

# Blockademia



Decentralized system for issuing and verifying documents

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# 1. Introduction

The growing sophistication of off-the-shelf technology capable of creating a viable fake certificate—and the emerging market for such services—combines with the need for fast verification to create an opportunity for criminals. Businesses cannot afford to wait the weeks or even months to verify authenticity of a certificate, and must rely on the certificate itself. It is no wonder that this combination of forces has created a thriving market for fake certificates, causing many millions in damages by authenticating those who are not qualified for a particular job. Given the scale of the problem, this situation has undoubtedly resulted in loss of life.

In the Republic of Croatia alone, there were dozens of cases of public service employees with fake diplomas and certificates, and with further investigation, dozens of other forgeries were found. University diplomas are far from the only documents falsified.<sup>[1]</sup> Many other documents and certificates, such as professional course certification, industry skill certification, licensing documents, are forged and passed on because they are professionally forged and companies simply can't go through a major effort to verify each one. When the documents are from another country, the cost and effort to verify is compounded significantly. Forging and creation of fake certificates is the basis of whole businesses<sup>[2]</sup> and financial losses, and the consequences are hugely significant.

## 1.1. Target Market

The Blockademia System aims primarily to verify the authenticity of documents issued by educational institutions such as universities, community colleges, high schools, elementary schools, adult education institutions, and any other document issuers that need protection from forgery. Secondary markets include issuers of certificates from city, regional, and state offices; insurance; pharmaceutical companies; and more.

## 1.2. Target Users

The Blockademia System will serve educational institutions, city, regional, and state offices, insurance, pharmaceutical companies, and any other document issuers that need protection from forgery. On the other side, companies and regulators are the entities that need to check that any given document is authentic or is a forgery.

The Blockademia System benefits three key users: The companies who require proof of authentication for documents they request; the users who own the certificates that validate their skill/status; and the institutes who create the certificates, and who must continuously validate them upon request. The ecosystem for this problem is fortuitous, because the Blockademia system solves all three problems for all three users. The structure is self-reinforcing so that each user benefits every time the system is used. This is especially beneficial because the current process is onerous at best, and is further complicated through cross-country verification<sup>[3]</sup>.

It is expected that by 2030, almost 300 million people will own a higher education degree certificate<sup>[4]</sup>. This trend indicates that not only higher education institutions, but other institutions and companies issuing certificates will have the same verification problem—and will benefit from the Blockademia solution—meaning that the total number of potential users is much higher.

*According to the latest data, the numbers of academic institutions and potential users of the Blockademia System are:*

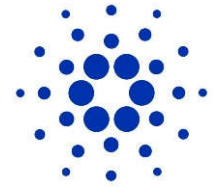
Region	Institutions
Adriatic	450
EU	2.725
Globally	>25.000

## 1.3. Why Blockchain?

Every blockchain uses complex cryptography to create and verify blocks in chronological order. This creates a chain of blocks that is immutable and permanently stored. This chain of blocks can be described as a ledger. The ledger is distributed to thousands of computers worldwide, and new blocks are constantly being added synchronously to all the computers in the network.

Blockchain transactions are fast, secure, and decentralized, which enables a trustless ledger with no feasible way to attack the ledger.

Given the use case of storing proof of validity from the source, into a trustless ledger easily accessed when given permission by the document holder, is ideal for all three user types. This use case is exactly what blockchain was developed to accomplish.



## 1.4. Why Cardano?

Cardano is the first blockchain platform developed by scientific principles, with a vast team of scientists and academic experts continuously working on its development. The code is thoroughly checked and formally verified before being put to general use.

With such a methodology, Cardano is becoming a third-generation blockchain that benefits from the hindsight of previous generations. By learning from the bottlenecks, logistical issues, and scalability constraints of Gen 1 and 2 chains<sup>[5]</sup>, it can easily overcome the issues experienced by Bitcoin and Ethereum while keeping the desirable features of a decentralized platform – security, speed, and interoperability.

