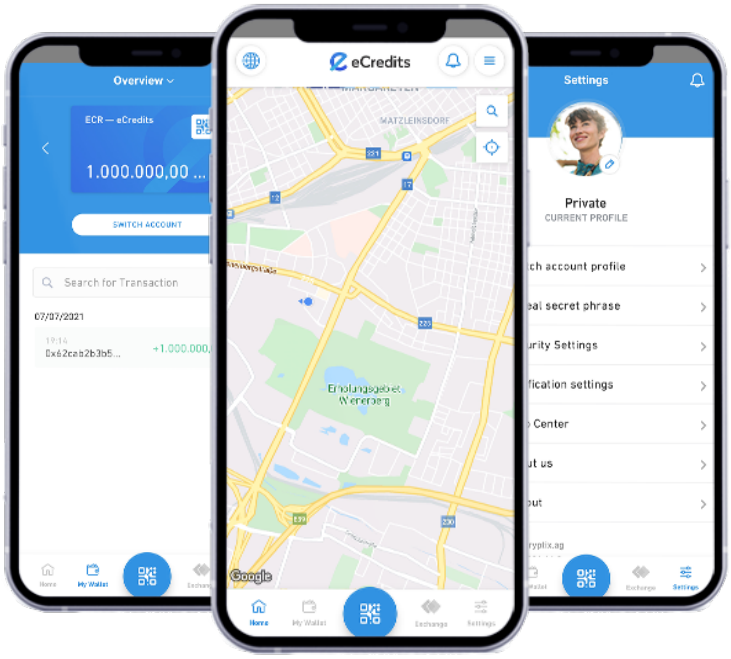
9.6 Stability

The eCredits Ecosystem is based on and driven by the blockchain-technology which, by nature, is decentralised and secure. More and more nodes and network participants around the world will participate and continue to build out the stable set-up and distribution.

10. eCredits Blockchain Application

The eCredits Ecosystem is an open and community-driven infrastructure. Generally, anyone can look up and interact with the eCredits Blockchain with eWallet or any other publicly available and technically compliant wallet, and even develop their own applications on top of it. In order to fulfil its promise to become “The people’s currency”, the eCredits Blockchain and ECS need to be easy and intuitive to use and must be straightforward to integrate in other systems. Therefore, the eCredits Ecosystem already includes some basic applications built on top of the eCredits Blockchain. These provide easy and convenient access to the core functionality and features of the eCredits Blockchain.

10.1 eWallet App and Web Portal

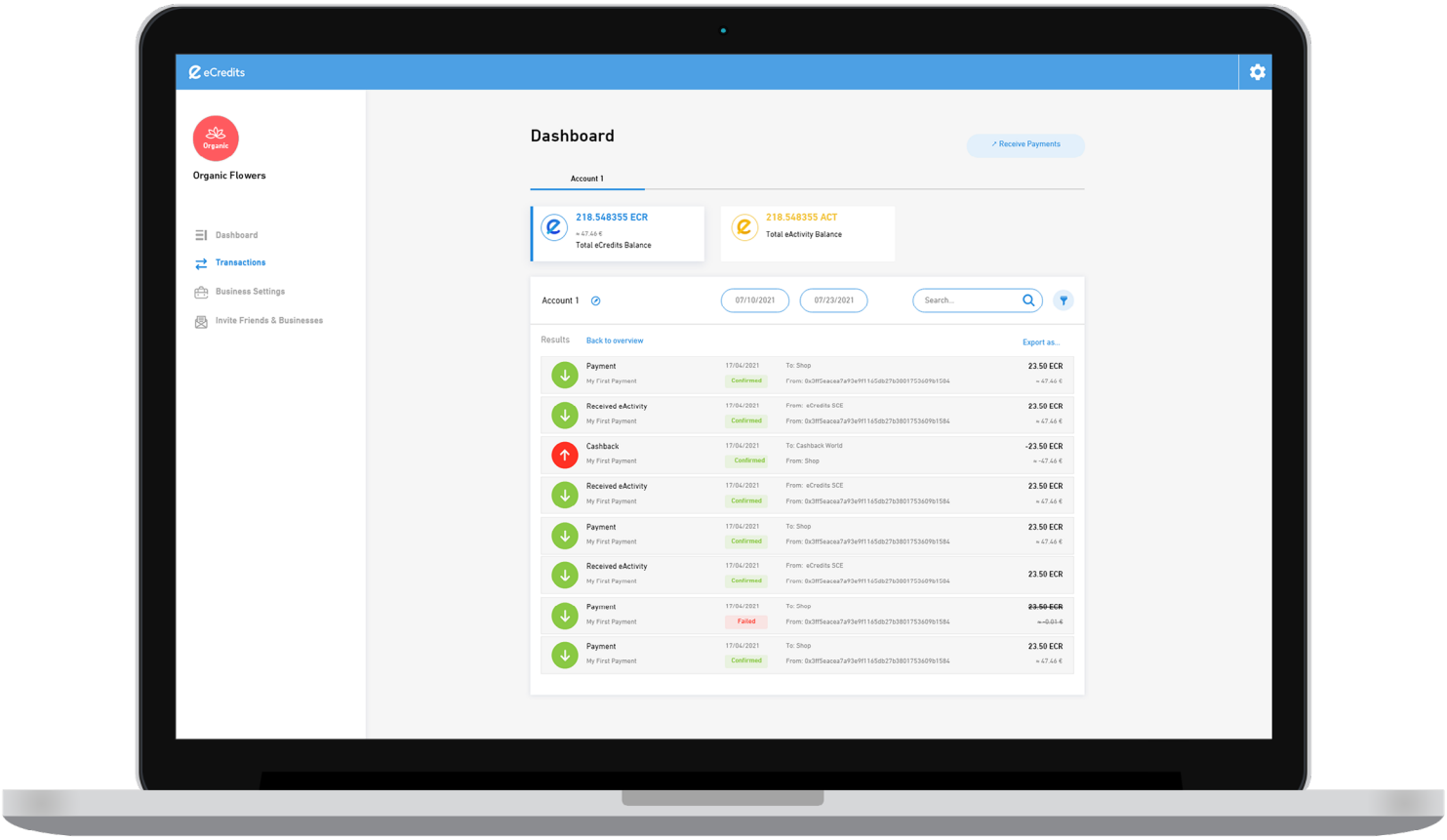


The eCredits eWallet App for IOS and Android

The eCredits non-custodial wallet, called the eWallet, is a mobile application that stores private keys directly on the device, and interacts with the eCredits Blockchain, and more importantly browse for local and online stores that accept ECS. Users are also able to provide and see ratings. Moreover, the eWallet App gives users instant and easy-to-use access to the ECS cryptocurrency so it can be spent on goods and services in a fast and highly convenient way. The eWallet App is available for both Apple's iOS as well as for Android, published and maintained by the independent Decentralised Governance Organisation (DGO).

