

White Paper – 01.03.2024

# Wateract® [WTR]

*tokenized water*



# Index

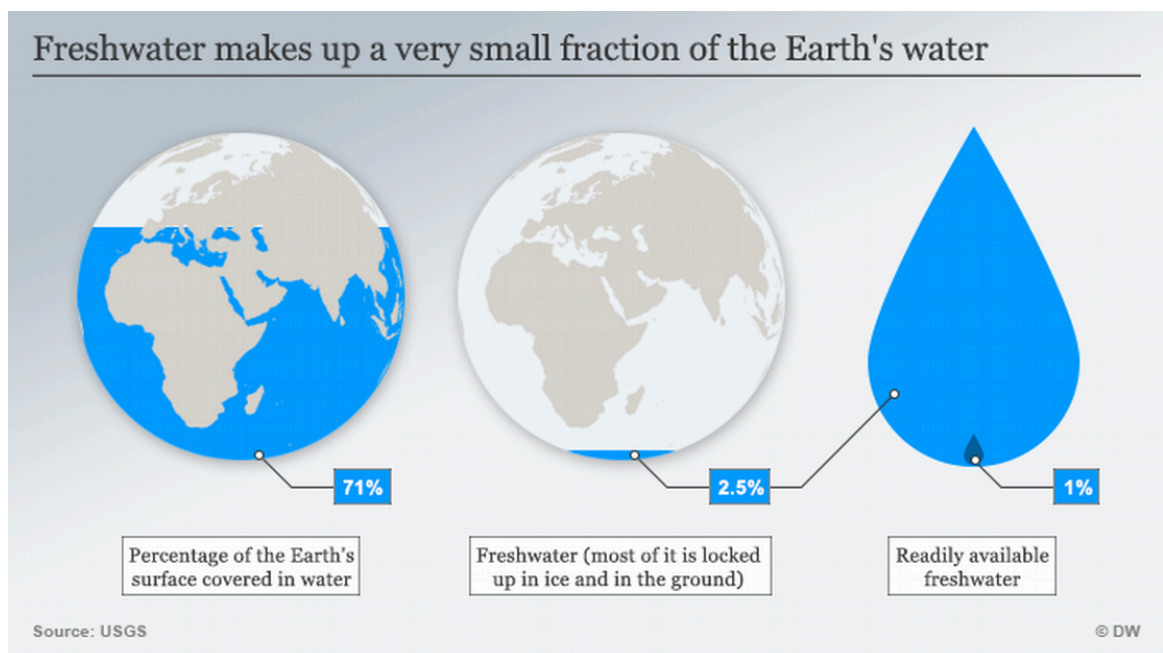
- **1. Environmental**
  - Scenario.....3**
  - 1.1 Water Shortage.....3
  - 1.2 Water Reuse.....4
  - 1.3 Carbon Credits.....5
  - 1.4 Regulatory Framework.....7
  
- **2. Water Tokenization.....8**
  - 2.1 Abstract.....8
  - 2.2 How it Works.....8
  - 2.3 Tokenomics.....10
  - 2.4 Token Distribution.....11
  
- **3. Technology.....12**
  - 3.1 Why Algorand.....13
  - 3.2 Energy Efficiency.....13
  - 3.3 Dataset Notarization.....14
  - 3.4 Transfer to Trade and Drop Wallet.....16
  - 3.5 Swap.....17
  - 3.6 Anomaly Detection.....18
  
- **4. Company.....22**
  - 4.1 Legal Entity & Context.....22
  - 4.2 Team & Advisors.....23
  
- **5. Roadmap.....24**
  - 5.1 Milestones.....24
  - 5.2 Strategy.....24
  - 5.3 Key Success Factors.....25

## 1. Scenario

There is a need for a new economy that does not consider human beings as a species exploiting the planet. From an extractive, linear economy we've been slowly transitioning into a circular approach, but that's not enough. We need a far more radical shift towards a spherical principle: a new, regenerative model.

