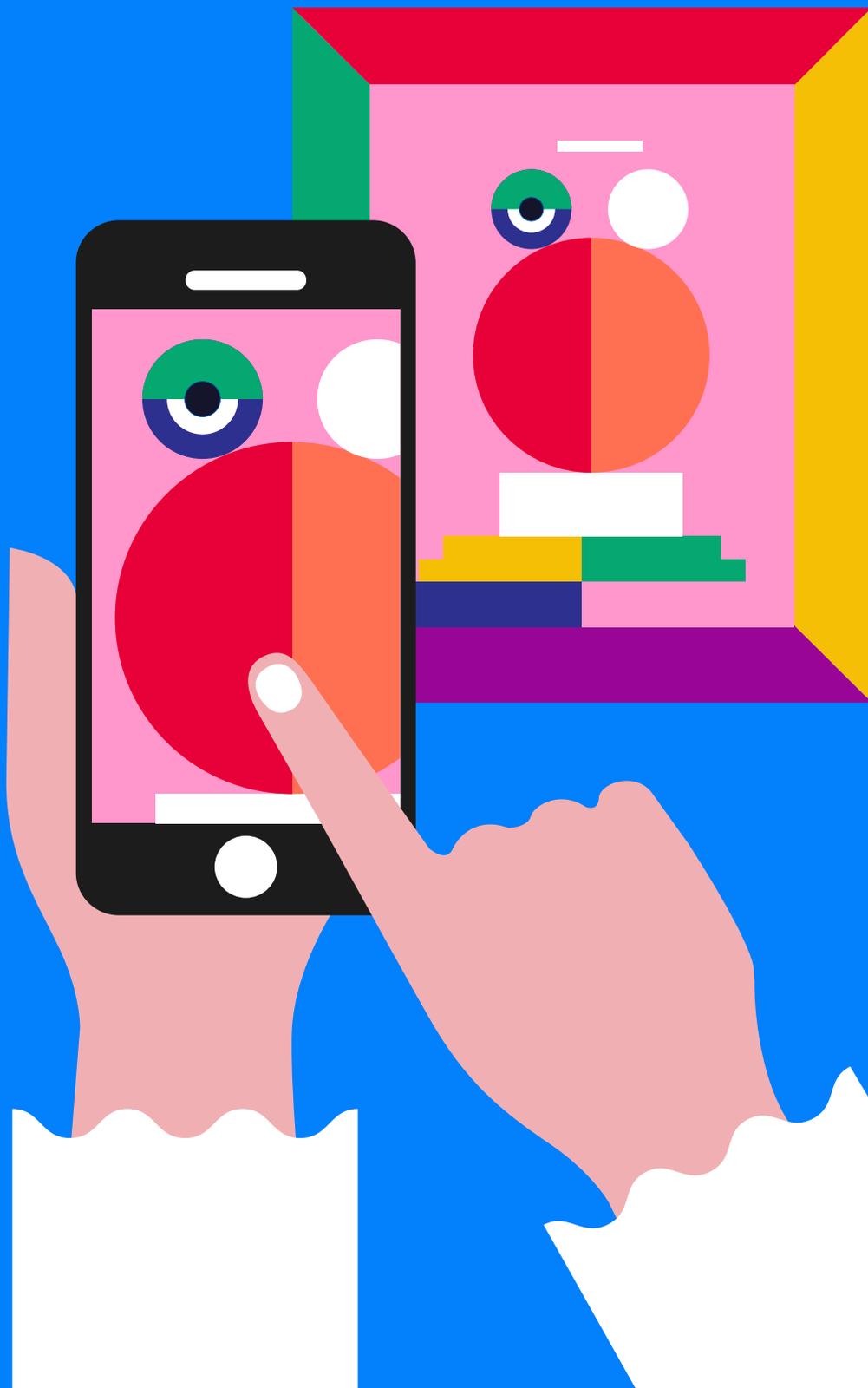


WHITEPAPER



**“For some of us, art is
a passion, a calling.
For others, it’s an investment,
an asset, a coveted good.
Art isn’t either / or.
It is all those things at once –
and yet so much more.
No matter what it means to
each of us individually:
We are united in our desire
to preserve one of our most
important cultural goods for
generations to come.”**

**Niko Kipouros,
Initiator / Founder 4ARTechnologies**

EXECUTIVE SUMMARY

4ARTechnologies Group (4ARTechnologies Holding AG and its subsidiaries) – hereafter referred to as "4ARTechnologies" – is building a blockchain-powered cataloguing and transactions platform to bring greater transparency, security and process efficiency to the art world.

At the heart of the platform lies a patented "augmented authentication" technology made available through our unique technical partner Atlantic Zeiser GmbH. By allowing users to log an artwork's "fingerprint" on the blockchain along with all important information on history/provenance, this technology renders registered artworks essentially unforgeable. Requiring nothing more than a standard smartphone, this first-of-its-kind solution doesn't just combat the problem of art fraud, but provides highly relevant use cases for all art world players.

Core Features

1.) Eliminates the problem of art fraud

Once an artwork's "fingerprint" has been captured, all it takes to check that artwork's authenticity is another quick scan using the mobile app. Since this fingerprint – along with all other vital information on history and provenance – is stored on the blockchain, it is tamper-proof.

2.) Creates transparency at no expense to privacy

The industry has long resisted the creation of a centralized database due to privacy concerns for investors and artwork owners, and the lack of a practical technical solution. Thanks to blockchain and smart contracts, buyers' and sellers' privacy is guaranteed at every step of the way. And with added transparency around history/provenance, the market will become more secure and transparent for all established players, and more accessible to new investors.

3.) Brings novel efficiency to condition and restoration reporting

Condition reports are part of virtually every transaction in the art market, from insurance to logistics to sales – at least in theory. Practically, there has not been any good solution to do these efficiently. With the 4ART mobile app, both condition and restoration reports are bound to become a matter of minutes for a fraction of the established cost.

4.) Makes managing portfolios easier than ever

The 4ART platform as a service helps users maintain all ownership certification, lending, restoration, transportation and insurance coverage related to an artwork – for owners of individual pieces as well as galleries and museums with large portfolios. The information related to the object and the user can be separated on demand, allowing for the greatest transparency while keeping individual anonymity.

5.) Empowers artists to earn from resales of their works

Like any other holder of intellectual property (e.g. writers or musicians) artists, too, are entitled to gain royalties from their works. Due to the intransparency around resales, this rarely happens. With the 4ART platform's smart contracts, artists can now be notified whenever one of their works is being sold – and earn without compromising buyer privacy.

6.) Market Potential

While art has long been a prized asset for investors looking to diversify their portfolios, the most recent numbers on the art market published by Art Basel and UBS in their report on "The Art Market 2018" reveal the true potential of a vibrant and growing market.

Having grown by 12% since 2016, the market's annual turnover in 2017 amounted to \$ 63.7 billion, broken down into 39 million individual transactions – the highest number of transactions since 2008. The fact that the number of transactions grew by only 8% suggests that the average value of artworks traded has in-

EXECUTIVE SUMMARY

creased. However, included in these figures are only those transactions that are carried out by galleries, auction houses or other commercial sellers. With the inclusion of private sales, the market is more likely in the range of \$ 100 billion.

With 4ARTechnologies' solution being of immense value to logistics providers, let's take a look at the transportation volume:

TEFAF's Art Report 2017 details the turnover through import and export of artworks. At an average price of \$ 5000 per image – according to TEFAF, 80% of artworks traded in 2017 were in the lower price segment – this amounts to 13.5 million cross-border transports.

Then there are the art fairs, one of the central sales avenues for artworks. 10 global cities are host to the 70 most important fairs, each of which features roughly 30,000 works offered by 350 vendors from

over 50 countries. This makes for approximately 2.1 million transports, all requiring condition reporting and insurance. In addition to the larger art fairs, there are about 100,000 local exhibitions and gallery openings. If each of these includes 20 images, then the number of transports grows by another 2 million. If 50% of the exhibited works are shipped back, then the total sum of transport movements in connection to art fairs, exhibitions and shows is upwards of 6.1 million.

You can get an exact overview of the market potential by using the stored charts.



https://d33ipft-jqrd91.cloudfront.net/asset/cms/Art_Basel_and_UBS_The_Art_Market_2017.pdf

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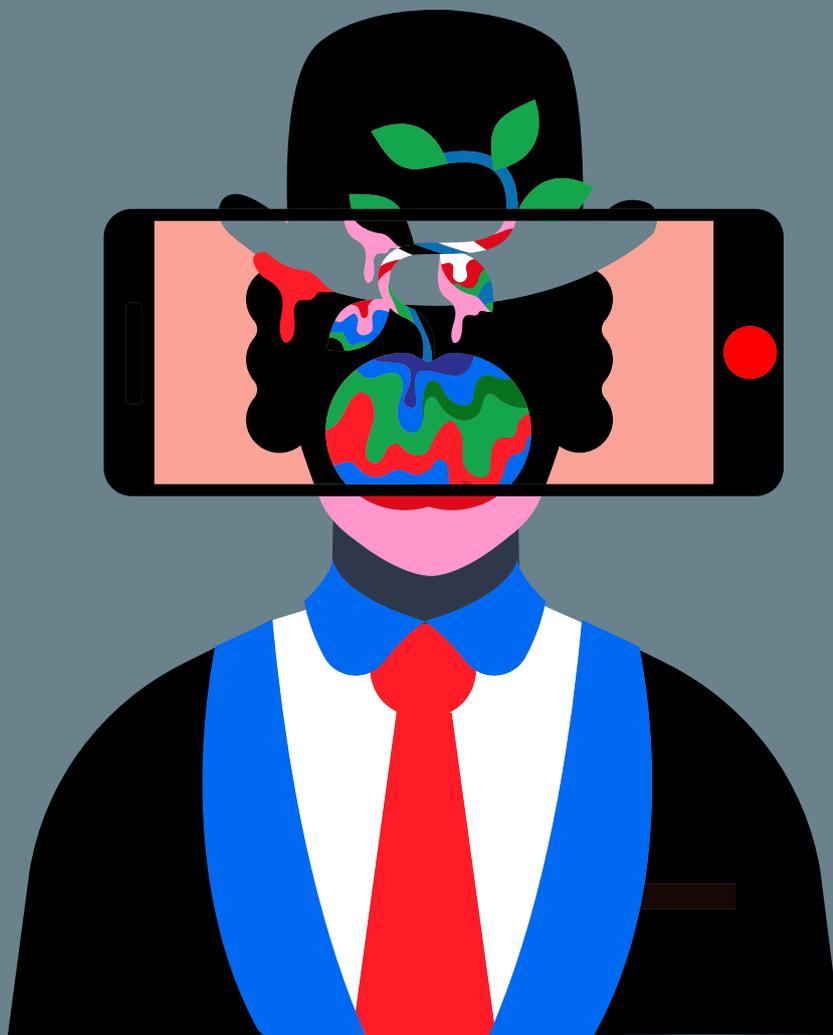
PROJECT SUMMARY

Introduction & Background

With a sales volume of \$ 63.7 billion in 2017 – making for 12% year-on-year growth – the art market is an ever more exciting field of opportunities for investors looking to diversify their portfolios. To the uninitiated, however, buying into the arts can mean a leap of faith. The market is notoriously intransparent; making wise investment decisions requires both considerable expertise, the right personal network or the guidance of trusted but costly intermediaries, e.g. brokers or auction houses. In the absence of a centralized database of artworks, investors often run into problems when trying to verify the history and provenance of an artwork – information that is central to its valuation. Museums, Galleries or public collections need to

constantly perform costly and time-consuming work to verify and track objects, often incompletely due to a lack of funds.

While the rise of the internet has hailed the coming of an age of greater accessibility and equality in many realms, the art market has been notably exempt from this. Only 8% of sales are conducted digitally; most of them in the lower price segment of up to \$5000. It is clear then, that tech has yet to tap into the market's full potential and to spur its growth by opening it to more buyers.



PROJECT SUMMARY

The art market's upward trend notwithstanding, it remains rife with problems. Its greatest issue, no doubt, is the fact that an estimated 30 – 50% of artworks are likely to be counterfeited or cannot be declared as verified originals due to incomplete provenance information. In light of this, owners and buyers frequently call on experts to assess an art object's veracity. But not only does this command thousands of dollars in fees, it also renders the result prone to human error or even ill-intent. If, as a result of an expert appraisal, an artwork is detected and/or declared fake, the impact goes far beyond rendering that one particular piece worthless. Indeed, it casts doubt on that artist's entire oeuvre. Affected by subsequent losses in value are all those who hold works by that artist: private collectors, galleries, the artist themselves or their estate. The combined damages due to art fraud are hard to quantify; experts place them in the hundreds of millions per year.

