WHITEPAPER

The worlds first decentralized and non-custodial banking stack for DeFi.

MELD

MELD WHITEPAPER

Be Your Own Bank.

MELD is building the DeFi banking stack; unlocking the value of your crypto assets in fiat while keeping a long position and not triggering a tax event.

MELD is an open-source, non-custodial liquidity protocol for borrowing fiat (USD and EUR) against crypto collateral and earning yield on deposits. The MELD token is used for governance of the protocol, and you can stake it to earn yield.

MELD is the first decentralized protocol that incorporates fiat loan capabilities into the crypto ecosystem. This enables low-friction transactions between crypto and fiat positions while maintaining control of digital assets.

Users interact with the MELDapp to easily access their digital assets to lend, borrow and manage the services offered by MELD. Users have peace of mind because they keep the keys to their assets at all times.

MELD offers significant capital efficiency gains in lending and borrowing compared to both centralized blockchain solutions and traditional fintech. Running on a third-generation blockchain, MELD inherits Cardano's features including low transaction costs, high throughput and Cardano[10] has more than $50 billion staked within the blockchain.

Built on top of the Cardano blockchain, MELD capitalizes on transaction efficiency, which drastically reduces fees by more than 99% as compared to ETH-based solutions.

Composability or "modular money" gives an openness to the protocol, allowing for its use with other decentralized finance[11] (DeFi) products. This is critical for MELD in terms of market adoption and its evolution into a major contributor to the crypto economy. The MELD team is working with several leading DeFi services to connect with their functionality, providing even greater financial integration.

This whitepaper, and the MELD protocol with associate tokenomics, will continue to evolve over along with a full-scale launch Q4, 2022. The launch of MELD is subject to the release of Vasil hard fork. We believe deeply in creative destruction and moving toward a more straightforward and elegant solution for converting crypto into cash through an efficient loan system. In this regard, we will be collaborating with the community to create a robust protocol.

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Executive Summary

BUILDING A DECENTRALIZED, ETHICAL AND COST-EFFICIENT LIQUIDITY PROTOCOL MELD IS COMMUNITY-DRIVEN, HIGHLY PROFITABLE, AND INTUITIVE TO USE. MELD IS JOINING THE FASTEST-GROWING DEBT MARKET IN HUMAN HISTORY.

With the stellar rise of the cryptocurrency market and the resulting value amassed, the crypto investor and other market participants (businesses, institutions, and miners) are reluctant to convert their crypto assets into fiat currency. This is due to fiat currencies declining in buying power, and converting crypto to fiat triggers a tax event (capital gains tax).

MELD supplies crypto-backed loans in fiat and crypto denominations at market-competitive interest rates. Users collateralize their cryptocurrency in the MELDapp allowing them to borrow fiat currency. Once KYC is completed this results in a wire transfer to their bank of choice. When a loan is paid-off, the smart contract ends, triggering the release of the collateralized cryptocurrency. The entire process will be managed through the MELDapp.

While many individuals and businesses heavily invest in the crypto space, they still need capital to operate in the traditional economy. Individual crypto investors can use crypto-backed loans for life events like buying a house or getting married or as a line of credit. Crypto-related businesses that have large crypto positions can use these loans as an efficient method of funding operating and capital expenditures.

Borrowers and lenders alike get MELD tokens as rewards for using the protocol. The MELD token provides security and benefits to users and is central in the operations of functionality like liquidity pools, market-making, and protocol governance.

MELD is a decentralized and trustless network built on the Cardano[10] blockchain using smart contracts and governed by the MELD Foundation. This provides a fast, safe, and transparent set of tools for all participants to lend and borrow in the DeFi[11] ecosystem.

We deliver two types of benefits to liquidity providers. We offer a highly stable, interest-based return for fiat loan liquidity capable of replacing traditional fixed income sources. For other institutional liquidity providers, we offer high yield income from MELD Vaults that act as automated market makers (AMM).

The protocol is open-source and supported by the Cardano community in developing functionality and innovative applications. As a protocol, the MELDapp runs on iOS and Android, as a Chrome extension, or as an application programming interface (API) by other developers and services.

Scorecard

START DATE
April 2021

TYPE
Decentralized Lending Protocol

TEAM
45

LOCATION
Singapore

TOKEN TICKER
MELD

ENGINEERING
MELD LABS PTE. LTD., SINGAPORE

BLOCKCHAIN
Cardano[10]

GOVERNANCE
MELD FOUNDATION

TOKEN TYPE
Deflationary

TOTAL TOKEN SUPPLY
4,000,000,000

PRODUCTS
Lending
Borrowing
Wrapped Assets
Staking
Liquidity Pools

KEY BENEFITS
Non-custodial
Trustless
Composable
Censorship resistant
Non-US based entity

WHAT MAKES MELD DIFFERENT?

1. **Unlocking the value** in your cryptocurrency without liquidating your position.

2. **High yield** for fiat liquidity providers.

3. **No tax event** is triggered in any part of the protocol.

4. **Easy and fast** fiat lending and borrowing.

5. **Transparent** process, contracts, terms, and events.

6. **Wrapped asset creation** and management tools provided to the whole DeFi ecosystem.

What We Stand For

MELD Mission

Build DeFi products that level the playing field and create opportunities for the bottom 97% of the world's population.

We think it is essential for everyone to gain control of their financial lives and to have equal access to the financial instruments used by professionals, not just centralized institutions, governments, or the one percent. We want to provide financial freedom and control to the masses, including the unbanked.

We have a long-term goal to enable the $15 trillion currently locked out of the global economy, including two billion individuals worldwide that are either underbanked or have no access to banking services whatsoever. These are the people that are paying the highest fees, getting the worst customer service, and have the most difficulty in day-to-day living.

MELD Vision

Self-sovereign Financial Tools

Our vision is to create an ecosystem that empowers individuals to regain financial control by providing them with the tools and services they need to manage their money on their terms.

Whether that is creating a collateralized debt position (CDP) with cryptocurrency, earning an interest return for lending fiat to borrowers, or taking part in reward incentive programs, we strive to provide our users with the services they need to manage their own financial lives.

MELD Values

- Safety
- Community
- Empowerment

MELD is a community that is working towards a better future. We are building products that everyone in the community uses. In addition, our products can integrate with other DeFi[11] protocols to create new innovative solutions. It is a movement that everyone can join. MELD is a protocol that will enable users to have a say about their financial livelihoods.

Background

This section describes the current economic and technological trends and challenges that go with any disruption efforts in the financial industry. Our white paper aims to explain in detail a procedure for unlocking the value of crypto assets

within the current economic paradigm, while still benefiting from crypto price appreciation. Building on the potential of the blockchain, with a focus on increasing capital efficiency to supply innovative products for our users, MELD is the world's first decentralized protocol for crypto-backed fiat loans.

During the past few years, advancements in blockchain technology are disrupting and fundamentally changing the way certain industries operate. One of the immediate candidates for disruption is the financial services industry, which has been unhealthily rigid.

Financial technology companies (fintech) look to shake up the financial sector, offering cheaper, quicker, and more transparent services to everyday consumers and businesses. The fintech goal of increasing capital efficiency has met resistance from financial actors like banks and large financial institutions. However, DeFi realizes that the lofty goal of fintech, with blockchain technology and DeFi[11], can provide an alternative that is more transparent, convenient, cost-effective, and yields orders of magnitude increases in capital efficiency. Regulations, technical debt, and conservative organizations have limited fintech's ability to meet the goals of the digital economy.

Macro-Economic Trends Leading to Crypto Lending & Borrowing Growth:

- Forecasts show that the cryptocurrency market will surpass the market cap of gold during the next three years.
- Crypto is already $2t in market capitalization
- The majority of investors do not come from a traditional "sophisticated investor" background
- The predominant characteristic of crypto asset investors is to have long positions
- 53% of investors have an annual income of less than $80k USD[23]
- 33% of crypto investors have more than 50% of their portfolio in crypto assets[23]

In today's market, users typically sell their cryptocurrency for fiat to pay everyday living expenses. Doing this eliminates the growth potential of their crypto positions and triggers a capital gains tax event. Having the ability to borrow fiat against crypto positions is the first step in building an effective capital-efficient alternative.

Millennials will become a more significant economic force in the economy. The under 18 generation as well as millennials see cryptocurrency as a practical alternative to fiat. This popularity helps to fuel the widespread adoption of DeFi. We observe that DeFi is supplanting traditional financial services, thus opening up a new generation of economic opportunities.

The fact that the overall market capitalization of cryptocurrencies has grown from $15 billion in January 2017 to over $2 trillion in April 20217 makes a convincing case for the intrinsic value of what is now a recognized asset class. While gaining traction, the integration of cryptocurrencies into the global economy is yet to come. One of the main reasons for the limited adoption of cryptocurrencies is the lack of infrastructure available to link fiat with crypto. Extracting the value of cryptocurrencies still requires conversion to fiat currencies using centralized exchanges or p2p transactions. The conversion process is complex, time-consuming, and includes various exchange fees, withdrawal fees, and capital gain taxes.

In traditional financial systems, lending and borrowing are slow, complex, and bureaucratic processes. The process severely lacks capital efficiency. Commercial lending is inaccessible to ordinary people, and consumer lending is predatory often leading to higher levels of indebtedness. DeFi unlocks innovative tools to the masses and makes the entire lending and borrowing process automated, secure, and composable.

To build a new generation of financial services, MELD focuses on the latest generation of Blockchain; Cardano[10]. This generation of technology builds on the successes and failures of both Bitcoin and Ethereum to create a new high-performance solution. Cardano, under the leadership of Charles Hoskinson, the former co-founder of Ethereum, has a design that emphasizes low transaction fees along with high throughput. As of April 15, 2021, Cardano is the eigth largest Cryptocurrency by market cap, and will soon be launching its support for smart contracts. With these attributes, Cardano is in a position to become a major utility blockchain to power the future of DeFi.

MELD Product Market Fit

PROBLEM	SOLUTION
Access to cash from crypto If an investor wants to gain access to fiat from their crypto position, they must exit part of their crypto position, pay a capital gains tax, and will no longer have exposure to the price appreciation of their crypto. Expensive & Tax Inefficient	**Crypto collateralized loans** Using a crypto-collateralized loan makes sense because the investor can still realize the gains in the crypto asset and has no exposure to capital gains. Additionally, the interest on the loans is tax-deductible in most countries. Cheap & Tax Efficient
Crypto rich but cash poor The rise of cryptocurrency has led to a great deal of wealth accumulation with limited liquidity and access to fiat currencies. Holders of these assets expect large gains as the market grows and matures. As a result, people want to maintain their long positions. Capital Inefficient	**Crypto collateralized loans** Due to the nature of cryptocurrency being programmable and highly liquid, MELD can collateralize these assets in a smart contract and unlock up to 50% of their current value as a fiat loan. Capital Efficient
Lack of trust and transparency The current solutions for crypto-fiat loans are all centralized. This means the user must give up their private keys and hand over their assets to a centralized company to use their services. On top of this, centralized institutions can make protocol changes independently, and users have no recourse. Users are also unable to see the means for the rehypothecation of assets deposited on these platforms. Centralized	**Blockchain smart contracts** Utilizing smart contracts, and deploying them to a blockchain, makes the code open source. This allows users to review the code before they decide to interact with the protocol. Users can see exactly where their funds are going, what positions they are interacting with, and this all is possible without the user having to give away their private keys. Any changes to the protocol must be in the form of a proposal followed by a vote by the users of MELD. This ensures the entire community is in favor of the proposal. Decentralized
Inefficient liquidation of assets Various crypto exchanges offer the ability to liquidate digital assets. The problem comes when the user wishes to realize the value in fiat. The process is quite arduous and filled with fees at different checkpoints along the way. Inefficient & Slow	**Instant access to cash** Users of MELD can gain access to cash instantly from their cryptocurrencies by either using a line of credit or a crypto-backed fiat loan. Users no longer must sell their crypto and encumber with a plethora of fees to gain access to a fiat currency. Fast & Methodical

Custodial control of your assets

The current solutions in the market that MELD is targeting all require users to fully deposit cryptocurrencies, along with the private keys. The user has to give up ownership of the cryptocurrency to gain access to these platforms.

User Must Hand Over Private Key(s)

Non-custodial protocol

Users who employ the MELD protocol do not have to hand over the ownership of their cryptocurrencies. Users keep the private keys and can decide to act in a way they see fit.

User Keeps Private Key(s)

Credit checks

Credit checks can be burdensome and resource-intensive. In addition, many people are unable to interact with certain processes due to the inability to pass a credit check.

Burdensome & Invasive

No credit checks

MELD doesn't perform any credit checks, which could damage the credit of its users. Any loans, or credits taken from the protocol, are through smart contracts with the value of cryptocurrency as security.

Secured by Smart Contracts

MELD Business Model

MELD is a decentralized and trustless lending protocol using the Cardano[10] blockchain, including smart contracts, and governed by the MELD token. It provides a fast, safe, and transparent set of tools for anyone to lend and borrow crypto and fiat currencies.

