



**AUTHOREON**

Protecting Authenticity & Trust

# Whitepaper

Version 4.0

June 19 2019

Written by the Authoreon-Team

[www.authoreon.io](http://www.authoreon.io)

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# What is Authoreon?



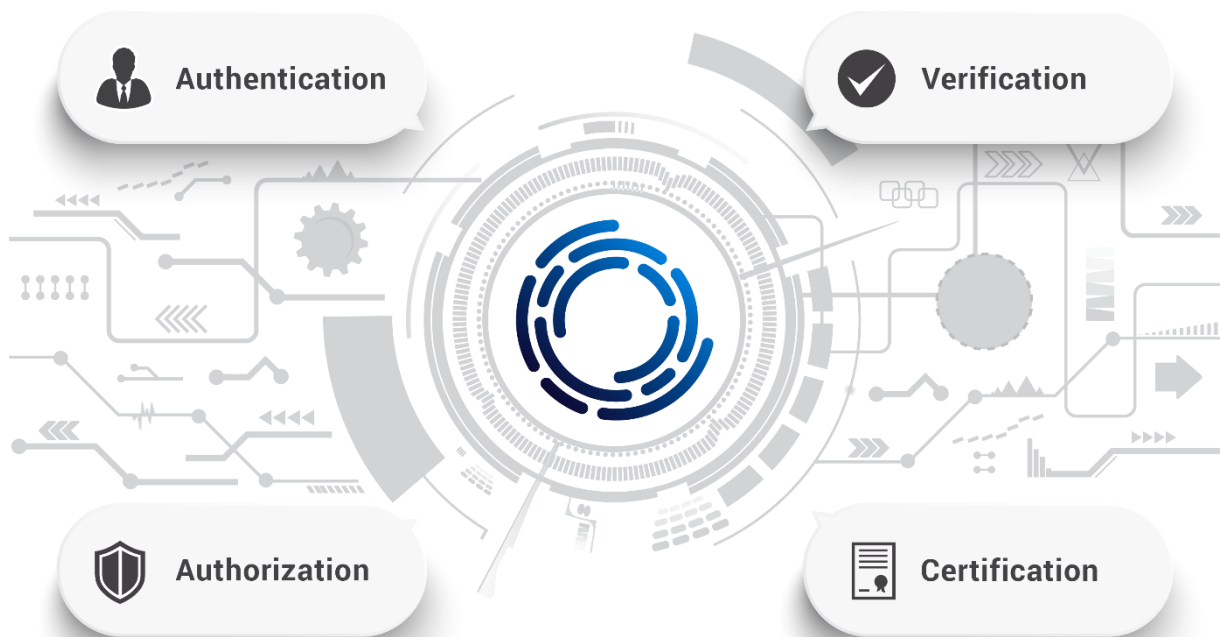
## Introduction

Authoreon was founded in March 2017 with the goal of decentralizing **Authorization, Authentication, Verification & Certification** for Consumers, Corporations, Governments & Organizations.

Authoreon will enable a holistic self-managed identity and an all-over traceability of products through the supply, retail and ownership chain, and it aims to prevent fraud, cyber-attacks, material and immaterial identity theft, counterfeits

After completing a successful token sale in 2017, 2018 was dedicated to product development. The plan for 2019 is to release our products at regular intervals to gain maximize traction.

# Abstract



With **cyber-attacks**, **password breaches**, **identity theft** and **document fraud** on the rise, it becomes obvious that the current online safety measures are not enough.

In addition, we face increased **national security concerns** - often in conflict with privacy & data protection regulations - as well as major challenges in **IOT security**, **copyright & intellectual property protection**, and **reputation management**.

Furthermore, increased **quality awareness** calls for a traceable **product identity and history** in the supply and ownership chain.

The failure to secure data, to verify identity and to grant access only to authorized instances is causing billions of dollars in damage each year<sup>i</sup>, while the most valuable asset at risk is **trust**.

Authoreon is solving these problems by decentralizing **authorization, authentication, verification and certification**.