Artwork authentication, then, is another area where the right tech solution can generate considerable growth by increasing process efficiency and eliminating the opportunity for human error. But it is by far not the only use case that would benefit from a tech-driven update. A closer look at the most common transaction chains within the art market reveals a multitude of areas needing a unified digital standard backed by a technology that promises to create value for all artworld players by increasing transparency, security, and process efficiency.

The areas for which no effective digital solution exists are as follows:

A Image authentication

As image authentication is performed manually, it is prone to human error, costly and time-consuming

B Documentation

Records of history and provenance are central to image valuation and authentication, yet these are often incomplete, easily forgeable and not stored securely

C Condition reporting

Condition reports are cumbersome and expensive – taking either human effort or large scanners. Owners often forego them, even though they are central for image valuation and insurance purposes (e.g. in the context of transactions/transportation)

It is nearly impossible to identify those responsible for damages to an image (e.g. in the context of gallery loans: whether damage happened during transportation or exhibition)

D Restoration

There is no standard recording (and secure storing) of restoration activities along with an artwork's other vital stats, i.e. history, provenance, and condition reports

E Logistics & transportation

There is currently no track & trace solution
Transports are usually underinsured

F Intellectual property rights

Due to the intransparency around image transactions, artists are not able to gain royalties from resales of their works

G Collection management

The absence of an effective digital solution means that managing large collections – from individual documentation/condition reporting to coordination of restoration works – takes a great deal of time and effort

(For detailed market figures, please see p. 27)

Current & Proposed Solutions

There is no shortage of projects in the blockchain space aiming to combat the problem of intransparency and inaccessibility in the art market. Most of these solutions aim to create greater transparency around history and provenance by storing this data on the blockchain and/or by facilitating sales transactions that cut out the need for middlemen, such as galleries, auction houses or brokers. However, common to all these proposals are two major limitations. Firstly, being able to verify the authenticity of a digital certificate is not the same as verifying the authenticity of the physical artwork itself. And secondly, excluding some of the most powerful players in the art market – who hold a considerable amount of artwork data – is likely to prove a major barrier to wider adoption.

(For a detailed analysis of competitor proposals, please see appendix, p. 39)

In summary, the projects aiming to harness blockchain for the art market fall short in these ways:

- There is no authentication of the physical artwork
- Provenance data, however securely stored, is worthless if the material artwork is not verified
- The use cases for other actors in the art market besides buyers and sellers are extremely limited
- By directly connecting buyers and sellers, these solutions exclude some of the most important players in the art market, such as influencers like galleries, exhibition makers, and trendsetters
- In the absence of KYC identification according to legal and regulatory standards, the identity of market place actors cannot be verified, eliminating the usefulness of these systems; this includes living artists who, while holding rights to their images, are not rewarded during resales

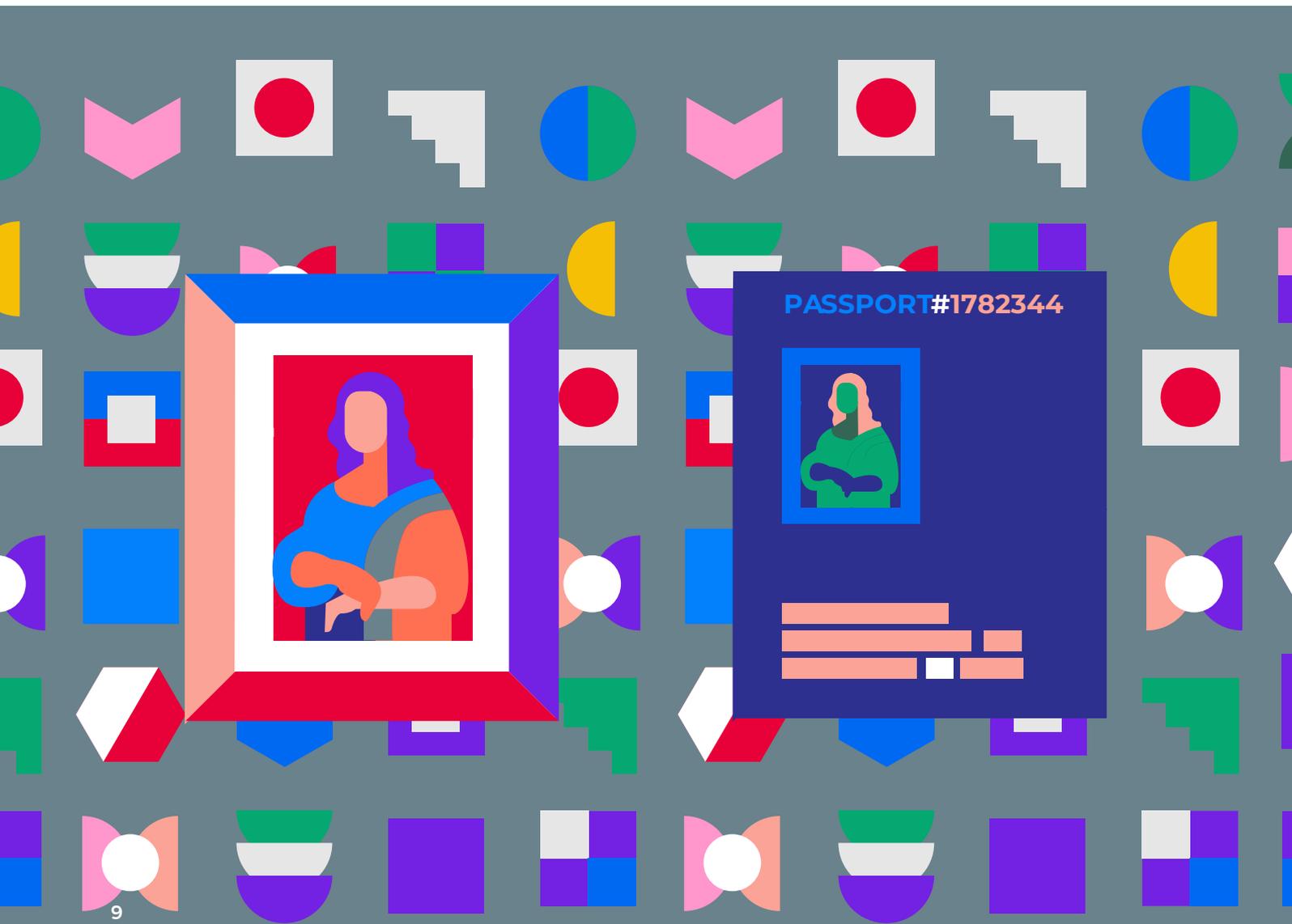


The 4ARTechnologies Solution

The 4ARTechnologies solution combines the superior security of the blockchain with “augmented authentication” technology to tackle the industry’s most pressing problems while creating value for all artwork players.

Whereas other cataloguing and transaction platforms allow only for the authentication of digital certificates (of history and provenance), 4ARTechnologies allows for the authentication of the physical image itself. The “augmented authentication” technology to be featured in our mobile applications makes verification quick and easy. In addition, it helps with the generation of condition and restoration reports. Thanks to the exclusive relationship with our technical partner Atlantic Zeiser GmbH – the leading German provider of security solutions for banknotes and identity documents – it is licensed exclusively to 4ARTechnologies for global use in the art market.

When a user (verified according to the KYC standards used by Swiss banks) scans an image, this powerful software records its structural, material and textural features as well as color spectrum. Using “augmented authentication” technology and layer photography, image data is then converted into an artwork’s unique fingerprint. This “fingerprint” is stored on the blockchain along with all other relevant information, providing the artwork with a forgery-proof “biometric passport” that also lists its current condition/restoration status. After the initial scanning of an image, its fingerprint can be checked against any other image purporting to be that same image, again using only a smartphone. For the first time, all information that is relevant to artwork authentication and valuation will be securely stored together. This guarantees both the veracity of the digital certificate and the physical image. For now and for generations to come.



Again: all it takes to scan and authenticate an image is a standard smartphone.

The combination of a blockchain-based cataloguing and transaction platform with “augmented authentication” software makes for a wider range of compelling use cases beyond artwork authentication. These create value for all industry players – including those excluded by current solutions.

With the introduction of one unified standard, 4ART brings much greater efficiency, security, and transparency to all artwork-related transactions:

- All platform users are verified according to regulation-compliant KYC standards
- Artwork owners (private or institutional) benefit from increased investment security and a convenient solution for managing their portfolios
- Condition reports (which accompany any transaction) are easily generated on a smartphone and are now feasible to add security to any transaction, from selling artworks to shipping or insurance deals
- Logistics and transportation providers benefit from track & trace functionality
- Underinsurance is no longer a problem as artworks can easily and quickly be registered individually, rather than through a bulk estimate (as is often the case)
- Artwork conservators and restorers are able to log the details of their work and/or access the details of previous restoration or conservation activities
- Artists will be able to gain royalties thanks to the recording of resales in the artwork’s blockchain-passport



DNA-Scan



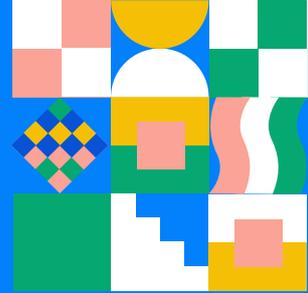
verification



blockchain



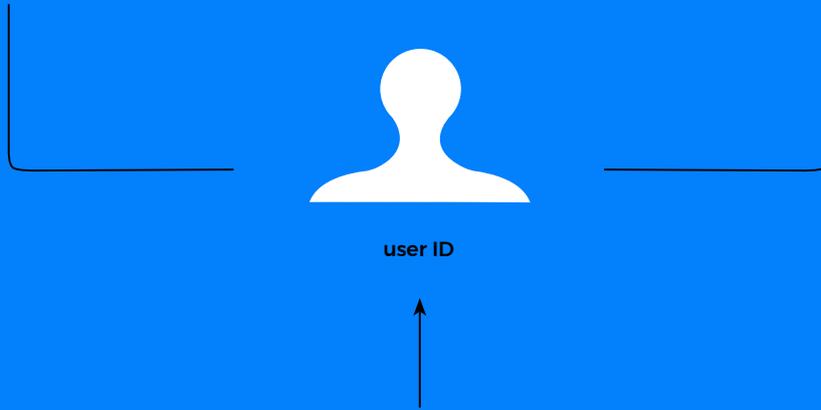
cloud



blockchain 4ART



user ID



1. Download 4ART-APP
2. Take a picture in the app of the piece of art
3. The ART-APP registers the art and provides a registration ID stored in the blockchain together with the user ID

SERVICES

4ARTechnologies will provide the following essential services to its users:

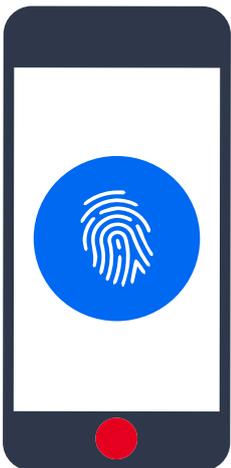
1) Fingerprinting service:

Authentication of an artwork using state-of-the-art augmented authentication technology that scans, recognizes and validates a “fingerprint” and stores this in the image’s proof-of-life, its “biometric passport”



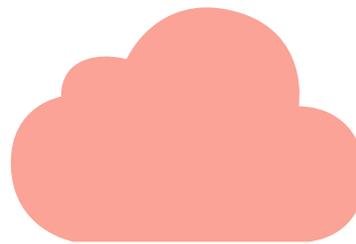
2) Certification issuance:

Using the augmented authentication technology, users are able to validate and document each transaction around an image



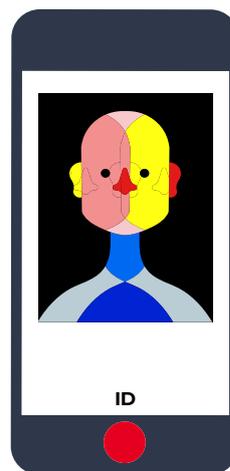
3) Data storage service:

Data is stored on the cloud to give users quick and user-friendly access to data sets as well as associated services. The artwork’s fingerprint and transaction history are securely stored on the blockchain.