MELD lends fiat currency, via it's EMI license, provided by lenders to borrowers that collateralize cryptocurrency in a MELD smart contract. The lender receives a high-interest rate from secured investments, whilst the borrower can maintain their crypto positions and see them grow, which has an average annual rate of 32% (BTC IS 196%) CAGR (compound annual growth rate). MELD stakes the collateral in community-managed Vaults (LPs) generating yield, with 40% going to MELD stakers and 60% to various other functions such as products, treasury, development, and operations.
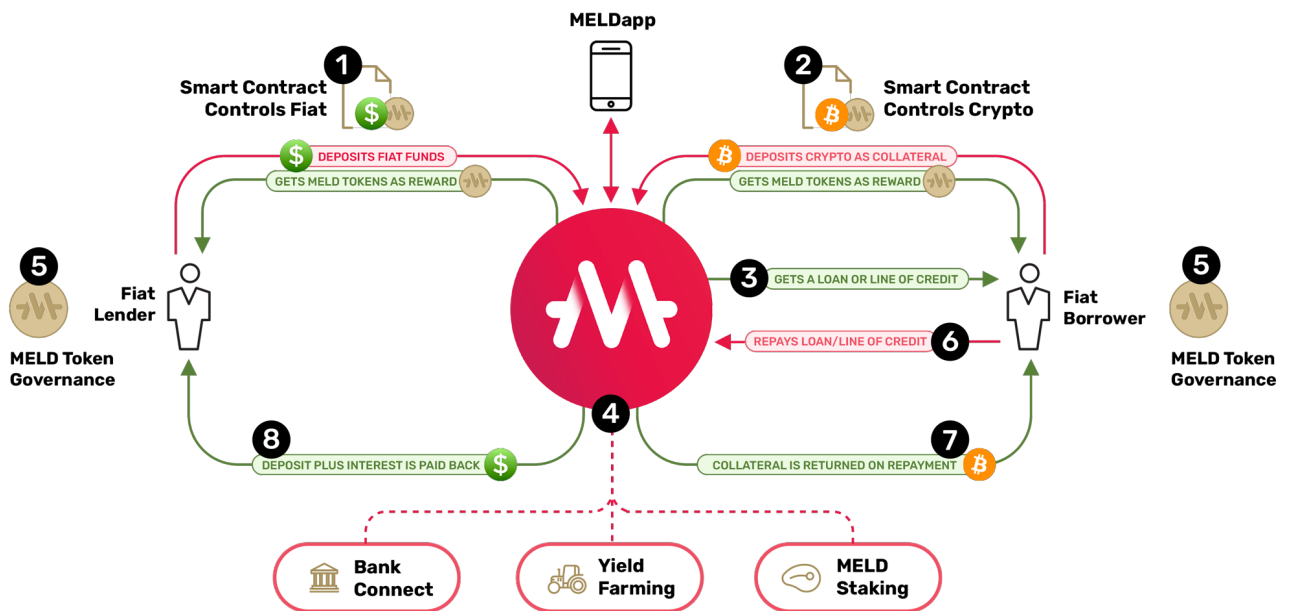
1. Fiat Liquidity Lending

Fiat liquidity providers lend fiat to the MELD protocol, through the MELDapp, to earn high-interest yields. The yields for lending fiat on MELD source from various places, including interest paid from the borrower, trading fees APY from the Vaults of MELDed assets, and protocol rewards.

2. Crypto Collateral

For a borrower to gain access to fiat loans, the borrower must deposit cryptocurrency (ADA, BTC, ETH, or BNB) to the MELD loan smart contract. Once making the deposit and locking into the smart contract, the borrower will be able to access up to 50% of the value held within the cryptocurrency through a crypto-backed loan or a line of credit.

3. Fiat Borrowing

MELD will offer two fiat borrowing services; crypto-backed loans, and a line of credit. From a collateral perspective, both services function similarly. A borrower will need to deposit 2x the desired fiat in cryptocurrency to utilize either service. Borrowers receive fiat currency via wire transfer directly into their account for crypto-backed loans or gain access to a line of credit utilized by the MELD debit card, after depositing their crypto.

4. MELD Vaults (Liquidity Pools)

The liquidity pools run by the MELD protocol are single-sided MELD/token pools. When a user makes a crypto deposit, the deposit is locked to a smart contract and placed into the respective MELD/token pool. The benefit of this is that the deposited crypto can be exposed to trading fees APY from external DEX aggregators/routers. The MELD protocol has integrated impermanent loss protection for crypto depositors.

5. The MELD Token

The MELD token provides a few utility functions for the holder. First, the issuance of MELD to pay for some transactions on the protocol. Second, a user can stake MELD and earn APY on the protocol as reward. The MELD staking pool acts as an insurance solution for protocol. The staking pool protects against problems that might arise in the protocol and against impermanent loss in the MELD Vaults. The APY for the staking comes from 40% of all protocol fees, such as MELDed assets and trading fees.

6. Loan Repayment

MELD offers crypto-backed loans and a line of credit to crypto depositors. Borrowers of fiat through these services pay back the principal and interest monthly until the loan is paid off.

7. Crypto Collateral Returned

The crypto collateral is unlocked and withdrawn from the respective liquidity pool to the user's wallet, and the smart contract is completed upon loan repayment.

8. Fiat Liquidity Returned

At any time, fiat liquidity providers can withdraw their money. If a crypto-backed fiat loan position suffers a liquidation event, then a sale takes place of the underlying crypto asset and the proceeds are transferred to fiat to ensure the fiat lender does not suffer any losses.

The MELD Foundation

The purpose of the MELD foundation will be to develop, manage and grow the MELD protocol as a decentralized non-custodial lending and borrowing ecosystem. This includes managing 3rd parties working on the technology development, community management, and commercial contracts and partnerships.

The purpose of the MELD foundation is stuard the MELD protocol until it's completely managed and controlled by a DAO. The foundation will be the interim governing body of the protocol until it is voted to become a fully DAO based

ecosystem. We expect the process from Foundation to full DAO control will be approximately two years. Once the DAO takes over the protocol, the foundation will be operated by the DAO and it's role will be limited to commercial contracts.

The MELD Foundation will hold the MELD treasury, the majority of unissued MELD tokens (1 billion), and all of the ADA block rewards generated by the ISPO. The EMI and exchange company located in Lithuania - part of The Foundation - will engage in several commercial activities including exchange listings, bank and financial institution contracts for activities such as liquidity provision, banking services, KYC/AML checks fiat/crypt on-ramping and off-ramping and protocol partnerships.

The foundation will have a board of advisors (or similar) that will meet quarterly and facilitate the development of the protocol and oversee the management of the foundation.

- Foundations need to be established and governed by a supervisory body

- Foundations are to perpetually prove reserves.

- Foundations complete audits on a specified schedule for all of the accounts.

The MELD Foundation will manage the voting process in the MELDapp and provide oversight and transparency into the MIP submission process.

The MELD DAO

The ultimate goal is to have the MELD protocol operated by a DAO or setup for DAOs that will be fully controlled by MELD governance token holders. Token holders will be able to interact with the DAO via the MELDapp. More details about the governance of the DAO in the governance section of this whitepaper.

Products & Services

MELD's offering covers lending and borrowing with fiat, cryptocurrency and innovation for greater capital efficiency. Our goals are to create products that meet an exciting, fast-paced market and demanding DeFi customers.

Initially, MELD will provide crypto assets from other blockchain networks within the Cardano network to be able to capture the liquidity and use it in lending and borrowing. This includes Bitcoin, Ethereum, and Binance Coin.

In the future, we will be expanding into these ecosystems and provide more ERC20 and BEP20 tokens as well. MELD is looking into partnerships with some established DeFi[11] protocols that we think can provide our users with new products and services never before seen by the industry.

MELD will be offering six products rolled out over the next 18 months:

Crypto-Backed Loan

Users have different needs when it comes to finances. The initial service MELD will offer will be instant crypto-backed loans. First, a user will deposit their cryptocurrency to MELD as collateral. The protocol will then use the deposited cryptocurrency to create a collateralized debt position (CDP). A smart contract records the terms of the loan and registers it on the blockchain. Upon KYC/AML confirmation, the protocol will execute a wire transfer directly to a bank account. Users will be able to manage their CDP directly from the MELDapp.

MELD can provide a much more capital-efficient CDP than any competitor on the market today due to the autonomous and transparent nature of the protocol. All contracts and terms are open and available for evaluation and auditing. All parts of the process have automation, including the KYC/AML. MELD can process all states of a loan in seconds and execute the smart contract instantly.
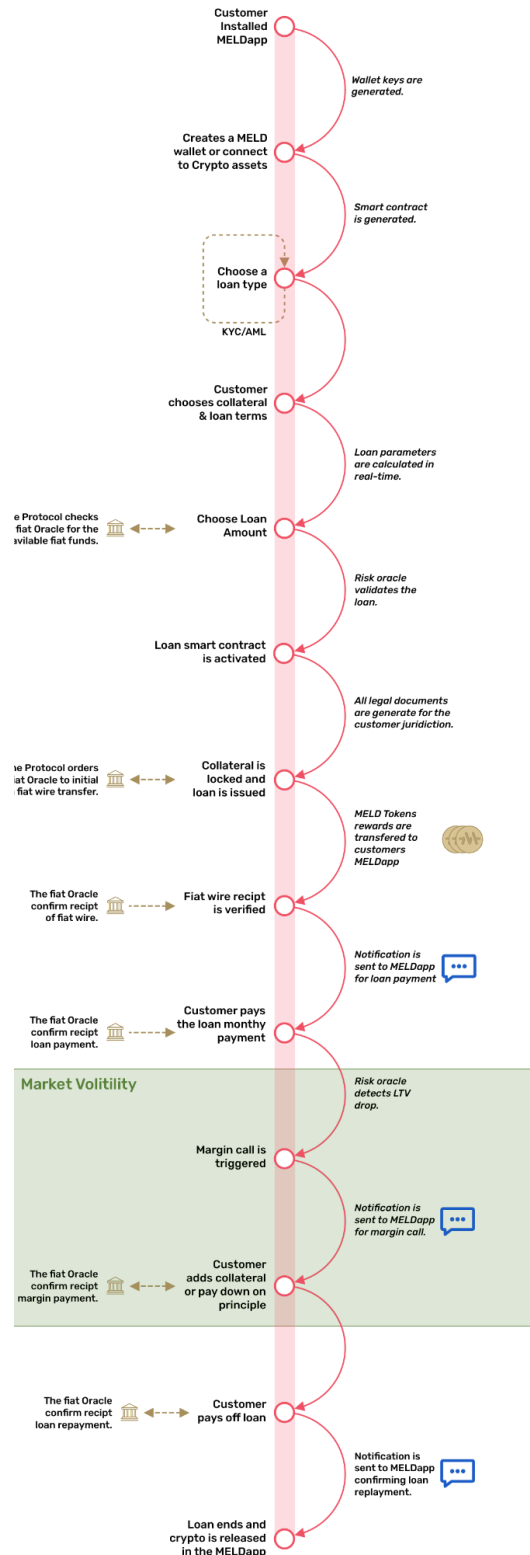
Users pay back their loans in fiat which is registered in the MELDapp on the blockchain. This level of capital efficiency means MELD can offer more competitive rates and react to market conditions within seconds.

Loans are issued at a loan-to-value (LTV) ratio of 50%. If the collateral value falls to an LTV 65% or stays above 50% for more than three days, a margin call happens. The customer must provide added collateral to bring the loan back to an LTV of 50%. The same happens if the LTV reaches 75%. If the LTV reaches 85%, a liquidation event is triggered where the collateral is converted to USD/EUR stable coins equivalent to the fiat loan plus a 5% fee. The balance of the collateral is then transferred back to the customer, and the smart contract terminates. The customers keep the fiat they borrowed.

This protocol aims to innovate in the debt markets by creating extremely capital-efficient products and services powered by blockchain technology, and by promoting availability, transparency, and empowerment. This will allow the protocol to give the most attractive borrowing rates to customers worldwide.

Customer
Installed
MELDapp

Wallet keys are generated.

Creates a MELD
wallet or connect
to Crypto assets

Smart contract is generated.

Choose a
loan type

KYC/AML

Customer
chooses collateral
& loan terms

Loan parameters are calculated in real-time.

Protocol checks
fiat Oracle for the
avilable fiat funds.

Choose Loan
Amount

Risk oracle validates the loan.

Loan smart contract
is activated

All legal documents are generate for the customer juridiction.

Protocol orders
fiat Oracle to initial
fiat wire transfer.

Collateral is
locked and
loan is issued

MELD Tokens rewards are transfered to customers MELDapp

The fiat Oracle
confirm recipt
of fiat wire.

Fiat wire recipt
is verified

Notification is sent to MELDapp for loan payment

The fiat Oracle
confirm recipt
loan payment.

Customer pays
the loan monthy
payment

Market Volitility

Risk oracle detects LTV drop.

Margin call is
triggered

Notification is sent to MELDapp for margin call.

The fiat Oracle
confirm recipt
margin payment.

Customer
adds collateral
or pay down on
principle

The fiat Oracle
confirm recipt
loan repayment.

Customer
pays off loan

Notification is sent to MELDapp confirming loan replayment.