Eliminating central control over authorization and authentication allows users to be in charge of their identity and personal data without reliance on a third-party gatekeeper.

Implementing decentralization as the fundamental element of authentication reduces the risk of fraud and abuse significantly, while at the same time increasing security and privacy.

Although there are many ways to increase authentication mechanisms, we're introducing our holistic framework approach that addresses several problems to achieve a network effect and foster early mass adoption.

# Architecture



The overall **Authoreon platform architecture** involves several components that leverage the properties and characteristics of **blockchain** technology, cryptography, artificial intelligence (AI) and substituting algorithms to provide maximum security, authorization and traceability.

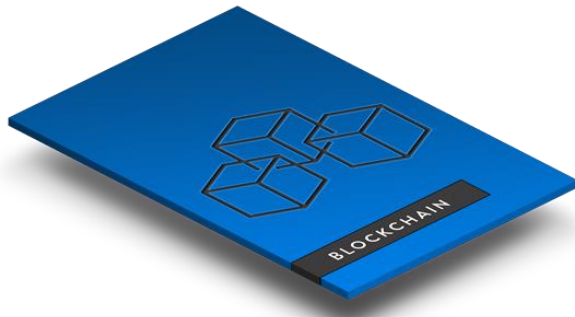
We achieve this by creating two additional separate overlay protocols on top of the blockchain: the **synapse** and the **access lock** layers.

This 3-layer architecture secures ownership and decentralizes authorization through use-case-specific **smart contracts** in combination with the **interplanetary database** (IPDB) and the **interplanetary file system** (IPFS).

All **Authoreon** platform **transactions** will be **fueled** by an application-specific token, the **Authoreon** (AUN).

# Architecture

## Blockchain



Authoreon is based on **Ethereum**, a public, open-source, censorship-resistant and innovative **blockchain** protocol and distributed computing platform, that provides a decentralized Turing-complete virtual machine (the Ethereum Virtual Machine (EVM)) enabling the execution of smart contracts.

In general, a blockchain is a **distributed database** that enables a digital ledger of **assets and transactions**, which are shared among a distributed network of users, and are thus **tamperproof**.

Utilizing public key **cryptography**, a blockchain enables each participant on the network to interact securely with the digital ledger and without the need for a central authority. Since each participant in the network holds a copy of the blockchain and all former transactions are **constantly revalidated** before an addition can be made, it is extremely difficult to change or remove data in the blockchain.

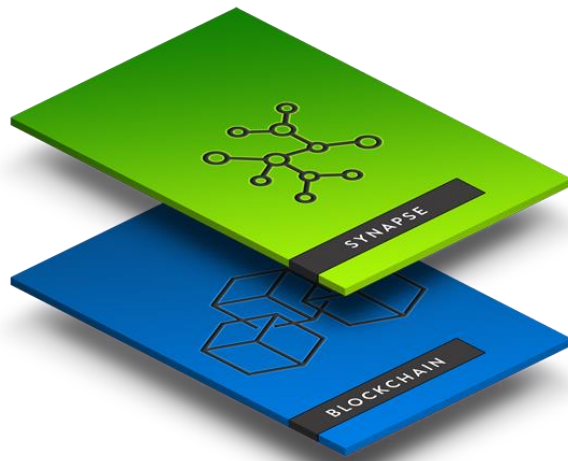
Whenever a participant wants to add an asset or transaction to the blockchain all other participants in the network run an evaluation algorithm to **verify** the **transaction**. If the majority of nodes agree that the transaction is valid, the asset or transaction is **authorized** and written to the blockchain.

The Ethereum Blockchain achieves consensus using a **Proof-of-Work** algorithm, which uses a **hash function** to create conditions under which each single participant is allowed to announce conclusions about the submitted information. The results can then be verified by all other participants in the system. A false result is excluded by the parameters of the hash function, as it will fail to compute.



# Architecture

## Synapse



On top of the blockchain, we're developing the **synapse protocol**, which is an independent application layer inspired by the human brain.

It is designed to further the functionality, scalability, and performance of the Authoreon platform by enabling **smart authorization contracts**.