Cardano also enables the creation of tokens on its blockchain, which keep many important features of ADA – Cardano's native token<sup>[6]</sup>. Enabling next-generation smart contracts, Cardano has positioned itself as a leading blockchain platform for years and decades to come. Therefore we believe that choosing Cardano is a logical choice.



## 2. Blockademia System

Blockademia is a decentralized information system for both issuing and checking the authenticity of issued diplomas, certificates, and other documents using Cardano blockchain transactions.

Cardano blockchain transactions records are public, immutable and unique. Each transaction has date and time of transaction written as part of transaction as well as other metadata which ensure each transaction's uniqueness.

Using these blockchain features, Blockademia ensures the permanence and immutability of the issued entry, which includes document metadata and subsequent authenticity checks. Blockademia is a modular application with predefined functionality depending on the size and issuer requirements.

The Blockademia System structure is comprised of:

- Web application and mobile app for issuing/verifying the documents
- Cardano blockchain entries which ensure immutability
- Blockademia utility token (ACI) as a “fuel” for running the Blockademia System
- Decentralized system for credibility rating of issuing entities

The Blockademia System features different models which will support:

- Single-user, Multi-user, and No-limit users
- Functionality with or without Document Management System (DMS )
- Web application, Mobile app, and Rest API access interface

The Blockademia System consists of four functionality models (versions):

**Blockademia Basic**

- Single user
- No DMS
- Web interface only
- Maximum of 25 documents published within a calendar year

**Blockademia Medium**

- Multi-user (max. 3 named users)
- No DMS functionality
- Web interface only
- Max of 100 documents published within a calendar year

**Blockademia Pro**

- Multi-user (max. 9 named users)
- DMS functionality included
- Web application included
- Mobile application (IOS and Android) included
- No limit of documents published

**Blockademia Enterprise**

- Unlimited application users
- DMS functionality included
- Web application included
- Mobile application (IOS and Android) included
- Administrator user interface
- Unlimited documents published
- Web API (REST) interface enabled

Pro and Enterprise versions include the DMS (Document Management System) module, while the Rest API connector is reserved for only the Enterprise version. These modules enable simple connections to other systems.

In order to use a specific Blockademia app model, the needs to have a specific amount of ACI tokens in their wallet:

<b>Blockademia Apps Version:</b>	<b>Min. ACI Tokens in wallet</b>
<b>Blockademia Basic</b>	<b>300</b>
<b>Blockademia Medium</b>	<b>1.000</b>
<b>Blockademia Pro</b>	<b>9.000</b>
<b>Blockademia Enterprise</b>	<b>15.000</b>

These tokens must be in wallet at all time during operation of dApp in specific version. Blockademia dApp will not use these ACI tokens for transaction fees payment or for any other expense.

## 2.1. Blockademia DApp

The Blockademia DApp is a web application used for publishing and verifying the originality/authenticity of issued documents.

The Blockademia DApp enables users to:

- Publish documents
- Verify documents
- Manage users (in Medium, Pro and Enterprise versions)
- Manage wallets
- Configure dApp settings (theme, language, etc.)

Blockademia has a dual-layer structure where the processes of document publishing, along with all user processes, are being executed in an isolated part of the application. The blockchain interaction is included in a separate service area. This way, cost and performance optimization of the system is achieved.

Registered users can be private users, registered and checked via KYC procedure, or corporate users, operating within their company (if it is registered as Blockademia user).

## 2.1.1. Issuing a Document (Blockchain Entry)

The issuer uses the dApp web application to prepare a document and custom metadata, which is then used to generate a unique hash that is written to the blockchain as transaction metadata<sup>[7]</sup>.

Publishing documents can be done only through the Blockademia dApp web application. The dApp enables users to publish a single or multiple documents in one simple process.

Single document publishing process is considered a transaction, and the Blockademia dApp will charge the user a publishing fee per document. Publishing documents requires availability of ACI tokens in the user's wallet. The issuer has access to the interface where they can easily check their balance of ACI tokens.

