

Decentralized Data Markets With Ocean & Filecoin

Trent McConaghy



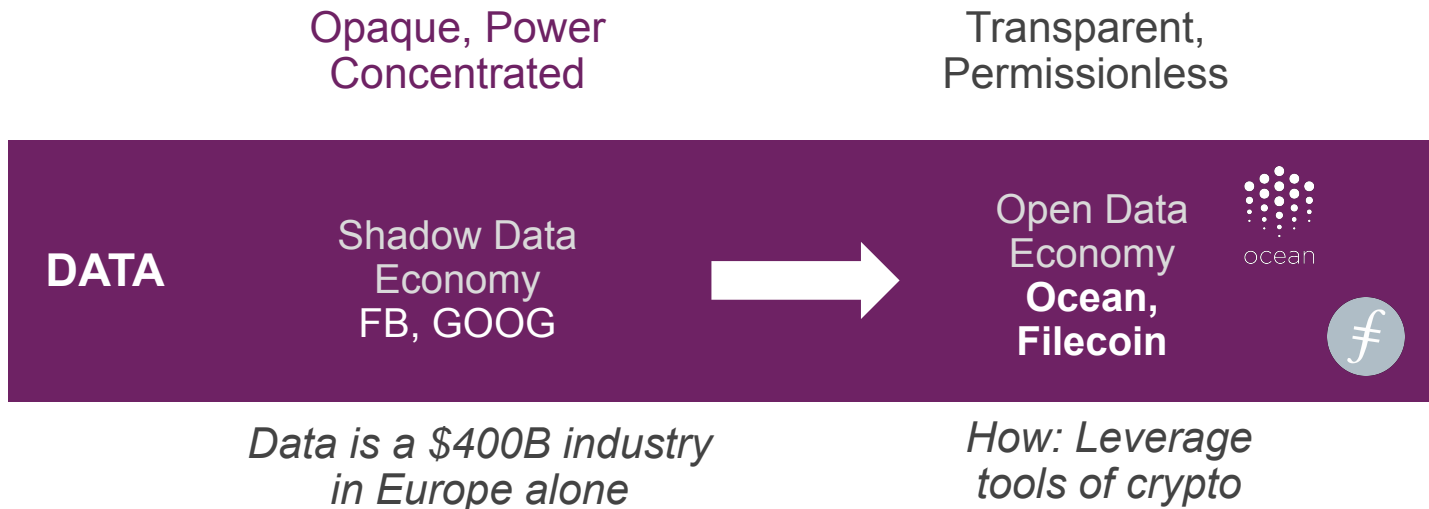
ocean



Introduction

Ocean Mission: open up data, while maintaining privacy

Towards self-sovereign data for individuals and groups.



What is Ocean?

Ocean is...

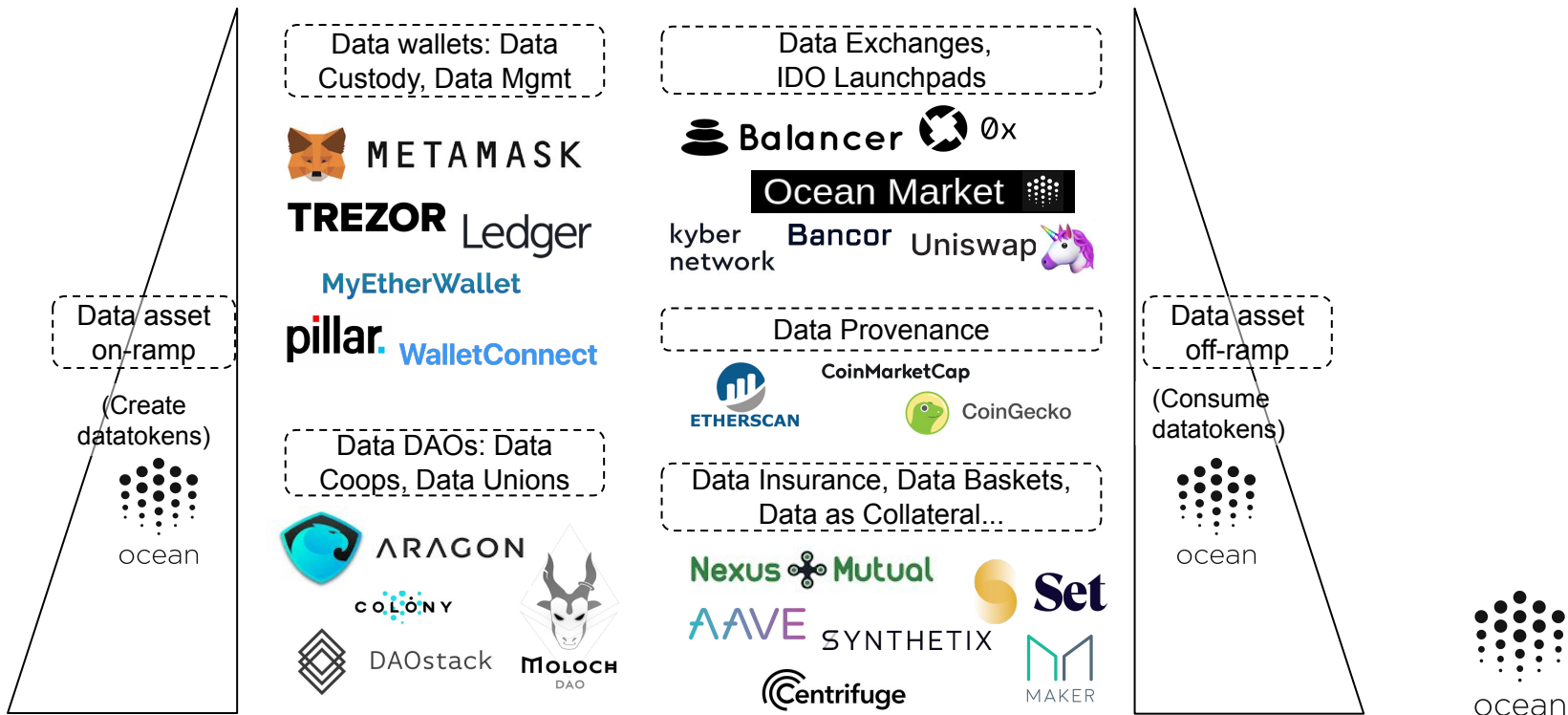
1. **A community / ecosystem** of individuals and orgs driving to the mission
(initiated by Ocean Protocol Foundation)
2. **A set of tools** as public infrastructure to facilitate the mission
3. **A token** (OCEAN) with incentives to grow & sustain the ecosystem

Ocean Tools: How

- **Datatokens** - tokenized access control
- **Ocean Market** - a data exchange webapp
- **Deployed to Ethereum** mainnet
- **Privacy-preserving** - via Compute-to-Data

Ocean Datatokens

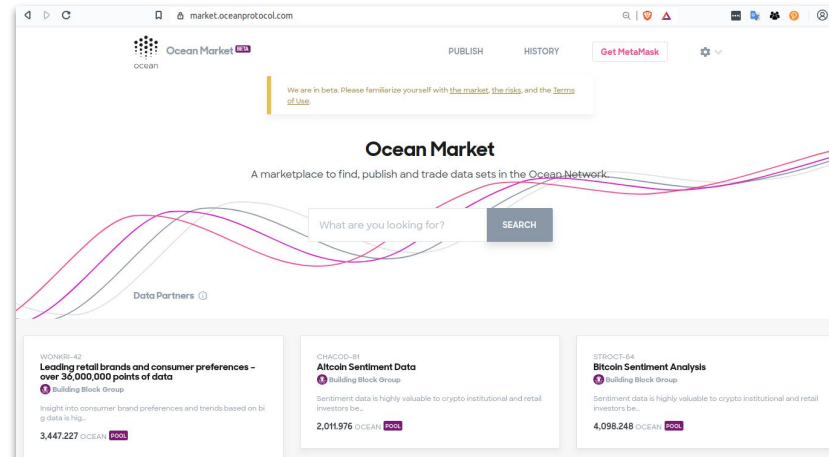
Ocean makes it easy to publish data services (deploy and mint ERC20 datatokens), and to consume data services (spend datatokens). Crypto wallets, exchanges, and DAOs become *data* wallets, exchanges, and DAOs.