Loan ends and
crypto is released
in the MELDapp

Genius Loan

Following the idea of extreme innovation, MELD will be offering a self-repaying loan. The customer collateralizes their cryptocurrency and takes out a loan with a slightly higher interest rate. The customer only needs to service the interest on the loan.

They can but do not have to pay on the principal. In the MELD Genius Loan, part of the yield generated by the collateral goes toward paying down the principal on the loan. Based on our models it will take between 3 and 6 years to repay a $100,000 USD loan depending on the market conditions.

This product is able to offer users self-repaying loans by capturing some of the trading fees (APY), generated by DEX[20] aggregators utilizing our LPs for swaps. These fees apply to repayment of the loan over time. This type of structure is unique to the financial industry and it is only possible through the decentralized nature of DeFi.

Crypto-Backed Line of Credit

The Crypto-Backed Credit Line (CBCL) provides a valuable and flexible tool for managing fiat cash requirements while exposure exists only to interest on the amount of fiat used. The CBCL works in conjunction with the MELD debit card where users can spend with their card both at the point-of-sale and online. The CBCL works like a fiat loan where smart contracts collateralize cryptocurrency and 50% of the collateral value serves as a line of credit. Margin calls and liquidation events work the same in the line of credit product as they do in the MELD Loan.

MELD Debit Card

The goal of the MELD debit card is to give customers financial control over their lives by unlocking the value in their cryptocurrencies and spending it in fiat anywhere that accepts VISA/MasterCard. No more worrying about exchanges, account verification, or obtaining a bank account. Our goal is to provide our users with a simple and hassle-free solution to the current problems they face when dealing with digital currency. For the first time ever, MELD protocol users will be able to use their cryptocurrencies to purchase goods or services without having to cash out to fiat currency.
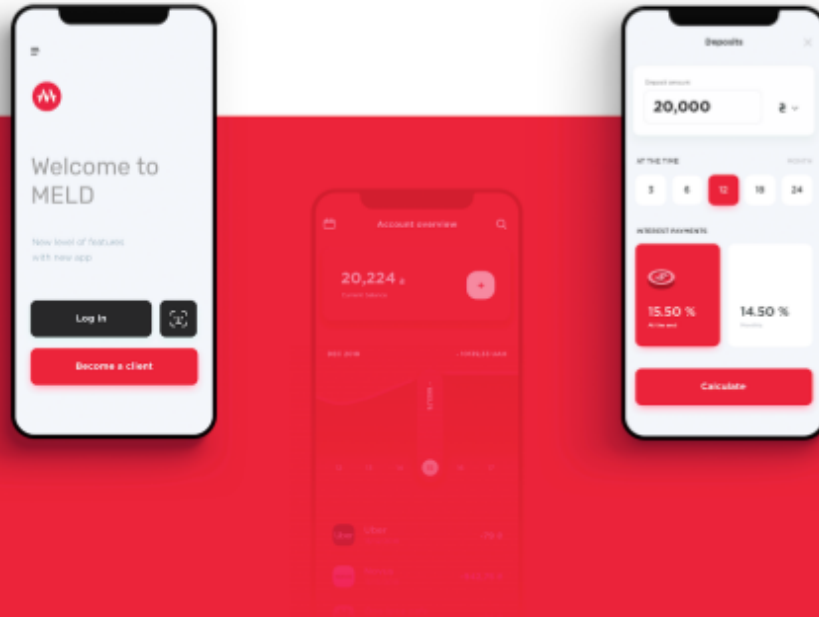

MELDapp

The MELDapp (https://app.meld.com/) sits at the core of the MELD protocol and is an all-inclusive consumer/retail-friendly experience. The app makes the process of lending, borrowing, and depositing crypto easy to understand and simple to execute and manage.

The Most Usable and Beautiful Crypto Wallet in the World

Customers using the app can transfer or link crypto assets to different blockchains and wallets, such as Nami and MetaMask, with a click of a button. Integrating a seamless user experience allows users to create and deploy smart contracts from a straightforward and intuitive user interface.

Integration with Cardano and Polygon allows us to greatly reduce fees for transactions and any other protocol interactions performed within the app.

The MELDapp is a web3 based application accessible via a browser on Chrome, Brave, and other supporting search engines

MELDed Assets

MELD offers DeFi infrastructure for wrapping assets from other blockchain networks (ETH, Polygon) to the Cardano blockchain that MELD uses via ADAmatic. ADAmatic is a protocol that connects the Cardano and Polygon blockchains together, allowing assets to transfer seamlessly to and from both blockchains. The initial scope of the assets will include ADA, MELD, and ETH, BTC, and BNB and followed at a later date with other ERC20 and BEP20 tokens.

MELD strives to be an all-inclusive and collaborative protocol, working across the DeFi ecosystem. While we are committed to the future of Cardano, we have enthusiastic respect for Bitcoin and Ethereum and with their vibrant and innovative ecosystems. MELD wants to participate in these communities as well and unlock their enormous value.

All MELDed assets will follow a naming convention of lowercase 'm' and the official ticker of the asset. As an example, the Ethereum ticker is ETH, and a MELDed ETH, when brought onto the Cardano network, will have the name mETH. Each MELDed asset will have the same value as it does on their native blockchain, but they will have all the features and functionality of Cardano.

MELD will manage a DAO for the minting and burning of MELDed assets. The MELDing process for ETH and BTC will use Polygon's layer 2 Ethereum solution and lock ETH and renBTC on the Ethereum network to create mETH and mBTC.

Creation of MELDed assets occurs by the MELD protocol sending ETH and renBTC to the MELD DAO. Likewise, purchases can happen from the MELD DAO LP with ADA.

MELDed assets are fully compatible with the Cardano network, which means that trading and storage in Cardano wallets is possible along with use as part of smart contracts. Redemption can happen at any time through MELD DAO.
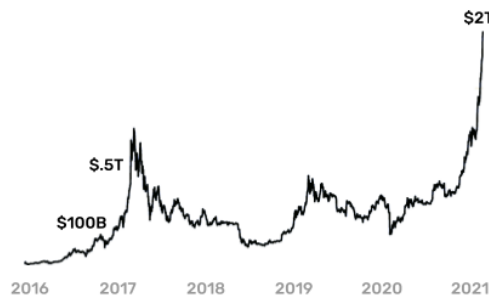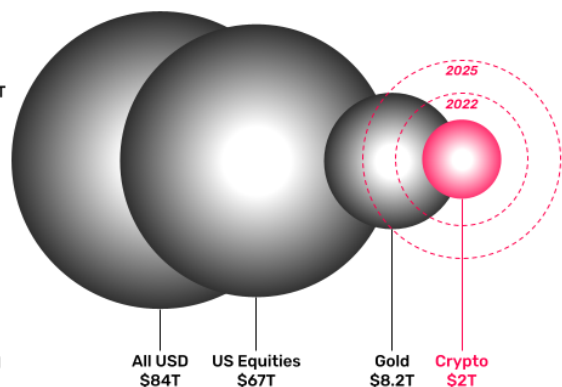

mBTC mETH mBNB mUSD mEUR
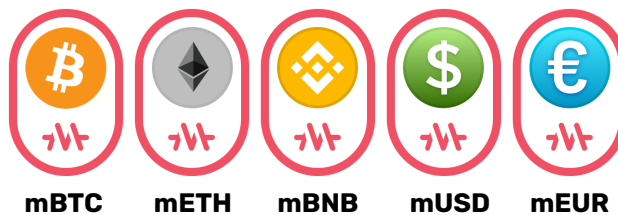
Our Market

The target customer for the MELD protocol includes any cryptocurrency user regardless of size and sophistication. The cryptocurrency market is growing fast, adoption is happening across all demographics and some of the fastest in among the youngest (under 18). The growth is phenomenal, but the innovation and sophistication are equally stellar. The tools available to this market have historically only been for the very few and privileged, but are now available for ordinary people, globally, 24 hours a day, seven days a week.

➔ 101 million crypto users worldwide[12]

➔ 56% of crypto investors never use their tokens to pay for goods or services[2]

➔ Almost 20% of cryptocurrency users younger than 18[2]

➔ 30% of crypto investors are between 25 and 34[2]

➔ More than half of crypto investors have higher education (BS, MS, Ph.D.)[2]

➔ Millennials trust bitcoin[2]

➔ Almost 20% of crypto investors hold $100,000 worth of BTC or more[2]

➔ 2021 survey of over 60,000 users worldwide shows 97% confidence in cryptocurrencies[3]

➔ Users see themselves as investors[2]

➔ 90% of crypto users are men[2]

➔ Most crypto investors are HODLers[2]

MARKET CAP

$2T

$.5T

$100B

2016 2017 2018 2019 2020 2021

RELATIVE SIZE

2025

2022

All USD
$84T

US Equities
$67T

Gold
$8.2T

Crypto
$2T
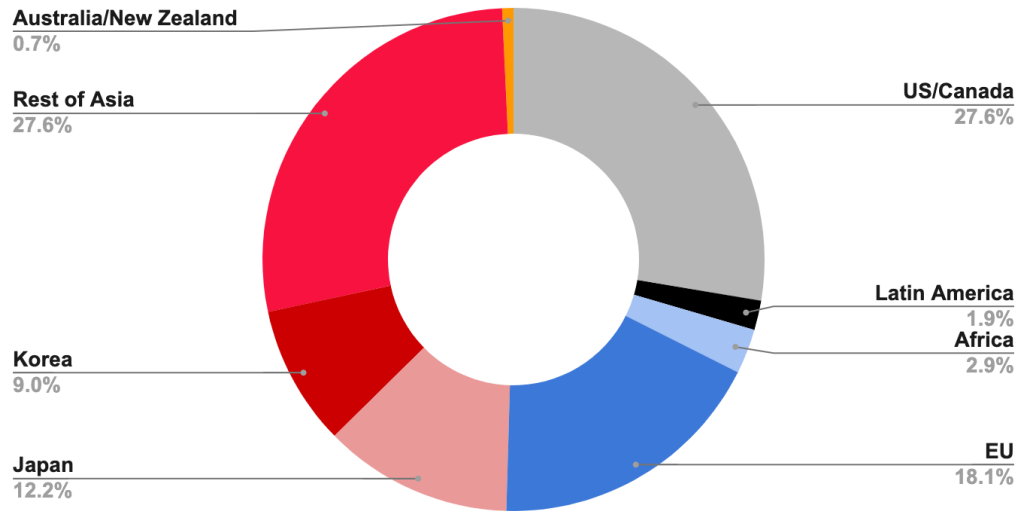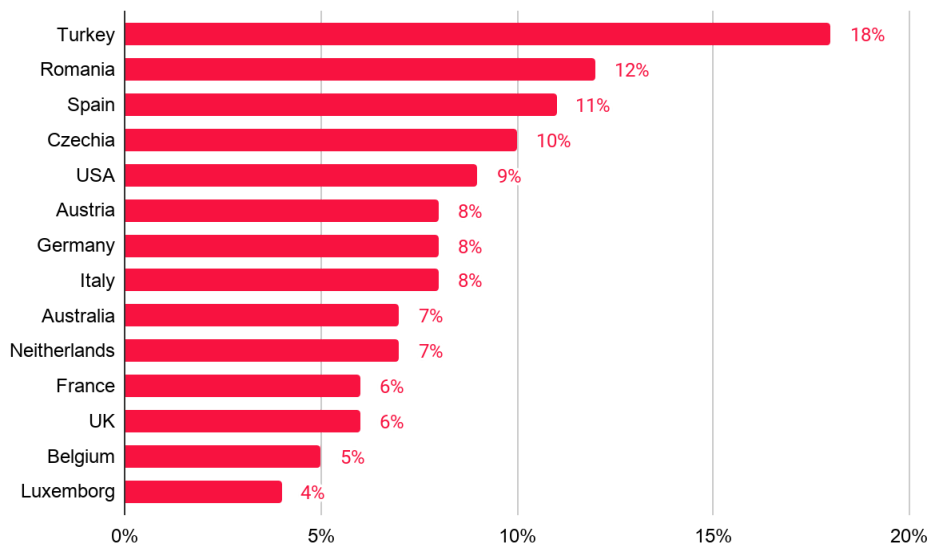
The total cryptocurrency market capitalization peaked at $2.6 trillion[7] on May 7, 2021, and is expected to more than quadruple by 2025[8] as a result of blockchain integration into various industries.
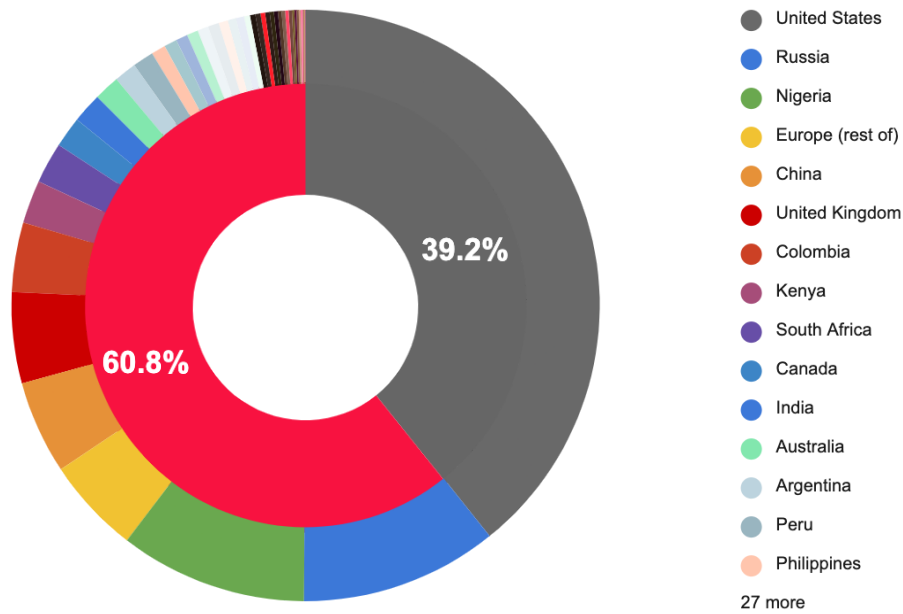
Bitcoin Traders by Country

- Australia/New Zealand 0.7%
- Rest of Asia 27.6%
- Korea 9.0%
- Japan 12.2%
- US/Canada 27.6%
- Latin America 1.9%
- Africa 2.9%
- EU 18.1%

Bitcoin Ownership by % of Population

Country	%
Turkey	18%
Romania	12%
Spain	11%
Czechia	10%
USA	9%
Austria	8%
Germany	8%
Italy	8%
Australia	7%
Neitherlands	7%
France	6%
UK	6%
Belgium	5%
Luxemborg	4%

Bitcoin Traded by USD Value

Legend:
- United States
- Russia
- Nigeria
- Europe (rest of)
- China
- United Kingdom
- Colombia
- Kenya
- South Africa
- Canada
- India
- Australia
- Argentina
- Peru
- Philippines
- 27 more

The graph above shows the amount of Bitcoin traders by USD value allocated to specific countries. As you can see, 39.2% of trades occur within the United States, and 60.8% occur outside.