Smart contracts are **decentralized programs** that function on defined rules created with scripting languages, which can

be either integrated into the protocol or dynamically created. They facilitate, verify, or enforce the negotiation or performance of a contract. A smart contract can be crafted to make a contractual clause unnecessary.

**Smart contracts** usually also have a user interface and often emulate the logic of contractual clauses. Proponents of smart contracts claim that many kinds of contractual clauses may thus be made partially or fully self-executing, self-enforcing, or both. Smart contracts aim to provide **security** superior to traditional contract law and to reduce other transaction costs associated with contracting.<sup>ii</sup>

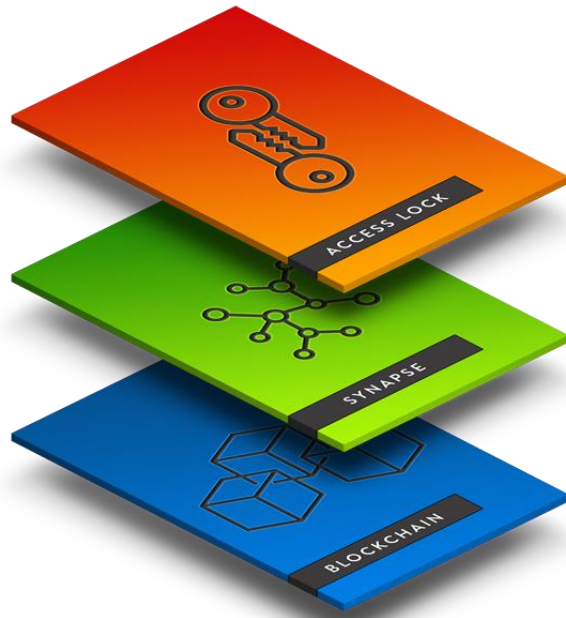
The Synapse layer is responsible for storing data safely and effectively and **verifying identities** against the stored **access authorization**.

As the **intermediary** between the blockchain (Proof-of-work) and the access lock layer (Proof-of-Stake), the synapse protocol also generates **temporary access** for authorized instances.

It also keeps the blockchain light and fast by **substituting** the stored data - resulting in an increased performance, faster block processing times, as well as the ability to process more transactions in a single block.

# Architecture

## Access Lock



The access lock layer acts as the **gatekeeper**, processing incoming requests to the synapse layer and granting **temporary access** if the requesting instance is **authorized**.

For this purpose we're developing the **2<sup>2</sup>-key-algorithm**, providing one **static key** with a **dynamic (temporary) key** only if the other key is still valid by **authorization** and vice versa. **Access is only granted to two dynamic keys**.

This mechanism replaces the traditional **two-factor authentication** enabling a wide range of potential **applications**.

While the blockchain uses a **Proof-of-Work** algorithm to achieve consensus, the access lock layer will deploy a **Proof-of-Stake** function, which is similar to the Proof-of-Work system, however participation in the consensus-building process is restricted to parties identified as having a **legitimate stake** in the blockchain, e.g. individuals who own Authoreon tokens. Here, the hash function calculation is replaced with a simple **digital signature** which proves **ownership of the stake**.

Instead of any individual attempting to calculate a value in order to be chosen to establish a **consensus** point, the network itself runs a lottery to decide who will announce the results, and system participants are exclusively and automatically entered into that lottery in direct proportion to their **total stake** in the network.<sup>iii</sup>

# Framework

## Platform

The Authoreon solutions will be accessible through the Authoreon platform – and, in contrary to most of the currently available systems, through an easily manageable web application graphic user interface (GUI) -, as well as through mobile apps (for Android, iOS) to enable key authorization and authentication functions, staking and wallet interactions. For maximum accessibility and usability, each product will have its own category-based landing page with the interaction section itself, as well as explanatory how-to-content (text and video) and best practice examples.

## Proprietary Technology



Beside the additional layers, Authoreon's core development is the A-ID, the world's first machine-readable optical label on the blockchain. The A-ID is a universal code, that addresses today's needs in a self-managed identity, in E-Commerce, Supply Chain, Authorization and Authentication. Each and every individual, asset and transaction will be provided with a unique optical code, that enables a fast and seamless authorization, authentication, verification or certification.