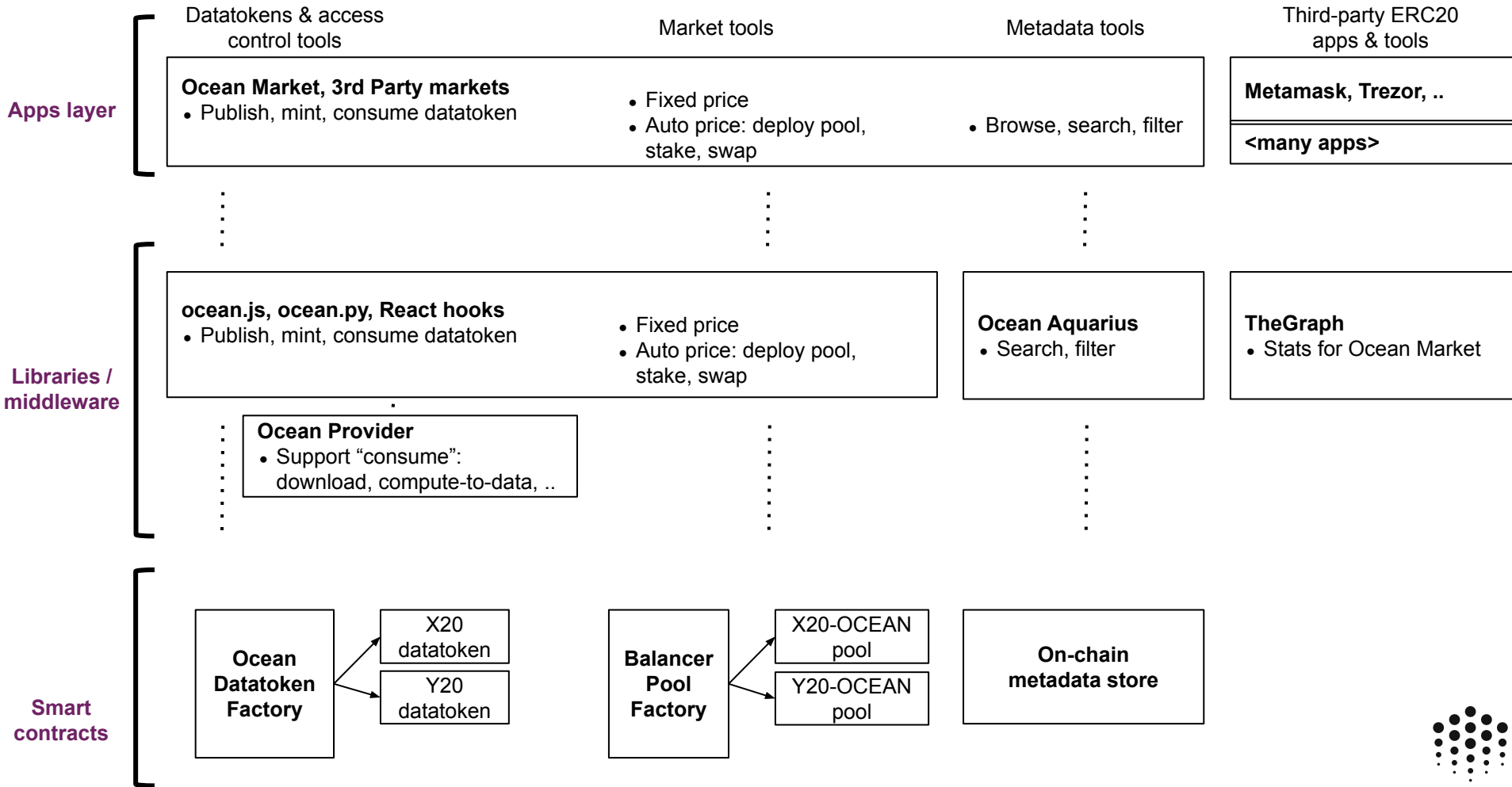


Ocean Market

market.oceanprotocol.com

- It's a decentralized exchange (DEX), tuned for data.
- Webapp + datatokens + AMMs (Balancer)
- Actions:
 - publish data
 - buy & sell data
 - consume data
 - stake on data (curate)







Ocean Market

Ocean Market: Splash Page

market.oceanprotocol.com

Ocean Market **BETA**

PUBLISH HISTORY [Get MetaMask](#)

We are in beta. Please familiarize yourself with [the market](#), [the risks](#), and the [Terms of Use](#).

Ocean Market

A marketplace to find, publish and trade data sets in the Ocean Network.

What are you looking for? **SEARCH**

Data Partners ⓘ

WONKRI-42

Leading retail brands and consumer preferences – over 36,000,000 points of data

Building Block Group

Insight into consumer brand preferences and trends based on big data is highly valuable to crypto institutional and retail investors be...

3,447.227 OCEAN **POOL**

CHACOD-81

Altcoin Sentiment Data

Building Block Group

Sentiment data is highly valuable to crypto institutional and retail investors be...

2,011.976 OCEAN **POOL**

STROCT-64


Bitcoin Sentiment Analysis

Building Block Group

Sentiment data is highly valuable to crypto institutional and retail investors be...

4,098.248 OCEAN **POOL**

Ocean Market: Publish Flow, for an Initial Data Offering



PUBLISH

Publish

Highlight the important features of your data set to make it more discoverable and catch the interest of data consumers.

Given the beta status, publishing on Rinkeby first is strongly recommended. Please familiarize yourself with [the market](#), [the risks](#), and the [Terms of Use](#).

Title*
e.g. Shapes of Desert Plants

Enter a concise title.

Description*

Add a thorough description with as much detail as possible. You can use [Markdown](#).

File*
e.g. <https://file.com/file.json> ADD FILE

Please provide a URL to your data set file. This URL will be stored encrypted after publishing.

Sample file
e.g. <https://file.com/samplefile.json> ADD FILE

Please provide a URL to a sample of your data set file. This file should reveal the data structure of your data set, e.g. by including the header and one line of a CSV file. This file URL will be publicly available after publishing.

Access Type*

Please provide a URL to a sample of your data set file. This file should reveal the data structure of your data set, e.g. by including the header and one line of a CSV file. This file URL will be publicly available after publishing.

Access Type*

Choose how you want your files to be accessible for the specified price.

Datatoken Name & Symbol*

- C

The datatoken for this data set will be created with this name & symbol.

Author*

e.g. Jelly McJellyfish

Give proper attribution for your data set.

Tags

e.g. logistics, ai

Separate tags with comma.