The core functions of the eWallet are as follows:

- Secure, non-custodial on-device local storage of the user's private keys and corresponding public keys and addresses.
- Hierarchical deterministic (HD) wallet which allows to generate infinite number of addresses using one seed phrase.
- Interaction with the eCredits Blockchain, allowing access to and transfer of ECS
- Geographical map of merchants that accept ECS
- List of online stores that accept ECS
- Easy, fast, and low-cost transaction methods
- Integrated eActivity reward system
- Integrated Cashback system
- Buy and sell ECS via integrated third-party cryptocurrency exchanges



The eCredits Web Portal

The private keys, as well as associated public keys and addresses, are generated locally and stored on a user's device in the eWallet. No one, including the DGO, can access these credentials unless the user shares the credentials with them. This also means that losing the credentials will render a user's ECS, eActivity and other assets inaccessible and thus lost. A user should always backup the seed phrase or the private keys and keep them in a secure spot should the user need to restore the wallet.

The eCredits website provides users with additional information, such as news, training material, videos and other information related to the eCredits Ecosystem, the community-driven Decentralised Governance Organisation (DGO) and numerous different applications and services. It also contains links to the learning centre, the support portal, the download of the eWallet and other materials including documentation for developers.

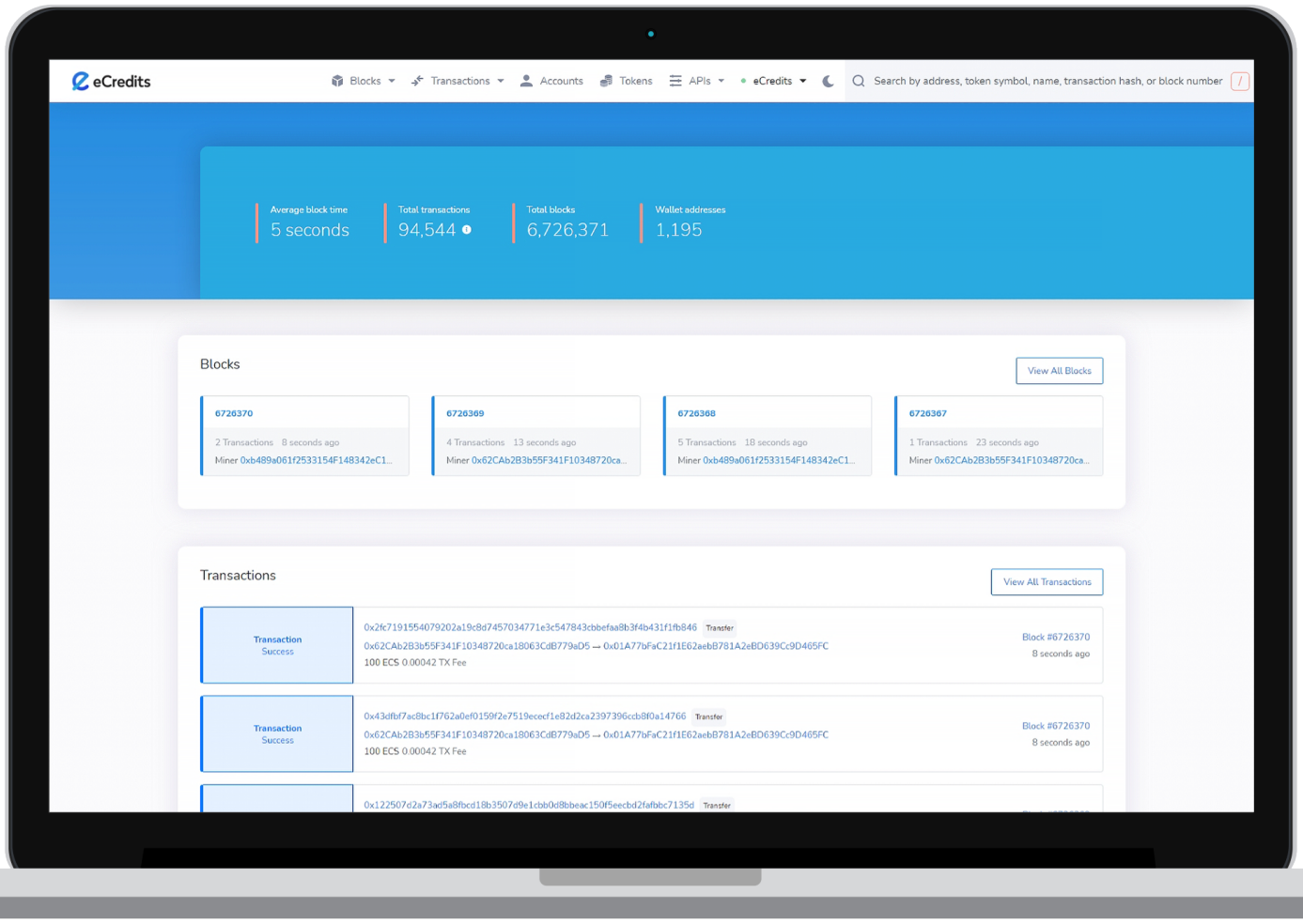
The Web Portal is a web application, allowing members, businesses, and consumers to access features such as:

- For merchants: Dashboard, transaction overviews and reports, export transactions, maintain business profile, statistics, and much more (for more details, please refer to section 6.4 below)
- For members: Access the membership, voting functionality, access reports
- For consumers: Dashboard, transaction overview, export transactions and much more

The eCredits Blockchain also includes a public API that allows users and developers to interact with the eCredits Blockchain. By this, online stores can easily integrate the eCredits Blockchain and ECS. It is also planned to offer a Web Widget, so that ECS can seamlessly be integrated into popular e-commerce applications such as WooCommerce, Shopify and others.

The eCredits Block Explorer

eCredits Block Explorer is an online blockchain browser for inspecting and analysing the eCredits Blockchain. It reveals the contents of blocks, transactions, transaction histories, accounts, balances and tokens. With this public and free tool, users can browse the blockchain.