4) 4ART Platform as a service:

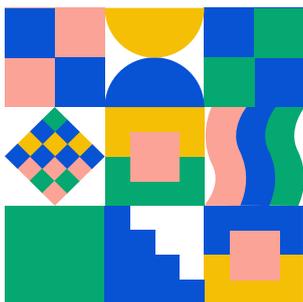
Helps users maintain their ownership, lending, restoration, transportation and insurance coverage related to an artwork. Users registered as creators (i.e. artists) will be able to gain royalties from resales of their artworks.



SERVICES

5) Transaction verification service:

Each transaction related to an artwork is stored on the blockchain (in compressed form), transaction verification service validates the 4ART record with support of the transaction stored on the ethereum blockchain.



7) Art Catalog:

Users (e.g museums or galleries) can make their art portfolio and select information available to researchers or other interested parties through subscription models.



6) 4ART Wallet:

Free 4ART wallet to store 4ART coins.



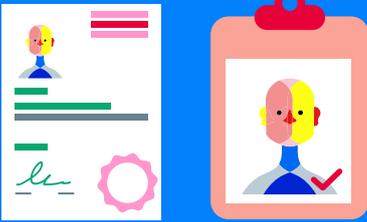
Each service is offered at a certain price highlighted in the Business Model section. Each service is payable in 4ART coins. These 4ART utility-tokens can be purchased with any FIAT currency accepted by 4ART, and then subsequently redeemed for the service as needed.

1.



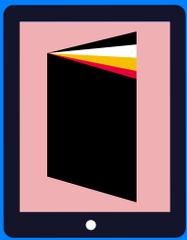
DNA-Scan

2.

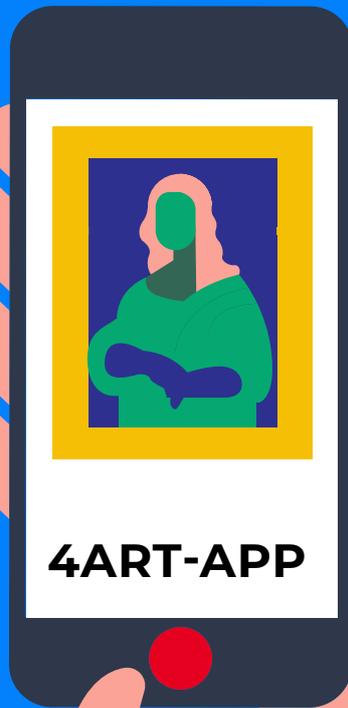


birth certificate proof of life protocol

3.



digital art catalogue



4.
(optional)



verification of the transmitting protocol + personal data of the owner



protocol of provenance



conclusion of the insurance smart contract



transmission of the biometric handover protocol (Galleries/ Buyer)

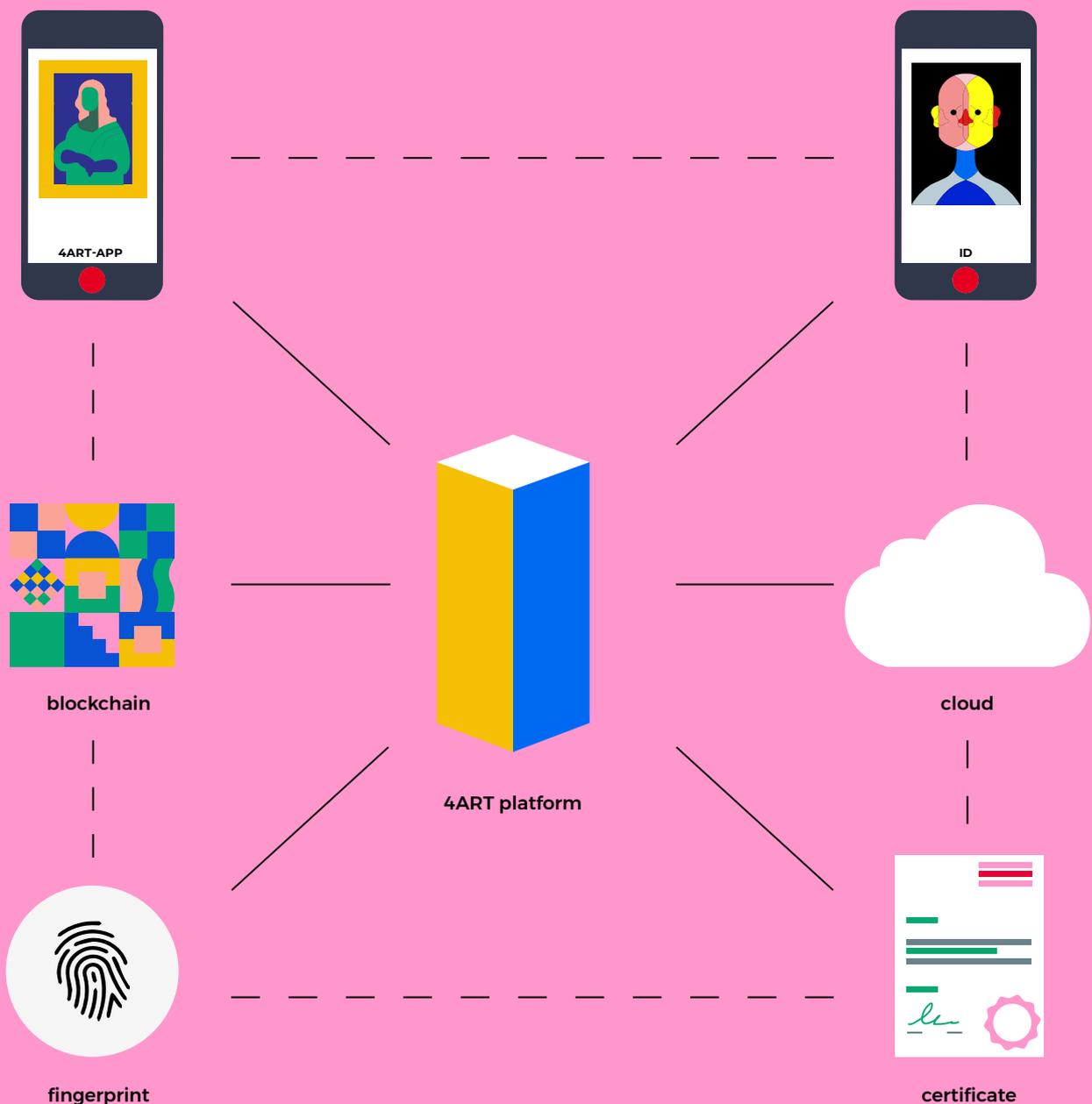
SYSTEM & TECHNOLOGY

System Components

The system has several central components:

KYC identification

- of all users able to register an artwork/make changes to its data set, i.e. creators, owners, restorers. The user can choose to link their data to the objects data only with the UserID, offering both full transparency and anonymity



SYSTEM & TECHNOLOGY

Technical Overview

Augmented authentication software

- Image data is scanned through camera hardware with a minimum of 12 megapixels
- This is then converted into an artwork's ID, using the (fully developed) "augmented authentication" technology licensed to 4ARTechnologies by industry leader Atlantic Zeiser GmbH
- Micro-level image data is encoded and stored on the blockchain network
- Beyond the initial check, the software draws on this data for subsequent image authentication checks and condition reports

Blockchain service

- 4ARTechnologies utilizes the Ethereum blockchain; its smart contract functionality guarantees validation of all transactions as well as data immutability
- Any modification or transaction concerning the artwork – either the material image, e.g. through restoration, or its status, e.g. sales or loans – will be registered in the 4ART Digital Artwork Catalog with its unique systems ID (ArtID)
- The data submitted to the blockchain, i.e. the fingerprint and data set, amounts to roughly 160 kilobytes

Cloud service

- 4ARTechnologies' cloud service hosts the data from which an artwork's fingerprint is generated
- Equipped with a user friendly interface, the cloud service provides access to an image's complete data set and other services around the image's entire life cycle
- Any data set that is stored in the cloud service also has a corresponding blockchain fingerprint, thus guaranteeing authenticity of cloud data

Access and security

- The 4ART Digital Artwork Catalog is accessible through the desktop web application
- User roles make sure that features and functionalities are only available to appropriate parties
- All users who are able to generate an artwork's fingerprint and "biometrical passport", or make changes to this passport (e.g. restorers), are verified according to KYC-technology in line with Swiss regulatory requirements for banks
- User profiles are encrypted and stored on the cloud
- All privacy requirements are respected at all times. The solution is fully GDPR compliant

Payment and tokens

- All applications allow the trading of FIAT into 4ART coins by credit or debit card

SYSTEM & TECHNOLOGY

Certificate Issuance

Central to 4ARTechnologies' services is the issuance of certificates around all typical art world transactions, e.g. for authentication and condition reporting. This is the complete list of certificates to be issued:

Authentication

Any user at any time can use the application in order to check the authenticity of an art object. Each successful verification will result in a new "certificate of authenticity" which is stored to the history/provenance data set of that art object.

Restoration

Restoration of artwork requires a "certificate of restoration." This certificate is generated when a restorer restores an artwork. This certificate requires two users: the restorer and the user who commissions them. Once a certificate of restoration is issued, the 4ART system requests the updated fingerprint.

Change of ownership

Change of ownership requires certificate of ownership. This certificate is generated when a user sells an artwork to another user. This certificate requires two users and verification of the artwork's fingerprint. Once this certificate is issued, ownership of the art object is also changed in the 4ART system.

Lending

Lending service requires two certificates, i.e. a certificate of good condition and certificate of possession. Certificate of good condition is issued when a user hands over the artwork to a recipient; hence, this certificate requires two users and a fingerprint. On the other hand, a certificate of possession is generated when an art object is transferred to another user. Certificate of possession is directional, meaning that when a user lends out an artwork, it is directed from owner to borrower. When the art object is returned, it is directed from borrower to owner. Lending service generates four certificates during its lifespan.

Transportation

Transportation service requires three certificates, i.e. certificate of good condition, certificate of hand-over and certificate of possession. When a user wants to send an art object to another user, the sender generates a certificate of good condition, then the transporter generates certificate of handover (requiring an insurance policy) and once this certificate of handover is generated, a certificate of possession is generated between sender and transporter. Once the transporter delivers the art object, another certificate of possession is generated between the transporter and the receiver.

SYSTEM & TECHNOLOGY

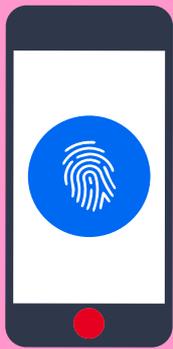
User Roles & Associated Services

Creator/rights holder

- The creator/rights holder is stored as a distinct user of the 4ART system with a unique ID (UserID) type
- The creator/rights holder is able to register the item, record its fingerprint, and to submit this to the 4ART system along with all relevant images to generate the artwork's "biometric passport," i.e. the artwork's proof of life