Terms & Conditions*

Ocean Marketplace Terms and Conditions (this "Agreement") is made and entered into by and between Ocean Protocol Foundation Ltd., with office at The Commerz @ Irving, 1 Irving Place, #08-11, Singapore, 369546 Singapore ("Ocean") and the legal entity set forth in the Account Information ("Customer"). It governs Customer's access to and use of the Ocean Marketplace (as defined below) and takes effect on the date of its acceptance by Customer (the "Effective Date"). Customer represents being lawfully able to enter into contracts and having legal authority to bind Customer's entity.

DEFINITIONS

"Service" means all websites, software and services offered and operated by

I agree to these Terms and Conditions

SUBMIT RESET FORM



Example Data Asset: Fixed Pricing (eBay data)



Ocean Market **BETA**

PUBLISH

HISTORY

[Get MetaMask](#)



eBay DATASET - 10 Million Data Points (1,000,000 Product Listings)

Data Reservoir

Exceptional Whale Token – EXCWHA-70 ↗
Published by [0x98EA...16E4](#) – Etherscan ↗



This dataset has a massive total of over 10 million data points from over 1,000,000 product listings on eBay using the electronics category. This dataset is from the first week of November 2020.

- Updated monthly

What's included in the dataset?

The dataset is in xlsx format and each line shows 10 data points with the date & time scraped. The following is included in this dataset:

- *Seller name
- *Seller rating
- *Item category
- *Item ID

USE

POOL

TRADE



2,639.166 OCEAN **POOL**
= €1,211.94

BUY

For using this data set, you will buy 1 EXCWHA-70 and immediately spend it back to the publisher and pool.

■ **No account connected**

Please connect your Web3 wallet.



Example Data Asset: Dynamic Pricing (Consumer Data Streams)

Ocean Market BETA

PUBLISH HISTORY [Get MetaMask](#) ⚙️

AtlantisStream.io - Realtime Consumer Data Streams

Atlantis Streams

Meretricious Manatee Token – MERMAN-13
Published by [0x4f40_50B3](#) – Etherscan

Atlantis Stream is a crowdsourced dataset of real-time consumer data streams.

Notice (11/17/2020)

Atlantis Stream is currently pre-alpha, and will be migrating to compute-to-data when it becomes available. Stay up to date on any of our official channels below:

- Website
- Newsletter
- Telegram
- Twitter
- Discord
- Github

For business inquires:

- Contact [our founder](#)
- Email us at team@atlantisstream.io

How it works.

USE POOL TRADE

No file info available

289.698 OCEAN POOL
= €132.88

BUY

For using this data set, you will buy 1 MERMAN-13 and immediately spend it back to the publisher and pool.

No account connected
Please connect your Web3 wallet.

Example Data Asset: A Data Union (Swash)

The screenshot displays the Ocean Market interface. At the top left is the Ocean Market logo with a 'BETA' badge. Navigation links for 'PUBLISH' and 'HISTORY' are visible, along with a 'Connect Wallet' button and a settings icon. The main heading is 'Swash - Consumer Browsing Data'. The asset details include the publisher 'SwashData Tech Oy', the token 'Tasty Lobster Token - TASLOB-45', and a 'BUY' button. A tooltip shows the price as 31,958.954 OCEAN (€14,448.80) for a 68.85 MB zip file. A 'No account connected' message prompts the user to connect their Web3 wallet. The description explains that Swash is a Data Union that crowdsources consumer browsing data and shares profits with users. It lists use cases like market intelligence and advertising optimization, and provides an update from November 2020 with statistics on data points and members.

Ocean Market BETA

PUBLISH HISTORY [Connect Wallet](#) ⚙️

Swash - Consumer Browsing Data

SwashData Tech Oy

Tasty Lobster Token – TASLOB-45 ↗
Published by [SwashData Tech Oy](#) – [Home](#) ↗ [Twitter](#) ↗ [Etherscan](#) ↗

Swash is creating the world's first **Data Union**. It crowdsources users' surfing data through a browser plugin (available on Chrome, Firefox, Brave, Edge, and more) and shares profits with users. This lets Swash provide data buyers with unrivaled zero-party consumer data at scale, from all over the web, guaranteeing data quality and user consent. The increasing number of users will grow the value of Swash data assets over time.

Use cases

Market intelligence, Consumer insights, E-commerce analytics, AI/ML, and Advertising optimisation

UPDATE: November 21th 2020:

- Number of data points: 800K (+100k since last update)
- Data Union members: 1600 (+100 since last update)
- Coverage: Worldwide

USE POOL TRADE

zip
68.85 MB

31,958.954 OCEAN POOL
= €14,448.80

BUY

For using this data set, you will buy 1 TASLOB-45 and immediately spend it back to the publisher and pool.

No account connected
Please connect your Web3 wallet.

Example Data Asset: Music Samples (from a Platinum-Selling Artist)

The screenshot displays the Ocean Market interface for a music sample listing. The page title is "PVLACE 808 Mafia Melody Compositions / Samples". The listing is by Denis Berger, an Irksome Cormorant Token (IRKCOR-52) publisher. The sample is an HTML file priced at 733,634 OCEAN tokens (€337.18). The interface includes a "BUY" button and a "No account connected" warning. The listing details include production credits, update frequency, and social media verification links. A "Sample Data" section offers a "DOWNLOAD SAMPLE" button and a set of tags for filtering.

Ocean Market BETA PUBLISH HISTORY [Get MetaMask](#) ⚙️

PVLACE 808 Mafia Melody Compositions / Samples

Denis Berger

Irksome Cormorant Token – IRKCOR-52
Published by [0x65e0...87A0](#) – Etherscan

You gain exclusive access to a weekly updated folder that already include 15 melody compositions by Multi-Platinum, Billboard #1, BMA & Grammy Nominated Music Producer PVLACE of 808 Mafia.

Productions Credits include following artists Migos, Future, Young Thug, Lil Baby, Rich The Kid and many more for full productions credits check following website: <https://genius.com/artists/Pvlace>

Updates will be made every Friday on 6PM UTC Time and will include 3 more melody compositions

The melodies are royalty-free for everybody purchasing it and can be used for your own compositions. Melody are marked with the specific BPM

For verification of this market listing feel free to reach out on my verified social media profiles: <https://www.instagram.com/pvlace808mafia/>
<https://twitter.com/pvlace808mafia>

Sample Data
[DOWNLOAD SAMPLE](#)

