THE OPEN RIGHTS EXCHANGE (ORE) WHITEPAPER

By: The Open Rights Foundation

ore.network

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WHITEPAPER

Single Sign-On for blockchain identities, optimized for managing digital and real world assets across chains.

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ore.network

Version 2.0. Subject to updates.

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Further, ORE Token is required as virtual crypto "fuel" for using certain designed functions on the ORE

Protocol, providing the economic incentives which will be distributed to encourage users to exert efforts towards contribution and participation in the ecosystem on the ORE Protocol, thereby creating a mutually beneficial system where every participant is fairly compensated for its efforts. ORE Token is an integral and indispensable part of the ORE Protocol, because without ORE Token, there would be no incentive for users to expend resources to participate in activities or provide services for the benefit of the entire ecosystem on the ORE Protocol. Given that additional ORE Token will be awarded to a user based only on its actual usage, activity and efforts made on the ORE Protocol and/or proportionate to the frequency and volume of transactions, users of the ORE Protocol and/or holders of ORE Token which did not actively participate will not receive any ORE Token incentives.

ORE Token are designed to be utilised, and that is the goal of the ORE Token distribution. In fact, the project to develop the ORE Protocol would fail if all ORE Token holders simply held onto their ORE Token and did nothing with it. In particular, it is highlighted that ORE Token:

(a) does not have any tangible or physical manifestation, and does not have any intrinsic value (nor does any person make any representation or give any commitment as to its value);

(b) is non-refundable and cannot be exchanged for cash (or its equivalent value in any other digital asset) or any payment obligation by the Company, the Distributor or any of their respective affiliates;

(c) does not represent or confer on the token holder any right of any form with respect to the Company, the Distributor (or any of their respective affiliates), or its revenues or assets, including without limitation any right to receive future dividends, revenue, shares, ownership right or stake, share or security, any voting, distribution, redemption, liquidation, proprietary (including all forms of intellectual property or licence rights), right to receive accounts, financial statements or other financial data, the right to requisition or participate in shareholder meetings, the right to nominate a director, or other financial or legal rights or equivalent rights, or intellectual property rights or any other form of participation in or relating to the ORE Protocol, the Company, the Distributor and/or their service providers;

(d) is not intended to represent any rights under a contract for differences or under any other contract the purpose or pretended purpose of which is to secure a profit or avoid a loss;

(e) is not intended to be a representation of money (including electronic money), security, commodity, bond, debt instrument, unit in a collective investment scheme or any other kind of financial instrument or investment;

(f) is not a loan to the Company, the Distributor or any of their respective affiliates, is not intended to represent a debt owed by the Company, the Distributor or any of their respective affiliates, and there is

no expectation of profit; and

(g) does not provide the token holder with any ownership or other interest in the Company, the Distributor or any of their respective affiliates.

Notwithstanding the ORE Token distribution, users have no economic or legal right over or beneficial interest in the assets of the Company, the Distributor, or any of their affiliates after the token distribution.

To the extent a secondary market or exchange for trading ORE Token does develop, it would be run and operated wholly independently of the Company, the Distributor, the distribution of ORE Token and the ORE Protocol. Neither the Company nor the Distributor will create such secondary markets nor will either entity act as an exchange for ORE Token.

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Introduction

The Open Rights Exchange (ORE) — built by the Open Rights (OR) Foundation — is designed to enable billions of people around the world to use blockchain applications for the first time within the next five years. Users will easily be able to control their identity, assets and rights across various on-chain and off-chain applications — with a single universal account.

This universal account will be able to create and manage wallets on multiple blockchains. Each users' universal account on ORE will also have the ability to manage their accounts on the centralized web.

Next-generation applications, built using the ORE Protocol, will seamlessly connect users' assets and rights across different blockchains, with the legacy internet and traditional financial infrastructure. The barriers between the decentralized world and centralized world will melt away.

Your Decentralized Finance (DeFi) and Non-Fungible Token (NFT) portfolios will be able to connect to the same identity that consumers use to login to their bank accounts. By sharing identities with Web 2.0 applications, the ORE Protocol — and applications built on top of it — can connect the mass market of consumers to a wide variety of blockchain applications.

The ORE Protocol is an open-source set of standards that provides a unified interface for managing identity, authentication, access control and financial settlement for both traditional assets and crypto assets. ORE ID is a single sign-on service based on the ORE Protocol that allows users to easily create and access their accounts on ORE using email addresses or social media profiles.

Businesses using ORE ID can also easily generate these accounts and thus wallets on multiple blockchains on behalf of their customers at low, predictable costs. This solves the massive user experience and onboarding issues facing mainstream users and businesses trying to adopt blockchain.

End users won't even need to know that they are connecting to a blockchain or the decentralized web when using ORE. The experience will be indistinguishable from using the centralized applications that they are used to. However, users will know that their identity, assets and rights are securely stored in an account they own and control.

These assets will be everything from money and real estate to games and music. Their rights won't just be a record of ownership. These rights will connect to devices in the real world — unlocking doors, turning on cars and streaming movies. They'll hold those rights on the ORE Protocol, where no

one will be able to take them away and individuals will be free to use them however they see fit.

A New Approach to Identity

Today, we all have large amounts of data stored on the internet. Most of the time it's stored in centralized databases controlled by large corporations. Companies like Google, Facebook and Amazon earn large amounts of money off of this data.

Data is valuable, and therefore, constantly under attack by hackers. Blockchain technology helps make the internet a more secure and more private place.