Owner

- An owner is stored as a distinct user of the 4ART system with a unique ID (UserID) type
- An artwork is associated with an owner (UserID) once it is bought from a creator or another owner (private or institutional) and the transaction is confirmed through the 4ART app
- Owners are able to generate an artwork's initial fingerprint/biometric passport



digital fingerprint



birth certificate



biometric passport



gallery owner

owner/artist

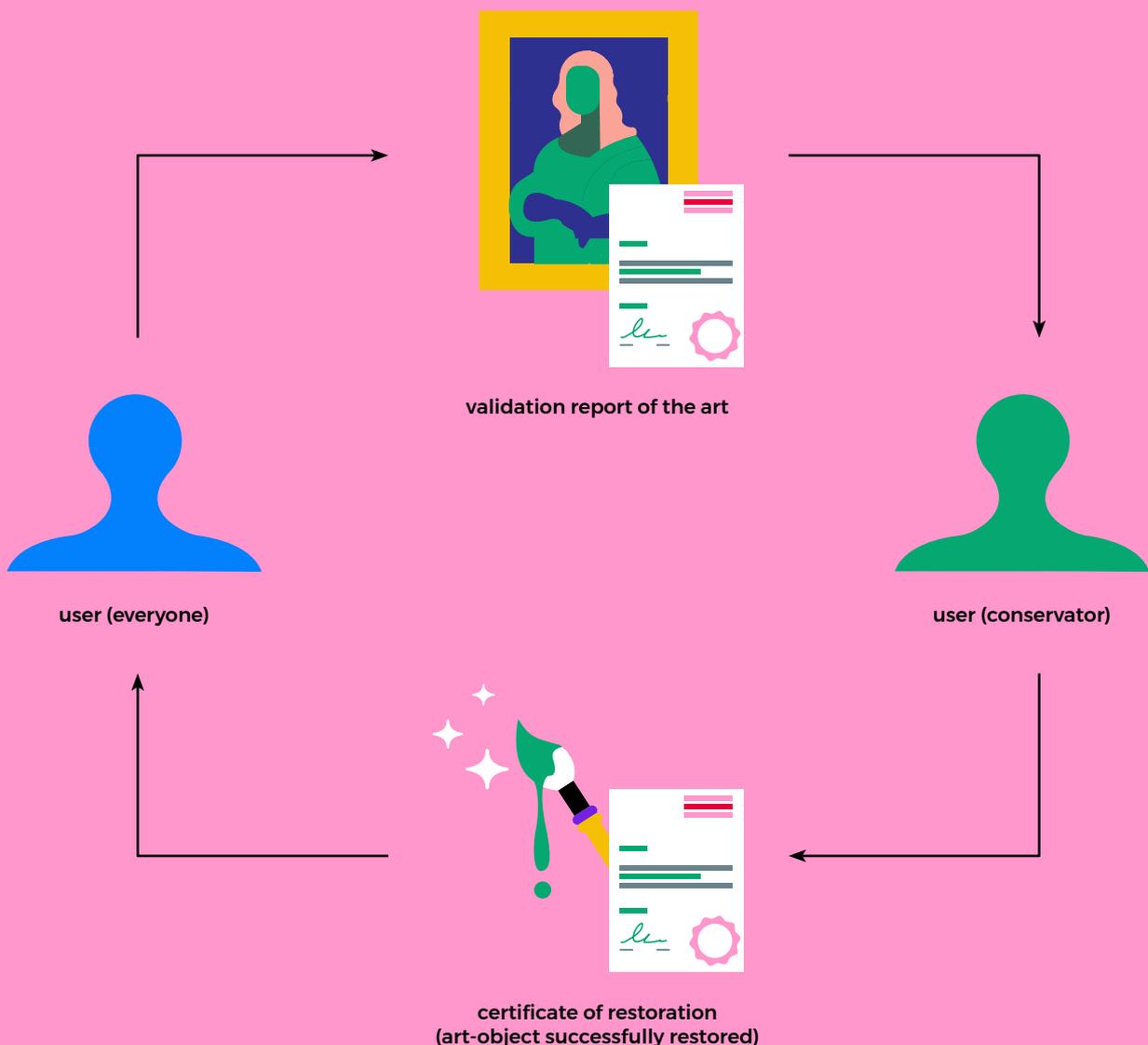
SYSTEM & TECHNOLOGY

Gallery / museum / institution

- With galleries/museums/institutions, the system distinguishes between different legal definitions of possessing an artwork, depending on whether it was bought or acquired on commission
- Galleries/museums/institutions are able to generate artwork initial fingerprints/biometric passports
- Galleries/museums/institutions can utilize management tools for larger portfolios and make their collections' (or parts thereof) data sets available to subscribers

Restorer

- A person who can restore an artwork on request
- The restorer is stored as a distinct user of the 4ART system with a unique ID (UserID) type, i.e. restorer
- Restorers can generate an artwork's initial fingerprint/biometric passport



SYSTEM & TECHNOLOGY

Transporter

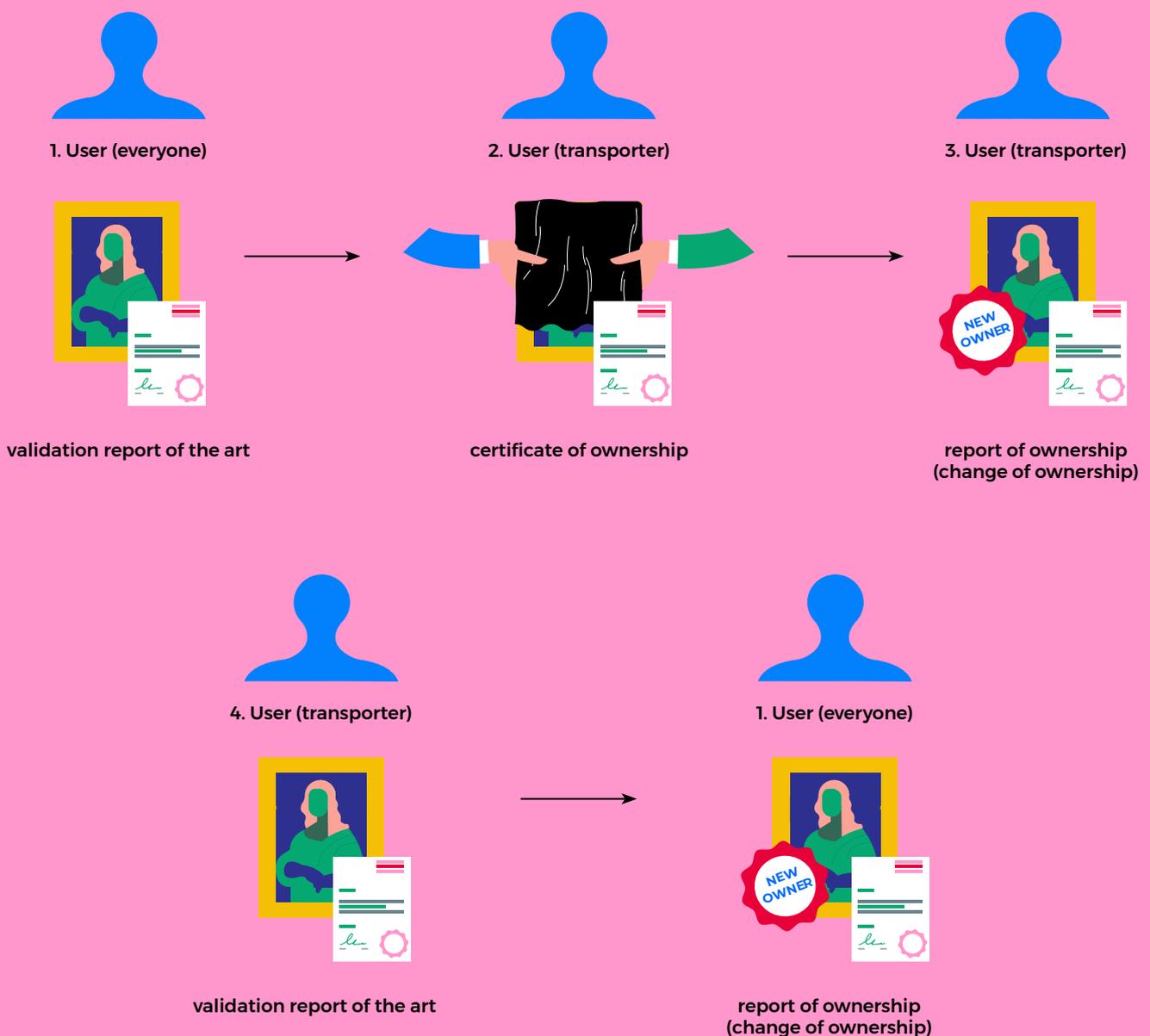
- Transporters are able to check the artwork's authenticity and generate condition reports

Researcher

- A researcher is a passive user of the system that can only have access to museum/gallery art catalog via subscription.

Insurer [external]

- An insurer is an external user who has access to the system through an API
- Insurers can carry out/request authentication and condition reports
- Insurers can use the system's algorithm for risk assessment
- Insurers can respond to requests for offers



SYSTEM & TECHNOLOGY

Borrower

- A borrower is stored as a distinct user of the 4ART system with a unique ID (UserID) type
- The artwork's status in its data set is changed to "borrowed" once the transaction has been confirmed through the 4ART app



1
validation report of the art



2
report of ownership
(change of ownership)



3
report of ownership
(change of ownership)



4
validation report of the art

SYSTEM & TECHNOLOGY

The 4ART App

Personal page

Upon opening up the 4ART app, users are greeted by their personalized home screen, showing their profile picture, navigation options as well as updates regarding their subscriptions and other 4ART news or service updates. Navigation options are as follows:

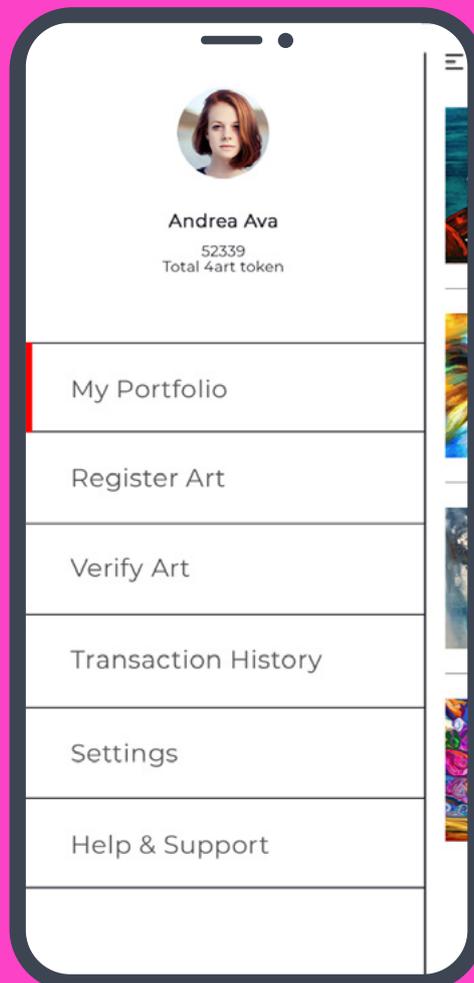
4ART user portfolio

Art registration and verification

Transaction history

Settings

Contacting the 4ARTechnologies support team



SYSTEM & TECHNOLOGY

Portfolio

A user's portfolio displays the items registered by that user on the 4ART platform. Listed with each item is the original date of registration as well as the last time its fingerprint was verified. Clicking on that item's thumbnail reveals the item's transaction history, certificate details as well as all information on history and provenance gathered in that data set.

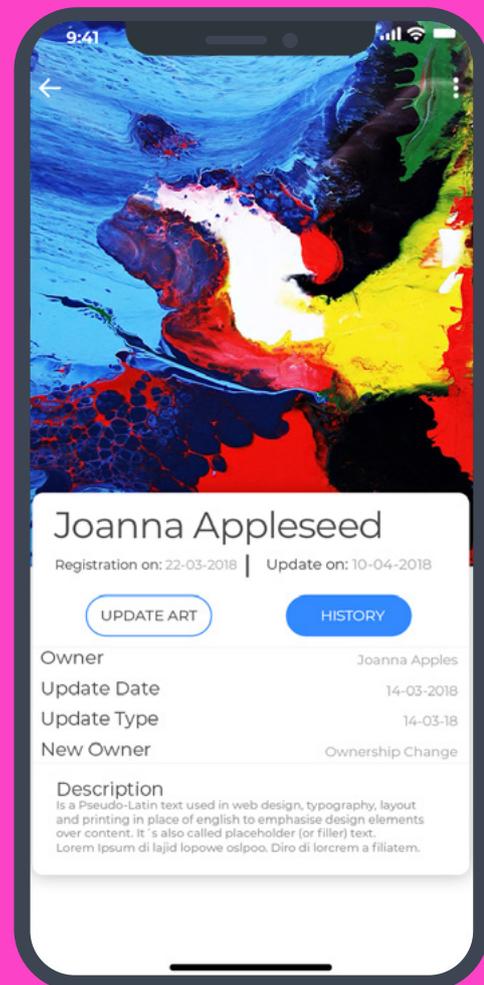
Users with larger portfolios, such as museums, galleries and institutions, benefit from the portfolio management tool integrated for this user group. Here they find the option to make a part of the portfolio public and to offer access to patrons/followers through subscription models.

Registration of an item

The registration process requires four steps.

Restoration of an item

Owners of damaged images can access restoration services through the 4ART app, which are vetted for their quality and ability to preserve historic artworks. The condition of the image before and after restoration remains with the image's data set, while the last known image scan will be used whenever a certificate needs to be issued.