music compositions pvlace 808-mafia fl-studio
cubase ableton music-production

USE POOL TRADE

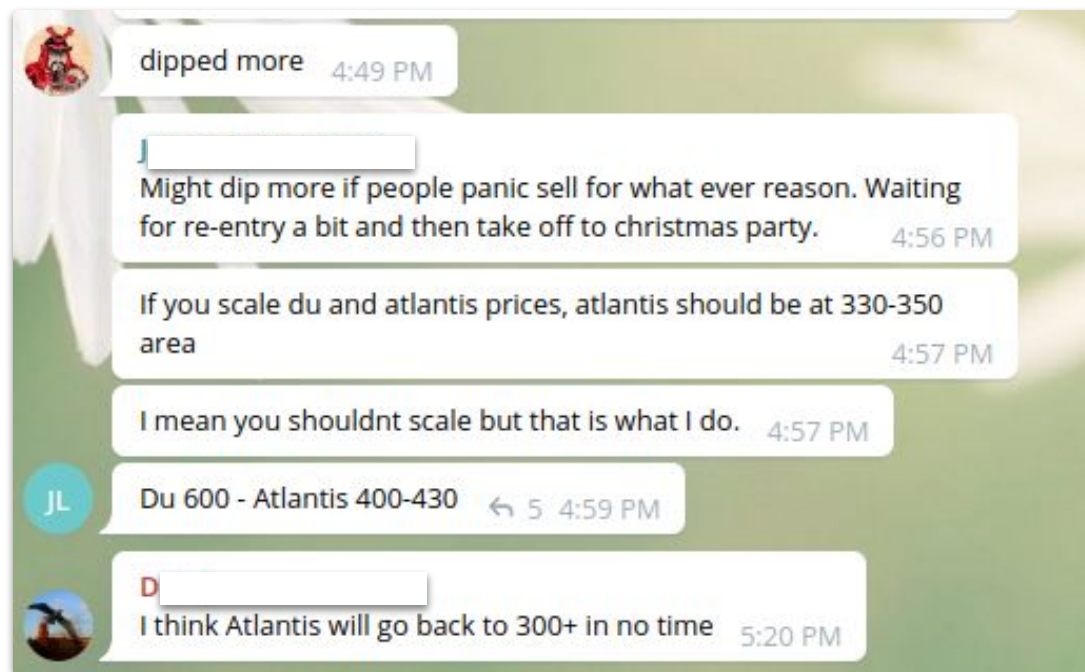
html **733.634 OCEAN** POOL
= € 337.18

BUY

For using this data set, you will buy 1 IRKCOR-52 and immediately spend it back to the publisher and pool.

No account connected
Please connect your Web3 wallet.

A Crypto Telegram Chat... For Data Assets




Ocean Market Data Indexes

Quality Metrics from the Community, Free & For Sale

Tokens: 524 OCEAN Price: \$0.42 OCEAN Market Cap: \$148,650,190.67 Tokens Volume (24h): \$49,836,028.19 (49,836,028.193 OCEAN) To

Data Market Cap

powered by 

Today's Token Prices by Market Cap

The global OCEAN market cap is \$30,449,817.34, a ^ 9.8% change over the last day.

Page 1

Name	Price	Market Cap	Volume (24h)	Circulating Supply	Tags
Intransigent Fugu Token INTFUG-26	\$9,998.00	\$9,998,000.00	\$9,998,000.00 1,000 INTFUG-26	1,000 INTFUG-26	location-data-uk-driving
Sclerotic Eel Token SCLEEL-38	\$3,115.00	\$3,115,000.00	\$0.00 0 SCLEEL-38		
Jocular Clam Token JOCCLA-51	\$2,100.00	\$2,100,000.00	\$0.00 0 JOCCLA-51		

rugpullindex.com

The first decentralized data set index in the world.

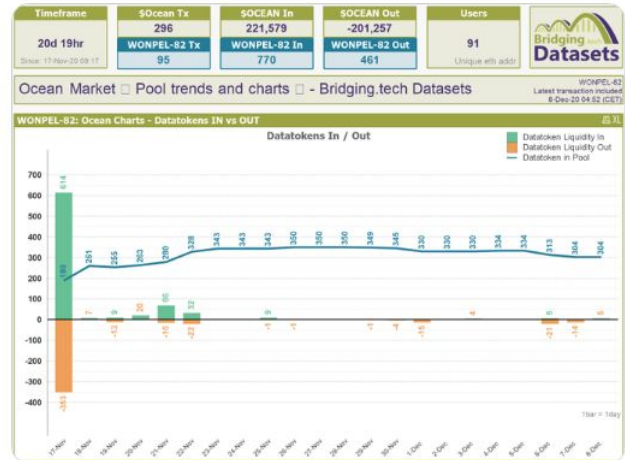
Last updated on 2020/12/11 (updated every day at midnight)

# (1d Δ)	Symbol	Score	Gini	Liquidity (OCEAN)	Price (OCEAN)	
1 o	QUICRA-0	16.60	0.93	554,838	498.85	LP
2 o	TREPEL-36	5.73	0.70	44,219	91.03	LP
3 o	MERMAN-13	5.11	0.86	82,213	187.29	LP
4 o	TASLOB-45	3.01	0.88	57,053	33,500.49	LP
5 o	LUMSTA-42	2.13	0.97	150,159	33,270.58	LPs Trade




Check out this datatoken overview of our datapool: Ocean Market  Pool trends and charts 

Price to buy increased to 29 \$ocean because in the last 2 days around 30 'WONPEL-82' were traded out (not bought).

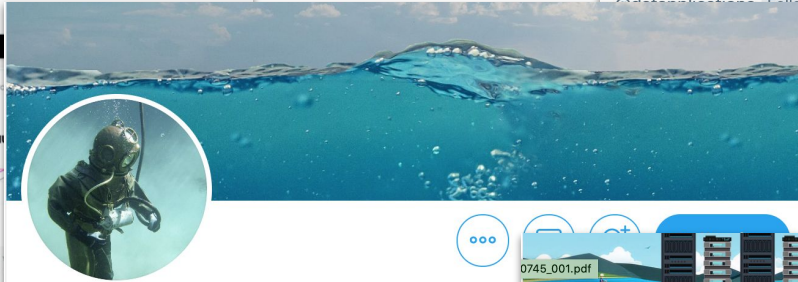
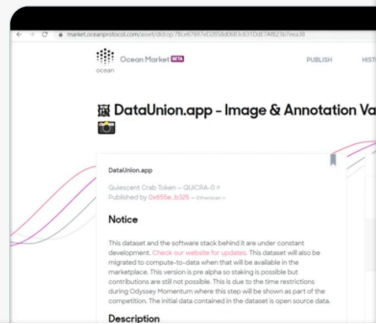


Ocean Market: Data Hunters

Several startups launched in <1 mo

 **DataUnion.App** @DataunionA · Nov 15
 There is a first review on YouTube about the dataset:
youtu.be/CtEtKKnx1fk
 Thank you for that @profit_ai


#OceanProtocol



 |  **Data Brokers**
 @databrokers1 Follows you



Datapplications
 @Datapplications Follows you
 ...ive to provide businesses & researchers with high quality,
 ...es new market insights, & drives innovation.
 ...20
 ...wers

 **datawhale** @realdatwhale · Nov 25
 Our proprietary staking rating formula for "Directory" will be based on metrics that don't lie: numbers.
 The highest weightage for the rating will be based on number of sales, number of transactions & decentralization.