After the entry is added, the issuer receives a confirmation PDF which contains:

- QR code for each document, used later for simple verification of issued doc
- Verification link in human readable format
- Metadata which has been created during the publishing process
- Metadata been added to the transaction as sys data (timestamp, etc.)
- Instructions on how to verify the document using data from the confirmation

## 2.1.2. Verifying Authenticity

Verifying the authenticity of a document is accomplished through the Blockademia dApp web interface or Android/iOS Blockademia application.

Verification starts with scanning the QR code from a verification PDF, clicking on the verification link, and manually entering the verification code. The Enterprise version enables advanced options of verification via API interface.

The verification process returns a confirmation that the document has been issued by the issuer (hash OK) or returns a message that the document has not been found on the blockchain. If the hash is OK, the Blockademia dApp will display the document metadata and optional documents.

If the document (verification hash) is not found, it means that the Blockademia cannot confirm validity of document and process is terminated.

Verification of up to 25 documents per calendar year is free of charge, and subsequent documents are charged from ACI tokens in a user's wallet.

# 3. Blockademia token (ACI)

Blockademia token (ACI) is a native token on the Cardano blockchain. It is both a utility token and a governance token of the Blockademia decentralized system.

The intended uses of Blockademia token are:

- Paying the user fees for using the Blockademia system
- Rewarding users for participating in the system (issuers, referrers onboarding issuers)
- Treasury financing
- Governance of the decentralized Blockademia system

The system will include a form of rewarding users who hold the token to disincentivize token sales after exchange listings.

ACI token usage is designed to disconnect the cost of the service from crypto market volatility. The system itself drives the ACI token demand regardless of token price.

## 3.1. ACI Token Mechanics

The total ACI token supply cap is 250.000.000 ACI.

1 ACI is divisible to 6 decimal places, which is represented as 1.000000 ACI.

The smallest divisible part of the ACI token is called a chip and is equal to  
0.000001 ACI.

To ensure fair initial distribution and optimal initial decentralization, initial token distribution will follow these guidelines:

- ACI tokens will be distributed to as many Blockademia users as possible
- No single ACI token owner will be distributed a significant amount of ACI tokens in regards to total supply; this will limit the possibility of market manipulation
- There will be no significant differences to token price within the initial offering
- Participants of the initial distribution will be actors from different sectors: future system users, early adopters, investors

All participants of the initial offering will be registered users and will be subjected to the KYC procedure.



Blockademia system participants are divided into several groups

### MANAGER

- Initially Smart Contract Ltd., but will be the Community in the long term

### ISSUER

- legal entity – an entity that issues documents

### STUDENT

- legal or private entity – the owner of the published document

### VERIFIER

- legal or private entity – verifying the authenticity of published documents

### REPRESENTATIVE

- legal entity – franchise owner for a country or region

### TREASURY

- Addresses that store the reserve of the ACI tokens



For a participant to actively use the system, they need to hold a minimum amount of ACI tokens according to required application version (model).

To enable and incentivize system growth, the required holding amounts will progressively decrease in correlation with the development of active issuers. This mechanic will incentivize early adopters to hold their tokens for longer and simultaneously reward the early issuers.

Their required holding amounts will decrease over time, releasing tokens which can be used for publishing or verification transaction fee payment.

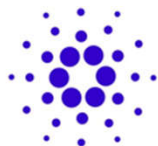
## Transaction cost

The system charges for the following activities:

- Issuing documents to the blockchain
- Verifying more than 10 documents per calendar year

For each internal transaction (transferring ACI tokens between wallets), a standard system fee is calculated with no less than 0.05 ACI per transaction, which is added to the Treasury.

For a transaction in the Cardano network, a Cardano network fee is charged.