We believe that people should own their identities and their data. This ownership should not rely on the trust of central parties or be isolated to a single blockchain. We have seen the pitfalls of centralized identity infrastructures with massive data breaches, unethical advertising and social engineering — and the exchange of individual privacy for corporate profits.

In a world that is increasingly digitized, there needs to be an intelligent and ethical infrastructure for identity, assets and rights management on the internet.

The OR Foundation's launch partner, AIKON, built ORE ID on top of the ORE Protocol to balance the needs of average, everyday users with this security in mind. Ultimately, ORE ID gives an individual user ownership of multiple on-chain identities for different applications, allowing that user to control how much of their online behavior they share between sites.

And although ORE ID uses social logins like Google or Facebook, it only uses them for authentication — ORE ID does not share data back to those platforms or anywhere else.

AIKON's technical approach is designed to protect consumers and businesses from exposure to malicious actors. With ORE ID, enterprises can create and manage application keys on their users' behalf, which is a much more user-friendly experience. Those users who become more blockchain-savvy, can claim control of their owner keys at any time.

Furthermore, ORE ID breaks up a user's digital footprint by producing disconnected blockchain identities per application. ORE ID manages app-specific permissions, which can be used to further splinter the user's presence between applications or API calls.

Market Background

According to [Market Research Future](#), the blockchain identity management market is expected to grow to $1.9 Billion by 2023. This figure is based on a very limited scope of "blockchain identity" and focuses heavily on private blockchains—restricting the primary use cases to identity verification and authentication. We believe the true figure for the value of blockchain identity protocols to be many orders of magnitude bigger.

The market capitalization for public blockchain assets is now measured in the trillions of dollars and has increased rapidly over the last several years. Many blockchain assets are isolated from each other on different chains with different wallets being required to manage them.

Swapping fungible assets and NFTs across chains is difficult without the intervention of a centralized party. Assets on Ethereum, for example, cannot easily be used for collateral on a DeFi application on Binance Smart Chain. Copycat NFTs on other chains dilute the value of the original NFTs by muddying provenance and reducing perceived scarcity.

A universal account that can link a user identity to their assets and rights on all public blockchains could enable new use cases that create a market

opportunity multiple times bigger than the current market capitalization of crypto.

As of June 4, 2021 Coinmarketcap.com showed the total market capitalization of all crypto assets to be over $1.65 Trillion, by comparison the total assets in traditional banking is over $124 Trillion — so the DeFi industry has potentially 100x growth still ahead.

As in the traditional finance world, the notional size of a cross-chain derivatives or DeFi market could be many times bigger than the total combined value of their underlying assets.

On the other side of the blockchain industry, private blockchain solutions are being offered by the biggest players in Silicon Valley. IBM, Microsoft, Google and Amazon all offer private blockchain as a service. These solutions purport to solve business process issues, but don't address the underlying account security and self-sovereignty issues that motivate the creation of decentralized identity in the first place.

There has been very little adoption of private blockchains and they have had minimal impact on industry. To be blunt, private blockchains miss the point and value proposition of blockchain entirely.

ORE's Advantages

ORE ID offers benefits over existing blockchain account and identity management solutions. Current approaches that allow users to access blockchains are primarily wallet apps that are downloaded to a phone or laptop or installed as a browser plugin.

Confusingly, each wallet app or plugin usually leads to the creation of a new account or wallet to manage unless the user has the technical skill to sweep or import private keys into additional apps. For example, a user who has MetaMask installed on their laptop and on their phone may unwittingly create two different accounts and not be able to manage the assets on their laptop wallet on their phone and vice versa.

This scenario becomes even more complicated when a user wants to manage assets on multiple chains on multiple devices — which generally requires multiple wallet apps. A user may be dismayed to find out that the Coinbase Wallet app they downloaded to their phone is a self-custody Ethereum asset wallet that has little to do with their Coinbase exchange account or Coinbase exchange mobile app.

Wallets rely on individual consumers to protect and manage their private keys, which is intimidating and difficult for nearly all users. Users who don't wish to manage their own wallets rely on centralized exchanges which are

restrictive, charge expensive fees and pose a real risk of the total loss of assets and privacy breaches.

This core user experience (UX) problem is preventing mass adoption of blockchain applications and DeFi. ORE ID's API-based approach encrypts a user's keys for all of the public blockchains they use and stores them in the cloud, protected by two factor authentication. This provides a better user experience that works from any device with any chain.

For the nervous product manager or director looking to adopt a blockchain solution for their business and who finds committing to a single public blockchain to be a difficult decision — ORE ID has them covered.

Businesses understand that the leading public blockchains or smart contract platforms of today, may not be the leaders of tomorrow. This risk may lead them to consider private chains or custom solutions over deploying on an "expensive" public chain that may one day be obsolete.