Our TREPTEL-36 sold more than all top pools combined 🐳

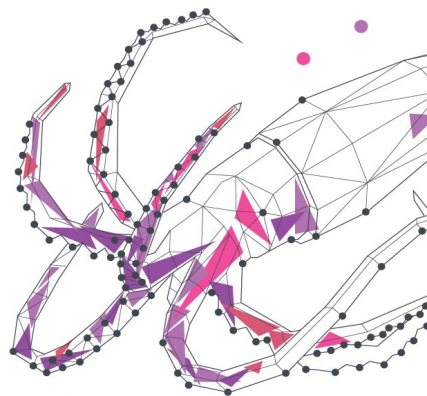
Dataset Title	Dataset Type	Dataset Size	Average 1 Day Liquidity	Number of Sales	Number of Contract Txs	Number of Pools / Traders	Total Txs Metrics	100 Index Price Multiplier
Open Marketplace Directory & Pool Ratings	TREPTEL-36	500	146,856	10	6,238	188	854	0.10
Search - Consumer Spending Data	SEARCH-45	20	139,968	-	6,632	56	1,482	0.87
Product Page of 2047 500 Products on Amazon.com (processed data)	AMAZON-42	50	138,594	-	2,027	45	120	0.07
Leading rate brands and consumer preferences over 16,000,000 areas of data	AMAZON-42	20	40,263	-	2,038	19	84	0.83
PLAZA B2B Market (Competition / Ratings)	PLAZA-52	40	35,393	3	851	19	230	0.98
After (SEARCH) 10 Million Data Points (1,000,000 Product Listings)	SEARCH-45	9	42,083	-	488	4	122	0.93
Alison Settlement Data	ALISON-81	20	29,338	1	1,104	28	442	0.89
Alison Settlement Analysis	ALISON-81	9	33,622	-	622	3	262	0.93
Datathon app - Image & Annotation Vars	QUICK-10	1,000	842,228	-	165	165	172	0.90
OpenMarketplace - Search Consumer Data (Search)	AMAZON-42	100	348,282	4	161	23	184	0.89
OpenMarketplace - Dataset Evaluation and Clustering	AMAZON-42	997	85,781	10	3,247	122	130	0.80
Top News - 100 most trends and charts	SEARCH-45	100	31,882	3	200	81	88	0.94



Data Reservoir
 @DataReservoir Follows you
 Provider of valuable datasets on the Ocean Marketplace.
 Joined November 2020
 70 Following 329 Followers



Ocean Market: Stats After First Month



Community Memes / Art

Ocean data farmers can earn OCEAN for providing liquidity to OCEAN-datatoken pools; the amount earned will be multiplied by usage of the datasets they stake on, and more.



Donnie
@DonnieBigBags

WHAT DID YOU UNLEASH @trentmc0

I was looking forward to a relaxing week of farming \$OCEAN @oceanprotocol

A horde of degens with an insatiable thirst for data have appeared.

No sign of slowing down either. After the election this is going to go CRAZY.

t.me/Farm_Ocean



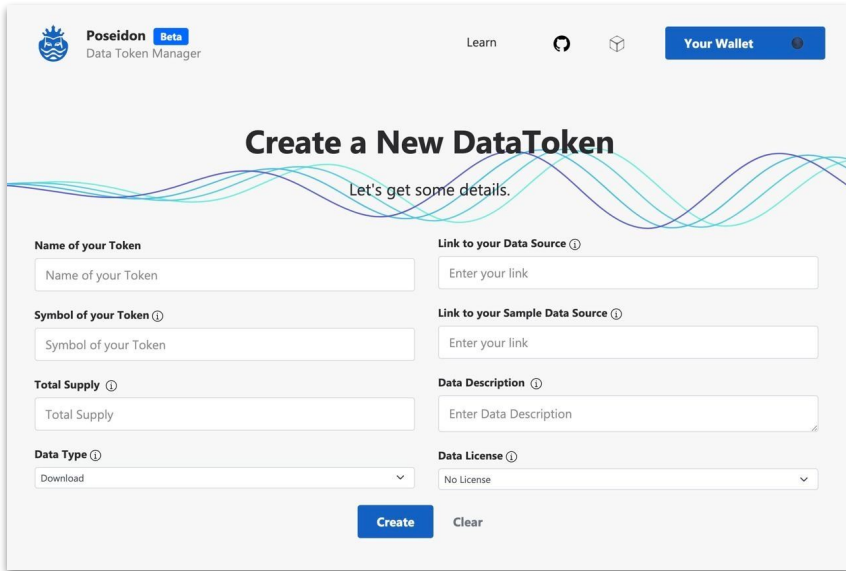
Birth of an Open Data *Economy*

For the first time ever...



- There's a data marketplace open to the world, on a public utility network substrate
- A totally new way for data creators to share data and to earn
- Data is auto-priced by market mechanisms
- The protocol cast data as an *asset*.
- **...And people went for it.**
 - Creators launching their asset -- Initial Data Offerings (IDOs)
 - People speculating on it
 - Even PnD'ing and rug-pulling
- This new data economy is a microcosm of the broader crypto economy

For an *economy*, 1000s of data marketplaces

And the forks have begun:)



Poseidon Beta
Data Token Manager

Learn   [Your Wallet](#)

Create a New DataToken

Let's get some details.

Name of your Token

Symbol of your Token ⓘ

Total Supply ⓘ

Data Type ⓘ

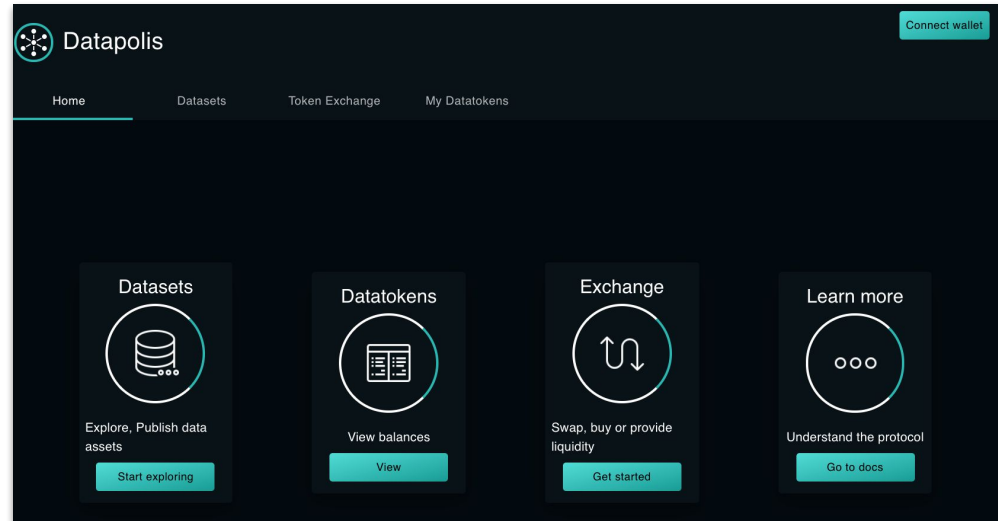
Link to your Data Source ⓘ

Link to your Sample Data Source ⓘ

Data Description ⓘ


Data License ⓘ


[Create](#) [Clear](#)





Datapolis [Connect wallet](#)

Home [Datasets](#) [Token Exchange](#) [My Datatokens](#)

Datasets

Explore, Publish data assets
[Start exploring](#)

Datatokens

View balances
[View](#)

Exchange

Swap, buy or provide liquidity
[Get started](#)

Learn more

Understand the protocol
[Go to docs](#)