The eCredits Block Explorer

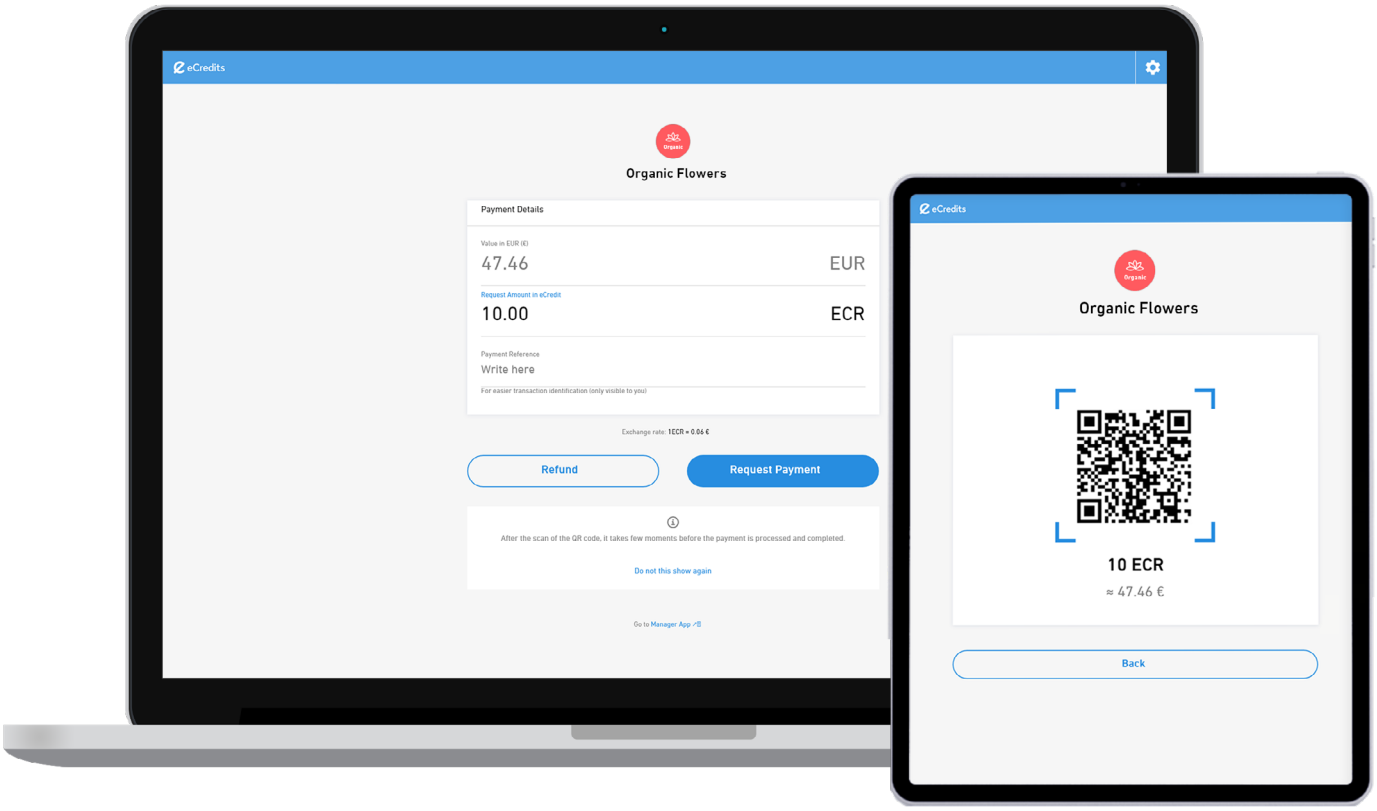
10.2 Merchant products

As eCredits Blockchain is designed to be used by merchants (but not only), there are several tools available for merchants and several features that are planned for the future, such as:

> **Cashier App:** A web application that allows merchants employees at the cashdesk to request ECS from their customers in exchange for goods or services. This web application can also be installed on the mobile phone, tablet, or notebook.

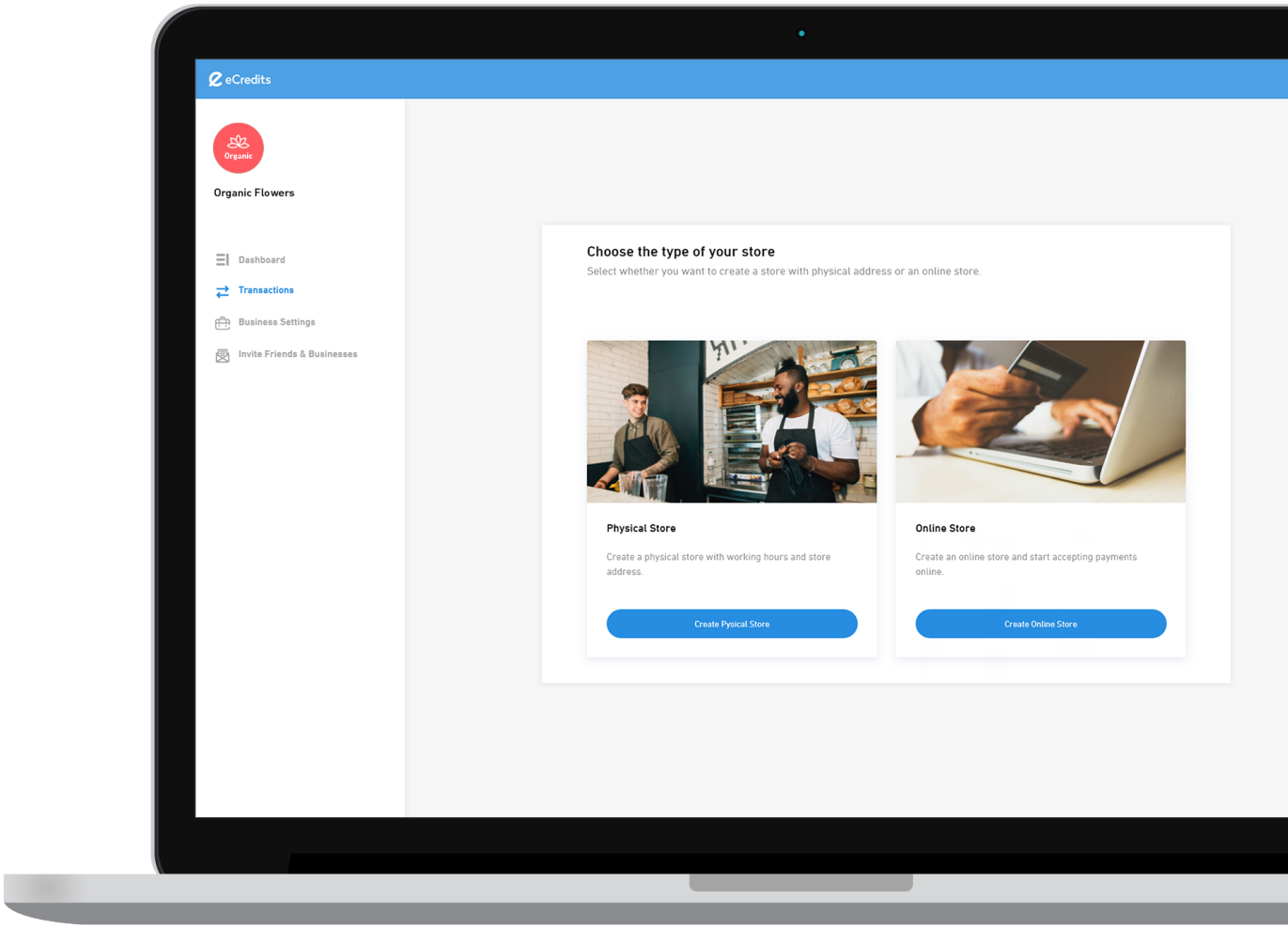
> **Web Portal:** The Web Portal includes functions to maintain the users who are allowed to access the data of the merchant, such as managers, accountants or cashiers. It has export functionality, dashboards and other useful features.