CARDANO



MANAGER



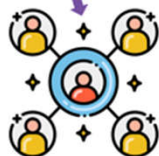
VERIFIER



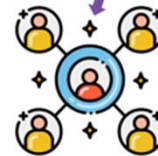
ISSUER



TREASURY



REFERRAL



REFERRAL



REPRESENTATIVE

Information only is not: <https://www.blockademy.com/ada/ada-101> or <https://www.blockademy.com/ada/ada-101>



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## 3.2. ACI Token Liquidity

The initial offering of the ACI token will be implemented through the Smart Contract web platform.

The token will be available for purchase in ADA.

Tokens that are earned through the referral system will be distributed free of charge when the initial distribution is completed. The reward system for decentralizing the Blockademia network will continue after the initial distribution until the budgeted number of tokens for this purpose is spent.

After the initial distribution, the Blockademia team will list the ACI token to cryptocurrency exchanges to achieve the highest possible liquidity and enable users globally to purchase tokens. ACI token will be listed on Cardano decentralized exchanges as soon as that is technically possible.

## 3.3. ACI Token Distribution

ACI initial offer: 34 % of total supply / 85.000.000 ACI tokens

Distribution	Percentage	Token supply
Project	49	122.500.000
Treasury	2	5.000.000
Private sale	6	15.000.000
Early sale T1	5	12.500.000
Early sale T2	8	20.000.000
Community sale	15	37.500.000
Team and Advisors	15	37.500.000
Total supply	100%	250.000.000

## 3.4. Initial Offer Dates

Distribution	Start	End
Private sale	01.10.2021. 0:00	14.11.2021. 23:59
Early sale T1	15.11.2021. 0:00	21.11.2021. 23:59
Early sale T2	22.11.2021. 8:00	28.11.2021. 23:59
Community sale	29.11.2021. 8:00	05.12.2021. 23:59



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## 3.5. ACI Token Prices and Sales Limits

Distribution	Token price in €	Amounts to buy in €	ACI Token sale limit
Private sale	0,15	300k - 1M	15.000.000
Early sale T1	0,20	100k - 300k	12.500.000
Early sale T2	0,25	5k - 100k	20.000.000
Community sale	0,30	100 - 5k	37.500.000

Distribution	Token price in €	Amounts to buy in €	€
Private sale	0,15	300k - 1M	2.250.000
Early sale T1	0,20	100k - 300k	2.500.000
Early sale T2	0,25	5k - 100k	5.000.000
Community sale	0,30	100 - 5k	11.250.000

## 3.6. ACI Token Acquisition Plan

Distribution	Acquisition period	Minting plan
Team & Advisor	18 months	3 months
Private sale	12 months	3 months
Early sale T1	12 months	3 months
Early sale T2	6 months	3 months
Community sale		3 months

## 3.7. ACI Token Release Plan

Distribution	ACI Tokens	Release plan
Team & Advisor	37.500.000 + 10% APY	18+3 months
Private sale	15.000.000 + 10% APY	12+3 months
Early sale T1	12.500.000 + 10% APY	12+3 months
Early sale T2	20.000.000 + 10% APY	6+3 months
Community sale	37.500.000 + 10% APY	3 months



## 3.8. Project Development Token Release Plan

There are 122.500.000 ACI tokens intended to be used for the Blockademia project development.

They will be released as follows:

Release percentage	Acquisition period	ACI token amount
20%	3 months	24.500.000
20%	6 months	24.500.000
30%	12 months	36.750.000
20%	18 months	24.500.000
10%	24 months	12.250.000

## 3.9. ACI Token Rewards

When the functionality of the Blockademia platform is ready for public use and finalization of the initial token distribution, the owners of ACI tokens will be able to lock their tokens and earn an additional yield of 10% per year in ACI tokens.

Locking the tokens will grant access to some advanced functionalities of the system besides providing yield.



# 4. User Network Growth

To ensure the growth of the Blockademia user base, the following incentives are implemented:

- Rewards for onboarding new users via Referral – Users who onboard a new issuer or verifier via Referral will permanently receive a percentage of each transaction a new issuer or verifier issues/checks using the system. They will also receive a single payment in ACI tokens for onboarding new users.
- Rewards for issuers – Each issuer receives a small percentage of the transaction costs paid to verify the documents they issued. The intention is to motivate the users to spread the word and the use of the Blockademia System.