SYSTEM & TECHNOLOGY

Change of item ownership

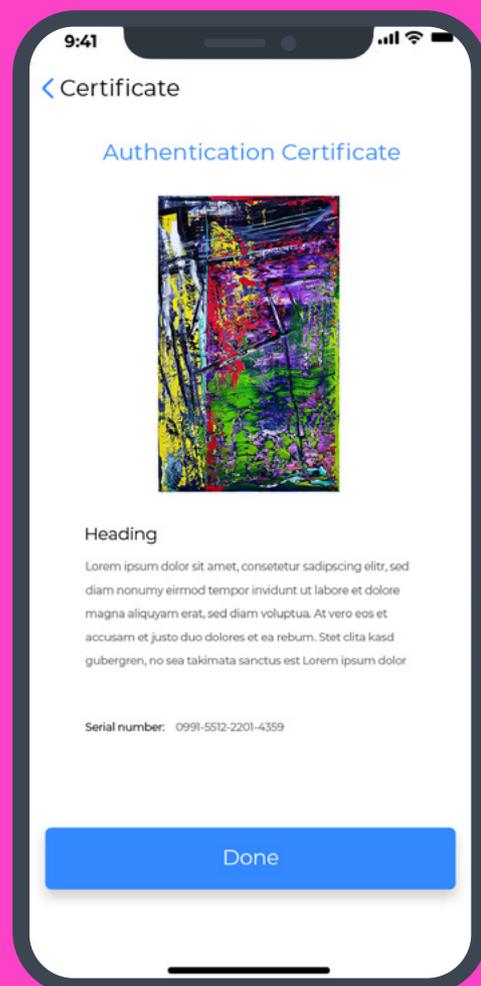
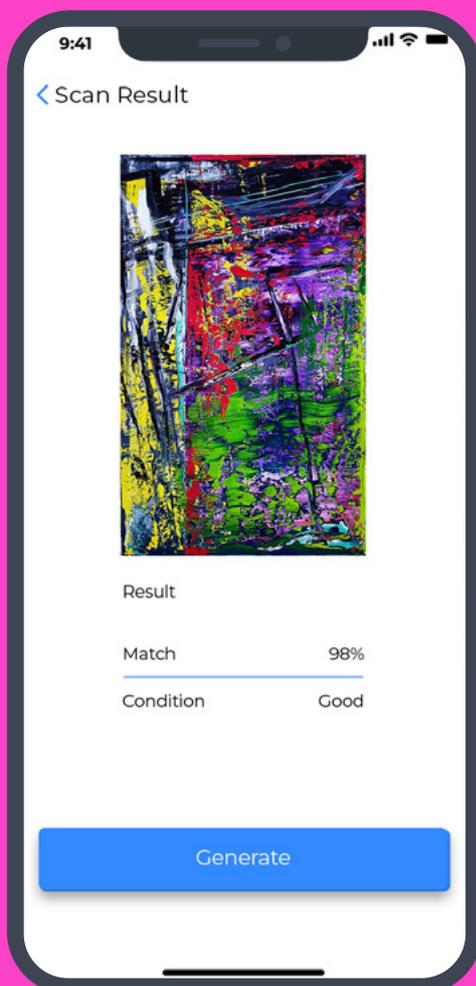
The 4ART app enables an item's owner to change the ownership when desired. A certificate is issued whenever a change of ownership happens; this certificate is also verifiable thanks to Ethereum blockchain transactions.

Lending an item

The owner of an item can lend it to other 4ART users. Lending requires the item to be insured; insurance can also be requested inside the 4ART app. This certificate is issued when an object is lent to another user and temporary change of ownership happens in the 4ART system.

Transportation of an item

The 4ART app allows owners, transporters and insurers transport items to cut risks during transportation with certificates of transportation, which include track and trace functionality. All items need to be insured before transportation.



SYSTEM & TECHNOLOGY

1



smart phone camera hovers over the artwork (verification)



2



The 4ART-App recognizes the art and guides the camera to capture specific details of the art work



3



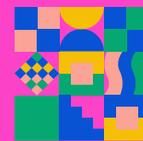
The picture will be uploaded to the cloud



cloud



explicit User ID with digital passport / birth certificate



blockchain

+ personalized user data of the owner

4



The app tells you, if the art can be recognized as original



SYSTEM & TECHNOLOGY

4ART coin

The 4ART coin is the nucleus of the 4ART ecosystem and the means of payment for any service or sale carried out on the platform – from initial scanning right up to all other services offered through the platform. Any crypto or fiat currency that is to be invested in the 4ART platform must first be exchanged into the 4ART coin. For this, we offer convenient payment via credit or debit card.

It is important here to highlight that the 4ART coin is a utility token according to the definition of the Swiss Financial Market Supervisory Authority (FINMA).



BUSINESS CASE

Forecast

On the basis of the 39 million sales transactions in the art market in 2017 and an approach of only 6.1 million transports per year, 4ARTechnologies, starting with Europe, is planning to tap into the market of art transactions. The following table shows when the development of the individual markets is planned and what growth is expected in the individual segments and regions of 4ARTechnologies.

Forecast					2019			2020		
Markets	Transactions		Year	unmoved stocks	Transactions			Transactions		
	Sale with transport a. 1. registry	transport caused by lending			Initial registration	Sale with transport a. 1. registry	transport caused by lending	Initial registration	Sale with transport a. 1. registry	transport caused by lending
Planned market development shares				Europe	1,00%	1,00%	0,30%	3,00%	3,00%	0,60%
				USA				1,00%	1,00%	0,30%
				China						
				Others						
Market distribution		Number	Number	Number	Number	Number	Number	Number	Number	Number
Europe	33%	12,9	2,0	128,7	128.700	20.130	386.100	386.100	60.390	772.200
USA	40%	15,6	2,4	156,0				156.000	24.400	468.000
China	21%	8,2	1,3	81,9						
Others	6%	2,3	0,4	23,4						
	100%	39,0	6,1	390,0	128.700	20.130	386.100	542.100	84.790	1.240.200
					EUR	EUR	EUR	EUR	EUR	EUR
				Pricing model (value-chain of a transaction)	390,00	450,00	250,00	390,00	450,00	250,00
					Mio. EUR	Mio. EUR	Mio. EUR	Mio. EUR	Mio. EUR	Mio. EUR
				Revenues	50.193	9.059	96.525	211.419	38.156	310.050
				Total annual revenue			155.777			559.625

Forecast					2021			2022			2023		
Markets	Transactions		Year	unmoved stocks	Transactions			Transactions			Transactions		
	Sale with transport a. 1. registry	transport caused by lending			Initial registration	Sale with transport a. 1. registry	transport caused by lending	Initial registration	Sale with transport a. 1. registry	transport caused by lending	Initial registration	Sale with transport a. 1. registry	transport caused by lending
Planned market development shares				Europe	5,00%	5,00%	0,90%	7,00%	7,00%	1,20%	9,00%	9,00%	1,50%
				USA	3,00%	3,00%	0,60%	5,00%	5,00%	0,90%	7,00%	7,00%	1,20%
				China	1,00%	1,00%	0,30%	3,00%	3,00%	0,60%	5,00%	5,00%	0,90%
				Others				1,00%	1,00%	0,30%	3,00%	3,00%	0,60%
Market distribution		Number	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number
Europe	33%	12,9	2,0	128,7	643.500	100.650	1.158.300	900.900	140.910	1.544.400	1.158.300	181.170	1.930.500
USA	40%	15,6	2,4	156,0	468.000	73.200	936.000	780.000	122.000	1.404.000	1.092.000	170.800	1.872.000
China	21%	8,2	1,3	81,9	81.900	12.810	245.700	245.700	38.430	491.400	573.300	115.290	1.228.500
Others	6%	2,3	0,4	23,4				23.400	3.660	70.200	70.200	10.980	140.400
	100%	39,0	6,1	390,0	1.193.400	186.660	2.340.000	1.950.000	305.000	3.510.000	2.893.800	478.240	5.171.400
					EUR	EUR	EUR	EUR	EUR	EUR	EUR	EUR	EUR
				Pricing model (value-chain of a transaction)	390,00	450,00	250,00	390,00	450,00	250,00	390,00	450,00	250,00
					Mio. EUR	Mio. EUR	Mio. EUR	Mio. EUR	Mio. EUR	Mio. EUR	Mio. EUR	Mio. EUR	Mio. EUR
				Revenues	465.426	83.997	585.000	760.500	137.250	877.500	1.128.582	215.208	1.292.850



BUSINESS CASE

Scenarios of Capital Raising

The development of markets on this scale, of course, requires adequate capital. The following shows which capital requirements are associated with individual market developments and how the capital generated in the context of the ICO is to be used.

Variants of capital raising and hardcap			EUR	EUR	EUR	EUR	EUR	
Capital raising from ICO			Softcap	15.000.000	40.000.000	100.000.000	180.000.000	250.000.000
Possible launch for the regions with the use of funds			EU 1)	Europe 2)	Europe and USA 3)	Europe and USA and China 4)	Europe and USA and China and others 5)	
Planned market development shares	Coremarkets Europe	2019	0,25%					
		2020	0,50%					
		2021	0,75%					
		2022	1,00%					
		2023	1,25%					
	Europe	2019			1,00%			
		2020			3,00%			
		2021			5,00%			
		2022			7,00%			
		2023			9,00%			
	USA	2020				1,00%		
		2021				3,00%		
		2022				5,00%		
2023					7,00%			
China	2021					1,00%		
	2022					3,00%		
Others	2022						1,00%	
Use of funds			EUR	EUR	EUR	EUR	EUR	
Direct ICO costs	7,00%		-1.050.000	-2.800.000	-7.000.000	-12.600.000	-17.500.000	
Taxes on ICO income	7,90%		-1.102.050	-2.938.800	-7.347.000	-13.224.600	-18.367.500	
Investment	IT equipment, furniture and fixtures		-3.570.000	-6.780.000	-14.790.000	-26.480.000	-37.350.000	
	Initial equipment business operation		-89.700	-174.800	-328.900	-496.800	-751.500	
	Employees recruitment costs		-534.000	-1.104.000	-4.346.000	-6.542.000	-8.842.000	
	further development of the Software		-500.000	-800.000	-1.600.000	-2.800.000	-4.000.000	
Preliminary costs	Personnel costs		-3.892.800	-8.054.400	-15.642.000	-23.488.800	-31.482.000	
	Operating costs		-819.480	-1.212.320	-2.854.760	-4.127.120	-5.179.400	
Advertising, marketing and establishing sales-network			-3.000.000	-10.400.000	-26.200.000	-57.000.000	-83.200.000	
Promoting the art	Endow the 4ART-foundation with capital				-5.000.000	-9.000.000	-12.500.000	
Reserve			441.970	5.735.680	14.891.340	24.240.680	30.827.600	
	Launch in the period		2018	2018	2019/20	2019/20/21	2019/20/21	
Employee growth		No. of employees	74	54	86	78	74	
Generell:	The investments and up-front costs shown above relate to the first year of the relevant market development or market expansion. For the first two variants of the generation of capital, this already applies to the year 2018. The figures for employee growth refer in each case only to the increase in the number of employees required for the first year of the relevant market development or market expansion.							
The following applies to the individual variants of capital generation:	Each revenue stage includes the investment and start-up costs of the market development for each region or region expansion. In addition, each stage includes the costs necessary for the further development of the market started in the previous stage.							
Softcap:	The level marked "softcap" is considered a minimum amount of capital generation. Once this has been achieved, the implementation of the business model begins.							
Footnotes:	1	In this investment variant, the market development will only take place in the most important European countries of the art market.						
	2	If enough capital can be generated from the ICO, the project is developed throughout almost all of Europe.						
	3	If the capital of the third-level is reached, the US market will also be tapped. In addition, an expansion of market development in Europe, including Russia, is envisaged.						
	4	Upon reaching the 4th level of capital raising, the market development in China including Hong Kong is to be started. In addition, all other markets (Europe, USA) will be further developed.						
	5	Once the hardcap has been reached in accordance with the 5th stage, then the development of the art market should also take place continuously in the most important countries of the rest of the world. In addition, the further market development takes place in the other regions where it has already started.						