The Universal Product Code (UPC Barcode) and the Quick Response Code (QR code) are very limited in their functions and capabilities. Both can be considered as representations of static data - lacking the flexibility of dynamically adding or editing information.

In contrary, Authoreon's A-ID is a dynamic code, that can be updated at any given moment, e.g. if a product is passed on in the ownership chain. Additionally, we are introducing master- and subsidiary code relations, e.g. one particular supply chain has a master code, while each stakeholder owns a separate one.

# Framework

## Mobile Apps

**Protecting Authenticity & Trust**

The Authoreon A-ID enables you to verify, authorize, authenticate or certify any identity or asset - fast, seamlessly and securely on the Blockchain.

[Get it on GOOGLE PLAY](#) [Download on the APP STORE](#)

[>> See all upcoming Releases](#)

The mobile apps for iOS & Android allow to generate and scan A-IDs to track & trace, follow, check, authorize, authenticate, verify and certify all kinds of individuals, assets, products, processes, supply & ownership chains, certificates and IDs.

Over the next few months the apps will gain more and more functionality with the upcoming product releases (e.g. Original Product Verification).



# Framework

## Web App & Plugins

Authoreon will also release a Web App to create A-IDs in the browser, as well as Plugins for a seamless integration into third party systems.

## CMS

In order to be able to release our products with fast pace, we have developed a Code Management System (CMS), which – similar to a form builder – allows us to create use-case-specific products by simply dragging and dropping single elements without the need of developing each solution from scratch.

Depending on the problem to address, we can even integrate additional code, APIs, or requests to other A-ID based products or functions (e.g. a verified identity).

After we have released our very own product line, we will release the CMS to the public so even non-technical users can create their own products and publish them on to our commission-based marketplace.

The CMS will also enable us and the users to offer the creation of tailor-made Smart-Contract-as-a-Services (SCaaS) addressing very specific use-cases.

## Interoperability

The Authoreon products are designed to be blockchain agnostic, so they can be used with other public or private distributed ledgers. With one of the next releases, the user can select which blockchain to use.

Wherever possible, we will also make sure to provide multiple connectivity options such as plugins and APIs for third-party systems and frameworks (e.g. Content-Management-, Shop-, Merchandise-, Supply-Chain-Management-Systems).

# Products

## The Nanolense

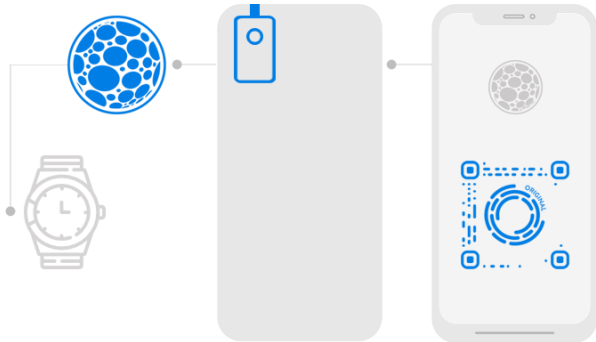


The Authoreon Nanolense is a hardware extension for your mobile phone required to **capture** and **verify micro-scans** to verify the **originality** of products, artworks and documents.

[Details & Pre-order](#)

# Products

## Scope: Authoreon for Retail

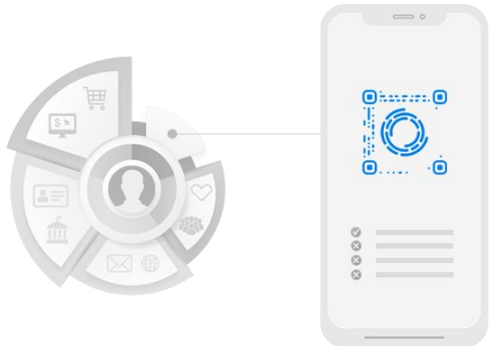


### Brand Protection & Consumer Trust

Authoreons' A-ID – the world's first machine-readable optical label on the blockchain, as well as its optical micro-scan technology allows **Original Product** Verification, **Authorized Retailer** Verification, **Identity** Verification, **Supply Chain & Ownership Chain** Tracking – securely on the **Blockchain**, and without the need of RFID/NFC chips.