We are initially targeting our products towards the 60.8% of international, non-US-based customers.

Our Clients

Representing a broad swath of society, our clients are anyone actively exposed to cryptocurrency ranging from a Nigerian shopkeeper that has .25 BTC to a successful crypto business with more than $100m in assets to a traditional institution looking to supplement their fixed income portfolio. Everyone needs fiat to live, work and play, and crypto holders need it even more because they typically invest a great deal in crypto assets at the expense of fiat liquidity.

Primary

Our chief customer focus at MELD is to provide innovative borrowing solutions to customers looking to access the value locked within their cryptocurrencies. Borrowers include any holder of cryptocurrency greater than $50USD.

There are over 101 million active cryptocurrency traders[12] around the world. Not only is the number growing, but the demographic is unique in the use of financial products. About 20% of the investors are under 18 years old, and the fastest-growing segment is women. Just in BTC, more than 25 million addresses are economically active wallets held by private individuals. Millennials and younger are more inclined to trust cryptocurrency than fiat currency. We see a general shift toward digital and more specific decentralized cryptocurrency as faith in classical sovereign fiat fades.

Cryptocurrency Investors

Cryptocurrencies and their use in the financial markets throughout DeFi have seen market adoption expand at an ever-increasing pace since the summer of 2020. The appreciation of cryptocurrency assets over the past few years has resulted in investors gaining a significant amount of value, and they see this rise continuing over the next 5 years. As a result, cryptocurrency investors are unwilling to spend or sell their cryptocurrency positions.

This attitude in the market creates a need for investors to unlock some of the value in their investments without either triggering a tax event or liquidating their positions. Cryptocurrency-based loans and credit lines offer an efficient and cost-effective way to realize their gains in fiat to use in everyday life events like buying a house or getting married.

With MELD products, investors worldwide can enjoy the benefits of their investment now with an open and safe protocol in the DeFi space.

Miners

Cryptocurrency miners are a key actor in the cryptocurrency ecosystem. Miners validate transactions on various blockchains such as Bitcoin and Etherium to earn rewards for their service. As a result, a great deal of wealth is accumulating among miners. Like investors, miners are unwilling to spend their cryptocurrency due to their bullish attitude toward the market.

While miners also have a need for disposable fiat, currently they also have a need to cover operations and expansion of their mining operations through CAPEX and OPEX costs. With a MELD loan or line of credit, miners are free to operate and expand as needed.

Crypto Businesses

Crypto businesses need fiat capital to be able to operate and handle day-to-day expenses. These businesses typically have large balances in crypto, and MELD provides a bridge to realize their assets in fiat for OPEX and CAPEX expenses or investment.

After the launch of MELD and the implementation of crypto-backed fiat loans, crypto businesses will be able to take their crypto balances held within their reserves, deposit them on the MELDapp, and borrow against them. This allows the project owner exposure to the price appreciation for crypto assets on deposit while still gaining access to fiat to finance their needs.

Crypto Exchanges

Centralized cryptocurrency exchanges (CEXs) are a large part of the crypto ecosystem. As of 2020, CEXs are the most widespread mode of operation for cryptocurrency exchanges. The speed and cost-efficiency of processing transactions by a single point of authority make them convenient for users to perform token swaps.

By design, MELD's instant crypto loan provides partnering CEXs with added liquidity. CEXs can utilize the additional liquidity to support their margin lending activities,

enabling them to offer their users higher capital efficiencies while simultaneously providing MELD fiat lenders a more stable interest return.

Secondary

MELD creates fiat-lending liquidity, providing investment opportunities with safe and attractive returns for individuals, institutions, as well as B2B customers. The fiat provided by lenders fulfills the borrower's loan position. This means fulfilling the utilization of a line of credit purchased by a user or fulfilling a wire transfer executed by a user creating a crypto-backed loan. The LPs will have a variety of terms to fulfill for each borrower. The most important term is the interest rate for the duration of the loan. The interest rate will be dependent on the overall availability of liquidity and the demand to borrow. We will be expanding our client base in the next few years towards centralized institutions that have a lot of capital and are looking for a safe way to earn a solid interest return on their fiat. These include, but are not limited to:

Fintech

Financial technology (Fintech) aims to compete with traditional financial methods in the delivery of financial services. Fintech has created an emerging industry that uses technology to improve activities in finance.

Companies such as Square, Paypal, and Paysafe have innovative Fintech solutions that disrupt the traditional financial landscape. These companies are now integrating cryptocurrency solutions into their business plans and some have even started buying Bitcoin and other cryptocurrencies for their balance sheets.[17]

MELD can provide Fintech firms with the ability to operate in the crypto space and leverage their assets to pay for operations and capital expenses. We provide these types of services so that traditional companies can more actively focus on their core business and take advantage of the capital efficiency MELD offers.

Pension Funds

Pension funds buy assets with contributions for the exclusive purpose of financing pension plan benefits. The pension fund is a pool of assets forming an independent legal entity.[14]

Preliminary data for 2019 show that pension funds held USD 32.3 trillion in the OECD area and USD 0.7 trillion in 29 other reporting jurisdictions.[15] With the bond rates trending to ever lower levels[16], the ability to earn a safe and attractive interest return is becoming harder to achieve.

Pension funds can become liquidity providers with their managed assets safely and securely to earn a greater yield than any bond on the market today.

Institutional Investors

An institutional investor is an entity that pools money from clients, or partners, to purchase investment assets or originate loans. Institutional investors include banks, credit unions, insurance companies, REITs, investment advisors, endowments, and mutual funds. These include operating companies that invest excess capital in various types of assets. According to the OECD Institutional Investors Statistics

2020, $22 trillion USD is situated in institutional investor accounts within the United States alone.[18]

MELD can offer these investors further capital efficiency and an attractive interest return from fiat liquidity, providing a solution for excess capital. Institutional investors can utilize MELD's protocol to generate a yield from unproductive liquidity held on balance sheets.

Hedge Funds

Estimates show that the total AuM (assets under management) of crypto hedge funds increased in 2019 to over $2 billion USD from $1 billion USD the previous year.[13] Hedge funds that have invested capital under management in crypto assets are also direct beneficiaries of MELD's Instant Crypto-backed Loans as well as being candidates for becoming a liquidity provider of fiat for borrowers.

Depending on market conditions and strategies, hedge funds may attain a large fiat position for assorted reasons and hold it for an extended period. In these cases, hedge fund managers can use MELD's fiat liquidity pool to earn an interest return on their unproductive fiat.

Hedge funds can deposit their crypto assets to the MELD protocol through the MELDapp or API where they are able to leverage the locked value in crypto assets giving them greater flexibility to structure their portfolios.

Long Term

Banking the unbanked

One of the reasons we are building the MELD protocol is to expand our market to a population that currently has no access to crypto-backed loans. This population is the "unbanked" and they comprise approximately 2 billion people. The "unbanked" is a term used to describe those who do not have access to a bank account. In addition, this population may not have access to other financial services such as credit cards or loans. For example, in the United States, about 22% of US adults[9] are "unbanked" and in developing countries, this number can be as high as 65%.

Competitive Landscape

This competitive analysis discusses how MELD's Instant Crypto-backed Loan services are superior to various competitor products and services.

MELD vs Other Lending Solutions

	MELD	Centralized crypto-fiat lending	Peer-to-peer crypto-fiat lending	Traditional Lending
Crypto assets accepted	✓	✓	✓	✗
Keep ownership of your assets (non-custodial)	✓	✗	✗	✗
Approval time	Instant	Instant	Variable	Very Slow
Fees	No	Yes (Application Fee)	Yes (Membership fees, loan fees, etc.)	Yes (Application Fee, Administration Fee, Commitment Fee, Legal Fee etc.)
Personal loans	Worldwide	Limited	Variable	Limited
Business loans	Worldwide	Worldwide	Variable	Worldwide
No credit check	✓	✓	N/A	✗

The decentralized nature of MELD puts forth a variety of benefits. This is a large factor that sets us apart from our leading competitors, BlockFi, Nexo, and Celsius. These companies are bound to the US regulations, which limit their customer base. In contrast, the MELD protocol has access to the DeFi ecosystem of financial services and customers worldwide.

Furthermore, MELD products are accessible to users with little to no credit (no credit checks) and do not have geographic restrictions. The crypto loan executes instantly as there is no approval procedure. As soon as the crypto assets transfer to the on-chain smart contract, and confirmation of the transaction takes place on the blockchain, the client can start spending the fiat currency of their choice. Because of the decentralized nature of MELD, the interest rates are highly competitive, and there are no additional or hidden fees.

MELD Fiat Liquidity Providers vs Competitors

	MELD	BlockFi	Nexo	Celsius
Speed of funding	Real-time	24h	24h	24h
Application process	Instant	<2 days	<3 minutes	<30 seconds
KYC/AML	Swiss	USA	USA	USA
Time to fiat funds	Instant*	24h	1h	24h
Lending product	Loan, Genius Loan, credit line, debit card	Loan	Loan, debit card	Loan, debit card
Repayment options	USD, USDC, USDT, mUSD, EUR, ADA, ETH, BTC, MELD	USD	USD, EUR, ETH, BTC, NEXO	USD
Collateral release	Instant	1 to 14 days	24h	24h
Fees	None	2-3%	None (limited)	Membership, 0.5-2%
Withdrawals	Free & instant*	1 fee per month 24 hours and not on weekends.	24 Hours 1-5 based on loyalty tier	24 Hours Monthly limit
Token type	Utility	NA	Utility	Utility
Token benefits	Bonuses, Dividends, Staking rewards	NA	Bonuses, Dividends	Bonuses, Dividends
Product coverage	Worldwide, personal & business	Worldwide business	Worldwide business	US Only
Non-custodial (keep ownership of keys)	✓	✗	✗	✗
Legal jurisdiction	Switzerland	USA	Bulgaria	USA

* Varies based on the wire transfer times.

With the support of renowned business angels, crypto assets, and the crypto community, MELD is seeking to become the leading fiat currency lending protocol in the crypto-sphere. Competitors like Nexo use Ethereum as their layer-1 and high transaction fees affect their efficiency.. BlockFi utilizes tiered earnings on interest rates with support from centralized Gemini exchange and deeper traditional Wall Street backgrounds. Celsius provides a layer-1 chain with untested security standards and tier-based rewards. MELD focuses on the crucial features in security, decentralization, fee reduction, and regulatory independence. Our reduced fees are not focusing more on the rewards to the highest token holders, instead, we maintain incentives equally through our protocol. Decentralization is a huge aspect of connecting DeFi to traditional fiat markets and ensuring a protocol that maintains our Mission and Values.

Additionally, competitors complicate wider platform adoption by supporting many crypto lending pairs. In comparison, the MELD protocol offers clarity on deeper liquidity to mainstream adoption for institutions and individuals with our unique AMM and oracles. Consequently, allowing our platform to offer more services for individuals to find their perfect loan and institutions taking advantage of the

modular money effect of decentralized finance compared to competitors. MELD also ensures the best opportunities, and flexibility of parallel financial jurisdictions, in comparison to just the USD dollar.