Ocean Data Services

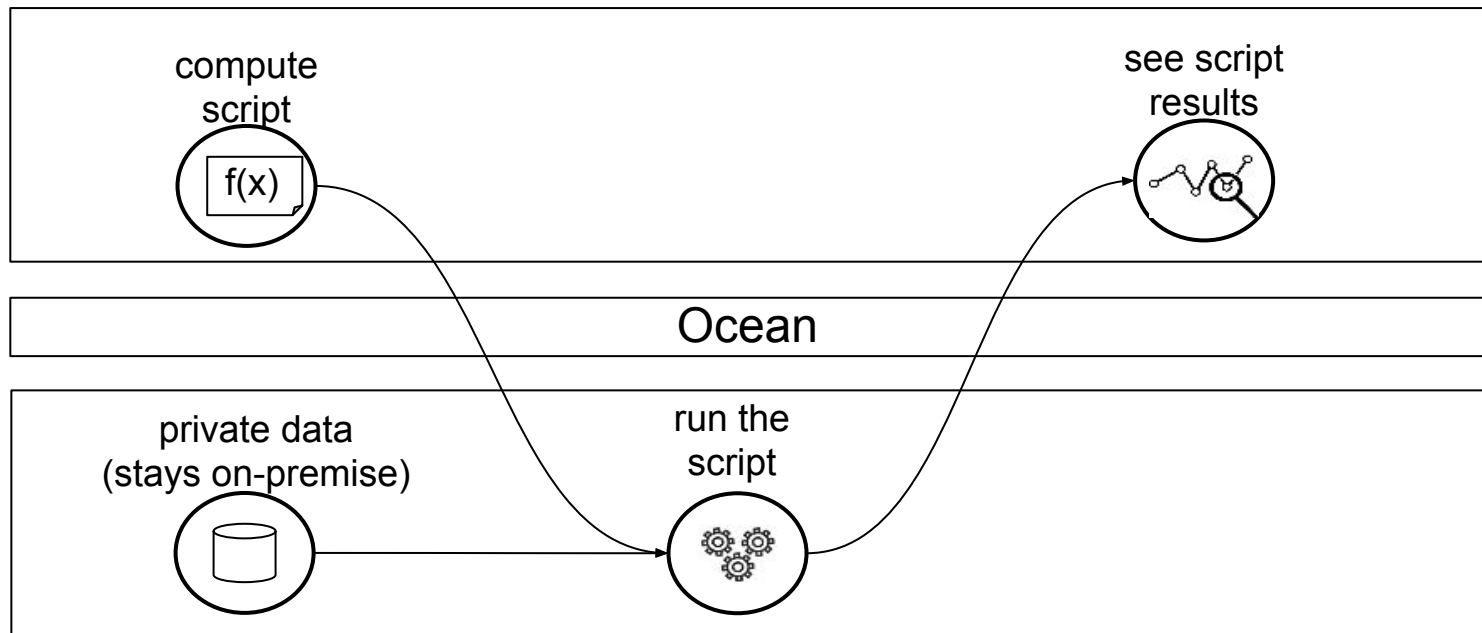
Data Service: Static Uri

- Publisher encrypts the uri
- Uri gets decrypted upon 'consume'
- Available in backend and frontend (Ocean Market)

- Works for...
 - static files
 - dynamically-updated files
 - **IPFS uris, and therefore Filecoin data**
 - for Web2 REST APIs
 - and more. Super-flexible.

Data Service: Compute-to-data

Buy & sell private data, while preserving privacy. Backend now, front soon



Data Services Future

Towards hundreds of specialized data services

- **Deeper integration to Filecoin services** - more on this later
- **Web3 data services** - Chainlink, TheGraph Curators, Numerai Signals, etc
- **Streaming data services** - Streamr, WebSockets, GraphQL Subscriptions, etc
- **Web2 APIs** - CoinMarketCap, Messari, etc
- **More privacy-preserving / off-chain compute** - Secret, ZK-Snarks, MPC, HE, ..



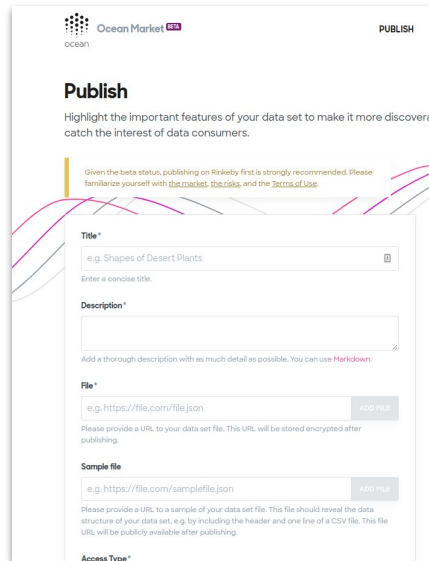


Filecoin * Ocean

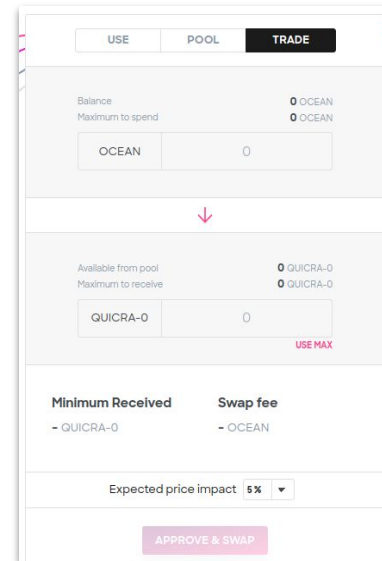
Filecoin * Ocean

Possible now: just use the static IPFS uri on Filecoin-stored data

- **Sell your Filecoin data via Ocean Market**
- **Speculate Filecoin data**
- **Stake (LP) on Filecoin data**



The screenshot shows the 'Publish' form on the Ocean Market interface. At the top, there is a 'PUBLISH' button and the Ocean Market logo. The main heading is 'Publish' with a sub-heading: 'Highlight the important features of your data set to make it more discoverable and catch the interest of data consumers.' Below this, there is a note: 'Given the beta status, publishing on Rinkley first is strongly recommended. Please familiarize yourself with the market, the rules, and the Terms of Use.' The form fields include: 'Title*' with a placeholder 'e.g. Shapes of Desert Plants', 'Description*' with a placeholder 'Add a thorough description with as much detail as possible. You can use Markdown.', 'File*' with a placeholder 'e.g. https://file.com/file.json' and an 'ADD FILE' button, and 'Sample file' with a placeholder 'e.g. https://file.com/samplefile.json' and an 'ADD FILE' button. At the bottom, there is an 'Access Type*' field.

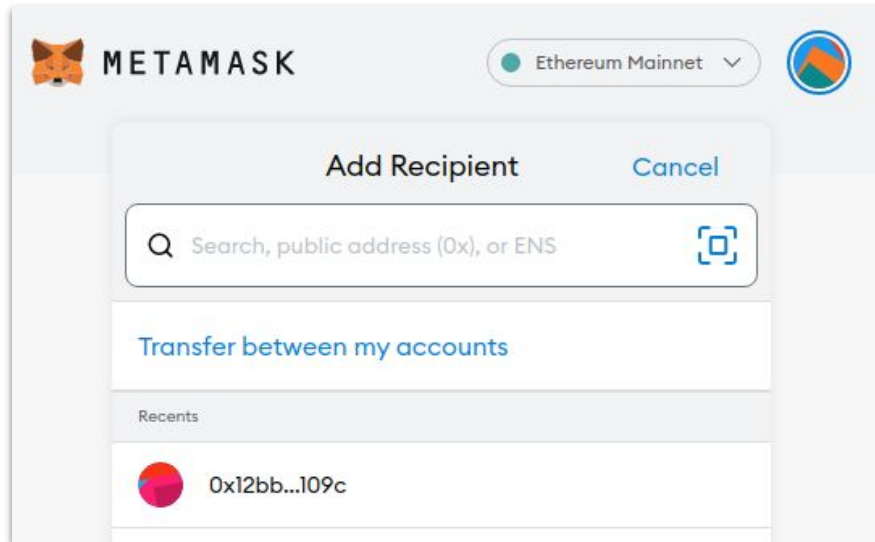


The screenshot shows the 'TRADE' form on the Ocean Market interface. At the top, there are three tabs: 'USE', 'POOL', and 'TRADE' (which is selected). Below the tabs, there are two sections for OCEAN tokens. The first section is for 'Balance' and 'Maximum to spend', with a value of '0'. The second section is for 'Available from pool' and 'Maximum to receive', with a value of '0' and a 'USE MAX' button. Below these sections, there are two rows for 'Minimum Received' and 'Swap fee', both with a value of '0'. At the bottom, there is a dropdown menu for 'Expected price impact' set to '5%' and an 'APPROVE & SWAP' button.