[Learn more](#)

## Scope: Authoreon for Personal Use



### A Self-Managed Identity

The A-ID will enable users to store all their personal data securely on the blockchain while granting selective access to verified and authorized instances only.

[Learn more](#)

# Products

## Upcoming Releases

### Original Product

The A-ID in combination with our optical scan technology (Nanolense) allows users to verify original products against counterfeits in e.g. the luxury-, pharma-and car-parts-sectors. Every material such as leather, textiles, plastic, wood or even metal has a unique surface structure – just like a fingerprint. It also helps brands to track down counterfeit producers and retailers – without the need of expensive RFID/NFC chips.

### Authorized Retailers

To complement the verification of original products we believe it is important to enable consumers to also verify the authentication of a retailer by allowing the brands to selectively authorize their respective retailers. The Retailer would display his A-ID in his (online or offline) shop and the consumer can scan for which brands the retailer was verified.

### Verified Identity

In order to increase consumer trust on otherwise mostly anonymous marketplaces or to prevent consumers falling for fake shops, reputable retailers can undergo a identity verification with Authoreon and display their A-ID within their profile or legal notice page.

### Supply Chain Tracking

Track and trace is defined as the process of identifying past and current locations of inventory items, which should be trackable at any level from ingredient to finished product – and anywhere in between. these processes are supported through through the A-ID, that helps to provide real-time information on both location and status of items as they move throughout the supply chain.

### Ownership Chain Tracking

We don't stop here. In order to provide a holistic track and trace solution, the A-ID offers to keep track of the history of resell items through the ownership chain.

### Verified Art Works

With "Verified Art Works", Authoreon addresses art forgery, which results in millions of dollars in damage every year. The A-ID in combination with our optical scan technology (Nanolense) allows artists, gallerists, museums, auction houses and insurance companies to officially declare an artwork as an original by adding a unique-like-a-fingerprint optical-surface-scan of the artwork to the asset during the A-ID creation. Other parties can then verify the originality by optical-scanning the artwork on a predefined spot – without ever getting to know the original scan. The verification is done as a background image recognition/comparison process with only returning the positive or negative result.

### The Self-Managed Identity

Authoreons' Self-Managed Identity will enable users to store all their personal data securely on the blockchain while granting selective access to verified and authorized instances only. This not only serves as a digital twin type passport of the modern age, it also enables a true self-managed identity with the user being in charge of his/her data. This includes a scan-to-login functionality when authenticating at different portals, social networks or online shops – eliminate the need for entering the passwords. The users only scan the A-ID displayed on the website through the camera of their mobile phones, the mobile phone sends the personal code to the website and authenticates the session.

### Secure File Storage

Store sensitive files and documents securely on the blockchain and grant selective access to authorized parties.

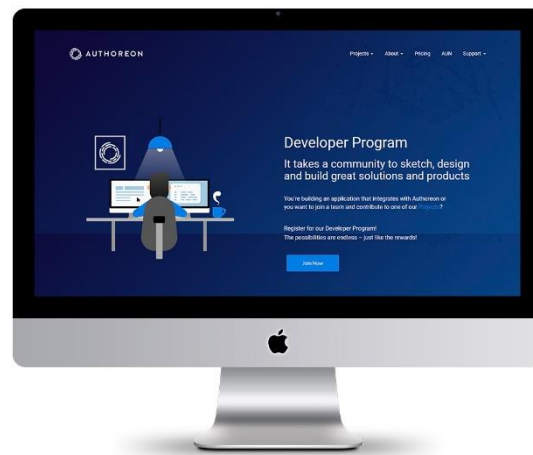
### Certificates

Create and verify all sorts of certificates on the blockchain to prevent fakes and forgeries, as well as to attach more information (e.g. FairTrade, nutrition, source of supply details, etc.). Just scan to verify.