MELD Fiat Liquidity Providers vs Competitors

	MELD	BlockFi	Nexo	Celsius
Interest-bearing instruments	Worldwide	USA Only	Worldwide except for USA, Estonia & Bulgaria	USA Only
Liquidity denomination	USD, EUR	USD	USD	USD
Time to withdrawal	Instant	24 hours	<3 days	<1 day

Fiat liquidity providers have the most flexibility under our protocol relative to the competition. Fast fiat access ensures that MELD is like transferring money between personal bank accounts. The DeFi industry focuses on competing with the US dollar, however it excludes key markets and institutions. In contrast, MELD provides those key markets with early lending adoption from Euro liquidity pools. In comparison, MELD ensures that fiat liquidity is all available for withdrawal when needed the most. Additionally, our fiat oracle produces the proper regulatory documents for both Swift, and SEPA payment standards resulting in overarching availability for traditional institutions across Europe and Asia to utilize MELD.

The Protocol

MELD is a decentralized protocol that is trustless, and a part of the DeFi[11] ecosystem. This financial composability in DeFi, also known as "modular money," allows for connecting various parts of pre-existing protocols into new financial services.

Modular money means that our various products and services are composable into other more sophisticated solutions well beyond the mandate of MELD. Being a part of the innovation and transformation of the financial industry is exciting and satisfying for us.

The MELD engineering team continues to contribute to many open-source Cardano technologies like Plutus, the smart contract component of the Cardano blockchain itself. We're continuously pushing this front by sponsoring talent to work on Cardano, Plutus, Haskell, Nix, Agda, and the whole ecosystem in general. MELD will not just be a top lending protocol; we will also be a leading researcher & developer of the world.

Our Approach

Research

Research first. We take our responsibility seriously to design a protocol that can manage billions of dollars worth of value and millions of users. The platform needs to stand the test of time, to scale and serve the people for the many years to come. We are going to produce state-of-the-art outputs.

Correctness

It is challenging enough to prove the correctness of a model or design on paper. We also have to make sure our implementation matches the laid-out design and works as intended. This is also one reason why we chose Cardano, as its tech stack utilizes purely functional technologies for correctness.

We program in purely functional programming languages like Haskell and Plutus with limited side effects for provability, use theorem provers like Agda for formal verification, and use Nix for pure and reproducible builds.

On top of aggressively reviewing, testing, proving, and attacking the software ourselves, we're going to open-source the code base for the community to inspect, as well as work with top firms in the scene for third-party audits.

Usability

We *MELD* abstract theories with practical products to deliver the best user experience. Beautiful formulas on paper or shiny apps with badly designed tech are not good enough for us.

To achieve this, we first focus on protocol performance; always aiming for cost, time, and space-efficient solutions. Building on Cardano helps as it's one of the

leaders in this criteria. We offer cheap and fast transactions with no outstanding scalability issues.

Combined with the most accessible, usable, and beautiful wallet that is our MELDapp, users will have a seamless experience that is yet to be seen in the DeFi world today. It is highly critical for us to expose these novel technologies to every single human being out there.

Security

This is the number one factor for MELD. With the highest responsibility for the users and values on the protocol, we have to go the extra mile given how the whole ecosystem is constantly under attack. We have a budget for security research and operations to continuously improve our performance on this front.

First, we partner with top researchers to follow and study new attack scenarios, find better tools and security operations, and adapt our products when needed. We do not just protect ourselves by designing the most secure protocol and economic models; we are also providing educational guidelines for everyone (other protocols included), to better secure themselves and avoid social engineering.

Second, we constantly attack our own work and people on paper, private networks, public networks, and on the Cardano blockchain. This is an effective and required way to find vulnerabilities to patch. We accomplish this through our own security engineers, third-party auditors, and AI bots. For example, when too many parameters are involved for human beings to process, we can train reinforcement learning agents to optimize a vulnerability metric of our economic model, to then give back protocol parameters and market conditions that lead to it, for us to find preventive solutions.

Finally, it is worth mentioning that this is a collaborative effort involving the whole ecosystem. As seen in liquidity and flash loan attacks, one lost piece of the puzzle could bring risks to all the other pieces. We need tight partners that audit each other and deliver more security materials and standards to the Cardano and DeFi ecosystem.

The MELD Protocol

MELD believes in the power of the protocols, not platforms. The MELD protocol is a set of logic that governs the actions and methods available to the protocol that serves different agents. This includes how lenders can deposit fiat to earn interest and yield, the calculation of yield or how borrowers can collateralize crypto assets, and the terms that govern that smart contract, among many others. The section below outlines the architecture and characteristics of the protocol.

These protocol rules are in the form of decentralized and trustless on-chain smart contracts that act the same for everyone. No individual will be powerful enough to change the protocol parameters and how it behaves. The rules are always transparent and require a democratic voting process to change.

A critical component of the protocol is the LPs or MELD Vaults, which allow different actors to provide crypto liquidity in return for yield farming and trading fees. This reward stream is critical to the protocol, letting borrowers earn a yield on their collateral, for example.

Core Smart Contracts

Lending Contract

Through the MELD App, a lender can deposit fiat into the MELD fiat liquidity pool via a wire transfer. Upon confirmation, the protocol will update its on-chain script to track the investment. Early lenders will receive a limited reward of treasury MELD.

Through the lending contract, the lender can get back the equivalent amount of fiat investment. The on-chain smart contract will keep track of all investments. A fee might arise if the lender gets back fiat too early.

Borrowing Contract

Through the borrowing contract, a user can deposit Cardano native tokens (MELDed assets included) to create an on-chain collateralized debt positions (CDP). Upon confirmation of this contract the smart contract starts. The protocol then contacts the bank account and initiates a fiat wire transfer from the fiat liquidity pool to the borrower's bank account. The contract will also generate documentation for the borrower's jurisdiction. MELD rewards will then transfer to the borrower's MELDapp wallet for taking part in the protocol.

The MELD protocol can interact with the CDP by these rules:

- Use the CDP in MELD vaults for yield farming.
- Withdraw the collateral from the MELD vault to return to the borrower when the loan is fully repaid or on the borrower's accepted request.
- Liquidate the entire position when the borrower fails to repay the loan or when the collateral ratio passes the acceptable threshold.
- Liquidate a portion of collateral on the borrower's request.

Borrowers can deposit more collateral to their CDP through the borrowing contract to up the collateral ratio and avoid liquidation. They can also withdraw collateral if the CDP's collateral ratio allows, but this will reduce future yields and might contain protocol fees. No one can interact with the CDP and locked values otherwise.

Vault Contract

Through this contract, different agents can provide crypto liquidity to yield farm on swap fees. Cardano agents can also perform swaps through the contract, which keeps track of all investments to split rewards and to validate liquidity withdrawals from the providers.

Staking Contract

Through the staking contract, a protocol user can stake MELD tokens to earn protocol rewards. The staked MELD tokens are used to provide insurance against collateral liquidation and LP impermanent loss. The contract allows users to unstake anytime.

Governance Contract

This contract governs protocol parameters and the proposals that change them. MELD holders can pay a small fee to open proposals that MELD stakers can vote on through this contract. When the voting period ends, rejection occurs when a proposal does not meet the required minimum number of participants and yes

votes. If the proposal passes, the MELD DAO will begin planning and executing the proposal.

Fiat Contract

Through the fiat oracle contract, an oracle can update the real-time price of relevant assets on the protocol. This is a requirement to update the collateral ratio of CDPs.

Security Contract

Through the oracle contract, an oracle can update the real-time price of relevant assets on the protocol. This is a requirement to update the collateral ratio of CDPs.

Functional Diagram
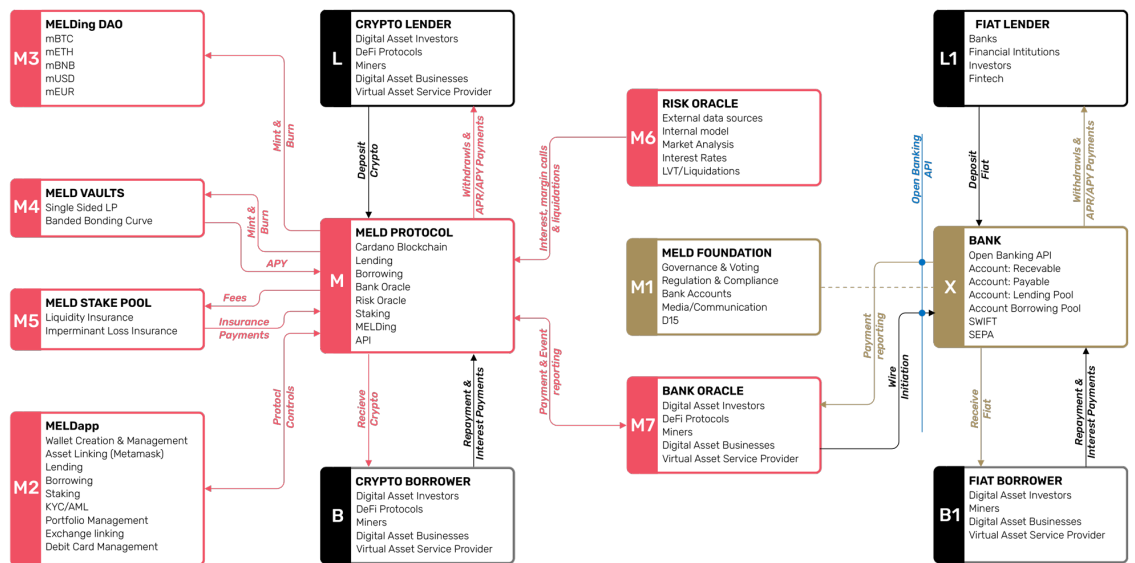
Agents

Agent Type	Description
Fiat Liquidity Providers / Lenders	These people deposit fiat to the protocol to earn interest and yield.
Borrowers	These people deposit cryptocurrencies as on-chain collateral to borrow fiat.
Crypto Liquidity Providers	These people deposit cryptocurrencies to our liquidity pools to provide liquidity for traders and receive yield.
Traders	These people trade Cardano native tokens (melded tokens included) on our exchange.
Stakers	These people stake their MELD tokens to provide

insurance, earn rewards and participate in voting and other governance processes.

Oracle Feeders   These are automated agents that feed the real-world price of different assets to our smart contracts.

MELD Vaults

The MELD vaults are publically available LPs. The LPs are single-sided where liquidity is provided for a single token instead of pairs. The second side of the LPs is from the protocol minting MELD tokens of the equivalent value.

All MELD vaults have MELD tokens on one side of the pair. This configuration allows them to swap between any combination of pairs available across all vaults.

The protocol needs the LPs to create reward flows for its agents. The main design goals are to reduce smart contract complexity, prevent impermanent loss, and to provide convenience. At launch MELD will begin with a small number of deep pools for a high level of liquidity and stability. Our LPs are composable and open for use by other protocols and agents.

Staking the MELD Token

The protocol also provides staking opportunities using the MELD token. The staking pool allows users to commit their MELD tokens in return for yield in MELD based on the performance of the protocol as a whole. The staking pool is insurance funded by users staking the MELD token. This pool provides insurance against potential liquidity shortages in a black swan event and impermanent loss for liquidity providers. The stakers in turn receive rewards from protocol fees.

Oracles

An oracle is a trusted source of information (e.g. a data feed) that gives smart contracts the data needed to execute an action. Oracles can track the price of an asset and provide a prediction of the asset in the future. The advantage of having oracles is that it provides the smart contracts with the ability to execute an action based on external events (such as a bank transfer). This is a crucial aspect of the functionality of crypto-backed loans.

MELD will utilize oracle technology to fetch the price of the unwrapped versions of MELDed assets to determine various protocol parameters such as user loan to value ratios, liquidation events, and notification events for users. Additionally, the MELD oracles maintain bridges between the blockchain and fiat accounts that send and receive fiat funds as part of lending and borrowing.

Market Analytics

MELD utilizes oracle technology to relay the data gathered from market analysis to various parts of the protocol. This includes smart contracts, notifications, display of loan safety levels, and tools to hedge against crypto asset volatility.

Market analytics intends to provide tools to help MELD users in managing and servicing their loans. It helps in the analysis of the crypto economy, and it creates

tools to support the market-based development of MELD. This is an extremely important aspect of the MELD protocol because it can provide significant value for users. To create the best possible experience for all users, it is critical to monitor the market and provide the best possible tools for analysis. This includes tracking the current value of crypto assets, as well as the value at any point in the past.

Loan Safety Levels

Our oracles provide our users with real-time data of their loan-to-value (LTV) ratio, which is the ratio of the loan amount to the value of the underlying asset. This data can serve as a decision-making tool for the borrower to determine whether or not to repay the loan or to request additional collateral from the lender.

For crypto-backed loans, a user is able to withdraw fiat (USD or EUR) up to 50% of the value held within the deposited crypto assets. This represents a 50% LTV ratio. If the LTV of a user reaches 85%, a liquidation event will occur. If the value of the collateral falls to LTV 65% or it stays above 50% for more than 3 days a margin call occurs and the user receives a notification. When the LTV reaches 75% or stays above 65% for more than 3 days the customer must add liquidity to reduce the LTV. All these functionalities happen using our oracles.

Hedging

The MELD protocol has hedging techniques built into the risk oracle to mitigate market volatility. The goal is to minimize liquidations executed during times of extreme crypto price volatility.