### 1.1 Water Shortage

**71% of the planet is covered by water but only 1% is suitable for human survival,** meaning freshwater that's actually available for consumption, agriculture and production. Demand has already exceeded supply and 1/4 of the global population is now facing severe water stress according to the World Resources Institute.



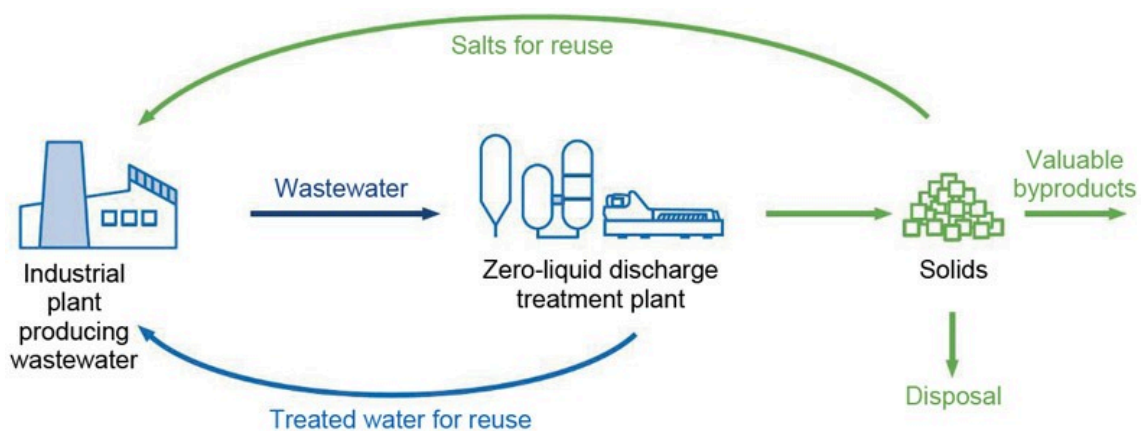
**Within 2050 it's estimated water demand will increase by over 50%** and the United States only, just to keep up, should invest 6.7 trillion USD in fixing old water infrastructure and building new ones.

This shortage is caused by multiple factors, the main being:

- **population growth**, which directly impacts agriculture, the largest water user;
- **urban development**;
- **industrialization**, which is set to reach over 30% of total freshwater usage in the next decade;
- **global warming** also plays a role: each time the temperature rises by 1°C, water stress on the planet increases by 20%.

## 1.2 Water Reuse

One way to counteract water shortage is limiting water waste. Water efficiency is an interesting angle to address the problem as we might not be able to reverse global warming and we cannot slow down human progress, but we can definitely save massive amounts of water by managing it more wisely through a wide range of solutions.



Under the label of “water reuse” we can identify all best practices, processes and technologies enabling the use of the same amount of water multiple times for the same or a different purpose within a specific production process without additional withdrawal.



Water reuse systems such as reverse osmosis technology, allow to collect industrial wastewater, treat it and put it back into production over and over up to zero liquid discharge (ZLD) in some cases.

**Fast, large-scale adoption of such systems along with clean desalination, could be a game changer in the global fight against water scarcity, but the financial requirements would be unrealistic.**

### 1.3 Carbon Credits

The global environmental agenda, starting with the Kyoto Protocol, signed in 1997 by almost 200 countries, has been focused mainly on tackling climate change by reducing greenhouse gasses as the number one priority, leaving behind other environmental problems that didn't seem too imminent at the time. In the past few years though, issues such as plastic pollution and water shortage have caught up and cannot be put off any longer. Facing these new challenges, there's a lot that can be learned from two decades of fighting global warming. The biggest obstacle, when it comes to implementing global scale transitions of this magnitude, is of course funding all the necessary investments worldwide. Countries involved have different levels of development, different access to resources and definitely uneven financial and technological capabilities. The Kyoto Protocol included a series of "flexible mechanisms", among which, the carbon offset scheme: run by United Nations, allowed countries (and companies, as a result) to fund greenhouse gas emissions-reducing projects in other countries and claim the saved emissions as part of their own efforts to meet international emissions targets.