Filecoin * Ocean

Possible now: just use IPFS uri (2)

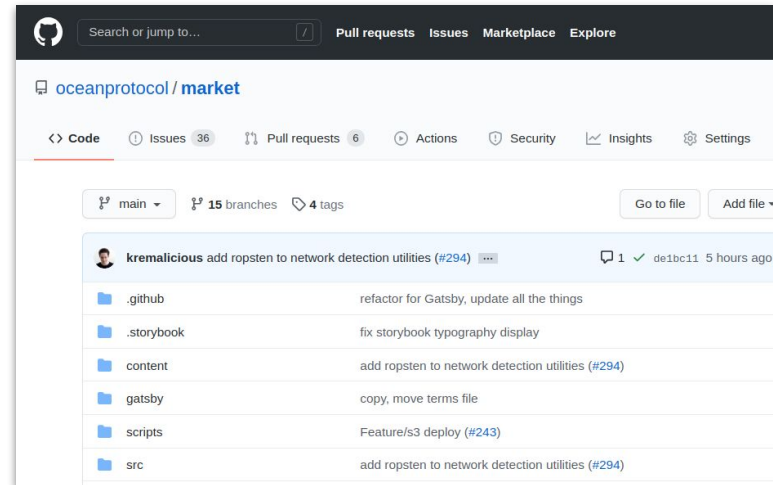
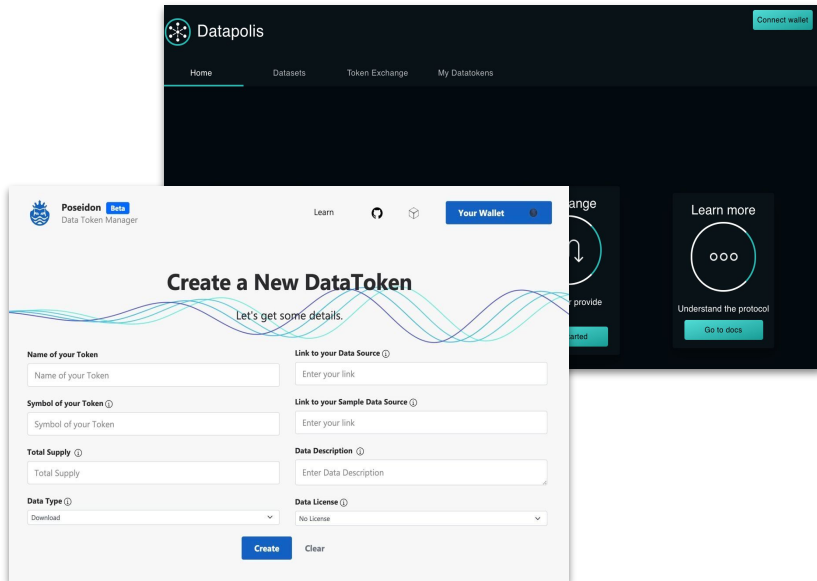
- **Share access to your Filecoin data,**
by sending datatokens among wallets



Filecoin * Ocean

Possible now: just use IPFS uri (3)

- **Launch your own Filecoin data market** by forking Ocean Market



Filecoin * Ocean

Possible now: just use IPFS uri (4)

- **Create a Filecoin data DAO**, via Ocean ERC20 datatokens * DAO tooling (let's see what Olaf says:)

Data DAOs: Data Coops,
Data Unions



ARAGON

COLONY



DAOstack



MOLOCH
DAO

Filecoin * Ocean

Possible now: just use IPFS uri (5)

- **Create a Filecoin data index fund**, e.g. put 8 datatoken assets into a Balancer AMM
- And more crazy DeFi stuff

Data Insurance, Data Baskets, Data as Collateral...



Filecoin * Ocean

Possible now (6). Riffing on Zargham:)

“Data-driven decision making in the Filecoin economy”

Ecosystem participants have questions like this:

- **Lenders** decide how much FIL to lend
- **Underwriters** decide which loans to underwrite
- ..

# (1d Δ)	Symbol	Score	Gini	Liquidity (OCEAN)	Price (OCEAN)
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3 0	MERMAN-13	5.11	0.86	82,213	187.29
4 0	TASLOB-45	3.01	0.88	57,053	33,500.49
5 0	LUMSTA-42	2.13	0.97	150,150	33,270.58

Zargham suggestion: Quality Metrics to make detailed data useful

- Q: how to incentivize these metrics to get created?
- A: create and *sell* the Quality Metrics!
- The highest-quality metrics will bubble up
- Just like we're seeing in Ocean Market *already*



Filecoin * Ocean

Possibility of more specialized data service integrations

While static URIs are available now, we can have deeper integration yet.

Possibilities:

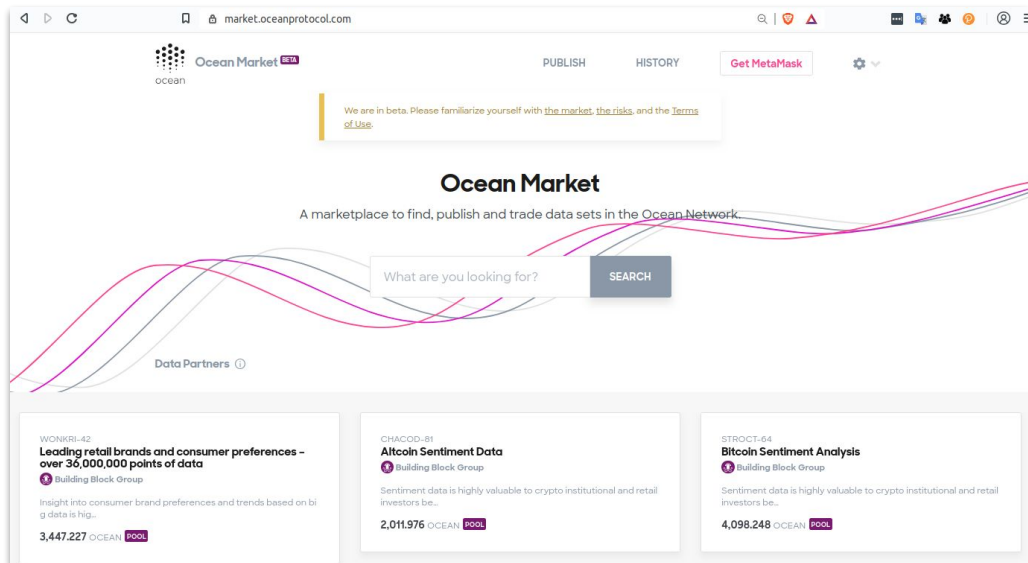
- **Textile Buckets** leveraging its access control, etc
- **Filecoin Retrieval Miners** - direct connection
- And more