Price volatility in the crypto market is eminent. For example, on May 17, 2021, the market saw over $2.4 billion in crypto liquidations.[22] The entire crypto market took an aggressive 66% downturn within a 12-hour period, and then proceeded to regain back 50% of the losses the following 12-hour period. A user should not experience liquidation of their position if the rebound is within such a brief time span.

It's times like this where our risk model will implement a grace period for loan participants, integrating our treasury funds to offset any liquidations that could have occurred during this short span of time.

Fiat Liquidity

Funding

Fiat liquidity providers begin by setting up the MELDapp account. All fiat liquidity providers need to pass KYC/AML in order to provide fiat (USD and EUR) funds. Upon completion of the KYC the liquidity provider will receive bank account details to wire money. Verification of funds receipt will appear on the MELDapp.

The liquidity provider can choose to apply funds to loans or to MELD vaults. Each of these options come with different terms and yield. Unless otherwise set by the liquidity provider, withdrawals can happen at any time.

The blockchain records every action in the liquidity funding process and can undergo audit at any time either via the MELDapp or by an independent organization.

Fiat Borrowing

Loan Origination

The MELDapp is the source for loan creation. Users first set up an account and choose a collateral funding method. Users only need to complete KYC if they are taking out a fiat loan. When KYC has been completed users can deposit their collateral to a CDP.

Loan Jurisdiction

Once the loan terms are set, the user must choose a jurisdiction to wire the money. This, in turn, can affect some parameters of the loan based on usury laws in the jurisdiction.

MELDapp

Wallet Creation and Management

Wallet creation is a function of the MELD app, which is available from the iOS and Android app stores as phone apps, or through the Google Chrome web store as a browser extension.

Wallet creation is 100% free. It takes less than 5 minutes. Users will have to abide by KYC/AML procedures during the wallet creation setup to use any of the loan offerings by the MELD protocol.

Loan Creation

Once a user downloads the MELDapp, creates a wallet, and fills out all necessary KYC/AML procedures, they can now start utilizing the MELD protocol, including the creation of crypto-backed loans. From here, users can deposit their crypto assets directly to the MELDapp to attain the MELDed version of the asset.

The protocol requires wrapping of deposited crypto assets before being eligible as collateral for a crypto-backed loan, or a line of credit.

Once deposited, the user can withdraw up to 50% of the value of the underlying crypto asset as fiat or credit. For a loan, the fiat receipt occurs via wire transfer directly into the user's bank account. As for the line of credit, users can use the MELD debit card to gain access to the available fiat from the deposited crypto asset.

Loan Maintenance

Due to the nature of price fluctuations of crypto assets, loan maintenance from the user's perspective is of utmost importance. Users who decide to deposit their crypto to open a collateralized debt position open the door to a variety of new risks that could result in loan liquidation, forcing the sale of the deposited crypto asset to repay the debt.

Keeping track of the price of the underlying deposited crypto asset and the LTV ratio are key metrics to reduce the risk of CDPs. Users may want to deposit more of

a crypto asset to decrease their LTV ratio. On the other hand, if the underlying crypto asset appreciates in price, the user may be inclined to withdraw more fiat.

The protocol has some safeguards for users who open a CDP, but either way, the risks are there, and maintenance from the user is a prerequisite to ensure the position does not get liquidated.

Staking

Staking MELD tokens is of utmost importance for the MELD protocol, as it will act as an issuance pool for various loan activities that will exist within the MELDapp. Users who stake their MELD tokens are rewarded with liquidity-providing incentives initially coming from the tokenomics allocation, but eventually including 40% of all protocol fees.

For the initial MELDapp launch we had a 12 month and a 6 month locked-staking option, allowing users to earn 15% APY and 12% APY respectively. A Flex stake pool will be available to users soon after the conclusion of the locked-staking options, allowing users to stake and unstake their MELD at will.

Vesting

Investors who have purchased MELD through the private sale are able to claim their vested MELD through the MELDapp.

Delegation

During the initial phases of the MELD protocol launch, an initial stake pool offering (ISPO) will be performed to generate revenue for MELD as well as provide rewards to stakers, paid in MELD tokens.

Participants of the ISPO must delegate ADA to MELD Cardano pools to gain MELD rewards. There is no limit to the amount of ADA that can be staked.

Notifications

Our oracle notifies the user whether the forecast predicts an increase in their LTV ratio to unsustainable levels under the protocol. In such a case the borrower would either contribute more crypto or make a partial repayment.

As oracle analyses transpile continuous real-time data, borrowers receive notification about changes in their borrowing positions. In extreme market risk, our oracle provides details about actions needed by borrowers that are over lending relative to their current market position.

DeFi API

DeFi solutions require flexibility and low barriers to integration. Our application programmable interface (API) provides crypto and traditional institutions with an interface to integrate MELD into their existing digital solutions. Meld's data model, based on GraphQL, provides a continuous flow of relevant data from the protocol. The API also provides ease of use, and inexpensive interactions provide a universal tool for access within the protocol.

Risk Management

Our automated risk model performs all of the risk management for MELD. Our model actively evaluates and scans the market for various metrics such as crypto price volatility, the price of assets, and backtests historic data to ensure protocol parameters are set with optimal risk management. The risk model will also take liquidity considerations to ensure the protocol does not suffer significant losses during market drops.

Our design of the risk model is robust concerning changes in the market and can adjust to changing market conditions with minimal human involvement.

MELD ensures maintaining dialog with protocol users by providing direct access to administrators for answering questions, solving problems, and providing updates. Our team is actively involved in the community through our Telegram channel, Discord, and other social media channels. We are committed to maintaining an ongoing presence and providing prompt solutions.

Auditing

We individually test all our smart contracts before deployment, via testnet and on a private blockchain. We also work with reputable blockchain-related companies to further help us perform smart contract audits ([Tweag](#))

Once we deploy, we can audit smart contracts to gather data on what's happening in real-time and how users are interacting with the smart contracts. We utilize historic data to backtest all of our strategies and algorithms to find optimal settings. We then analyze the data gathered from our smart contracts and users' interactions with them. In turn, we use this data to inform our strategy and modify our algorithms to optimize asset security.

The data we gather is also helpful for making business decisions, such as onboarding new users and adding innovative features.

Customer Acquisition

Blockchain's mainstream moment will come, not when people understand how it works, but why they need it. MELD takes you on a quantum leap into a new paradigm where the old rules of finance no longer exist.

Not only will MELD recruit customers from existing crypto holders, but we will also take an active role in bringing new players to the crypto/blockchain ecosystem by giving them a way out of their financial worries. Our strategy consists of 4 main components:

Building a strong community

Our focus on building the community will serve to both create the first layer of customers ready to use MELD once it is operable and secondly as ambassadors & cheerleaders in spreading the word. The community building will be spearheaded by creating stakeholders through the Initial Stake Pool Offerings (ISPO) and referrals.

Strategic Partnerships

We have already [partnered with other crypto/blockchain platforms](#) that will include MELD as a financial product for their customers. In addition, we will be partnering with centralized exchanges to have MELD listed on their trading platforms and provide these exchanges access to our borrower LPs. This will increase capital efficiency, provide better margin offerings to their users, and provide MELD fiat-lenders with better interest rates. We will continue this approach so as to benefit from easy access to large user and customer bases.

Influencer & Content Marketing

We will use both influencer and content marketing to first create attention about the ISPO, build the community, and acquire further customers.

Our influencer marketing approach will cover both the use of crypto influencers as well as ensuring crypto thought leaders & celebrity endorsements. This includes sponsorships of podcasts & youtube channels and cooperations with Twitter, YouTube, and TikTok influencers. In addition, we will focus on influencers with personal finances that operate outside the crypto sphere.

Our content marketing will equally be focused on both the specialized crypto media as well as the mainstream press. It will also drive traffic through SEO linking to our own domain ensuring that we attract the customers actively searching the net for crypto loans.

Democratization of Financial Tools

As part of our mission to convert the general public into crypto holders we will be running more traditional-based marketing campaigns to educate them about the benefits of blockchain technology for their financial situation. In the way that the mass adoption of the internet came when people understood, not how it worked, but why it was a benefit to them, we will be highlighting how blockchain technology and its financial benefits can change people's lives.

Tokenomics

Protocol Functions

The MELD protocol is building the core DeFi infrastructure on Cardano by offering a list of services at the heart of decentralized finance. Below is a list of the services and a brief explanation of how they will function:

MELDed Assets

MELD provides infrastructure for wrapping or MELDing assets from other networks and having their permissionless version on Cardano. The initial scope of those assets includes the following list and, later on, expand to assets from other chains.

- renBTC
- ETH

Lending and Borrowing

MELD offers both centralized (integrated with the real world fiat) and decentralized lending.

Decentralized lending works without either party having to identify themselves. The borrower puts up collateral that the lender will automatically receive if their loan is not repaid. This allows you to borrow money without credit checks or handing over private information, unlock centralized lending that requires AML and KYC processes.

When you opt for decentrealized lending you have access to funds deposited from all over the globe, not just the funds in the custody of your chosen bank or institution. This make loans more accessible, improves the interest rates, and the overall lending and borrowing experience.

Borrowing can give you access to the funds you need without needing to sell your assets (a taxable event). Instead you can use your asset as collateral for a loan. This gives you the cash-flow you need and lets you keep your asset and avoid a taxable event.

MELD Vaults

AMM with single-sided liquidity and impermanent loss protection. MELD vaults offer AMM with the possibility for a single side exposure to an asset.

Also, the IL (impermanent loss) protection is part of the protocol and funded by protocol participants (explained further in this document).

MELD Staking Pools

The function of the protocol insurance pool is two-fold:

- Protect protocol lenders in case of cascading liquidation and in case some collateral is sold below the loan value.
- To compensate users in case of impermanent loss on the AMM protocol.

To achieve that MELD token holders can stake their tokens in [a MELD stake pool](). Those funds can then be used to compensate lenders and AMM LP providers. In order to compensate insurance pool participants for the added risk which they are taking, MELD will distribute 40% of all fees collected on the protocol to them.

Users will have the option to stake their MELD tokens with or without duration. Users who stake with duration will receive a multiplier on their reward share, identical to the one described in the governance section of this document.

Regardless of stake duration, there is a 7 day cooldown period when users request to unstake. During the cooldown period, the MELD tokens are still available to the insurance pool. This is done to avoid "run on the bank" situations when an insured event occurs.

MELD Token

The MELD token is a multi-purpose token on the MELD protocol. Its core functions are:

- Protocol governance
- Incentivization
- Fee reductions
- Protocol insurance

Our token is the medium of exchange under the MELD protocol. Token holders are given incentives to not only utilize their MELD tokens when desirable but maintain a minimum balance to maximize their future earnings under the protocol. To maintain holding utilization, staking provides an annual percentage yield (APY), and fee reductions further strengthen the functions of MELD as a utility for lending and long-term appreciation. Additionally, once reaching a significant milestone of decentralization, introducing protocol governance requires maintaining at least a certain fraction of total supply. The protocol has a fixed supply of 4 Billion MELD tokens with deflationary mechanisms of buybacks and liquidity pool yield. The initial distribution is:
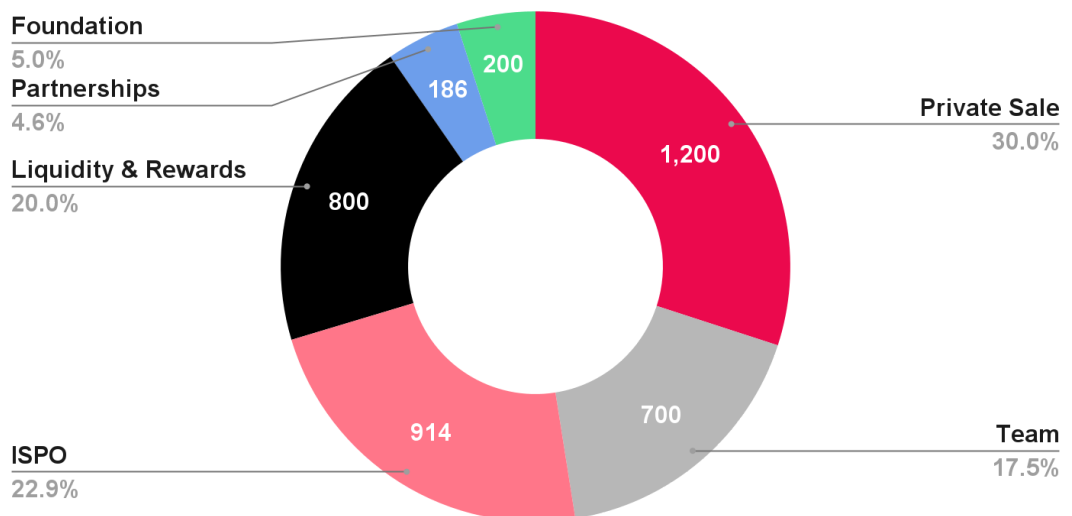
Private Sale and ISPO

The MELD token will be offered in two stages.

Private sale

Our first offering is a private sale to key contributors and investors. Under the private sale, token holders vest 4% per month until fully vested.