> **Instant Trade:** It is planned to offer an instant trade feature which allows merchants to trade ECS for specific currencies available within integrated third-party cryptocurrency exchange. ECS will be available for instant exchange against Euro or other currencies (accessible on third-party cryptocurrencies exchange), while ECS's value being free-floating and determined just by demand and supply without any value stabilization mechanisms so that the merchant has the possibility to choose between various currencies.



The eCredits Cashier App

- **Store Management**: Merchants are able to maintain their stores of the business which will then be visible on the map or in the list of online stores.
- **Privacy Feature:** Even if the transparency that the blockchain technology includes may have many benefits, it can be an issue for merchants, if all their sales are publicly accessible. Therefore, the eCredits Ecosystem contains a privacy feature with different levels.
- **eCashback integration:** The eCredits Ecosystem integrates a cashback system, an additional loyalty program that helps merchants to get more customers in their stores.
- **Transaction costs:** The transaction costs for merchants are, compared to other big payment systems, lower which in the end, increases the merchant's income.
- **Fast settlement:** As the transaction is done via blockchain, the merchant will receive the amount within a few seconds, instead of waiting days, weeks or even months.



The eCredits Merchant App

10.3 How a transaction works

Usability and convenience are at the core of the eCredits Ecosystem and its native applications, as they drive adaption and only then make the daily use possible and becoming "The people's currency". Therefore, it is very simple to make a transaction. A generic transaction between a merchant and a customer can be exemplified as follows. In this case, the merchant is a local, physical business, e.g. a grocery store.

> The merchant's cashier scans the items which consumer wishes to purchase at its Point-of-sale.

> The invoice is generated and printed.

> On their cashier system, e.g. a smartphone or a tablet that acts as a terminal, the merchant's cashier then enters the amount owed and creates the request to transfer the amount by clicking a button.

> In a next step, the cashier's app displays a QR code which the customer can scan with its smartphone.

> By scanning the QR code, the destination address and amount are automatically entered and indicated in the customer's app on the smartphone. Additionally, as it is a merchant transaction, the customer's app will show the logo and name of the merchant.

> The customer can then confirm the transaction, whereby it will be automatically signed, and the respective amount will be sent to the merchant's address.

> Finally, after the transaction is processed on the blockchain, the merchant gets a confirmation of the payment and is able to immediately access the funds transferred.

Within this process, the fee for the transaction will be added to the requested amount and automatically distributed between the validators of the network and the publisher of the eWallet. Additionally, loyalty rewards (i.e. eActivity and/or eCashback) are automatically allocated to the consumer and to the merchant if they are registered for such program.

10.4 Privacy

Privacy is getting more and more important, especially when it comes to the everyday's use of online services. The eCredits Ecosystem has a strong focus on the users' privacy.

Especially merchants have understandably great demands regarding privacy, as they do not want others, in particular competitors or the clients, to see their cashflows and balances. To address this, the eCredits Ecosystem offers four different options for merchants to receive ECS:

> Directly to their account (semi pseudonymity),

> To one of many addresses of their account (pseudonymity),

> To one of many addresses of a third-party cryptocurrency exchange (pseudonymity),

> Or via third-party cryptocurrency exchange (public privacy, which means it is private for the public, but the integrated third-party cryptocurrency exchange has the information on the sales of the merchants). eCredits uses this mechanism as a privacy enhancing method. This means that received payments end up directly with the integrated third-party cryptocurrency exchange, if this option is enabled.

Option 1
Semi pseudonymity: Merchant receives payment to one address

Option 2
Pseudonymity: Merchant receives payment to one of many addresses

Option 3
Pseudonymity: Merchant receives payment to one of his multiple third-party crypto-exchanges

Option 4
Full privacy: All merchant receive payment to same third-party crypto-exchange

10.5 Subscriptions

The core functions of the eCredits Blockchain are free for everyone to use, including the cashback function, the eWallet App, and the basic functions of the Web Portal. However, the use of certain functions and applications is subject to a subscription fee which will be announced on the eCredits website from developers or organisations that offer such applications or services.

The subscription model covers different user types and includes varying functionalities suitable for each such user types. Users can choose from three different subscription models, i.e. "Premium User", "Merchant Subscription", or "Affiliate Subscription", as further depicted in the following overview:

Features	Affiliate Subscription (Fee = Finders Fee)	Merchant Subscription	Premium User	Consumer
eWallet App	✓	✓	✓	✓
Web Portal	✓	✓	✓	✓
Cashback	✓	✓	✓	✓
Commision for Sales	✓	✗	✗	✗
Business Features (eActivity, CB, ...)	✗	✓	✗	✗
Involved in Sales Topics	✓	✗	✗	✗
Involved in Business Topics	✗	✓	✗	✗
Involved in General Topics	✓	✓	✓	✗

11. Business model and go-to-market approach of the DGO

11.1 Business model behind eCredits

In order to fulfil its purpose of establishing and supporting the eCredits ecosystem, the DGO needs sufficient and sustainable financial resources – in other words, it needs a valid business model to sustain its existence. The required income is generated with a subscription model as introduced above. Furthermore, another income stream are transaction fees of transactions made by the merchants while using the software provided by the DGO. Lastly, as the DGO is running nodes, it will earn fees for validating transactions in the network.

11.2 Competitive analysis

Instruments of payment have been an ever-evolving concept since the dawn of mankind. From bartering in prehistoric times to first metal coins in 700 B.C. to the introduction of the first credit cards in 1950, thousands of years have passed. At the beginning of our current millennium, the first mobile payment concepts were created and implemented - the digitalisation of means of payment took its course and reached the next stage of evolution with cryptocurrencies.

Banks are moving more and more towards digitalisation. Online banking was just the beginning, and the services they offer are increasingly accessible online. Substantial investment has been made in the development of mobile banking apps and the expansion of mobile payment solutions, with the aim of making their debit cards for use with Google Pay, Apple Pay or similar solutions or offer self-developed mobile payment applications. Newly established financial service providers, called “neo banks” or “challenger banks”, are entering the market with mobile-first strategies to compete with traditional retail banks.