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BUSINESS CASE

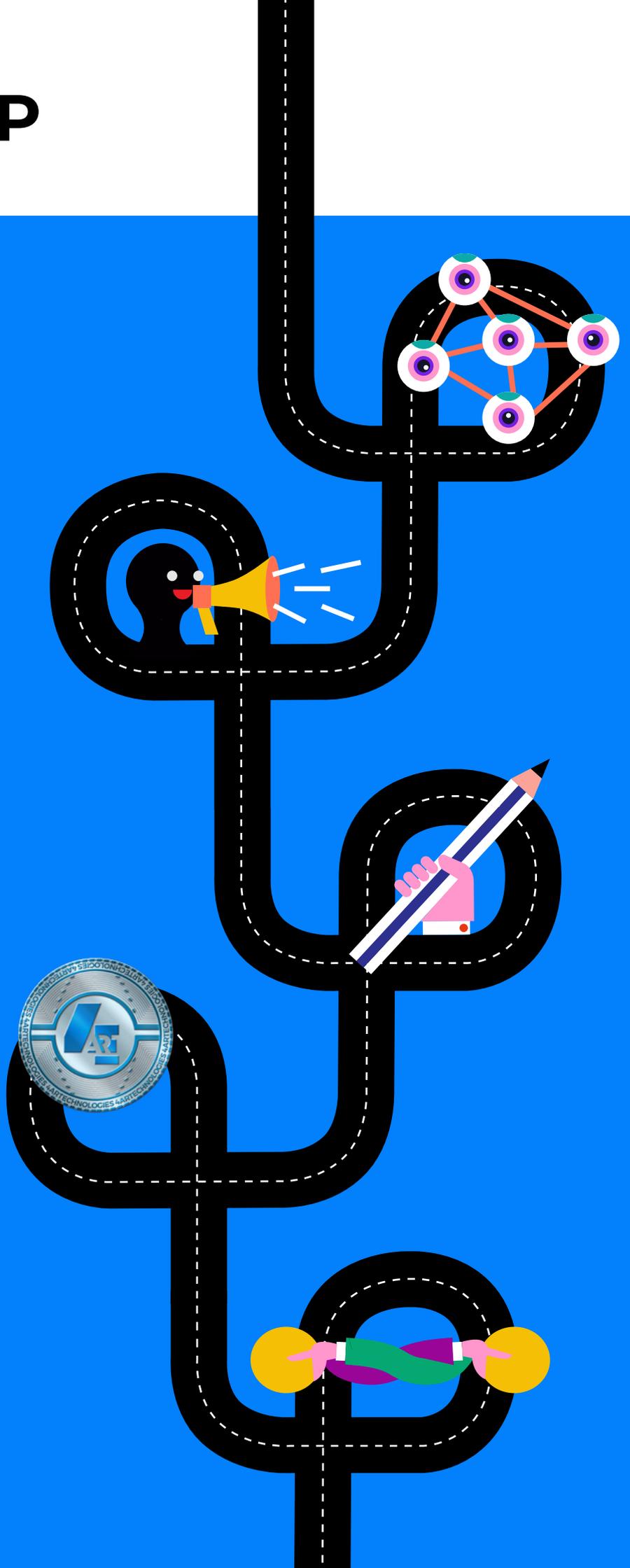
Profit and Loss Plan

Plan-Profit-and-loss-account for variants of market development				2019	2020	2021	2022	2023
ICO generated capital	Region	Planned market development shares	Coremarkets Europe	EUR	EUR	EUR	EUR	EUR
				0,25%	0,50%	0,75%	1,00%	1,25%
15.000.000	EU	Revenues		38.944.125	77.888.250	116.832.375	155.776.500	194.720.625
		./. External services		-2.977.708	-6.464.558	-7.974.980	-11.099.973	-14.424.966
		./. Personnel and operating costs		-13.508.520	-21.029.600	-22.991.120	-25.037.840	-26.756.600
		./. Advertising and sales costs		-14.683.238	-32.766.475	-50.849.713	-68.932.950	-87.016.188
		./. Depreciation and Amortization		-375.750	-685.000	-1.521.167	-2.730.667	-3.602.083
		Operating result (EBIT)		7.398.910	16.942.617	33.495.396	47.975.070	62.920.788
		+ Financial income		77.747	300.389	636.400	1.073.645	1.479.437
		./. Remuneration of 4ART-Foundation		0	0	-1.710.000	-2.450.000	-3.220.000
		Profit before taxes (EBT)		7.476.657	17.243.006	32.421.796	46.598.716	61.180.225
		./. Taxes		-1.271.032	-2.931.311	-5.802.405	-8.338.282	-10.948.038
		Profit after taxes		6.205.625	14.311.695	26.619.390	38.260.434	50.232.187
ICO generated capital	Region	Planned market development shares	Total Europe	1,00%	3,00%	5,00%	7,00%	9,00%
				EUR	EUR	EUR	EUR	EUR
40.000.000	Europe	Revenues		155.776.500	370.804.500	585.832.500	800.860.500	1.015.888.500
		./. External services		-6.808.830	-24.814.598	-29.301.265	-40.137.911	-51.198.557
		./. Personnel and operating costs		-23.645.040	-27.073.040	-40.564.480	-48.303.960	-55.744.280
		./. Advertising and sales costs		-68.932.950	-155.641.350	-226.549.750	-297.458.150	-368.366.550
		./. Depreciation and Amortization		-2.154.667	-3.554.667	-4.241.000	-4.832.833	-5.420.167
		Operating result (EBIT)		54.235.013	159.720.845	285.176.005	410.127.646	535.158.946
		+ Financial income		563.897	2.465.698	5.489.155	8.800.247	12.108.637
		./. Remuneration of 4ART-Foundation		-2.740.000	-8.110.000	-14.530.000	-20.950.000	-27.360.000
		Profit before taxes (EBT)		52.058.910	154.076.543	276.135.160	397.977.893	519.907.584
		./. Taxes		-10.411.782	-32.437.309	-58.133.032	-83.785.579	-109.453.517
		Profit after taxes		41.647.128	121.639.234	218.002.128	314.192.314	410.454.067
ICO generated capital	Region	Planned market development shares	Europe	1,00%	3,00%	5,00%	7,00%	9,00%
			USA			1,00%	3,00%	5,00%
			China				1,00%	3,00%
			EUR	EUR	EUR	EUR	EUR	EUR
100.000.000	Europe and USA	Revenues		559.624.500	1.035.292.500	1.510.960.500	1.986.628.500	2.569.221.000
		./. External services		-37.772.678	-51.230.985	-65.990.751	-99.277.237	-128.025.166
		./. Personnel and operating costs		-36.718.720	-60.196.820	-75.274.800	-90.926.680	-113.593.080
		./. Advertising and sales costs		-234.487.350	-405.787.750	-577.088.150	-736.588.550	-976.566.300
		./. Depreciation and Amortization		-3.848.167	-5.485.250	-7.678.333	-9.560.167	-13.120.167
		Operating result (EBIT)		246.797.585	512.591.695	784.928.466	1.050.275.866	1.337.916.287
		+ Financial income		3.339.400	9.182.961	16.274.462	23.417.607	31.560.000
		./. Remuneration of 4ART-Foundation		-12.510.000	-26.090.000	-40.060.000	-53.680.000	-70.800.000
		Profit before taxes (EBT)		237.626.985	495.684.656	761.142.928	1.020.013.474	1.297.264.924
		./. Taxes		-50.027.397	-104.354.931	-160.240.586	-214.738.695	-283.106.985
		Profit after taxes		187.599.588	391.329.725	600.902.343	805.274.779	1.014.157.939
ICO generated capital	Region	Planned market development shares	Europe	1,00%	3,00%	5,00%	7,00%	9,00%
			USA			1,00%	3,00%	5,00%
			China				1,00%	3,00%
			EUR	EUR	EUR	EUR	EUR	EUR
180.000.000	Europe and USA and China	Revenues		1.134.423.000	1.746.927.000	2.569.221.000	3.569.221.000	4.746.927.000
		./. External services		-56.984.786	-78.758.054	-103.277.237	-138.025.166	-183.593.080
		./. Personnel and operating costs		-68.659.860	-94.159.680	-123.593.080	-163.593.080	-218.593.080
		./. Advertising and sales costs		-461.926.900	-699.678.100	-976.566.300	-1.312.120.167	-1.746.566.300
		./. Depreciation and Amortization		-6.360.750	-10.106.833	-13.120.167	-17.120.167	-22.620.167
		Operating result (EBIT)		540.490.704	864.224.333	1.337.916.287	1.837.916.287	2.437.916.287
		+ Financial income		9.470.706	17.542.694	27.618.637	37.618.637	49.618.637
		./. Remuneration of 4ART-Foundation		-27.500.000	-44.090.000	-68.270.000	-91.270.000	-120.270.000
		Profit before taxes (EBT)		522.461.410	837.677.027	1.297.264.924	1.775.264.924	2.357.264.924
		./. Taxes		-109.992.282	-176.353.405	-273.106.985	-363.106.985	-478.106.985
		Profit after taxes		412.469.128	661.323.622	1.024.157.939	1.412.157.939	1.879.157.939
ICO generated capital	Region	Planned market development shares	Europe	1,00%	3,00%	5,00%	7,00%	9,00%
			USA			1,00%	3,00%	5,00%
			China				1,00%	3,00%
			Others					1,00%
			EUR	EUR	EUR	EUR	EUR	EUR
250.000.000	Europe and USA and China and others	Revenues		1.775.250.000	2.636.640.000	3.569.221.000	4.569.221.000	5.746.927.000
		./. External services		-81.219.140	-133.271.824	-183.593.080	-243.593.080	-318.593.080
		./. Personnel and operating costs		-99.537.000	-124.322.480	-163.593.080	-218.593.080	-288.593.080
		./. Advertising and sales costs		-719.575.000	-1.019.592.000	-1.312.120.167	-1.746.566.300	-2.296.566.300
		./. Depreciation and Amortization		-10.513.333	-13.887.667	-18.120.167	-23.620.167	-30.620.167
		Operating result (EBIT)		864.405.527	1.345.566.029	1.986.628.500	2.636.640.000	3.436.640.000
		+ Financial income		17.548.571	27.705.803	41.837.274	56.186.304	74.186.304
		./. Remuneration of 4ART-Foundation		-44.100.000	-68.660.000	-103.000.000	-138.000.000	-183.000.000
		Profit before taxes (EBT)		837.854.098	1.304.611.832	1.925.465.774	2.554.826.304	3.328.826.304
		./. Taxes		-176.390.820	-274.654.366	-363.106.985	-478.106.985	-628.106.985
		Profit after taxes		661.463.278	1.029.957.466	1.562.358.789	2.076.719.319	2.700.719.319

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ROADMAP

February 2017	Idea inception
	Licensing of augmented authentication technology to 4ART April 2017
	Legal setup May 2017
	Team setup July 2017
	White paper and project concept December 2017
March 2018	Demo Application on iOS Development
	Token sale to early-stage investors (Closed Group) 25.06.2018
	4ART Pre-ICO Phase 1 09.07.2018
	4ART Pre-ICO Phase 2 23.07.2018
	4ART ICO Start 06.08.2018
	4ART ICO End 28.09.2018
	Launch of Alpha version of 4ART app (MVP) September 2018
	Launch of Beta version of 4ART app October 2018
	Integration of further APIs November 2018
January 2019	4ART Token launch on exchange 30.11.2018
	European rollout March 2019
	US rollout August 2019
From September 2019	Continued development in all directions