With ORE ID, consumers can have easy access to every major public chain instead of succumbing to the temptation of a "low risk" approach in choosing a private blockchain solution.
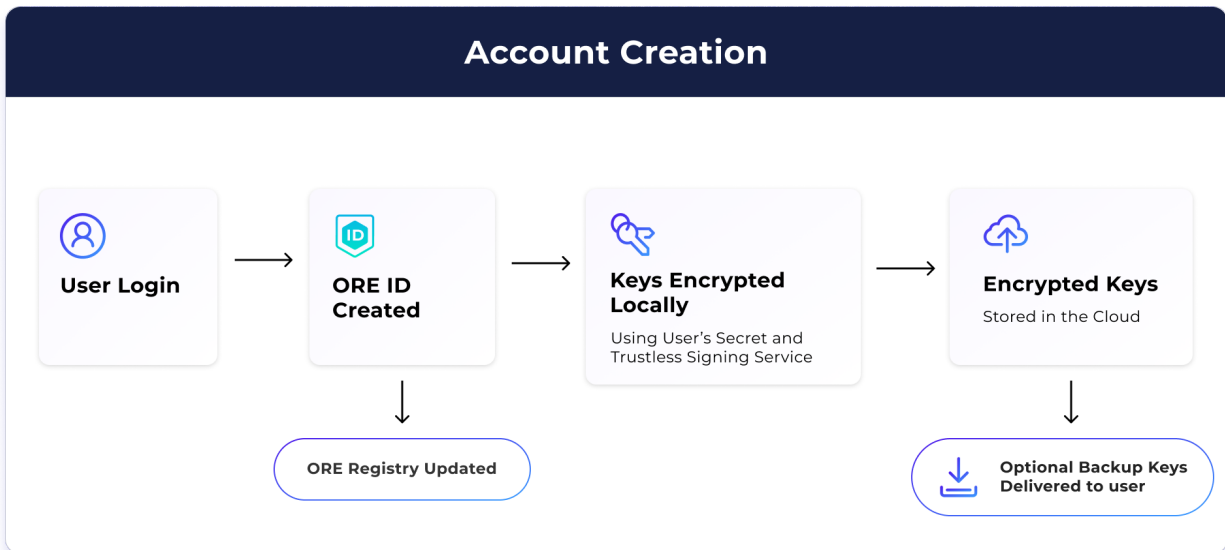
Underlying Technology

ORE is a cross-chain, global identity registry, where users own and have full control over their own identity. This identity registry — the ORE Registry — is stored on the ORE Blockchain today and will be stored on other chains in the future.

Users will use ORE ID as a single sign-on to manage their wallets on multiple public blockchains. ORE ID allows people to connect their traditional Internet identities such as email addresses, Google logins or social media accounts.

ORE ID

A single ORE ID account will be usable as a wallet on hundreds of blockchains. This is possible because each ORE ID account will hold public and private keypairs for the ED 25519, SR25519 and SECP256K1 and SECP256R1 encryption curves.

ORE ID is a largely stateless and trustless sign-on solution. It holds no personally identifiable information (PII), it just holds public keys and active NFTs linked to a given account. All of the data on the ORE Registry will be able to be accessed via API calls or read directly from the blockchain.

Account Creation

User Login → **ORE ID Created** → **Keys Encrypted Locally**
Using User's Secret and Trustless Signing Service → **Encrypted Keys** Stored in the Cloud

↓   ↓

ORE Registry Updated   **Optional Backup Keys Delivered to user**

Because the ORE Registry only has a user's public keys, users need a system for signing transactions on multiple chains using their private keys. These keys can be stored locally, but in most cases ORE ID encrypts these keys and stores them in the cloud.

Given how sensitive this data is, we use a Trustless Signing Service that allows a user to decrypt their keys and send a signed transaction to various blockchains using ChainJS library. Both of these modules are open source, so any developer can audit the code.

Transaction Signing

User Enters Password → **ORE ID**
Sends Encrypted Password to Signing Service
→ **Transaction Signing**
If Password Matches, Trustless Signing Service Signs Transaction
→ **ChainJS**
Delivers Signed Transaction to the Blockchain
↓
ORE ID
Manages Retries, Errors, etc.
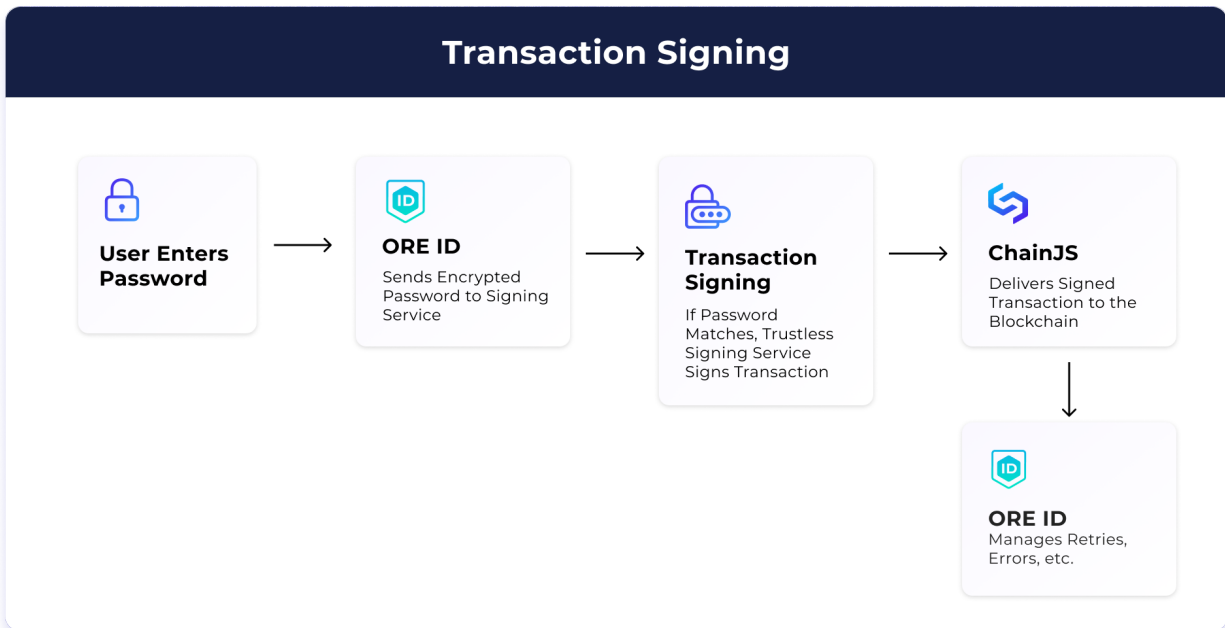
ChainJS makes it easy for developers to build on a variety of different blockchains. ChainJS will be a key differentiator for ORE, because it will easily enable cross-chain DeFi and NFTs.