The adoption of cryptocurrencies is steadily increasing worldwide. Even major players have recognised the “Zeitgeist” and offer corresponding options. For example, two of the world's leading payment networks, Mastercard and Visa, have announced in early 2021 their intention to open their networks to cryptocurrencies. Visa will start by allowing transactions of a USD-backed stablecoin. Mastercard will accept cryptocurrencies that offer a certain degree of stability and comply with the applicable laws in the respective areas of use.[1]

Also, the online-payment service PayPal announced at the end of 2020 to offer its customers in the U.S. the possibility to buy, sell and pay with cryptocurrencies.[2]

1.Sources: https://usa.visa.com/visa-everywhere/blog/bdp/2021/03/26/digital-currency-comes-1616782388876.html and www.mastercard.com/news/perspectives/2021/why-mastercard-is-bringing-crypto-onto-our-network/
2.Source: https://newsroom.paypal-corp.com/2020-10-21-PayPal-Launches-New-Service-Enabling-Users-to-Buy-Hold-and-Sell-Cryptocurrency

Overview of the Competition

The following table shows an overview of eCredits' competitors.

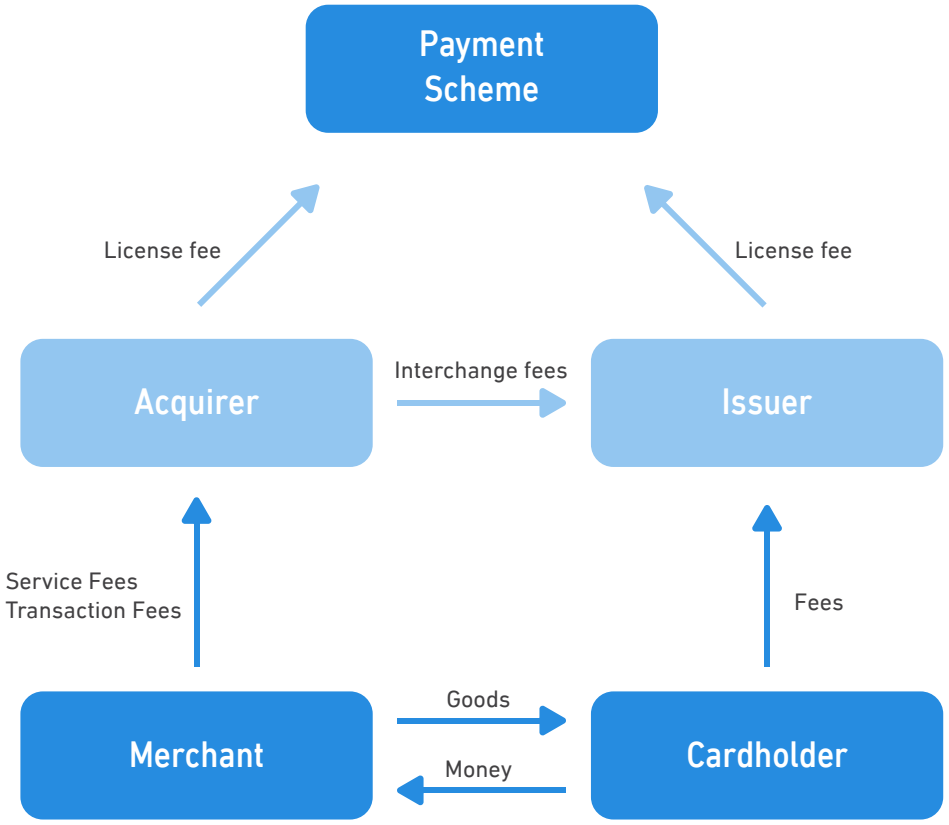
	Cash	Credit Cards	Debit Cards	Crypto Debit Cards	Crypto Ecosystems
Type	Extended Competition	Extended Competition	Competition	Competition	Competition
Provider	Central Banks	Traditional Retail Banks, Financial Institutes	Neo Banks, Traditional Retail Banks, Financial Institutes	Neo Banks, Financial Institutes, Cryptocurrency Payment Provider	Blockchain based ecosystem provider
Currency	Fiat	Fiat	Fiat	Crypto/ Fiat	Crypto
Form factors	Physical notes, coins	Plastic cards, native mobile apps, Google Pay, Apple Pay, Samsung Pay	Plastic cards, native mobile apps, Google Pay, Apple Pay, Samsung Pay	Plastic cards, native mobile apps, Google Pay, Apple Pay, Samsung Pay	Mobile apps
Points of acceptance	Accepted everywhere	Networks like Mastercard, Visa etc.	Networks like Mastercard, Visa etc.	Networks like Mastercard, Visa etc.	Own network of ecosystem operator
Market penetration	Very high	Medium - High	Medium - High	Low	Very low

eCredits is an ecosystem with its own cryptocurrency and mobile app, based on blockchain-technology. From this point of view, it would be obvious that debit cards with cryptocurrencies and crypto-based ecosystems should be seen as direct competition. However, since crypto-based ecosystems still have very low market penetration and there are relatively few at present, they are therefore not the main focus for now. of course, crypto wallet apps and crypto exchanges could also be considered competition, but these are out of scope, as they are not practicable from a use case perspective, especially regarding in-store payments.

Debit cards

The debit card is the classic bank card for cash withdrawals or payments in stores and in many cases also online. Depending on the provider and country, these cards can be called Girocard, Debit Mastercard, Visa Debit or Maestro. To use the card, an associated account is required, which must have a money balance. This concept is also used by neo banks or mobile banks such as Revolut, N26 and other new players in the payment field. Many of debit cards in circulation are equipped with NFC chips for contactless transactions at the point of sales – this will become standard in the near future.

In very simplified terms, a payment model can be illustrated as follows – the so-called 4 party model:



Payment Scheme: Sets the rules and procedures how transactions are processed with the use of payment instruments and provides its brand for example: Visa, Mastercard.

Acquirer: Is responsible for acquiring and managing points of acceptance (Merchants).

Merchant: Points of Acceptance of the Card.

Issuer: Issuer of the card, acquirer of cardholders.

Cardholder: Uses the card at the point of acceptance

Crypto debit cards

Crypto debit cards allow cardholders to make in-store or online purchases or withdraw cash from ATMs using Bitcoin or other cryptocurrencies, even if the merchant or ATM does not accept cryptocurrencies. Cardholders preload their debit card account with an amount of cryptocurrency, which is then automatically converted at the time of purchase at the point of sale. This allows users to seamlessly spend their cryptocurrency in real-life. Crypto debit cards are issued or co-issued by the different types of companies. For example, cryptocurrency exchanges, Neo Banks, or crypto payment providers.

Brand	Industry	Scheme	Form Factor	Users
Crypto.com	Crypto Payment Provider	Visa	App, Card	+ 10 million
Nuri (formerly Bitwala)	Crypto Payment Provider	Visa	App, Card	+ 250 000
Wirex	Crypto Payment Provider	Mastercard	App, Card	+ 3 million
Coinbase	Exchange	Visa	App, Card	n.a.
Revolut	Neo Bank	Visa	App, Card	+ 15 million

At the moment, mainly Visa cards are available on the market. One of the advantages of crypto debit cards is that they can be used at all points of acceptance of the respective schemes – for example Mastercard.