**This trading model laid the foundation for the emergence of the voluntary carbon market, a largely unregulated market where carbon offsets are traded by corporations, individuals and organizations that are under no legal obligation to make emission cuts.**



Whenever you find a “carbon neutral” label on a product, that’s exactly it: a company that had no legal obligation to mitigate its emission, for ethical, marketing or strategic reasons freely decided to purchase on the open market an amount of carbon credits

equivalent to its yearly overall emission, offsetting them to zero.

To get a sense of the current market, in 2022 Tesla sold over 1.78B USD of carbon credits, mainly to European automakers in need to offset their own emissions. Basically, checking quarterly reports, in some cases Tesla made more net profits from selling carbon offsets than electric vehicles!

**Although the voluntary carbon credit system has proven incredibly successful from a quantitative financial perspective, its weak, mostly analogic infrastructure and the unregulated framework, made it highly vulnerable to frauds, green-washing and money laundering.** Here’s an example. One of the most popular practices to generate carbon credits is planting trees. The assumption is that by planting a tree you ensure a certain amount of CO<sub>2</sub> being captured and stored each year. In order for the credit to be worth something, though, you should be able to certify:

- Its existence
- Its state of health
- That the tree wasn’t there before
- The amount of CO<sub>2</sub> actually processed (you can only estimate it roughly with parametric charts)
- That the carbon credits generated by the tree have not been previously sold to someone else

Spoiler alert: none of the above can be guaranteed. The whole industry is based on trusting third party assurance and paperwork. In January 2023, The Guardian exposed one of the most reputable players of this industry, Verra, selling hundreds of millions of dollars worth of carbon credits to large companies such as Disney, Shell and Gucci. It turned out over 90% of Verra's rainforest credits were completely worthless.

## 1.4 Regulatory Framework

In recent years, water has begun to be prioritized in many environmental directives around the world with Europe leading the trend. **In 2024 the CSRD entered into force defining new mandatory reporting standards for companies, including water as one of the key resources to monitor, report and to address with a specific efficiency action plan:**

[https://finance.ec.europa.eu/capital-markets-union-and-financial-markets/company-reporting-and-auditing/company-reporting/corporate-sustainability-reporting\\_en](https://finance.ec.europa.eu/capital-markets-union-and-financial-markets/company-reporting-and-auditing/company-reporting/corporate-sustainability-reporting_en)

Introduced in March 2021, the Sustainable Finance Disclosure Regulation (SFDR) has defined the classification of funds and mandates in three categories, the third and most virtuous of them being the Art. 9, which labels **financial products where sustainable investments are the core objective and represent the priority for the investors:**

[https://finance.ec.europa.eu/regulation-and-supervision/financial-services-legislation/implementing-and-delegated-acts/sustainable-finance-disclosures-regulation\\_en](https://finance.ec.europa.eu/regulation-and-supervision/financial-services-legislation/implementing-and-delegated-acts/sustainable-finance-disclosures-regulation_en)

These, among many recently passed regulations and directives, have created a favorable ground for the emergence of new disruptive innovations enabling a change of pace in the fight against water shortage.

## 2. Water Tokenization

### 2.1 Abstract

With industrialization being one of the main causes of global water shortage, water reuse being the potential (although expensive) solution, and the carbon credit system being the benchmark for a large-scale financial model to fund adoption, tokenizing reused water seemed the right approach to build an entire new paradigm for voluntary environmental credits that could even be applied to other resources, besides water, in the future.

**Water is one of the few elements that can be found in nature in three different states: the liquid, the solid and the gaseous. We at Hypercube felt intrigued by the idea of exploring the potential of a fourth state: its digital form.**

The goal was to overcome all the weaknesses of the existing carbon trading systems by taking the entire process, from generation to retirement of a credit and everything happening in between, entirely on the blockchain, removing any room for fraud, double counting and overall opacity by design.

### 2.2 How it works

The entire lifecycle of WTR unfolds along a five step process, all traced on the Alogrand blockchain:

#### 1. On-boarding



We qualify facilities with integrated water reuse systems (sources) through the on-boarding protocol designed by KPMG to comply with all environmental voluntary credit standards.