Initial Stake Pool Offering (ISPO)

An ISPO is a revolutionary new way for investors and the community to support MELD using the Cardano blockchain. In an ISPO users can delegate their ADA using the Yoroi or Daedalus wallet to the public MELD stake pools (ticker MELD1, MELD2 etc.) for any period which they choose. Depending on the duration and quantity of ADA staked, delegators will receive MELD tokens as an award.

In the ISPO Stake pool, MELD LABS will get some of the ADA staking rewards generated by the pool. As a reward for taking part in the ISPO, MELD will distribute 800m of MELD Tokens, airdropped within 5 minutes of MELD token launch.

Additionally, if the ISPO manages to fill ten Cardano staking pools with 64 million ADA each, a bonus of 200 million MELD tokens will be taken from the private sale and used to add rewards for more staking pools.

We believe the ISPO model is much closer to a fair launch than any other option available and we think this is particularly exciting as it's native to the core functionality of Cardano.

A plan is in place that the initial stake pool offering (ISPO) will take place July 1, 2021, and lasts until the launch of MELD on December 8, 2021.

Participants of the initial offering can delegate any amount of ADA to MELD ISPO pools for any chosen duration of the offering. Users will have the ability to unstake their coins at any time. The calculation of MELD token rewards takes place for each Epoch (5 days).

Types of MELD ISPO Pools

- 100% Pool – In these pools MELD will receive 99% of the ADA block rewards and participants will get approximately 2 MELD for every 1 ADA they stake for the full period.
- 50/50 Pool – In these pools MELD will receive 50% of the ADA block rewards and participants will get both 50% of the block rewards and approximately 1 MELD for every 1 ADA they stake for the full period.

The criteria for the ISPO delegation is as follows

- The amount of ADA tokens delegated.
- The duration for which the tokens were delegated per epoch.
- Delegation is calculated based on ADA staked at the start of an epoch (if you stake mid epoch it will be counted starting the next epoch.

Example

- If 100 ADA is delegated to the 50/50 ISPO stake pool on day one and it is left for the full ISPO period of 32 Epochs you will be rewarded approximately 100 MELD and an estimated 2 ADA in block rewards.
- If 100 ADA is delegated to the 100% ISPO stake pool on day one and it is left for the full ISPO period of 32 Epochs you will be rewarded approximately 200 MELD.

Token Schedule & Allocation

Our token schedule starts after the private sale. The release of 4% of the private sale tokens are as liquid MELD, becoming available for trading platforms. The rewards for participating or utilizing the token provides rewards for staking that amount to 0.10% a day for the remaining number of outstanding tokens in the reward pool. All protocol participants will receive these awards. Further distribution of reward pools will depend on what actions supply the most value and utility to the protocol. Giving low daily amounts of rewards provides that the outstanding tokens have a technically perpetual amount by always distributing 0.1% of outstanding rewards. The chart below depicts our pool distribution, the token inflation consequence, and its proportional allocation to our total supply.

Team members, advisors and partners have a lockup period of 9 months from token launch and then begin their 4% vesting per month.
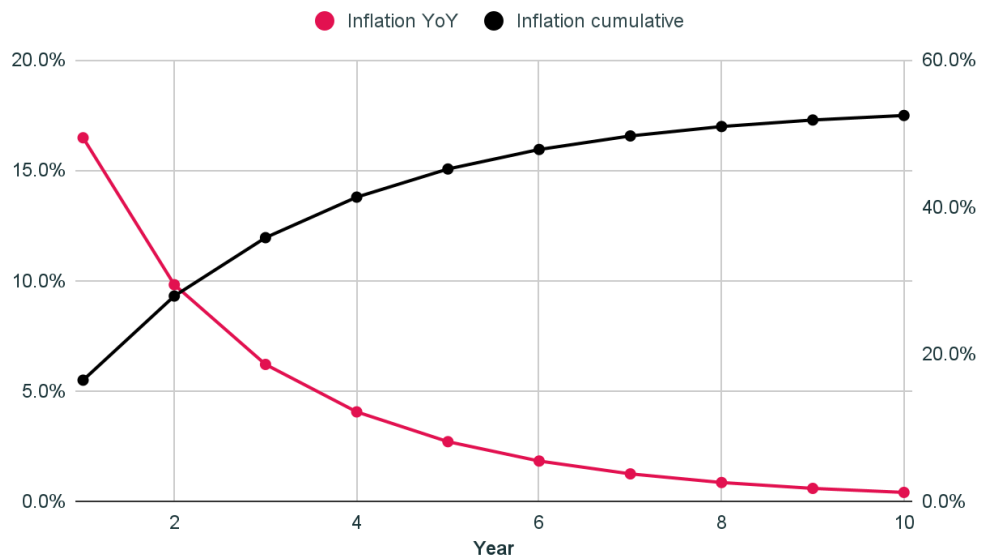

Token Schedule
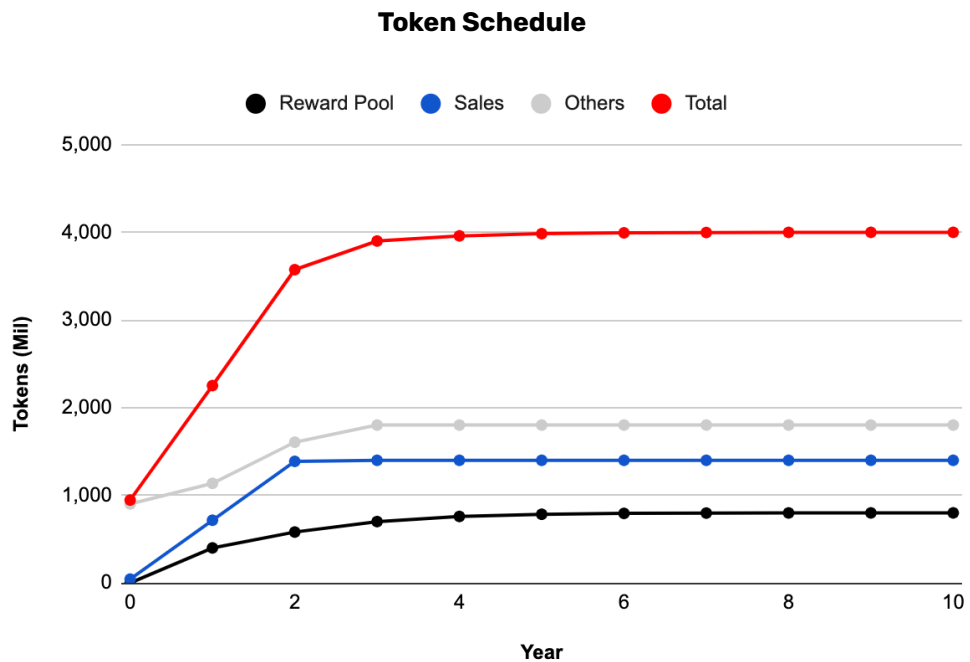
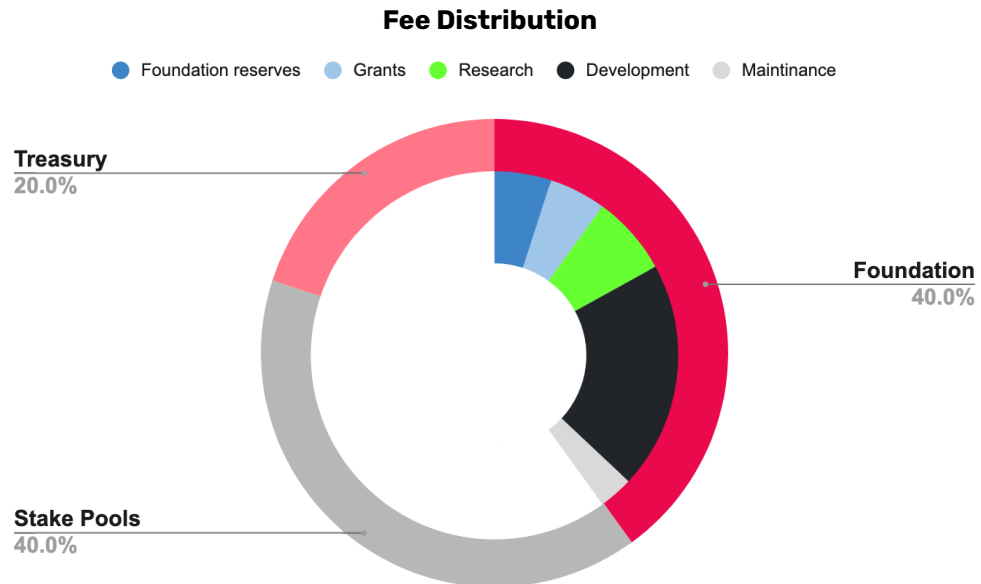## Token Allocation
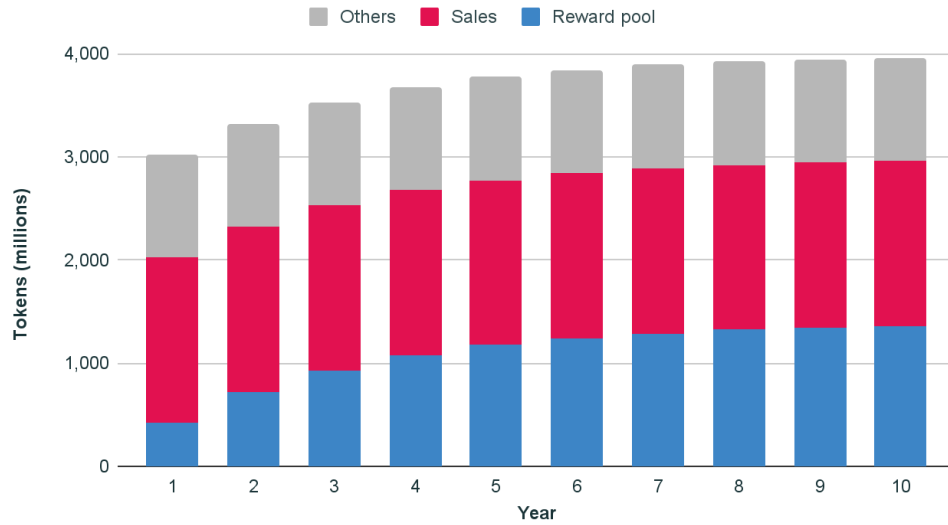
Inflation

Fee Structure

The MELD protocol collects fees for various types of utilization. For wrapped assets, the fee charged is 0.2% for each transactional direction. Fees are also taken on as a 3% margin on loan interest rates. Finally, finalizing swaps charges a 0.2% fee where 0.15% goes to liquidity providers and 0.05% to the protocol. Our protocol highlights at or below fee pricing compared to the competition.

- Wrapped assets - 0.2% fee
- Margin loans - 3% fee
- Swaps - 0.3%

Furthermore, customers can save 25% on transactions by holding a certain amount of MELD tokens. The specific amounts will change relative to time and continuously be adjusted during the early stages of governance. Note that the 0.05% fee is collected and distributes 10% of those earned fees to MELD holders as liquidity pool providers and staking entities.

Fee Distribution

● Foundation reserves ● Grants ● Research ● Development ● Maintinance

Treasury
20.0%

Foundation
40.0%

Stake Pools
40.0%

MELD Protocol Stake Pools

The function of MELD Staking Pools is to provide two forms of insurance:

- Protect protocol lenders in case of cascading liquidation and in case some collateral is sold below the loan value.
- To compensate users in case of impermanent loss on the AMM protocol.

To achieve that, MELD token holders can stake their tokens in the insurance pool. Those funds are then used to compensate lenders and AMM LP providers. In order to compensate insurance pool participants for the added risk which they are taking, MELD will distribute 40% of all fees collected on the protocol to them.

Users will have the option to stake their MELD tokens with or without duration. Users who stake with duration will receive a multiplier on their reward share, identical to the one described in the governance section of this document.

This turns the MELD tokens staked in the insurance pool into de-facto cash-flow generating tokens.

Participants Incentivisation

MELD will incentivize protocol participants via its reward pool. The exact incentive amounts will be updated via governance:

- Providing fiat liquidity
- Borrowing
- Using MELDed assets

The rewards for those actions will be taken from the reward pool. Every day 0.10% of the outstanding tokens in the reward pool will be distributed amongst all protocol

participants. The exact further distribution of that 0.10% will depend on which actions currently bring the most value to the protocol.

Having 0.10% distributed from the outstanding tokens in the pool means that the pool is technically perpetual (e.g. it never depletes) but the rewards get smaller over time. The charts below depict the pool distribution, the token inflation which it creates, and its proportion to other token allocations.

Buyback & LP

Buyback and burn schemas have been very successful and popular mechanics in the crypto space, which has historically helped token price appreciation and keeping the tokens scarce.

Burning tokens based on collected fees has some very desirable effects. The approach's beauty is the inverse correlation between the project's success and the number of tokens burned, essentially creating a self-regulating mechanism for the total number of tokens in circulation.