ICO DETAILS

Accompaniment of the ICO by Legal Consultants

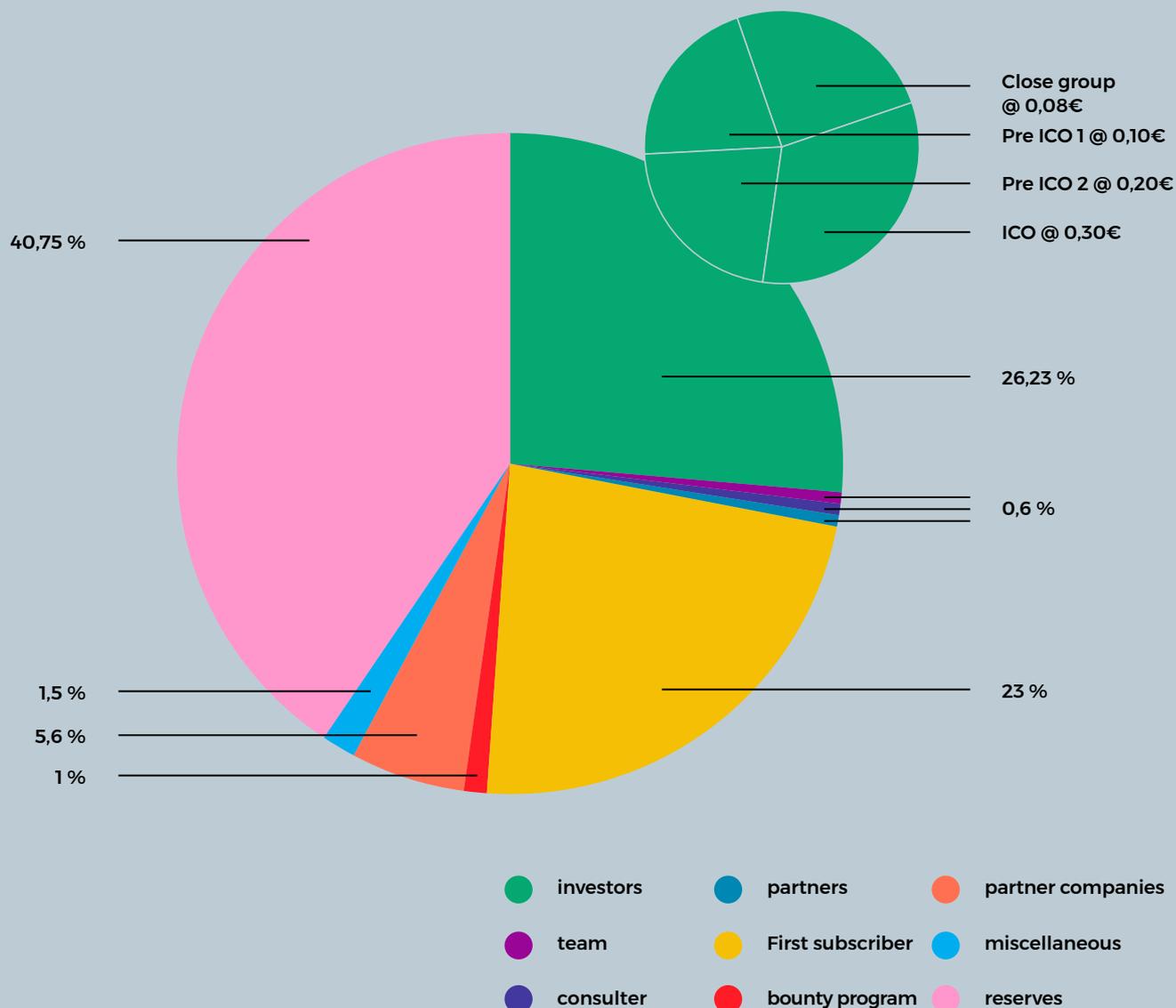
The ICO has been and will continue to be accompanied by our consultants from the law firm Reichlin Hess, lawyers and tax consultants, based in Zug / Switzerland.

Above all, they take care of the rulings with the authorities, such as the Swiss Financial Market Supervisory Authority (FINMA) and tax authorities.

Token Sale Details

The issuance of 4ART coins will be regulated by a smart contract deployed on the Ethereum blockchain conforming to the ERC 20 standard. 20.96% out of a total of 6.5 billion tokens will be made available during the three ICO stages:

- 1 Closed Group (min. invest 500€)
- 2 Pre ICO (phase 1 and phase 2), (min. invest 500€)
- 3 ICO (min. invest 500€)



ICO DETAILS

The price of the 4ART coin is set at €0.08 for the closed group sale, at €0.10 during phase 1 of the Pre-ICO stage, at €0.20 during phase 2 of the Pre-ICO and at €0.30 during the ICO stage. For investors in the closed group, a lock period has been defined whereby they will have to hold their 4 ART coins for 6 months after the ICO (pre sale phase 1 lock period for 4 months and presale phase 2 lock period for 3 months).

The minimum invest for each group is 500€.

Allocation of Tokens

Crowd sale participants

26,23% of 4ART coins (1.362 billion tokens) will be made available to the investors participating in the crowdsale of tokens through media channels including Airdrop, Bitcointalk.org, Twitter, Facebook, Blogs, press releases, etc.

First Subscription

23% of the 4ART coins (1.5 Billion tokens) will be reserved for the first subscribers of the 4ART Tokens. A lock period of one year has been defined for the founders, during which they will have to hold 85% of their tokens for one year and will only be allowed to release 15%.

The tokens will be locked as per following sliding scale

Year 1: 85% locked

Year 2: 75% locked

Year 3: 60% locked

Year 4: No restrictions

Core team

0.6 % of the 4ART coins (39 million tokens) will be allocated to the core team of 4ART technologies apart from the founders. The core team also has a lock period of one year during which they will have to hold 85 % of their tokens.

The tokens will be locked as per following sliding scale

Year 1: 85% locked

Year 2: 60% locked

Year 3: No restrictions

Partnerships

0.6% of the 4ART coins (39 million tokens) will be allocated for pre-sale partners

Advisors

0.6 % of the 4ART coins (39 million tokens) will be allocated to the advisory board.

The tokens will be locked as per following sliding scale

Year 1: 85% locked

Year 2: 60% locked

Year 3: No restrictions

Affiliate Programs

5.6 % of the 4ART coins (364 million tokens) will be allocated for affiliate programs. This will be done to reward those who refer our token further, whereas the source person will be awarded a certain amount of tokens and the one referred will be offered a discount on the tokens.

Reserve for future needs

40,75 % (2.991 billion tokens) of the total 4ART coins will be kept by the company as a reserve for future needs such as expansion, app development, etc. The company can also release these tokens when demand in the market rises for the 4ART coin.

Flexible Token Pot

4ARTTechnologies will also keep a flexible coin pot of 100 million (1.5%) 4ART coins which we will use for any future partnerships, and payment needs.

ICO DETAILS

Market Relevance of the 4ART Token

The number of 4ART tokens in the free float serves to pay for the digital service when redeemed by the company. The company's planned revenues shown in the Business Plan section thus provide the basis for determining the number of tokens to be purchased by customers for payment of those sales.

Of course, never get all tokens for redemption should be clear to everyone. It is to be shown with the period falling from 18 months to 5 months, that the demand for the tokens could increase by the 3.6-fold by the rising sales of the enterprise.

The following table therefore shows the number of months as a measure of demand for the 4ART token, which – assuming a token price of EUR 0.30 (according to the ICO) – would take until all the free-float on the market – by redeeming the digital services company.

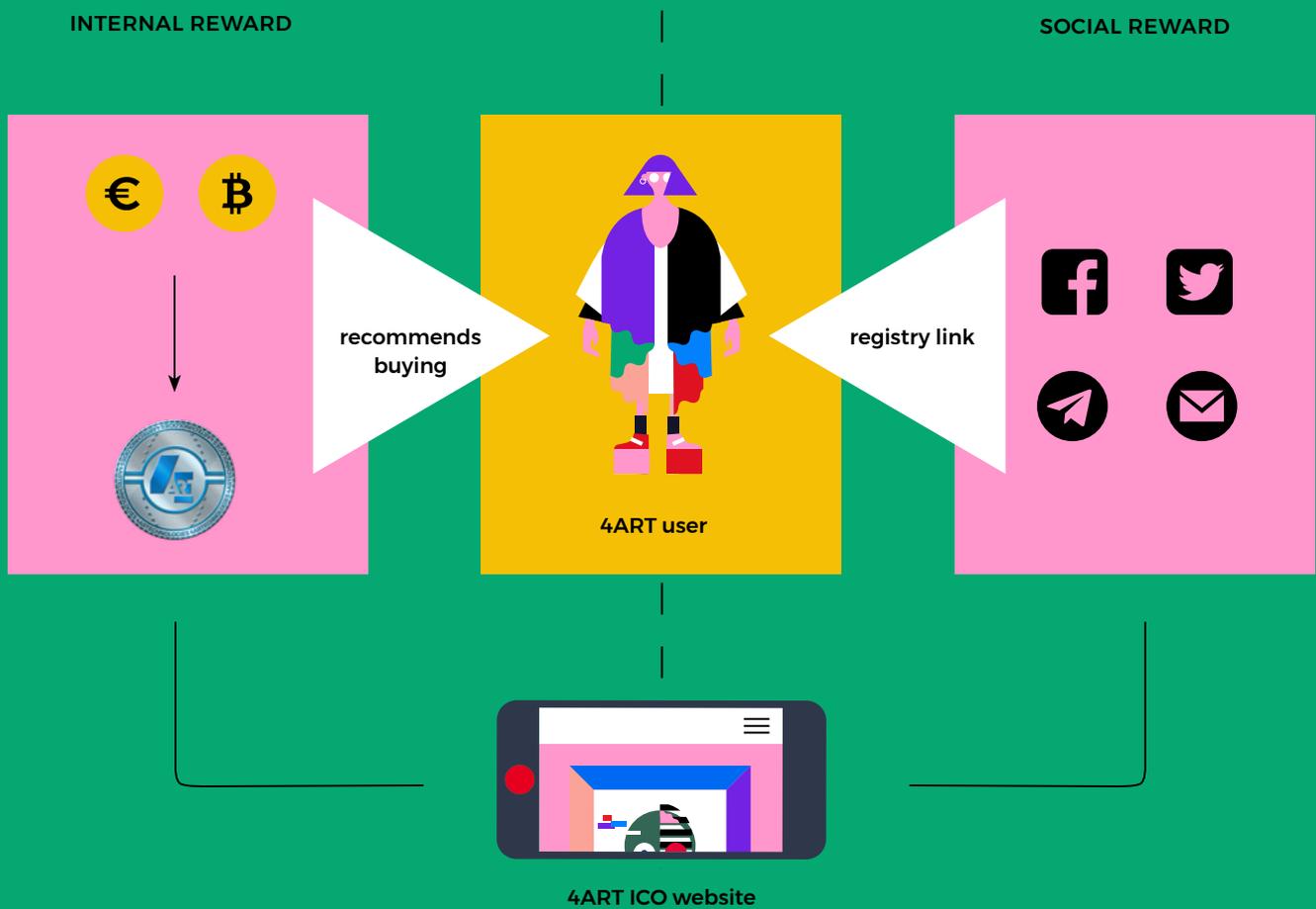
Redemption period of token		2019			2020			2021			2022			2023		
I. Calculation of the required tokens at a token price of 0,30 €		Transactions		unmoved stocks												
value chains		Sale with transport a. 1. registry	transport caused by lending	Initial registration	Sale with transport a. 1. registry	transport caused by lending	Initial registration	Sale with transport a. 1. registry	transport caused by lending	Initial registration	Sale with transport a. 1. registry	transport caused by lending	Initial registration	Sale with transport a. 1. registry	transport caused by lending	Initial registration
regions		Mio EUR	Mio EUR	Mio EUR	Mio EUR	Mio EUR	Mio EUR	Mio EUR	Mio EUR	Mio EUR	Mio EUR	Mio EUR	Mio EUR	Mio EUR	Mio EUR	Mio EUR
Europe	Turnover from all digital services	50.193	9.059	96.525	150.579	27.176	193.050	250.965	45.293	289.575	351.351	63.410	386.100	451.737	81.527	482.625
USA	Turnover from all digital services				60.840	10.980	117.000	182.520	32.940	234.000	304.200	54.900	351.000	425.880	76.860	468.000
China	Turnover from all digital services							31.941	5.765	61.425	95.823	17.294	122.850	223.587	51.881	307.125
Others	Turnover from all digital services										9.126	1.647	17.550	27.378	4.941	35.100
	Total sales	50.193	9.059	96.525	211.419	38.156	310.050	465.426	83.997	585.000	760.500	137.250	877.500	1.128.582	215.208	1.292.850
Tokens needed for digital services		Mill. Pcs.	Mill. Pcs.	Mill. Pcs.	Mill. Pcs.	Mill. Pcs.	Mill. Pcs.	Mill. Pcs.	Mill. Pcs.	Mill. Pcs.	Mill. Pcs.	Mill. Pcs.	Mill. Pcs.	Mill. Pcs.	Mill. Pcs.	Mill. Pcs.
		167.310	30.195	321.750	704.730	127.185	1.033.500	1.551.420	279.990	1.950.000	2.535.000	457.500	2.925.000	3.761.940	717.360	4.309.500
Sum of all tokens required for digital services				519.255			1.865.415			3.781.410			5.917.500			8.788.800
II. Calculation of free-float tokens		Number of tokens		EUR	free-float	Mill. Pcs.	EUR									
Group of token holders	Number of tokens	EUR	free-float	Mill. Pcs.												
First Subscribers	1.500.000.000		15,00%	225.000		25,00%	375.000		40,00%	600.000		100,00%	1.500.000		100,00%	1.500.000
Core Team	39.000.000		15,00%	5.850		40,00%	15.600		100,00%	39.000		100,00%	39.000		100,00%	39.000
Business partner	39.000.000		15,00%	5.850		40,00%	15.600		100,00%	39.000		100,00%	39.000		100,00%	39.000
Advisers	39.000.000		15,00%	5.850		40,00%	15.600		100,00%	39.000		100,00%	39.000		100,00%	39.000
Affiliates	364.000.000		16,00%	58.240		40,00%	145.600		100,00%	364.000		100,00%	364.000		100,00%	364.000
Bounties	65.000.000		16,00%	10.400		40,00%	26.000		100,00%	65.000		100,00%	65.000		100,00%	65.000
future business partners	100.000.000		15,00%	15.000		40,00%	40.000		100,00%	100.000		100,00%	100.000		100,00%	100.000
Investors																
closed group	0,08 €	312.500.000	25.000.000	100,00%	312.500	100,00%	312.500		100,00%	312.500		100,00%	312.500		100,00%	312.500
Pre-ICO - 1. stage	0,10 €	300.000.000	15.000.000	100,00%	150.000		150.000		100,00%	150.000		100,00%	150.000		100,00%	150.000
					15.000.000	100,00%	150.000		100,00%	150.000		100,00%	150.000		100,00%	150.000
Pre-ICO - 2. stage	0,20 €	300.000.000			45.000.000	100,00%	225.000		100,00%	225.000		100,00%	225.000		100,00%	225.000
								15.000.000	100,00%	75.000		100,00%	75.000		100,00%	75.000
ICO	0,30 €	450.000.000						65.000.000	100,00%	216.667		100,00%	216.667		100,00%	216.667
											70.000.000	100,00%	233.333		100,00%	233.333
in the company portfolio																
		2.991.500.000														
Capital generated from ICO		40.000.000			60.000.000			80.000.000			70.000.000					
		6.500.000.000		788.690			1.470.900			2.375.167			3.508.500			3.508.500
III. Calculation of the redemption period																
Redemption time of all free-float tokens				months												
				18			9			8			7			5

→ <http://35.156.58.99/wp-content/uploads/EinlosDauer.tiff>

ICO DETAILS

Bounty Programs

1 % of the 4ART coins (65 million tokens) will be allocated to bounties to spread word about 4ART through social media and articles.