The evolution of plastic debit cards: Mobile Payment

Mobile payment refers to both payment transactions and money transfers using mobile devices such as smartphones, tablets, or smartwatches. In simple terms, mobile payment allows cardholders to use a "digitised" version of a plastic payment card and make it available on a corresponding app on a mobile device. Some of the most common are Apple Pay, Samsung Pay and Google Pay.

A study by PricewaterhouseCoopers (PwC) in the countries Germany, Austria, Switzerland, Netherlands, Belgium, and Turkey, has discovered, that survey participants in all countries state that they intend to use more mobile payments in the future.[3]

Crypto ecosystems

There are several projects in the pipeline around the world that are building crypto and blockchain-based ecosystems. Most of them want to use a cryptocurrency specifically defined for this purpose. These primarily seek to provide global, secure, fast, and low-cost payment solutions, with loyalty programs and other features like in app marketplaces, and multi-currency wallets. In contrast to crypto debit cards, which benefit from an existing network of points of acceptance, the rollout and acquisition of points of sales are based on strong partnerships with retailers and online stores.

3.Source: PwC study on mobile payment 2019

11.3 Trends

We live in a rapidly evolving world and there are always new trends that have an effect on eCredits. Some of the current developments are highlighted in this chapter.

Impact of the Covid Pandemic

The COVID-19 crisis has had a major impact on social action in everyday life, and especially on payments. According to a study by Visa, the percentage of the population conducting mobile payments in Germany doubled to 12% within a year. In addition, contactless card payments have increased at an above-average rate and are viewed more positively - across all generations.[4]

Also, McKinsey, a consultancy firm, comes to the conclusion, that COVID-19 will likely lead to a further decline in cash usage.[5]

As MSMEs recover from the pandemic, they need payment services which are fast, flexible and secure – and fit the digital economy.[6]

Effect on the eCredits Ecosystem: This development favours the use of contactless payment methods, especially mobile payment, which has a positive effect on ECS as cryptocurrency for daily purchases. Also eCredits Blockchain offers fast, secure, and flexible transactions.

QR Code based payments

According to a study by Capgemini, a consultancy firm, QR code-based payments will be a significant catalyst for the next growth of non-cash payments. Countries around the world are adopting QR code-based payments, which are cost-effective and provide ease of implementation. Payments players are eyeing significant opportunities in the alternative payments space as consumers seek speed, convenience, and superior customer experience.[7] Nick Maynard, Lead Analyst at Juniper Research explained: "QR payments will gain popularity as they are fundamentally suited to use in emerging economies. Its low infrastructure requirements make QR the best fit for digitising previously cash-based economies, making QR approaches vital to established financial players seeking new markets".[8] It is expected to see QR code-based payments integrated into even more digital commerce channels to support current omnichannel experiences and new ones as they evolve.[9]

Effect on the eCredits Ecosystem: eWallet is a QR code-based system that is very flexible and can be used for many purposes. Merchants benefit from a quick and uncomplicated installation at the point of sale - users benefit from the simple handling.

Super apps

The so-called "super apps" integrate social, financial, utility services, and entertainment functions. Several financial services firms have recognised the power

4.Source:www.visa.de/uber-visa/newsroom/press-releases.3024289.html 5.Source: www.mckinsey.com/~/media/mckinsey/industries/financial%20services/our%20insights/accelerating%20winds%20of%20change%20in%20global%20payments/2020-mckinsey-global-payments-report-vf.pdf 6.Source: https://www.paymentscardsandmobile.com/research/solving-payment-services-for-smes 7.Source: Capgemini, Payments Top Trends 2021 8.Source: https://www.juniperresearch.com/press/digital-commerce-transactions-to-exceed-1-trillion 9.Source: https://www.globalpayments.com/commerce-payment-trends

of mobile or digital wallets as a way to leverage customer proximity, and they are developing super apps to build ecosystems. A platform-based business model is an underlying key for super app success. The model weaves around a core product, scalable supply-side economy, and strong partnerships to fortify the ecosystem. Several use cases ranging from merchant payments, customer engagement and personalisation, lifestyle shopping, digital access to loyalty schemes, and financial guidance will make super apps a vital element.[10]

KPMG, a consultancy firm, points out that there are reasons why the financial industry should take heed of the developments very closely. Super app providers are building their brand reputations in financial services. Offering payment services within the app may seem fairly innocuous at first; a marketplace without a payment mechanism may be doomed from the start. Currently, the vast majority of these payments are flowing through traditional banking and card issuer infrastructure. However, most of the bigger super apps now also have strong relationships with banking arms (WeChat has WePay for payments and WeBank for banking products; Alibaba has AliPay and Ant Financial) who are using the super app's brand reputation and reach to access new customers and build trust in financial services.[11]

Effect on eCredits: The goal of eCredits is to become "The people's currency" and by that creating an easy and convenient cryptocurrency with intuitive and well-integrated utilities – an approach that corresponds exactly to the fundamental idea of the super apps. The goal is that users have access to all the services of the eCredits Ecosystem via a single app, without media disruptions, and in a secure, simple and easy manner.

Extinction of plastic cards

Deutsche Bank Research believes that cash will stay and the coming decade will see digital payments grow at light speed, which will lead to plastic cards becoming extinct. Over the next five years, Deutsche Bank Research expects mobile payments to comprise two-fifths of in-store purchases in the US, four times the current level. Similar growth is expected in other developed countries, however, different countries will see different levels of shrinkage in cash and plastic cards. In emerging markets, the effect could arrive even sooner. Many customers in these countries are transitioning directly from cash to mobile payments without ever owning a plastic card.[12]

Effect on eCredits: In contrary to many payment providers, which are currently taking a dual approach, namely a mobile app and a physical card, eCredits is focusing on the digital only strategy from the very beginning. This avoids the relatively expensive card production and the time from onboarding to delivery as well as the negative impact on the environment right from the start.

10.Source: Capgemini 11.Source: https://assets.kpmg/content/dam/kpmg/xx/pdf/2019/06/super-app-or-super-disruption.pdf 12.Source: https://www.dbresearch.com/PROD/RPS_EN-PROD/PROD0000000000504353/The_Future_of_Payments_-_Part_I__Cash%3A_the_Dinosau.PDF

11.4 Roll-out and go-to-market approach

The distribution of eCredits is planned in two phases.

- **Phase 1:** In this phase, the ecosystem should grow and users should join the system. Users can earn eActivity by using the system and spreading the word, but it is not yet possible to transfer or exchange eActivity. In this phase, eActivity will also be issued, e.g. for inviting other people.

- **Phase 2:** should start as soon as the system is stable enough due to the size of the whole ecosystem. eActivity might be used to decide when phase 2 starts, as eActivitiy represents the growth of the system (more merchants mean more shopping means more eActivity rewarded) and is therefore a good indicator for the transition.