## 2. Tracking



We connect via API to all flowmeters, counters and water pumps from wastewater inlet to water reuse loops, to precisely track and record on the blockchain each cubic meter being processed and therefore not withdrawn.

## 3. Tokenization



Each time cubic meters are recorded on the blockchain, an equivalent amount (1 token per 1 cubic meter) of WTR is issued. Issuing happens by transferring WTR from Hypercube Master Wallet (off market supply) to Hypercube Drop Wallet (the primary market) referencing the cubic meter record on the same transaction.

## 4. Trading (Primary & Secondary)



The primary market. Hypercube.eco only allows users (mainly businesses) to purchase WTR from the Drop Wallet in order to a) swap and leverage water credits for ESG reporting or b) transfer tokens outside Hypercube.

The secondary market. Token holders can trade WTR on third party platforms such as crypto exchanges: as long as tokens are not swapped, they can be infinitely traded.

## 5. Swapping



WTR holders have the right to swap their tokens for free, at any time, to leverage their underlying utility: the voluntary water credit. Swapping is only available on hypercube.eco so users must open an account on hypercube.eco and transfer the tokens they want to swap to their Hypercube WTR wallet. With the swap function, the selected amount of WTR will be transferred back to Hypercube Master Wallet (off market) and a specific record of equivalent reused cubic meters will be referenced in the same

transaction: by doing so, the voluntary water credit will be uniquely and irreversibly assigned to its beneficiary.

## 2.3 Tokenomics

WTR is qualified as a utility token and cannot be considered under any circumstances a security token pursuant to Swiss Law and an Asset Token pursuant to the Guidelines issued on February 16, 2018 by Swiss Financial Market Supervisory Authority (FINMA).

**The WTR utility token fully complies with the Swiss regulatory framework as validated by the Finma no-action letter n° G01427476 signed on 30/06/2023.**



The purpose of WTR is fueling an exponential adoption of water reuse and water efficiency systems by making these investments financially appealing, while enabling world leading brands to reach “water neutrality” by leveraging WTR utility to offset for their residual water withdrawal.

**The system rewards water reuse facilities by paying them a royalty each time a WTR is sold from the primary market (first sale from issuing).** Upon each primary sale, the equivalent number of cubic meters from the blockchain registry is paid off to their originators (the Sources) in chronological order (FIFO, First In, First Out) varying from 10% up to 30% of the transaction value, depending on the specific facility and tokenization agreement. This has proven to be a fair way to compensate sources compared to the carbon credit system because by being a %, as the price of WTR goes up, sources gain proportionally more, sharing the upside of appreciation with traders. Also, by paying off royalties upon primary sale (instead of waiting for swapping), we ensure sources are paid even in case relevant amounts of WTR end up being held for a while without being swapped by holders.



**The second share of WTR primary sale, up to 30%, is invested to fund exciting water tech startups, charitable water-positive projects and other initiatives generating more efficiencies as long as measurable, trackable and potentially tokenizable.** At

Hypercube, we're currently working on a new breed of "social tokens" to value projects that might not comply with the voluntary credit framework from an industrial perspective, but have a significant impact on local communities such as digging wells for potable water in dryland villages and areas facing severe water stress. While the royalty share of each primary token sale must be always paid out as underlying value of voluntary water credit, we reserve the right to allocate this second share also to other strategic purposes related to supporting the token growth such as promoting the ecosystem on the market.

**The remaining share covers all Wateract® infrastructural cost, credit card fees, taxes, team and profit for the company.**

## 2.4 Token Distribution

**Total token supply is 1.000.000.000 WTR.**

- **100% is sent to a smart contract that will cap issuing to a maximum of 20M tokens per month, so the total supply will take a minimum of 4 years (49 months, exactly) to be entirely out.**
- **First 20M token withdrawal from the smart contract is allocated for early sales in beta phase, private pre-sale, market making and initial issuing on the secondary market.**

Once all tokens will be out, circulating supply will be stable as each time a token holder swaps any number of WTR to redeem the equivalent water credits, an equal number of WTR will be put back on sale by hypercube.eco as soon as the equivalent number of cubic meters are recorded to go back to 1.000.000.000.