With the emergence of decentralised finance (DeFi) and automated market makers (AMM) such as UniSwap, however, a new approach has emerged which has the core benefits of the buyback and burn approach, together with the added value of deeper liquidity - buyback and liquidity provision. In this scenario, instead of burning tokens, they are first provided as liquidity for the token on its main AMM market, and then the resulting LP tokens are burned. Thus combining the benefits of the reduced token supply together with deeper liquidity for the token.

In the case of MELD, 20% of all fees collected on the protocol will be used as funds for buyback and LP.

Participants incentivisation

MELD will incentivize protocol participants via its reward pool. The exact actions while will be incentivized and the exact incentive amounts will be up for governance, but some examples include:

- Providing protocol liquidity
- Taking loans
- Participating in governance
- Providing liquidity for the MELD token

The rewards for those actions will be taken from the Reward pool. Every day 0.10% of the outstanding tokens in the reward pool will be distributed amongst all protocol participants. The exact further distribution of that 0.10% will depend on which actions currently bring the most value to the protocol.

Having 0.10% distributed from the outstanding tokens in the pool means that the pool is technically perpetual (e.g. it never depletes) but the rewards get smaller over time. The charts below depict the pool distribution, the token inflation which it creates, and its proportion to other token allocations.

Governance

MELD is integrating a decentralized autonomous organization (DAO) into its protocol functionality. DAOs enable community members to contribute to future protocols as

MELD Improvement Proposals (MIPs) to other governance participants. Our decentralization model aims to ensure that no parties are powerful enough to convince a majority of participants to change protocol parameters such as minting assets. DAOs explicitly maintain the rules that every participant must follow to join, and utilize the protocol equally. Our final stage implements voting that ensures that MELD's protocol maintains improvements from a consensus of its participants. Stakeholders are able to participate in voting, and governance activities provided they maintain at least 0.01% of the total token supply. The MELD governance will have three distinct stages for implementing the DAO:

Stage 1 — Early days

During this period, the team is in complete control of the project, and no voting is done. This is because there will be bugs and events which may require immediate hotfixes, and this cannot be done democratically.

Stage 2 — Semi-decentralization

During this period, the team is still in complete control of the project and can deploy hotfixes the same as above, but for the non-urgent decisions, MELD stakers will get 1 vote per wallet and will be used to vote on MELD Improvement Proposals managed by the MELD team.

Stage 3 — Complete decentralization

During this stage, the project is fully decentralized, and all decisions are made via a strict procedure, and all voting is done on-chain. The process is detailed below:

Once MELD transitions fully to Stage 3, the following governance structure will be implemented: Governance will be exercised by users via voting power (VP). VP is determined by the number of MELD tokens staked in the governance contract and the duration for which they are staked.

Governance will be done via voting power (VP). VP is determined by the number of MELD tokens staked in the governance contract and the duration for which they are staked for. More formally:
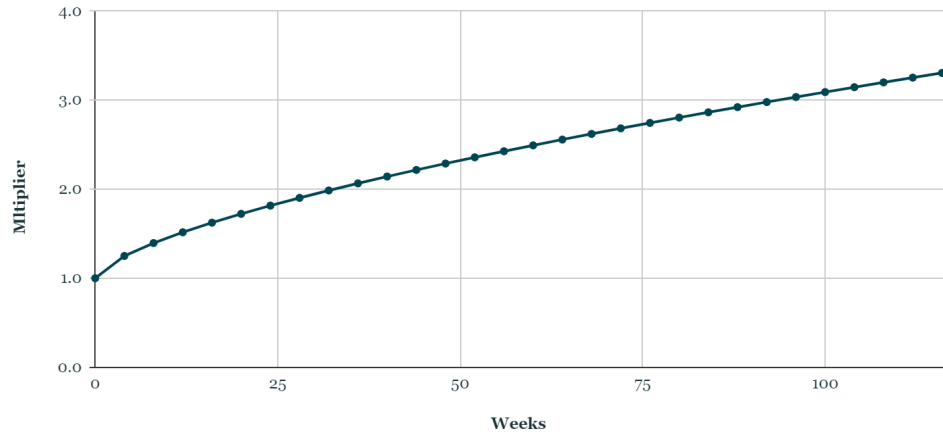
$$VP = T \times M$$

Where:

- T is the number of tokens staked
  M is a multiplier based on the stake duration D in weeks.

Then we further define M as:

$$M = 1 + 0.1 \times D^{\frac{2}{3}}$$

We can then plot for M as follows:

During Stage 3, MELD will follow a governance structure similar to that of Compound, as follows:

Anybody with 0.01% of MELD delegated to their address can propose a governance action; these are simple sets of activities, such as changing parameters of the platform that no one else can modify. Proposals are executable code, not suggestions for a team or foundation to implement.

All proposals are subject to a three-day voting period, and any address with voting power can vote for or against the proposal. If a majority and the minimum votes (i.e., quorum) are cast for the proposal, it is queued in a timelock and can be implemented after two days. The quorum is currently set to 50% of all governance votes.

Anyone can also cancel a proposal if the original proposer loses the required vote power to create proposals (0.01% of total governance votes) after it was added. This helps prevent someone from making a malicious proposal and immediately withdrawing the governance contract's votes.

Token Generation Event

Basics

Ticker	MELD
Jurisdiction:	Singapore & Switzerland
Initial Total Tokens:	4,000,000,000
Token type:	Deflationary (buybacks)
Token Generation Events	1
Policy ID	6ac8ef33b510ec004fe11585f7c5a9f0c07f0c23428ab4f29c1d7d10

During an initial seed launch period, a portion of the tokens will be distributed among the core contributors, who can delegate voting weight to themselves or the public as they see fit.
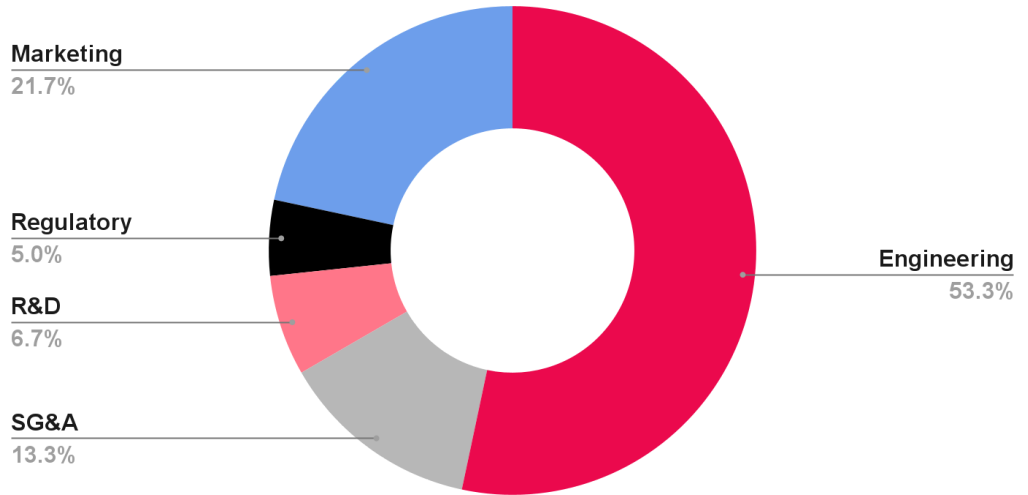
ISPO

Tokens Rewards Available	800,000,000
Reward Bonuses	+200,000,000 to Reward Pool
Total ISPO token allocation	1,000,000,000 MELD
Minimum delegation	10 ADA
Maximum delegation	NA
100% Approx. Rewards 1 ADA per Epoch	0.065 MELD
50/50 Approx. Rewards 1 ADA per Epoch	0.0325 MELD
Duration in epochs	32
Stage start	July 1, 2021
Stage end	December 6, 2021

Vesting Schedule

Participant	Allocation	Vesting
Team	17.5%	t+9 Month, then 4% per month
Advisors		t+9 Month, then 4% per month
Partners		t+9 Month, then 4% per month
Private Sale	30%	4% per month
ISPO		NA
Foundation		Sell ban (Buyback only)

Use of proceeds

Marketing
21.7%

Regulatory
5.0%

R&D
6.7%

SG&A
13.3%

Engineering
53.3%

Breakdown of Token Release Schedule

■ Reward Pool ■ Team ■ ISPO ■ Partnerships ■ Private investors ■ Foundation

Tokens (Mil)

Years after launch
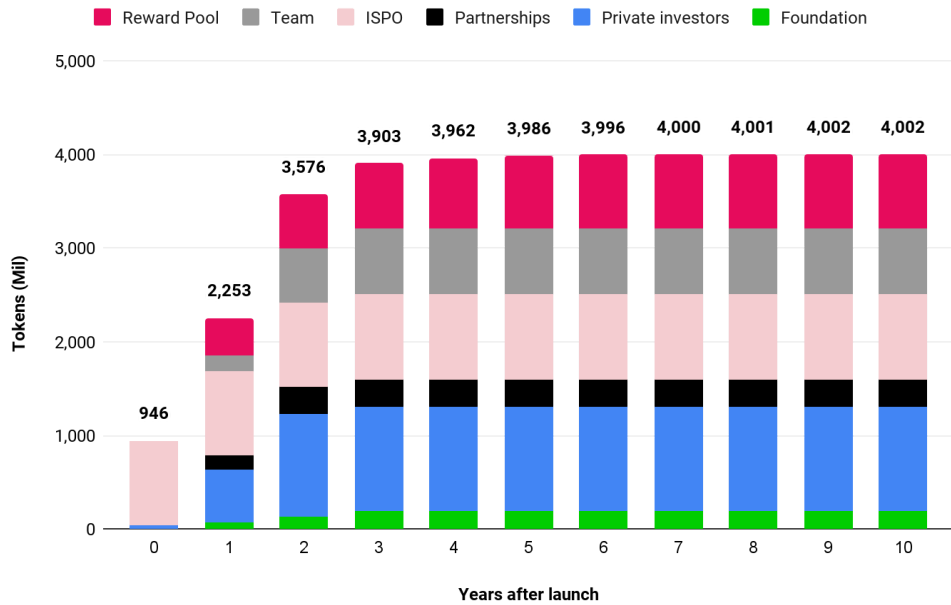
Limitations

"The only function of economic forecasting is to make astrology look respectable."

— John Kenneth Galbraith (economist, bestselling author)

It is important to note that the blockchain and cryptocurrency space is still very new. There is very little historical data, past performance results, or academic research on the topic of cryptocurrencies when compared to the historical data available for standard stocks and equities, let alone the lack of data available for tokenization, economics, and long-term valuations of these digital assets. Stocks (equity) have been around since the early 1600s, and it is only in the past 100 years that we have begun to have more comprehensive and widely accepted valuation models. However, they are still subject to bias and interpretation and suffer from their inputs' quality. On the other hand, Cryptocurrencies have been around since 2008, with a broader recognition around 2016 and an explosion in the number of tokens in 2017. As such, it is way too early to evaluate or comment on the performance, monetary policy, and models behind any of them. As a result, we prefer to rely on sound economic principles backed by data and reasonable assumptions.

Furthermore, any financial projections should generally be treated as a target rather than a prediction. Their purpose is to ensure that the project has sensible and achievable goals, and upon reaching those goals, the rest of the numbers would add up and make sense. On the other hand, they cannot predict the future nor account for all possible variables and scenarios with any reasonable degree of certainty.

The overall goal of this document is to provide a framework that can be used to evaluate the underlying economic principles behind a blockchain project, and upon doing so, we can compare the project to other similar ones in the market to try to determine the likelihood of the success of MELD.

Finally, it is important to note that this is an early draft and is meant to be a living document to be updated as we learn more about the space and as it evolves. We are open to suggestions, corrections, and constructive criticisms and feedback.

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FURTHERMORE, THE CURRENT MODEL RELIES ON SEVERAL ASSUMPTIONS, FORECASTS, AND REQUIREMENTS EXPLICITLY SPECIFIED BY THE COMPANY BEHIND THE TOKEN OFFERING. AS SUCH, THIS MODEL IS ONLY AS GOOD AS THOSE ASSUMPTIONS ARE. ANY SIGNIFICANT DEVIATION FROM THE INPUT NUMBERS WOULD SUBSEQUENTLY IMPACT THE OUTPUTS OF THIS MODEL. THE MODEL PRESENTED HERE AIMS TO PROVIDE A FAIR TOKEN PRICE VALUATION BASED ON THE MERITS OF THE BUSINESS BEHIND IT (AS FAR AS THEY ARE KNOWN/ESTIMATED AT THE TIME OF THE CREATION OF THIS MODEL) AND CANNOT ACCOUNT FOR ANY POSSIBLE SPECULATIVE ACTIONS AND MARKET MANIPULATION BY ANY PARTY AS WELL AS FOR IRRATIONAL MARKET BEHAVIOR.

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GIVEN THAT THE "REGULATIONS" FOR CRYPTOCURRENCY IN MOST COUNTRIES AT BEST ARE HIGHLY AMBIGUOUS OR COMPLETELY NON-EXISTENT, EACH BUYER IS STRONGLY ADVISED TO CARRY OUT A LEGAL AND TAX ANALYSIS CONCERNING THE PURCHASE AND OWNERSHIP OF CRYPTOCURRENCY AND TOKENS ACCORDING TO THEIR NATIONALITY AND PLACE OF RESIDENCE.

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