**Each transaction fee within the Blockademia system will be distributed in a following manner:**

<b>Manager</b>	<b>65%</b>
<b>Representative</b>	<b>20%</b>
<b>Issuer</b>	<b>5%</b> (for verification of their documents)
<b>Referrer</b>	<b>5%</b>
<b>Treasury</b>	<b>5%</b>

## 5. Governance

Blockademia system will work in a semi-decentralized manner at the moment of its creation. This means that the project's development will be managed by the company Smart Contract Ltd. from Zagreb, Croatia and the system's data management will be a hybrid of the web interface and the Cardano blockchain.

Decentralization of the system through an intelligent contract application will be carried out after the finalization of the Goguen phase in the Cardano ecosystem and the enabling of 'Babel fees' – paying the on-chain transaction costs with a native ACI token.

As Cardano reaches the Voltaire phase of development, the Blockademia system will transition to complete community governance, the code will be open-sourced, and Blockademia will become a Decentralized Autonomous Organization (DAO).

To ensure consistent funding and development of the Blockademia system, a certain amount of ACI tokens will be distributed to the Treasury from the beginning. The Treasury will be available to the DAO to use as it sees fit.

# 6. Business Model

## Blockademia

Decentralized system for issuing and verifying documents

### Key Activities

- Software development
- Building The Team
- Marketing activities
- Searching for partners
- Searching for franchisees
- Offering Blockademia products

### Key Resources

- Team
- Partnerships
- Customer base
- IT infrastructure
- Cardano Blockchain

### Key Partners

- Bitcoin Store
- BUG
- Cardano Croatia
- Mreza
- Smart Contract

### Value Propositions

- Explore and transform chain data faster
- Build your indexing solution/the backend for your DApp/your data solution in only hours
- Save hours of development, don't build your own indexing solution
- SubQuery is a flexible data solution that allows you to be innovative with your next DApp

### Customer Relationships

- Marketing
- Referral Program
- Franchise Program

### Customer Segments

- Educational institutions, city, regional and state offices, insurance, pharmaceutical company and any other document issuers that need protection from forgery
- Companies and regulators are the entities that need to check that any given document is authentic

### Channel

- Through the platform
- Referral program
- Franchise program

### Cost Structure

- Software development
- Marketing
- Relationship building
- Physical location and assets and maintenance
- Employees
- Insurance

### Revenue Streams

- Transaction fees:  
For the Blockademia application to run, the issuer needs to have ACI tokens. The issuer also needs to pay a transaction fee for saving issuer information on the Cardano blockchain. End users can check all this information through web or Blockademia mobile apps for IOS & Android. Verification of up to 25 documents per year is free of charge, and if users need more they will need to have ACI tokens for paying the transaction fee.