ORE Vault

ORE Vault is a shared instantiation of ORE ID for businesses that manage digital assets. ORE Vault requires multiple signatures to approve transactions, and uses the same Trustless Signing Service and ChainJS modules to manage those keys in a user-friendly way, while allowing companies to maintain custody of their own keys.

This multisig architecture is much safer than using traditional wallets where a single person can lose their key, fall victim to a phishing attack or a disgruntled employee can transfer funds out of the company account.

ORE Active NFTs

The goal of the ORE ID product is to enable global usability and efficacy in fostering trust in using blockchain. However, we know that not everything on the internet belongs on a blockchain.

That's why, the ORE Protocol allows NFTs to be used to manage access control for off-chain APIs — eliminating the technical gap between public blockchains and off-chain services entirely. The ORE Ecosystem is designed to use public blockchains wherever it's practical and cost-effective and connect to off-chain APIs for everything else.

For example, an NFT could provide a license to stream video content, but allow the user to transfer that right to someone else.

AI.market, a marketplace for AI data and models, is using this NFT standard to allow many AI data providers in their marketplace, to license access to their data. The data and models are stored off-chain, and the blockchain is used to ensure payment for API calls and data access.

Going forward, the ORE Protocol will support the ERC-721 and ERC-1155 metadata standards. Adding an active NFT to the registry will cost 0.1 ORE Tokens as a transaction fee and transferring that NFT will cost 0.01 ORE Tokens.

ORE Ecosystem
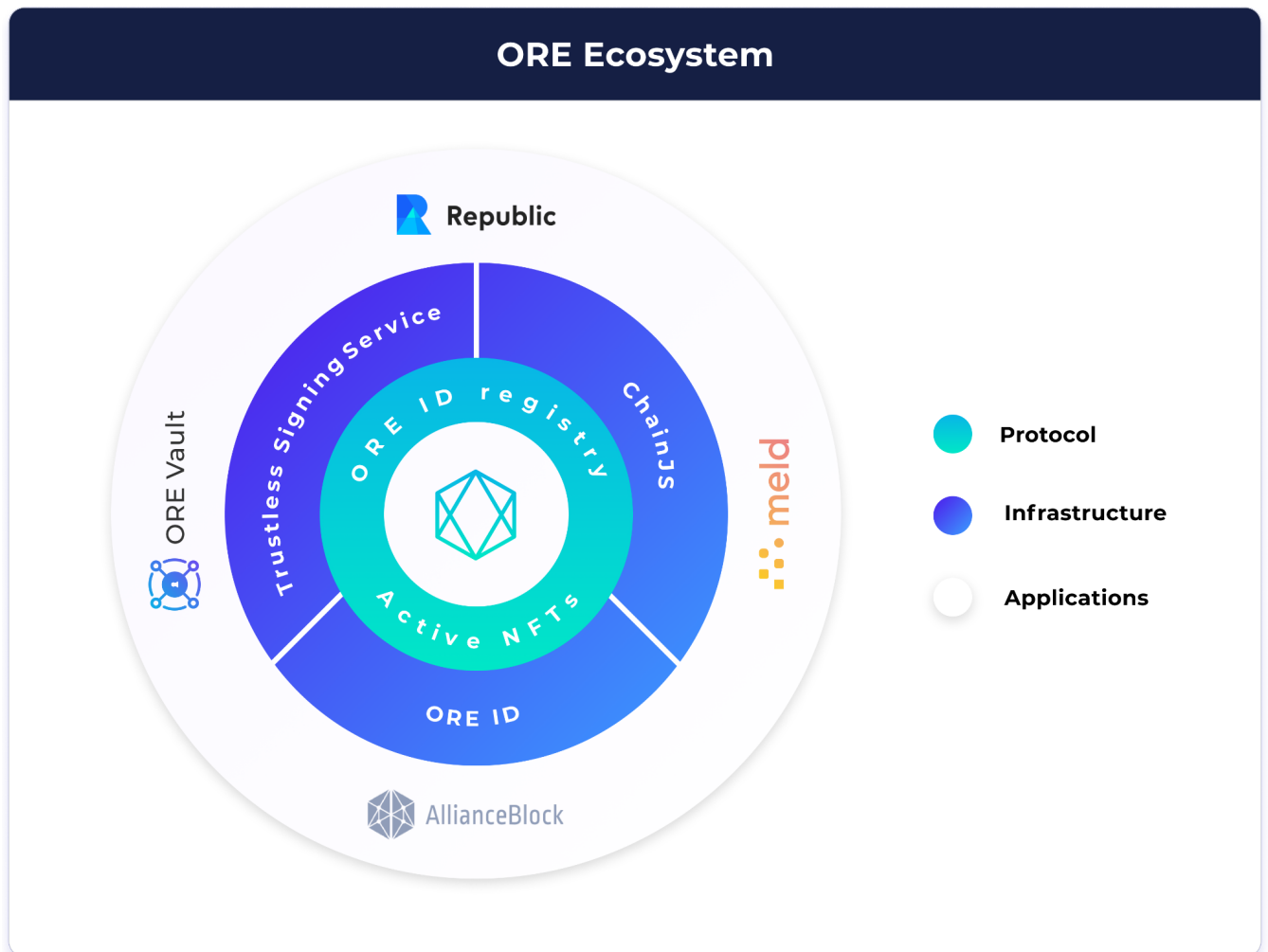
Roadmap

The ORE Blockchain and ORE ID is already live and fully operational. ORE connects users and their assets and rights to applications on multiple blockchains as well as off-chain applications on the Internet via API.