12. Legal & Risk

Cryptocurrencies in general are subject to an everchanging legal and regulatory framework. To ensure full and ongoing compliance with all applicable requirements, the eCredits Ecosystem conducted various assessments and monitors the regulatory environment closely.

This section provides some background to the respective key elements regarding the eCredits Ecosystem and ECS.

12.1 Regulatory implications

The eCredits Blockchain has been structured in such a way that, to the best understanding of current legislation, (1) it does not trigger any regulatory requirements or (2) the use of ECS as a substitute currency for payments itself is not an activity subject to authorisation while such assessment shall not to be construed as guarantee of any kind thereof. ECS is not backed by, or referenced to, any underlying asset, currency, financial instrument or other unit of value, and has no value stabilisation mechanisms. As such ECS tokens are not provided with a claim in the form of a right to redeem against fiat currency, financial instrument, commodity or asset.

Furthermore, ECS tokens do not entail any promise or right to a share in any future company earnings, participation in capital, voting rights, principal or interests, any future capital flows or passive income. Additionally, ECS do not entitle token holders to acquire or sell any securities or to a cash settlement, as provided under Art. 4(1)(44)(c) MiFID II. The latter also means that ESC tokens cannot constitute a derivative (such as stock options or futures). As derives from this reasoning, ECS tokens do not confer rights comparable to transferable securities, thus they do not meet the substantive financial instrument or transferable securities qualification. Since ECS is a free-floating cryptocurrency not backed by or referenced to any asset without imposing any redemption right, it also does not represent a unit of collective investment undertaking. There is no central institution responsible for ECS, such as a central bank or other similar organisation, that supervises them or issues the units. Cryptography is used to secure the ECS tokens while decentralised networks are used to manage them.

Thus, the ECS tokens should not qualify as a so-called "security token", which is a token that has the characteristics of a security or financial instrument, and it should not qualify as so-called "stablecoin", which is a token that has implemented price stabilisation mechanisms by referencing their value to one or several fiat currencies or other assets or instruments.

While it does grant some utility, the majority of its characteristics do point towards ECS tokens being categorised as a substitute payment token, which is neither "stablecoin" nor "e-money token" as defined under Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on Markets in crypto-assets, and amending Directive (EU) 2019/1937, and can be accepted by natural or legal persons as a means of exchange and which can be transferred, stored and traded electronically.

To the best knowledge and due care, the results of conducted legal assessments point towards reasonable conclusion that the payment tokens to this point of development do not trigger any regulatory, registration or licensing requirements, or in particular, the use of ECS as a substitute currency for trade payments itself is not an activity subject to authorisation.

Due to the legal uncertainty in different jurisdictions on blockchain technology, there is however a risk that

in some jurisdictions crypto-assets, such as crypto-currencies, might be (currently or in future) prohibited, considered as security, financial instrument or limited in any other way. The DGO gives no warranties or guarantees on the legal nature and legal classification or legal assessment of the ECS, ACT, eCredits Blockchain, eCredits Ecosystem or DGO operation. All users shall bear their own legal and financial consequences of:

- ECS or ACT possibly being prohibited or considered as security, financial instrument, payment instrument or limited in any way in their respective jurisdiction, and

- the eCredits Ecosystem possibly being prohibited or considered as a regulated activity, subject to authorisation or is such service limited in any way in their respective jurisdiction.

Due to increased legal uncertainty in different jurisdictions, every user is advised to monitor whether possession or disposal of crypto-assets, including ECS or ACT, is legal in their jurisdiction. Prior to using ECS, ACT, or any eCredits Ecosystem features, it is recommended that users clarify whether in their respective jurisdiction the intended use is legal and not restricted in any way. Please also consider the legal disclaimer at the end of this document.

12.2 Measures to mitigate illicit activity

AML regulations aim at combating illicit activities such as laundering money from criminal activities or for terrorist financing. Such regulations require, in particular, that financial intermediaries conduct background checks and verify the origin of assets. Possession and use of ECS, ACT, transactions of ECS and services related to the utilisation of ECS or ACT can be subject to certain requirements, limitations or additional measures imposed by law for the purposes of identity verification and detection of money laundering, terrorist financing, fraud, or any other financial crime. Different entities within a (geographical or operational) sector may pose a higher or lower risk depending on a variety of factors, including products, services, customers, geography, business models and the strength of the entity's compliance program. Consequently, the ECS's accessibility and their utilisation can be dependent on third-party Service integration of the eCredits Blockchain into their systems and their services, whereby such integration and the utilisation of ECS's and the eCredits Blockchain can be subject to various and different requirements and limitations of use imposed by third-party service providers or by different regulatory standards and restrictions.

Such restrictions and limitations can, for instance, be applicable for the third-party cryptocurrency exchanges that enable users to buy or sell ECS, as they act as gatekeepers to the markets in crypto-assets, including ECS. Such cryptocurrency exchanges (and other similar third-party service providers) are usually responsible to comply with applicable AML regulations.

As such, cryptocurrency exchanges or similar third-party service providers might reject or cease

to provide any use or integration of ECS, ACT or other eCredits Blockchain features due to specific restrictions imposed by the AML regulations.

12.3 Loss of funds

Mobile app – the eWallet represents a non-custodial wallet for cryptocurrencies on the eCredits Blockchain, which means **that the DGO does not store nor has access to a user's private keys, passwords or any assets, stored on the eWallet. The DGO does not send or receive assets and cannot access a user's private keys or passwords.** Any ECS transfer or payment that occurs on the decentralizsed eCredits Blockchain is not controlled by the DGO

NO RETRIEVAL. eWallet and the associated private key is personal to a user and a user may not share his credentials with anyone. eWallet users are entirely and solely responsible for any and all activity connected to the use of eWallet and/or private key.

THE ONLY EXISTING BACKUP IS WITH EACH INDIVIDUAL USER. The DGO does not have access to or store passwords, private keys, recovery phrases, passphrases, transaction history, PIN, or other credentials associated with a user's use of any services within the eCredits Ecosystem. The DGO is not in a position to help you retrieve a user's credentials. Users are solely responsible for remembering, storing, and keeping their credentials in a secure location. Any third party with knowledge of one or more of a user's recovery phrase or PIN/password can gain control of the private keys and a User's assets (ECS, ACT) on the eWallet App.

12.4 Risks

The user acknowledges that certain risks pertain to the use of services within the eCredits Ecosystem, blockchain technology in general, crypto-asset protocols and related technologies. When using the services within the eCredits Ecosystem, users should closely consider the risks outlined in this whitepaper and other risks not specified herein.

High price volatility

The price of cryptocurrencies, including ECS might be subject to significant price fluctuations over short periods of time on a regular basis (high volatility).

Low market liquidity

The market liquidity of cryptocurrencies can be low and may negatively impact the possibility to sell cryptocurrencies, including ECS. The ECS may not be liquid.

Insufficient interest

The eCredits Ecosystem might not be successful and might be dissolved due to a lack of interest and/or support from its users or the public.