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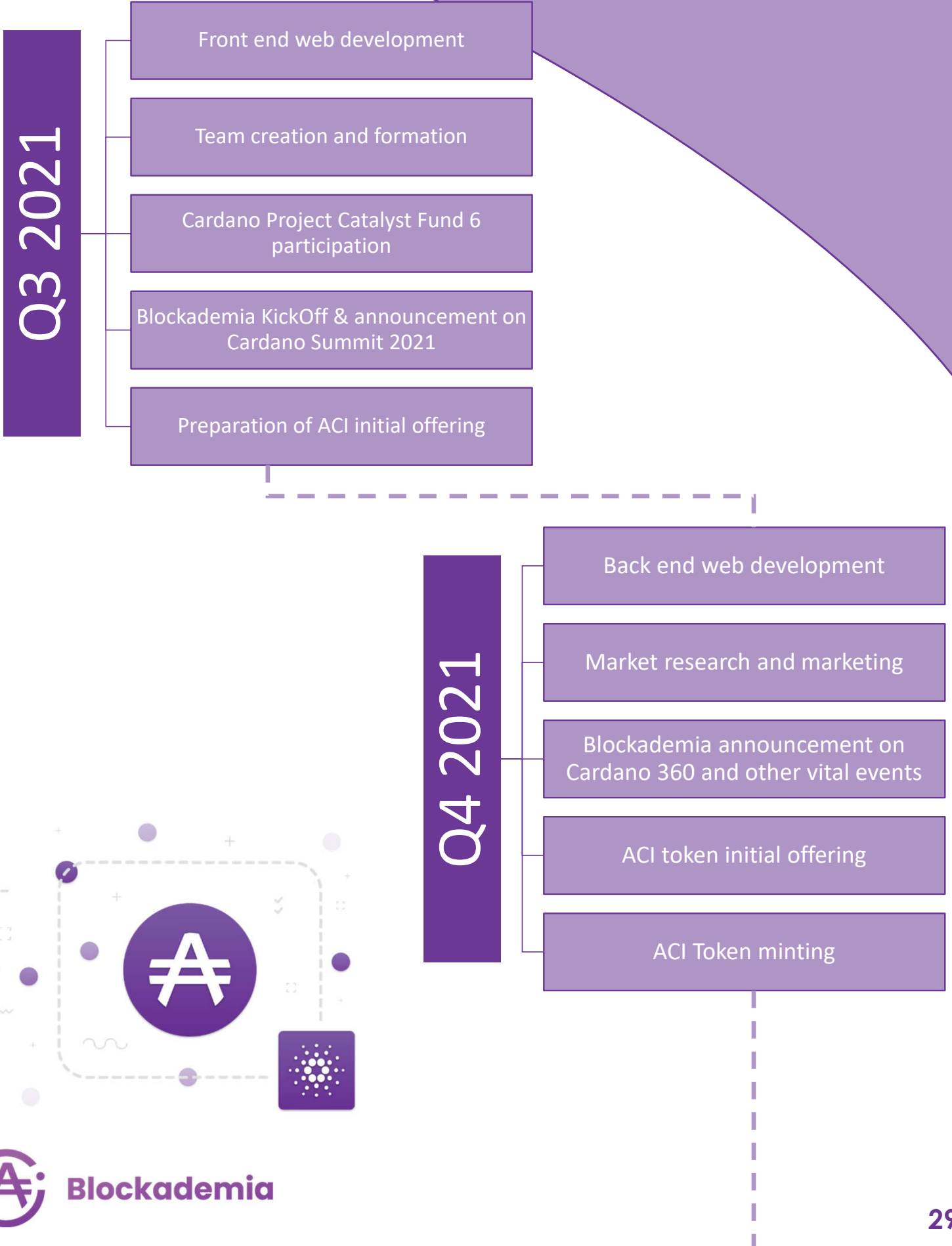