Improving Cross-chain functionality

Our approach with ORE ID has focused on ease of use and cross-chain interoperability. We created our own chain in 2018 to ensure that there was a master account record for each user that is decentralized and self-sovereign. As the market has evolved, it's become increasingly clear that cross-chain bridges will allow us to migrate our core infrastructure to a more trusted and more decentralized public blockchain to provide greater decentralization for identities and better cross-chain interoperability for business users.
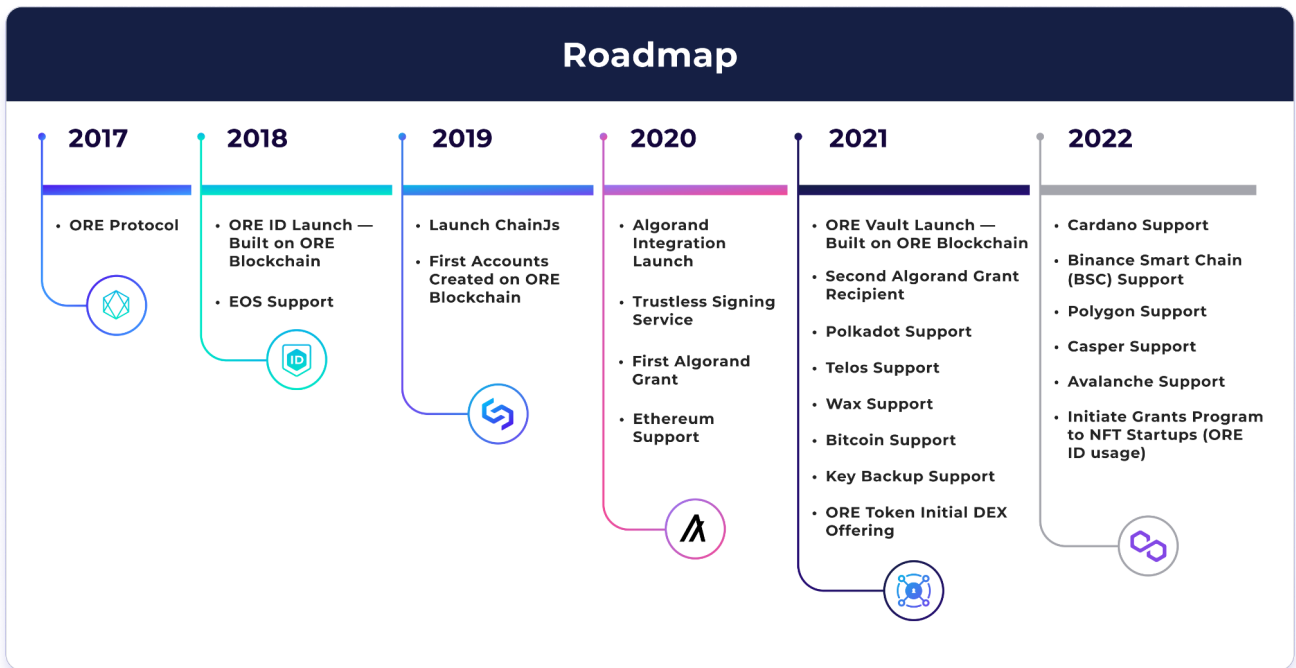
ORE ID is actively used by a number of companies with nearly 40,000 accounts created so far — and agreements in place for hundreds of thousands more. To date ORE ID has been integrated with the ORE Blockchain, Ethereum, Algorand, EOS and Telos. Integrations with Polkadot and WAX are currently underway.

The first business to deploy ORE ID was [Everipedia](#) in 2019. Since then, more businesses are deploying ORE ID including [Republic.co](#), which is expected to launch a tokenized security offering onto the Algorand blockchain using ORE ID.

Algorand also provided a grant for ORE ID to help business adoption of their blockchain, including [Meld](#), a next-generation gold exchange and reserve platform built on the blockchain.

[Alliance Block](#) has been building a decentralized and globally compliant capital market using ORE ID since January 2021. [Ai.market](#) has been using ORE ID since early 2021.

ORE Vault, launched in March of 2021, has been used by Republic Realm, Republic Note and AIKON to manage their digital assets.

Roadmap

2017
- ORE Protocol

2018
- ORE ID Launch — Built on ORE Blockchain
- EOS Support

2019
- Launch ChainJs
- First Accounts Created on ORE Blockchain

2020
- Algorand Integration Launch
- Trustless Signing Service
- First Algorand Grant
- Ethereum Support

2021
- ORE Vault Launch — Built on ORE Blockchain
- Second Algorand Grant Recipient
- Polkadot Support
- Telos Support
- Wax Support
- Bitcoin Support
- Key Backup Support
- ORE Token Initial DEX Offering

2022
- Cardano Support
- Binance Smart Chain (BSC) Support
- Polygon Support
- Casper Support
- Avalanche Support
- Initiate Grants Program to NFT Startups (ORE ID usage)

Use Cases

A cross-chain identity protocol that interacts with legacy systems can support many potential use cases. The ORE Registry can link a device to an account meaning that on-chain identity can be proven once and then used off-chain for future authentication with that device.