[Learn more](#)



# Other Developments



## Developer Program

*"It takes a community to sketch, design and build great solutions and products!"*

When you're building an application that integrates with Authoreon or you want to join a team and contribute to one of our projects, then register for our [Developer Program](#)! The possibilities are endless – just like the rewards!

[Learn more](#)

# Go To Market



Authoreon is currently running and designing several pilot projects with startups, brands, consultants and government agencies. After successful completion we will start public cooperations resulting in a certain amount of publicity.

After the successful launch of a critical mass of products with paying customers from all segments, Authoreon will expand aggressively with the help of our network of country managers, partners, advisors, customers and employees.

Beside our Chryp.to efforts, we also plan to bring Authoreon to mainstream market and mass adoption by creating awareness during current events and directly addressing the consumer, who is most negatively affected by e.g. fraud, identity theft and cyber-attacks.

Authoreon will also issue publicly visible and verifiable badges and certificates proving the authenticity of authorization claims, which will also result in high visibility and network effects.

We will also soon engage in “regular” marketing activities such as banner advertising, email campaigns and video promotion. Our marketing & sales team is ready for launch!

# Tokenomics

## Token Sale

Why a token sale? For the Authoreon platform to be truly decentralized, a large group of supporters is required. Traditional investors - as a small group - would gain control of the network and they would ultimately act in their best interest, and not in the best interest of the users and the community. We came to the conclusion that only a blockchain-driven crowd sale utilizing an Ethereum ERC20 token can provide the required amounts and quality of funds to achieve our vision and provide enough fuel for the platform to run. Between August 1<sup>st</sup> and December 31<sup>st</sup> 2017, Authoreon conducted a crowd sale and raised \$1,500,000 from about 5,000 contributors.

## Token Fact Sheet

<b>Token Name</b>	Authoreon
<b>Token Symbol</b>	AUN
<b>Token Type</b>	As utility tokens Authoreon tokens are used to access certain functionalities of the platform including registering a new asset, transferring an asset, and a variety of other authorization features. The Authoreon Token does not represent or confer any ownership right or stake, share or security or equivalent rights.
<b>Total Token Supply</b>	90,000,000 (90 million)
<b>Circulating Supply</b>	30,000,000 (30 million)
<b>Reserved Incentivation Tokens</b>	30,000,000 (30 million)
<b>Reserved Team Tokens</b>	30,000,000 (30 million)
<b>Initial Price per AUN</b>	\$0.15 Discounts available
<b>Smart Contract Address</b>	0x5b7093fe2491dfb058c94bcd62a1cd4d822f884c

# Tokenomics

## Introduction

Authoreon is building an innovative ecosystem of services and applications around Authorization, Authentication, Verification and Certification on the Blockchain. At the core of our solution is our native AUN token, that fuels and powers the Authoreon ecosystem. In the sections below, we have outlined the basic design goals of the AUN token – especially its planned gradual transition from a utility token to a security token to provide more value to all involved stakeholders.

## Design Goals

The definition of a token economy is based on the design of the token and the rules that govern its utilization between participants within the ecosystem. A thriving token economy revolves around the study of game theory, behavioural economics and mechanism design, and requires an innovative design of incentives to ensure the use of the native token is desirable by the respective ecosystem stakeholders.

When elaborating the AUN token economics, we considered the following key factors:

- Ensure that participants are strongly incentivized to use and hold AUN
- Establish and maintain demand for AUN
- Demonstrate utility within all services and applications
- Lower user acquisition costs through network effects
- Align the value of AUN with the success of Authoreon
- Reduce price volatility
- Introduce AUN as a payment token\*
- Provide real value for token holders in the long run as a security token\*

# Tokenomics

## Token Classification

*\*DISCLAIMER: Please note that – at this point in time – the AUN token does not represent an ownership or share in ANY public or private corporation, or other entity in any jurisdiction.*

### 1) Utility token

The AUN token is currently classified as a utility token, which is primarily used in connection with certain products or services on a single platform only. It does not confer any other rights and it appears very similar to a voucher and shall not be subject to any regulatory regime.