Losing access or hacked accounts

Forgetting the private key, or otherwise loosing access to ECS funds, might result in a permanent loss of the entire balance of ECS, ACT or other crypto-assets, accessible on eWallet or other technically appropriate wallets. Users are responsible for securing their private key and restricting access to their eWallets or other wallets as appropriate. Accounts could also be hacked by malicious parties to gain access to the balance.

Regulatory actions

Cryptocurrencies in general have been the subject of regulatory scrutiny by various regulatory bodies around the globe. The eCredits Ecosystem or the use of ECS could be affected by regulatory inquiries or regulatory actions, which could adversely impact the eCredits Blockchain network or the use and utilisation of ECS. The use of services within the eCredits Ecosystem may in some jurisdictions require authorisation(s) to be used as such, whereby DGO gives no warranties or guarantees on the legal compliance of the operation of any services accessible within the eCredits Ecosystem. **Each user should, independently and on its own responsibility, make sure if the use of ECS is legally permitted within its jurisdiction.**

Bugs and security issues

The eCredits Blockchain or respective applications could be subject to unknown bugs or security weaknesses adversely impacting the eCredits Ecosystem network or the use of ECS or ACT. The DGO assumes no responsibility for, and makes no representations with respect to, the accuracy of any part of the eCredits Ecosystem software. The DGO makes no representations or warranties that the eCredits Ecosystem source code, software, software updates, are free of errors.

Transferability

ECS may not always be transferable, due to, for instance, technical matters or legal restrictions.

Non-performance

ECS and ACT may not be usable or exchangeable against the good or service as indicated in this document, especially in case of failure or discontinuation of the eCredits Ecosystem project. The DGO assumes no responsibility for, and makes no representations with respect to, the effective, continuous operation or error-free functioning of any part of the eCredits Ecosystem software.

Taxes

Possession and trading in crypto-assets, including ECS may be or become subject to tax and/or any other duty for example, due to changes in legislation or user's personal circumstances. The DGO does not offer tax advice and if any taxes apply for using the eCredits Ecosystem services, ECS or ACT, it is the user's responsibility to report and remit the correct tax to the appropriate tax authority. The DGO assumes no responsibility for and makes no representations with respect to determining whether taxes apply for the eCredits Ecosystem services used or for collecting, reporting, withholding or remitting any taxes arising from the use of eCredits Ecosystem features, ECS, ACT or other associated services accessible therein.

Loss of value

Users acknowledge that when using ECS via eWallet or any other eCredits Blockchain application he assumes the risk of financial loss which may be a consequence of amongst other things:

- Failure of devices, software and poor quality of connection;
- Hardware or software failure (user's, DGO's or third-party service if integrated), malfunction or misuse;
- Improper work of equipment;

- Wrong setting of interface;
- Delayed updates of interface;
- Abnormal market conditions;
- Severe security breaches;
- Force majeure events;
- Judicial orders.

Though the DGO conducts its operations with due care and skill, it assumes absolutely no liability, legal or otherwise, for capital losses or losses of profit stemming from the factors above, except to the extent that it is caused by the fraud, intent or gross negligence by the DGO.

Operational risks

Operational risks regarding functionality of electronic devices, as well as the eWallet or any third-party service provider internal system setups, are inherent in every transaction. Disruptions in operational processes such as communications, computers, computer or mobile networks or external events may lead to delays in the execution and settlement of a transaction. DGO assumes absolutely no liability, legal or otherwise, except to the extent that it is caused by the fraud, negligence or dishonesty, in relation to the operational processes failures, including, but not limited to:

- In connection with the use of computer equipment and data, user bears the following risks amongst other risks, in which cases the DGO has no liability of any resulting loss;
- Power cut of the equipment on the side of users or the provider, or communication operator (including voice communication);
- Physical damage (or destruction) of the communication channels used to link users and provider (communication operator), provider, and the information server;
- Outage (unacceptably low quality) of communication links;
- Wrong or inconsistent with requirements settings of the user interface;
- Untimely update of the user interface;
- The use of communication channels, hardware and software, generate the risk of non-receipt of a message (including text messages);
- Malfunction or non-operability of any part of the software or hardware related to the provision of services.

Risks regarding the eCredits Blockchain

Any unexpected or unintended malfunction of those technologies or protocol can cause crypto-assets, including ECS and ACT or related services to malfunction or function in a different manner. The DGO does not guarantee that in those cases services shall operate without any disturbances, flaws, errors or defects and bugs that may intervene with the full

functionality of services. There are also potential risks with unfavourable regulation or governmental action in different jurisdictions that could in any way limit the use of the technologies and protocols. The eCredits Blockchain source code (or any other blockchain technology) could be updated, amended, altered, or modified from time to time by consensus by the validators . Also, other codes and protocols in the blockchain community, used as inputs or intermediaries in ECS and ACT transactions and/or payments can be altered the same. As a result, any update, amendment, alteration, or modification could lead to an unexpected or unintended outcome that adversely affects the services offered which might also affect the price/value and overall market performance. Any possible changes in the blockchain protocols could adversely impact the operation of the services we provide and could in the worst-case scenario, ruin the sustainability of these services.

Risk of theft, hacking, mining attacks or loss

Hackers or other groups or organisations may attempt to interfere with the wallets, services provided and/or blockchain protocols in any number of ways, including without limitation denial of service attacks, Sybil attacks, spoofing, smurfing, malware attacks, or consensus-based attacks. There are also other risks which could result in theft or loss of assets such as unintentional security weaknesses or bugs on the eWallet, website, platform, third-party services and/or apps, any advances in cryptography and other technical advances that could interfere with eCredits Blockchain technology, website, services, assets, and other unexpected risks. Blockchain networks are susceptible to various attacks, including but not limited to double-spend attacks, majority consensus attacks, and race-condition attacks, that could present a risk to assets, price/value of assets and overall performance of the markets in which the user is involved. The DGO makes no warranty that the website, apps, wallet, services, crypto-assets will be uninterrupted, free of viruses or other harmful code, timely, secure, or error-free.

eCredits Blockchain is a public, open-source blockchain meaning that any third-party can develop applications on or with integrations to the eCredits Blockchain, which can lead to the result that such third-party applications, developed on the eCredits Blockchain can be malicious, fraudulent and can lead to loss of funds.

Force majeure events

In the event of a Force Majeure Event, the eCredits Blockchain may be disrupted and the DGO may not be able to implement some or all of the planned eCredits Ecosystem integrations as presented in this document, and the DGO makes no warranties or representations with respect to their development, maintenance, enhancement or implementation. Without prejudice to the limitations of liability of the DGO, users acknowledge that the DGO is not liable and does not or have any responsibility for any type of losses (including but not limited to loss of profits) or damages arising out of any failure, interruption, or delay in performing its obligations where such failure, interruption or delay is due to a Force Majeure event.

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