This means that authentication can be done at no cost, since there are no on-chain transactions — and without using a traditional password, which can be used for phishing. ORE Protocol also can provide proof of physical presence via that device.

Due to the ORE Registry's hierarchical handling of public and private keypairs, automatically rotating keys or creating temporary keys for a single account can be done trivially. A top-level public key can even be added for wallet addresses for blockchains that don't currently support this, like Ethereum.

As the ORE Registry of public keys grows, it becomes more useful. Current public key registries or directories are fractured and offer no incentives for onboarding (see: Token Economics).

The ORE Registry could serve as an authoritative registry for the public keys of OAuth providers, increasing the security of nearly every internet based service or application, by allowing anyone to check the correct public key for access tokens from Facebook, Apple, Google or any other OAuth provider.

This registry could also be used to authenticate signatures for document signing or encrypted emails, reducing the potential for scams and increasing privacy across the internet.

The ORE Registry and ORE ID is already being used by businesses onboarding non-crypto users onto blockchain. Republic.co is selling tokenized equities to a user base of traditional investors.

ORE ID allows users to login on their Republic accounts and instantly have wallets generated on multiple chains without changing the user experience or requiring the user to manage multiple wallets or even understand which tokens are on which chain.

Meld.gold is also onboarding users who may not have experience with crypto or blockchain to their tokenized gold market using ORE ID.

Alliance Block is using the ORE Protocol to allow users to know your customer (KYC) once — and have that proof be sent to multiple chains. Previously, investors in crypto pre-sales would have to do the tedious work of uploading documents every single time they made an investment.

Proof-of-funds or assets can also be tied to an identity on the ORE Registry for accredited investor checks. Checking the status of a potential investor will not require any on-chain transactions or associated costs.

A user will be able to prove ownership of a Bitcoin (BTC) wallet holding a certain amount of BTC using ORE Registry. In the same way, businesses could also check if a device is holding a certain NFT on Ethereum, enabling interesting use cases like NFTs being backstage passes for a concert.

Users will not only be able to prove their public keys or assets on one chain for the purpose of authentication or proof of funds, they will be able to do so on multiple chains at once. Furthermore, the ORE Registry enables cross-chain capabilities that will greatly enhance NFTs and DeFi.

We have already seen the copycat NFTs arise. This is when a valuable NFT is copied onto a different blockchain other than the original chain it was minted on without the permission of the owner. This potentially dilutes the value of the original NFT by reducing its perceived scarcity and can also cause problems with provenance or chain-of-ownership.

The ORE Registry could allow for an NFT to be assigned one owner across multiple chains and guarantee sovereignty. This means that NFTs will be multi-chain and not siloed to a single chain.

One of the major pain points in DeFi right now is that pools of capital are isolated to individual chains and side chains. Even assets on Ethereum's layer 1 and its various layer 2s are not immediately composable. Transferring between layers is time consuming and complex.

The ORE Protocol will enable cross-chain or multi-chain DeFi and decentralized exchanges (DEX). Users will be able to prove their assets on

one chain to use as collateral on a DeFi platform on another chain without having to bridge or wrap those tokens first.

Cross-chain transfers and escrow are also enabled. Two counterparties can assert their identities across multiple blockchains enabling frictionless trading of assets across multiple chains. Because ORE can connect to off-chain systems, the ORE Protocol could even enable yield farming capital deployed on DeFi to be used as collateral for margin trading on a centralized exchange.

As more and more traditional assets become tokenized, the possibilities become extremely interesting. Imagine being able to pay for a stock with crypto or having a single unified brokerage interface for your stocks, bonds, NFTs and cryptocurrencies across multiple chains.

The full potential of DeFi will not be realized until traditional finance is fully composable with decentralized finance and pools of capital and liquidity are not isolated to individual blockchains. The ORE Protocol can act as the bridge between different blockchains and the traditional financial world.

ORE Token

The native cryptographically-secured fungible protocol token of the ORE Protocol (**ORE Token**) is a transferable representation of attributed

governance and utility functions specified in the protocol/code of the ORE Protocol, and which is designed to be used solely as an interoperable utility token thereon.
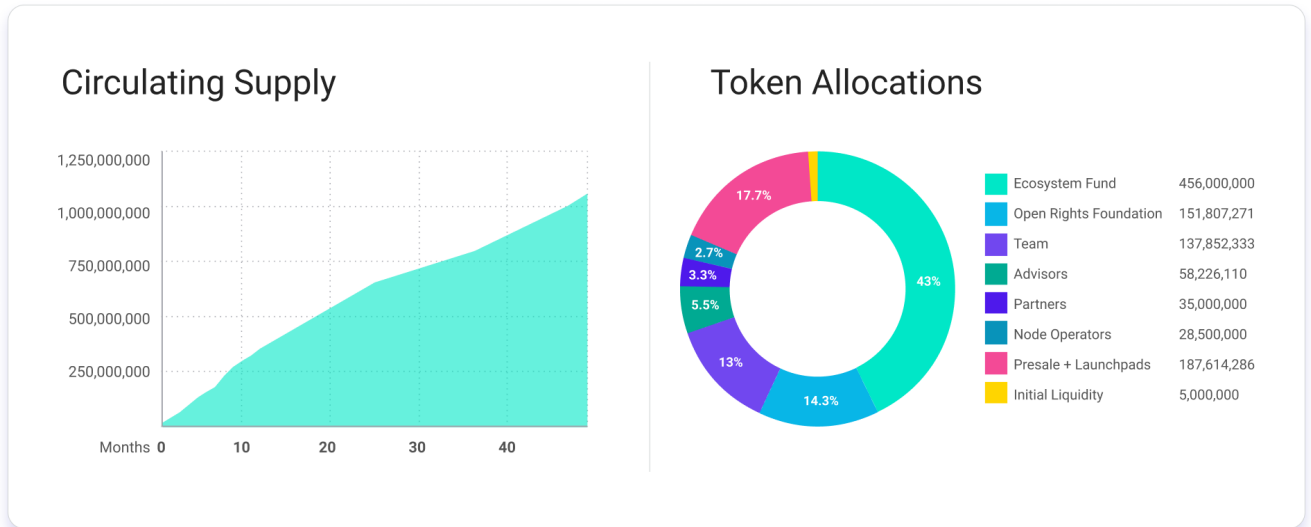
ORE is designed to fairly and seamlessly manage the usage experience of key stakeholders: (1) the people who participate in the system—*account holders*, (2) the application creators that drive adoption—*account creators* and (3) the infrastructure providers that allow the economy to operate — *node operators*. Fundamentally, ORE Protocol is simply a blockchain protocol which, by design, does not own or run any computing/storage servers, so third-party computing/bandwidth/storage resources are required for processing transactions and running applications on the ORE Protocol. Providers of these resources would require payment for the consumption of these resources to maintain network integrity, and ORE Token will be used as the native currency to quantify and pay the costs of the consumed computing/bandwidth/storage resources.