### 2) Payment Token

However, Authoreon is currently in the regulatory process of transforming the AUN utility token into a payment token, which primarily performs a payment function for a larger group of persons (“customers”).

### 3) Security Token

Once the AUN token is classified as a payment token, we will make sure Authoreon complies with all imperative regulations and thus qualifies to transform the AUN token once more – this time to a security token, which then “confers a right of payment against the issuer” and allows us to share profits among all AUN token holders based on their holdings.

## Regulations

From staking to burning tokens, we considered a plethora of options to provide true value and benefits for all AUN token holders – already at this point in time, but we’re strongly advised against these models for questionable compliance with all imperative regulations. Yet, it is our aim to create the best possible and most beneficial tokenomics & business model for all stakeholders involved.

# Tokenomics

## Token Holder Benefits & Rewards

### 1) Future Model

We'll do our very best to have the AUN token classified as a security token within the next 5 months (end of November 2019). Upon approval, ALL profits will be shared among all token holders based on their holdings. A smart contract will handle the distribution and provide full transparency over the revenue.

### **Monthly Profits / Circulating Supply \* AUN Holdings = Individual Monthly Dividends**

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### 2) Interim Model

In the meantime we recognize the need for a different benefit for token holders. Therefore, with the first revenue, Authoreon will transfer 10% of the proceeds into a reserve fund, that will serve to buy back AUN tokens – after the approval as a security token. This will result in a scarcity of supply and hence drive up the demand which is bound to reflect in price appreciation of each token. For now, the reserve fund will collect FIAT only and will be overseen by a notary (TBA), who will publish a monthly financial report and proof of deposit. The detailed modalities and timeline of the Buyback will be discussed with the community shortly.

### **Monthly Revenue \* 0.10 => Reserve Fund**

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# Tokenomics

## Business Model

With its marketplace Authoreon will implement a modular SaaS/dAaaS subscription model. Users pay e.g. \$0.20 – \$3 per month per dApp – depending on the product or use case, and until they cancel their subscription for this particular dApp.

### 1) Closed Marketplace

Authoreon will offer its 30+ products on its very own marketplace, which is accessible through the Web and Mobile Apps. Since all products are based on the A-ID and a basic free membership, the products are comparable to In-App-Purchases, where users can choose and unlock additional paid features. Depending on the nature of the products or use cases, these are charged as one-time or recurring payments.

### 2) Open Marketplace

After Authoreon has released a majority of its very own products, the marketplace will be opened to the public, allowing enterprises, startups and individual developers to develop and publish applications via Code Management System (CMS) based on the A-ID, and offer them to their customers globally. Authoreon will charge a commission on fees imposed by the respective publishers. These can include application or component download fees, one-time in-app purchases and recurring application subscription fees.

### 3) Forms of Payment

Authoreon wants to eliminate unnecessary barriers to entry, while still providing market support for the Authoreon Token. Therefore, as soon as a substantial daily volume & liquidity is reached, the conversion to Authoreon tokens will run as a background process – making the platform currency agnostic and enabling consumers to use major Fiat and Cryptocurrencies as a form of payment. Until then customers will have to own AUN to access and interact with the platform (transaction fees, “Gas”), but subscriptions will have to be paid in FIAT.

# Tokenomics

## Conclusion

Authoreon has designed a token economics model – within the given legal and regulatory framework – to ensure efficient token circulation across all stakeholders within the ecosystem, as well as to provide a real value to stakeholders as soon as possible. Providing value, managing token velocity, frictionless onboarding and maintaining demand are key design considerations throughout the entire process.

## Trading

Authoreon is currently trading on [IDEX](#), [Forkdelta](#), [Etherdelta](#) and [Tokenjar](#). We will ensure that Authoreon is tradable on major exchanges soon. While we cannot guarantee substantial liquidity levels of the Authoreon Token until the platform is fully deployed, we will make every effort to enable the growth of the liquidity market.