INITIATOR / FOUNDERS / FIRST INVESTORS



Niko Kipouros

Initiator / Founder

As an established arts broker and collector with over two decades of experience, Niko knows the art world inside out – and he is excited to have found a solution to one of its greatest challenges. With a successful track record as an entrepreneur and investor whose portfolio includes more than 50 companies, Niko combines excellent business sense with a profound understanding of the art industry and its intricacies.



Peter Steiner

Boardmember / CEO

Peter is one of Switzerland's leading sales and marketing experts whose credits include serving as Global Head of Sales at Swatch and overseeing the market launch of Europe's major isotonic beverage. With his vast expertise, Peter knows how to lead cross-disciplinary teams from ideation to market implementation, developing and launching products that create value across their entire life cycle.



Rolf Maier

First Investor

The long-time CEO of a 70-strong insurance brokerage, Rolf is both an impassioned arts collector and experienced manager with great strategic acumen. Having served the art world as an insurance broker for over 35 years, he is delighted to spearhead the development of an innovative service that will enhance security and cut costs for his many trusted partners in the industry.

DESIGNATED DIRECTORS



Christina Kipouros

Trained as an insurance broker, Christina specialises in the field of art investments. With her in-depth understanding of the needs and desires of insurers and artwork owners, she empowers 4ARTechnologies to place customers' concerns at the heart of both product development and marketing.



Dino Lewkowicz Designated CEO USA

Having served in leading functions on both the hardware and software side of digital industries, Dino Lewkowicz knows how to bring to life great products built around customer needs. He previously served as CMO for Iteora, a German-Russian mobile development outfit.



Serge Poliakov

Serge Poliakov develops innovative forms of advertising to create transparency and to give his customers the desired success or the opportunity to reach the right target group at the right time. He supports with his innovative advertising technologies, international network of media specialists and press work in Eastern Europe. Serge combines Western and Eastern European cultures and business practices. His access to decision-makers in the Eastern European art scene, business and politics is second to none.

TEAM



Reinhold Wentsch

With over twenty years experience in marketing, IT and insurance, Reinhold is committed to launch product that lives up to its promises of trust, security, and transparency. A self-avowed geek, Reinhold combines serious tech knowledge with ample creativity.



Monja Maier

A marketer and PR specialist with a love of the arts, Monja brings to 4ARTechnologies her keen eye for good storytelling as well as a wealth of innovative ideas.

DESIGNATED DIRECTORS FAR EAST

DESIGNATED DIRECTORS

4 ARTechnologies Asia



Joachim Haas

Joachim Haas is President and Director of Northwest Oil & Gas Trading Company; he advises companies on entering the stock market, investor relations as well as capital and assets.



Peter Cheung

The founder of Blockchains Limited and Artchain AI Limited, Peter Cheung is one of the pioneers of the field. He draws on twenty years of experience as a private investor and merchant banker with a successful track record in industries such as natural gas, oil, mining, pharmaceuticals and technology.

ADVISORY BOARDS

ADVISERS TECHNOLOGY



Thorsten Tritschler

More than 30 years of world wide experience in the Security Printing field with Atlantic Zeiser. Thorsten contributes his technical understanding and professional marketing & sales perspective. He supported as a “connector” between technology and track & trace and authenticity solutions.



Ali Naqi Shaheen

Ali is a serial entrepreneur, information architect, and business angel whose focus is on driving growth through platforms, customer and employee experience and blockchain technology applications. As Chief Product Officer at eKomi, a Goldman Sachs backed company, he has a successful track record in taking products from zero to topline the company's revenue; as Technical Co-Founder, he is known for his ability to envision and design complex systems that simplify architecture for growth and speed.

ADVISORY BOARDS

ADVISERS TECHNOLOGY



Thomas Obitz

Managing Director of Atlantic Zeiser with a strong economic and legal background and a high entrepreneurial spirit. Thomas has great international experience in leadership and corporate strategy management.



Kai Zeh

With a career that boasts of positions such as Director Technology & Client Partner Digital for the Publicis Group, Vice President Customer Success & Operations for eKomi and Development Director within the WPP group, Kai is highly skilled at realizing projects that fuse the latest tech with user-centric innovation. Renowned as a great and inspiring team leader, Kai is as much development director and expert developer in his own right as he is a visionary for leadership and organizational development. Over the course of his career, he has brought over 350 software and hardware solutions to market; his clients have included Volkswagen, Audi, BMW, Commerzbank, Deutsche Post DHL, Ergo, Microsoft, Louis Vuitton, Intelligent Systems Co. and Telekom.

ADVISORY BOARDS

ADVISERS FINANCE



Kurt Spirig

Kurt Spirig is an expert in investment and asset management and digital innovation strategy. In recognition of his achievements in customer-centric end-to-end systems, he was awarded Expo Cologne's CRM Award and helped found the Competence Center for Customer-Centric Business Models at the University of Sankt Gallen. In addition to advising major players in banking and finance on developing blockchain ecosystems, he recently founded ARTeco, 4ARTechnologies' strategic partner.



Christian Kendlbacher

Having held executive positions at global corporations as well as in the Swiss public sector, Christian Kendlbacher now advises companies on all matters controlling and finance. He is the CFO of 4ARTechnologies' partner ARTeco.

ADVISERS ART



Raimund Stecker

Raimund Stecker is one of Germany's leading art historians. Before teaching at the University of Fine Arts Essen as Professor of Art History, Stecker headed up several museums and foundations. In addition to the consulting services he provides to museums, he serves as a member of various juries and committees, e.g. for Art Cologne.



Andrea von Bredow

Andrea von Bredow is an art historian and lawyer having more than 20 years of professional experience in the international art market. Through her various cooperations with the global players of the art world, she has profound market knowledge within this sector. Since 2000 she has been working as an art expert in Wealth Management at Deutsche Bank AG.

ADVISORY BOARDS

ADVISERS MEDIA



Manfred Meier

Manfred Meier, for many years Chief Editor Entertainment and Deputy Editor-in-Chief of Europe's largest newspaper. BILD had a daily run of 4.3 million at that time.

Prior to this he worked as a reporter in cities such as Los Angeles, Moscow and Beijing. His book "The Miracle of Lengede" described one of the world's greatest mining dramas.

He then turned to the TV business industry and advised one of the largest television formats of all time: "Wetten, dass..." reached up to 20 million viewers.

At 4ARTechnologies, Mr Meier takes care of linking up with the worldwide media.



Michael Keusgen

Michael Keusgen has been Managing Director of Siegfried GmbH since July 2003. In this function, he headed perennial media projects, mainly international projects. Siegfried GmbH continuously produces selected documentaries under the direction of Michael Keusgen, and through its subsidiary FiletFilm GmbH a larger volume of reports and magazines for various TV stations. He studied Chinese and Geography at the School of Oriental and African Studies SOAS in London.

LET'S DO THIS

We're honored to be able to count on the support and counsel of artists such as Stefan A. Wengen, VOKA and Dieter Blum as well as the world's leading arts logistics and insurance companies, galleries and museums, investors and collectors in our vast network. Together, and with a capable tech team by our side, we're ready to change the face of the industry.

Not least, we're also hoping to create exciting opportunities for those not yet in the art world – for potential buyers who haven't yet considered art or found the market too forbidding as much as for all of those who are, quite simply, curious. In art, there is so much to discover. We are delighted to help preserve it for generations to come.



APPENDIX

... Competitors in Detail

Over the past few years, several startups have proposed the use of blockchain technology to rectify the market's persistent issues around provenance, auditability, ownership, removal of intermediaries and proof of transaction history.

Maecenas

Maecenas offers a crowdfunding platform for artworks that will divide these works into smaller Maecenas. Traditional auction houses and other intermediaries are to be replaced by allowing access to works of art while requiring a 6% fee for the artwork placement by the owner and a 2% fee from the investors. The mechanism for determining these percentages is not explained and can later be adapted or improved by a competitor. In addition, the Maecenas platform is not expandable and has financial units that allow the art objects to be co-determined by a large number of people. Maecenas uses its own token called ART, which is needed to access the Maecenas platform, on which all artwork is stored. The basic idea is not to allow extensions, which is a crucial limitation of their system.

Artex

Artex is a prominent example for the solution of provenance and authenticity by recording the art history of digital and physical photographs. Artex provides a platform for photographers to upload their photos and have them authorized by renowned experts, paying for them with ARX tokens. In addition, the rights of the photos may be sold to users in exchange for tokens to generate a cycle.

Codex

The Codex Protocol is a blockchain-based decentralized register for art and collectibles. This startup aims to capture and record the provenance of an object on the blockchain to ensure its authenticity. In addition, trade channels for the purchase and sale of artworks will be connected in the future, as well as others compatible with cryptocurrency fintech products. The

project is supported by a consortium of auction houses and dealers of various collectibles in order to gain recognition as quickly as possible.

Everledger

Everledger is another startup that uses the blockchain for decentralized storage of object data. The company is already established in the gem and diamond trade, and now wants to copy its technology to other markets, such as the art market. However, not only does it lack advanced market knowledge, but also specific authentication processes, which only exist for gems. The verification and object data are laser engraved on the gemstone and then stored on a blockchain. With the appropriate code, the origin and history can be assigned to the specific stone.

All Public Art

To solve the problem of fraud and counterfeiting, All Public Art wants to build a peer-to-peer network that eliminates the need for intermediaries. Through the use of smart contracts, the company ensures that all data is traceable. Artists and art collectors register on the platform in exchange for All Public Art Tokens, after which they receive unique IDs such as QR codes, stickers, RFID chips or RFID tags. Accordingly, no integrated solution for authenticating artworks exists. All Public Art have not yet presented a detailed roadmap, making it difficult to determine progress.

Paddle8

The online auction house Paddle8, in cooperation with The Native, develops technologies for improved artwork trade and the integration of cryptocurrencies. The focus is on the introduction of blockchain technologies for the art trade in the form of digitization projects and decentralized data structures, as well as the anonymous participation in online auctions and payments with common cryptocurrencies. In addition, the joint venture with Verisart is developing the P8Pass, which stores the certification and history of origin of a work of art on the blockchain. The certification is done once through the conventional ways, future status and condition reports are not performed.

APPENDIX

Competitors in Detail

	Maecanas	Artex	Codex	Everledger	All Public Art	Paddle8	4ART
Blockchain for Art-Provenance	x	x	x	x	x	x	x
Smart-Contracts	x	x	x	x	x	x	x
Track and Trace	x	x	x	x	x	x	x
Change of ownership protocol	x	x	x	x	x	x	x
KYC for authorized users					x	x	x
Fingerprint of Art-DNA							x
Condition reports per App							x
Art Valuation and Insurance							x
Legally binding digital contracts							x