This mirrors traditional democratic systems from the centralized world, where access is divided between infrastructure providers (governments, utilities), the users who enable markets (consumers, workers) and businesses. On ORE, governance of the network is distributed among these sets of participants via the ORE Token. ORE Token would allow holders to create and vote on on-chain governance proposals to determine future

features and/or parameters of the ORE Protocol (the right to vote is restricted solely to voting on features of the ORE Protocol; it does not entitle ORE Token holders to vote on the operation and management of the Company, its affiliates, or their assets or the disposition of such assets to token holders, or select the board of directors of these entities, or determine the development direction of these entities, does not constitute any equity interest in any of these entities or any collective investment scheme; the arrangement is not intended to be any form of joint venture or partnership).

The ORE Token not only powers the ORE Protocol and applications built on it, such as ORE ID, the ORE Token organizes access and utilization across every account, business and marketplace that connects to ORE. Network usage will be fairly and efficiently distributed across all participants using the ORE Token.

Token Economics

Circulating Supply

Token Allocations

Ecosystem Fund	456,000,000
Open Rights Foundation	151,807,271
Team	137,852,333
Advisors	58,226,110
Partners	35,000,000
Node Operators	28,500,000
Presale + Launchpads	187,614,286
Initial Liquidity	5,000,000

The ORE Token economy operates on a fee-based model. We have chosen a fee-based model due to a desire for high token velocity. Staking-based models artificially constrain economies for short term effects whereas a fee-based model promotes actual usage of the token and efficiency.

All transactions on the ORE Protocol will require payment of fees in the native currency ORE Token. Account creators pay 0.4 ORE Tokens, paid to the user or account holder, to create a minimum standard account with key pairs for 4 encryption curves.

This means that new users automatically receive a small amount of ORE Tokens, providing a subsidy for new users for some time until they must acquire more ORE Tokens.

- Additional public keys or re-keys to update an account in the ORE Registry require payment of a 0.1 ORE Token fee to the network by the user requesting the update.
- Signing a transaction requires a 0.01 ORE Token fee paid for by the user.
- Minting or deploying an NFT to the ORE Protocol registry costs 0.1 ORE Token.
- Transferring or updating an NFT costs 0.01 ORE Token.
- On-chain validation of an identity costs 0.01 ORE Token.
- On-chain transactions such as transferring ORE Tokens or claiming ORE Token rewards costs 0.01 ORE Token.

To create a closed-loop system, all ORE Token transaction fees will be distributed by smart contract to incentivise active network participants which contribute or help to maintain the network. The final details of the distribution will be determined by the Open Rights Foundation in collaboration with the ORE community.

OR Foundation Values

The OR Foundation is strongly committed to making the world a better place. The OR Foundation is a non-profit foundation that is guided by a strong sense of social justice, diversity and inclusion.

The OR Foundation encourages network participants to use carbon neutral hosting providers and to set aside funds to cover the carbon impact of the ORE Protocol.

Conclusion

ORE is a decentralized solution that connects off-chain identities to multiple public blockchains under a universal account on a global registry.

ORE provides an open-source standard and protocol for identity, assets and rights management on decentralized and immutable ledgers that anyone can use.

The ORE Protocol can scale to billions of identities and NFTs, with available hardware today — and will grow far beyond that with further improvements in technology over time. This easy-to-use, massively scalable system can become the de facto standard for how consumers and companies connect to the blockchain.

ORE ID provides a single sign-on solution that can connect an email address or social media profile to multiple blockchains. Businesses will be able to onboard users onto blockchains by generating wallets using their existing user accounts.

This solves both the massive UX problem of managing crypto wallets and the problem of costly and complicated onboarding by businesses onto the blockchain. At the same time, this also increases security for businesses and individuals and empowers people to control their own identities and assets.

Applications built on the ORE Protocol will work across multiple blockchains and be able to easily connect to the off-chain world. This enables cross-chain DeFi and eventually the merger of DeFi with traditional finance.

Consumers will be able to manage all of their assets and rights under one account, instead of having pools of capital siloed on different blockchains and off-chain accounts. DeFi applications built using the ORE Protocol will be natively cross-chain.