Conclusion

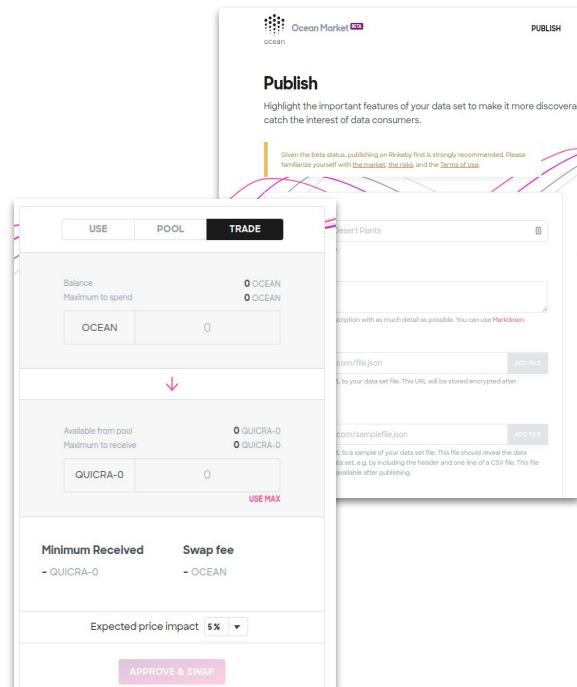
Conclusion / Opportunity:

Publish, buy, sell, stake & speculate on Filecoin data in Ocean Market now



The screenshot shows the Ocean Market homepage. At the top, there's a navigation bar with 'PUBLISH' and 'HISTORY' buttons, and a 'Get MetaMask' button. A yellow banner reads: 'We are in beta. Please familiarize yourself with [the market](#), [the risks](#), and the [Terms of Use](#).' The main heading is 'Ocean Market' with the subtitle 'A marketplace to find, publish and trade data sets in the Ocean Network.' Below this is a search bar with the placeholder text 'What are you looking for?' and a 'SEARCH' button. A 'Data Partners' link is visible on the left. The main content area features three data set cards:

- WONRBL42**: Leading retail brands and consumer preferences - over 36,000,000 points of data. Building Block Group. Insight into consumer brand preferences and trends based on big data is high... **3,447,227 OCEAN POOL**
- CRACOD48**: Altcoin Sentiment Data. Building Block Group. Sentiment data is highly valuable to crypto institutional and retail investors be... **2,011,976 OCEAN POOL**
- STROCF42**: Bitcoin Sentiment Analysis. Building Block Group. Sentiment data is highly valuable to crypto institutional and retail investors be... **4,098,248 OCEAN POOL**



The screenshot shows the 'Publish' and 'Trade' interface. The 'Publish' section is partially visible at the top, with the heading 'Publish' and the instruction: 'Highlight the important features of your data set to make it more discoverable and catch the interest of data consumers.' Below this, there's a note: 'Given the beta status, publishing on Filecoin first is strongly recommended. Please familiarize yourself with [the market](#), [the risks](#), and the [Terms of Use](#).'

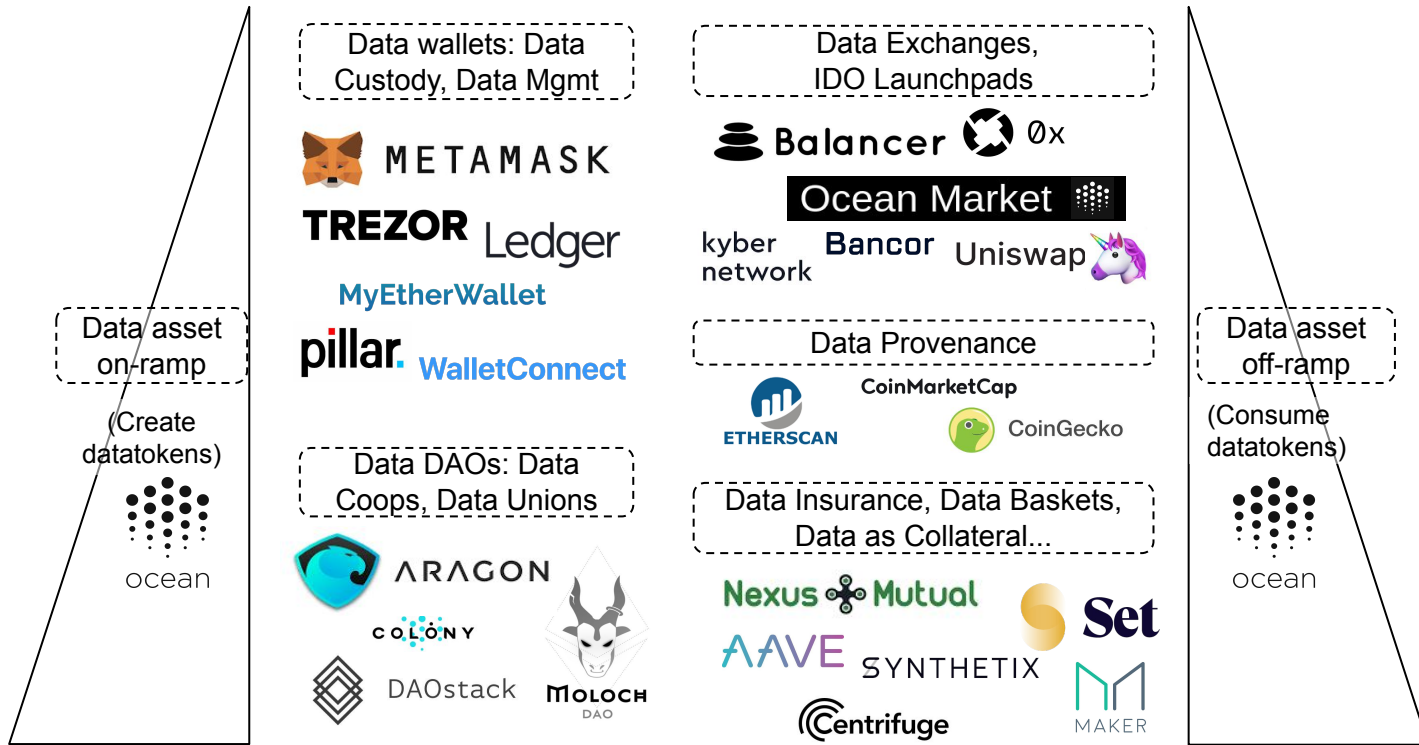
The 'Trade' section is the main focus, showing a transaction form. It has three tabs: 'USE', 'POOL', and 'TRADE' (which is selected). The form includes:

- Balance: 0 OCEAN
- Maximum to spend: 0 OCEAN
- Input field: OCEAN | 0
- Downward arrow icon
- Available from pool: 0 QUICRA-0
- Maximum to receive: 0 QUICRA-0
- Input field: QUICRA-0 | 0
- Button: USE MAX
- Minimum Received: - QUICRA-0
- Swap fee: - OCEAN
- Expected price impact: 5% (dropdown)
- Button: APPROVE & SWAP



Conclusion / Opportunity:

Ocean Market turns Filecoin data into *assets* for data DAOs, DeFi, more



We are at the birth of an open data economy.

For self-sovereign data for individuals and groups.

Opaque, Power
Concentrated

Transparent,
Permissionless



Trent McConaghy [@trentmc0](https://twitter.com/trentmc0)
Slides: trent.st/content/filecoin2020.pdf

Build with Ocean tools

Docs docs.oceanprotocol.com

Code github.com/oceanprotocol

Chat discord.com/invite/TnXjkR5

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