Blockademia

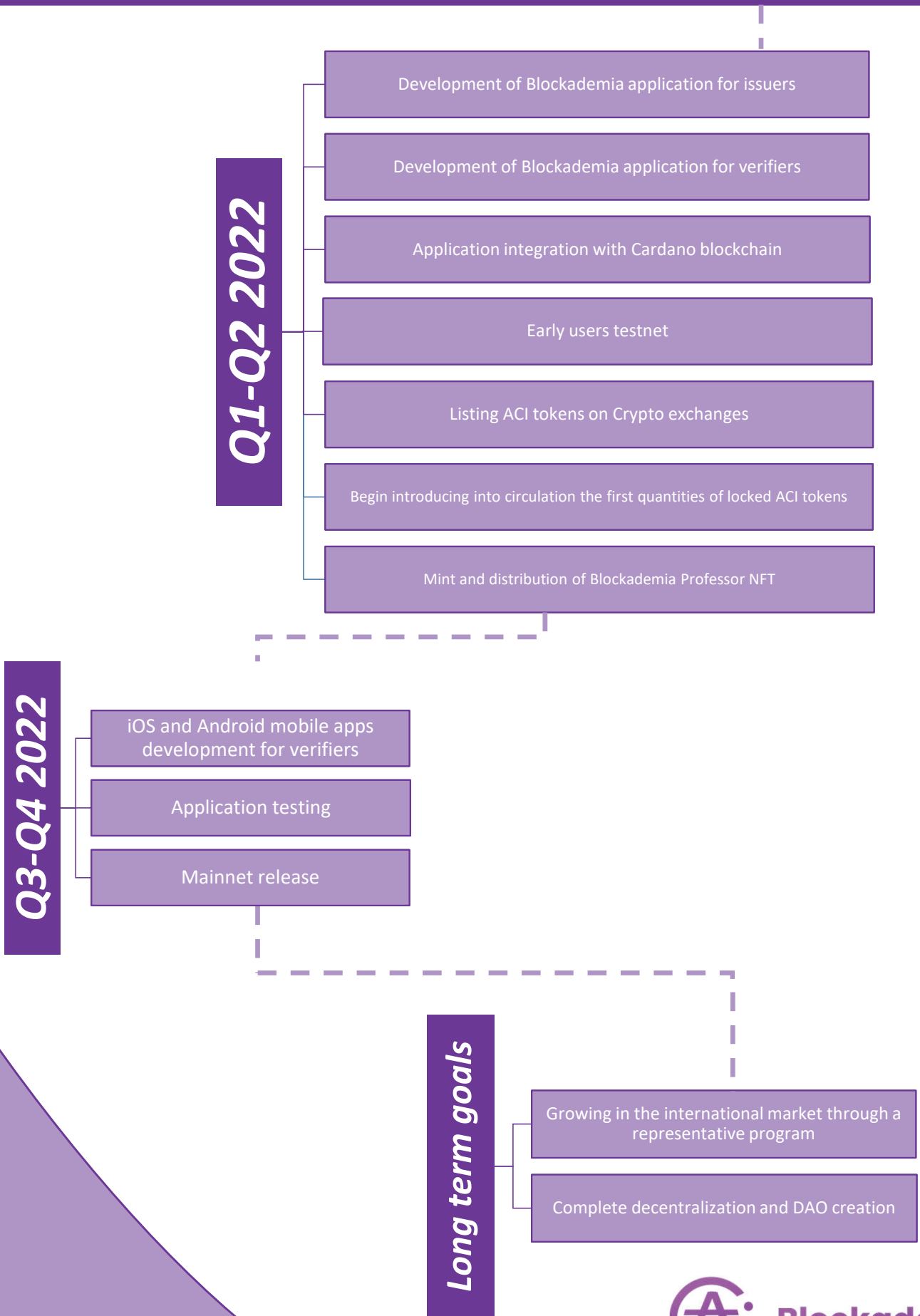
## 7. Social Responsibility

At the end of each business year, the company Smart Contract Ltd. will direct a part of its financial flow toward socially sensitive groups—especially children—to help ensure a higher quality of education and personal development for everyone. The same practice will be conducted in countries/territories where Representatives operate.

# 8. Roadmap



# 8. Roadmap (Continued)



## 9. Conclusion

Blockademia is a Croatian startup that, using Cardano technology, enables permanent, immutable and secure storage of the proof of authenticity for any issued document and verification, by any user, at any given time. Verification of authenticity is affordable, fast, and straightforward through the usage of the Blockademia mobile application.

Using the Blockademia application, the document issuers protect their product from forgery and abuse while adding quality to the ecosystems that rely on authentic, verified documentation. Blockademia System users are private or legal entities, small or large, that have a regular need to verify document's authenticity.

The Blockademia System enables full transparency in its functionality, and solves many of the problems prevalent with forgeries and manipulations[8]. We fully expect this system to drastically reduce the pain of verifying official documents wherever it is used.

We believe that decentralized systems relying on blockchain technology are the future. Users of such systems can participate in building and governing these systems, as well as take part in open and transparent ways to earn income by participating—which is key to building a better society.

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