The ORE Protocol will also ensure the scarcity and ownership of NFTs. NFTs will be able to be owned across multiple blockchains at once and fraud will be reduced.

ORE doesn't just make cross-chain identities a reality, it makes cross-chain DeFi and NFTs a reality. The importance of a cross-chain protocol that can also connect to the off-chain world will grow exponentially over time.

More and more assets are being brought on-chain and the world is becoming increasingly digitized and financialized. The ORE Protocol will power much of this transformation.

Core Team

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Strategy

Tray Lewin
Architecture

Bill Rusitzky
Partnerships

Caitlin Abejon
Marketing Strategy

Başarcan Celebci
Smart Contract
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Abdul Rehman Tayya
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Dhruv Jha
Developer

Victor Zavala
Developer

David Watson
Node Operations

Dr. Fen Zhao
Technical Strategy

Richard D. Titus
Blockchain Strategy

0rigin
Resource Model

Advisors

We also have an amazing group of advisors with expertise in blockchain technology, regulatory compliance, design and IP protection.

SC Moatti
Managing partner at Mighty Capital

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Deepak Kanungo
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Pankaj Shah
Founder, Sparrows

Stan Stalnaker
Chief Strategy Officer, Hub Culture, Ven, Ultra, Zeke

RISKS

The ORE Protocol is currently in the initial development stages and there are a variety of unforeseeable risks. You acknowledge and agree that there are numerous risks associated with acquiring ORE Token, holding ORE Token, and using ORE Token for participation in the ORE Protocol. In the worst scenario, this could lead to the loss of all or part of ORE Token held. **IF YOU DECIDE TO ACQUIRE ORE Token OR PARTICIPATE IN THE ORE PROTOCOL, YOU EXPRESSLY ACKNOWLEDGE, ACCEPT AND ASSUME THE FOLLOWING RISKS:**

■ Uncertain Regulations and Enforcement Actions: The regulatory status of the ORE Protocol, ORE Token and distributed ledger technology is unclear or unsettled in many jurisdictions. The regulation of digital assets has become a primary target of regulation in all major countries in the world. It is impossible to predict how, when or whether regulatory agencies may apply existing regulations or create new regulations with respect to such technology and its applications, including ORE Token and/or the ORE Protocol. Regulatory actions could negatively impact ORE Token and/or the ORE Protocol in various ways. The Company, the Distributor (or their respective affiliates) may cease operations in a jurisdiction in the event that regulatory actions, or changes to law or regulation, make it illegal to operate

in such jurisdiction, or commercially undesirable to obtain the necessary regulatory approval(s) to operate in such jurisdiction.

■ Inadequate disclosure of information: As at the date hereof, the ORE Protocol is still under development and its design concepts, consensus mechanisms, algorithms, codes, and other technical details and parameters may be constantly and frequently updated and changed. Although this whitepaper contains the most current information relating to the ORE Protocol, it is not absolutely complete and may still be adjusted and updated by the Ore Network core team from time to time. The Ore Network core team has neither the ability nor obligation to keep holders of ORE Token informed of every detail (including development progress and expected milestones) regarding the project to develop the ORE Protocol, hence insufficient information disclosure is inevitable and reasonable.

■ Competitors: Various types of decentralised applications and networks are emerging at a rapid rate, and the industry is increasingly competitive. It is possible that alternative networks could be established that utilise the same or similar code and protocol underlying ORE Token and/or the ORE Protocol and attempt to re-create similar facilities. The ORE Protocol may be required to compete with these alternative networks, which could negatively impact ORE Token and/or the ORE Protocol.

■ Loss of Talent: The development of the ORE Protocol greatly depends on the continued co-operation of the existing technical team and expert consultants, who are highly knowledgeable and experienced in their respective sectors. The loss of any member may adversely affect the ORE Protocol or its future development. Further, stability and cohesion within the team is critical to the overall development of the ORE Protocol. There is the possibility that conflict within the team and/or departure of core personnel may occur, resulting in negative influence on the project in the future.

■ Failure to develop: There is the risk that the development of the ORE Protocol will not be executed or implemented as planned, for a variety of reasons, including without limitation the event of a decline in the prices of any digital asset, virtual currency or ORE Token, unforeseen technical difficulties, and shortage of development funds for activities.

■ Security weaknesses: Hackers or other malicious groups or organisations may attempt to interfere with ORE Token and/or the ORE Protocol in a variety of ways, including, but not limited to, malware attacks, denial of service attacks, consensus-based attacks, Sybil attacks, smurfing and spoofing. Furthermore, there is a risk that a third party or a member of the Company, the Distributor or their respective affiliates may intentionally or unintentionally introduce weaknesses into the core infrastructure of ORE Token and/or the ORE Protocol, which could negatively affect ORE Token

and/or the ORE Protocol. Further, the future of cryptography and security innovations are highly unpredictable and advances in cryptography, or technical advances (including without limitation development of quantum computing), could present unknown risks to ORE Token and/or the ORE Protocol by rendering ineffective the cryptographic consensus mechanism that underpins that blockchain protocol.

■ Other risks: In addition, the potential risks briefly mentioned above are not exhaustive and there are other risks (as more particularly set out in the Terms and Conditions) associated with your participation in the ORE Protocol, as well as acquisition of, holding and use of ORE Token, including those that the Company or the Distributor cannot anticipate. Such risks may further materialise as unanticipated variations or combinations of the aforementioned risks. You should conduct full due diligence on the Company, the Distributor, their respective affiliates, and the Ore Network core team, as well as understand the overall framework, mission and vision for the ORE Protocol prior to participating in the same and/or acquiring ORE Token.

ore.network