# Company



# AUTHOREON

Protecting Authenticity & Trust

## Company name

**author** /'ɔ:θə/ noun

*creator, owner, one who makes or creates, author, originator, producer, builder, founder, trustworthy writer, authority, doer, literally "one who causes to grow".*

**eon (æon)** /'i:ən/ noun

*an indefinite and very long period of time, a unit of time equal to a thousand million years, (in Neoplatonism, Platonism, and Gnosticism) a power existing from eternity.*

## Logo

*The Logo represents the ideal combination of a machine-readable code and a fingerprint. The circular shape reflects Authoreon's "holistic solution" approach.*

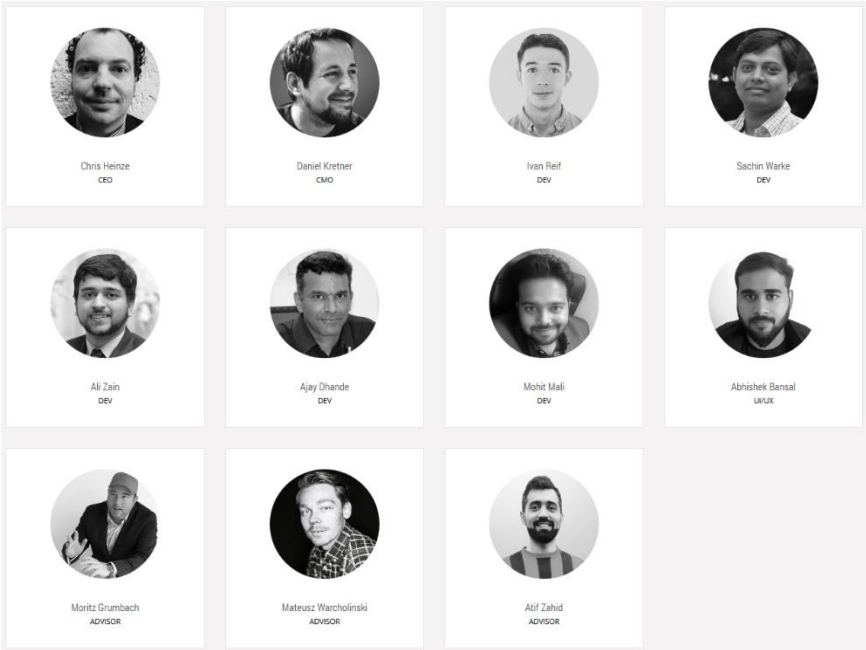
## Slogan

*The Slogan expresses the company's mission & vision to improve authenticity and increase trust on a global scale.*

# Company

## Team

The Authoreon team consists of highly motivated and experienced experts in all relevant disciplines. In cooperation with a large network of partners we ensure the highest safety standards, an outstanding service and support and unlimited passion for our mission.



# Company



## Mission & Vision

Our five year goal is to be at the forefront of securing authorization, authentication, verification and certification in the blockchain, with users and customers all over the world, securing thousands of assets and transactions per day – for private users, corporations, governments and organizations.

We envision numerous products to serve a wide range of use cases, and a high adoption rate due to the platforms usability and holistic approach and network effects.

# Roadmap



# Company

## Legal Notice

### **Authoreon.io**

Synced Ventures GmbH

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Registered at the Register of Companies Munich

USt-Id: DE319411098

CEO: Chris Heinze

Email: [info@authoreon.io](mailto:info@authoreon.io)

Web: <https://www.authoreon.io>

# Contacts & Community

## Communication

Open and transparent mutual communication is critical to the success of Authoreon.

Your questions and suggestions are welcome at the following locations:



[info@authoreon.io](mailto:info@authoreon.io)

# Bibliography

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<sup>i</sup> <https://www.iii.org/fact-statistic/facts-statistics-identity-theft-and-cybercrime>

<sup>ii</sup> <https://tokenmarket.net/what-is/smart-contract/>

<sup>iii</sup> <https://medium.com/@chrshmmmr/consensus-in-blockchain-systems-in-short-691fc7d1fefe>