## 3. Technology

A quick overview on the Wateract® token (WTR) ecosystem:

- **Master Wallet:**

HYPERIJSMAG7WBJKHUONE7UOWOVY5O7LLW2FQZNPTX5LRFMNHXKSEMJF4

Function: creator of the WTR token and custodian of the off-market reserve before it pairs with recorded cubic meters and gets transferred to the Drop Wallet.

- **Drop Wallet:**

DROP5CBNJDEF5N3GXSB53GKK2QXJ4TOGFBGC7WXYLSKMGCTCTJC3HZFNTZA

Function: receives tokens issued upon recording an equivalent number of cubic meters from sources to go up for sale (primary market on hypercube.eco)

- **User Wallets:**

Users registered on hypercube.eco are assigned a wallet with the prefix HYP, these are the only wallet allowing the swap function to redeem voluntary water credits.

- **Source Wallets:**

Water reuse facilities connected to our system (Sources) have wallets with the prefix WAT.

### **Details of the Wateract® Token:**

WTR is an Algorand Standard Asset or ASA (for further details, see:

<https://developer.algorand.org/docs/get-details/asa>) with ID **1675316597**. The total supply of WTR is 1B (one billion) with no decimals. WTR does not have freeze or clawback addresses.

### **Details of the Wateract® distribution smart contract:**

ID: **1675351423**

Address: **JQRAGFFAQYRHIHIZSB66U4P4G3HSWK2ZTD5KDD6BL33RWOPGFGFXF4FO4I**

Audit link: <https://www.cyberscope.io/audits/wtr>

### 3.1 Why Algorand

Wateract® is based on the Algorand blockchain for several reasons: its next-generation functionalities, cost, speed, low energy consumption and technological innovations are the main (but not the only) reasons for this choice. Algorand stands out in the blockchain landscape by offering innovative solutions to common problems found in platforms like Bitcoin, Ethereum and Polygon. This blockchain, created by Turing Award winner Silvio Micali, uses a Proof-of-Stake (PoS) mechanism for rapid transactions with a low environmental impact, overcoming the scalability and energy efficiency limitations of traditional blockchains. Since Wateract® requires speed and low transaction costs to achieve its primary goal of providing liquidity to virtuous water treatment facilities by supporting voluntary water credits trades, Algorand remarkable transaction speed, finalizing operations in less than 3 seconds and its extremely low transaction costs proved to be the best possible option.

### 3.2 Energy Efficiency

Algorand is committed to remaining carbon negative in collaboration with ClimateTrade, a leader in CO2 emission traceability. The energy efficiency of its technology stems from being a proof-of-stake blockchain, which has a lower environmental impact compared to proof-of-work systems (like Bitcoin).

As a result, Algorand's CO2 emissions are significantly lower than other blockchains. It is estimated that the creation of digital assets (like WTR) and transactions on Algorand lead to CO2 emissions that are significantly lower than other blockchains, with initial analysis showing about 2 million times fewer emissions (sources:

[https://algorand.com/resources/algorand-announcements/carbon\\_negative\\_announcement/](https://algorand.com/resources/algorand-announcements/carbon_negative_announcement/), <https://algorandtechnologies.com/technology/green-by-design>).

**The commitment to sustainability is emphasized by founder Silvio Micali who, together with ClimateTrade, stated Algorand will implement a sustainability oracle to notarize on-chain the carbon footprint of each era, locking an equivalent amount of carbon credits as Algorand Standard Asset (ASA) in a green treasury, ensuring**

**the carbon negativity of its protocol for the future.**

### 3.3 Dataset Notarization

All virtuous companies qualified to take part in the Hypercube ecosystem as voluntary water credit sources have at least one production site. At each of these sites, there could be one or more water treatment systems. These facilities are equipped with various sensors, such as flowmeters, pumps and counters which can be natively connected to the internet (IoT) or connected to electronic devices or computers. Each sensor is associated with a Hypercube (Algorand) wallet. These measure devices are tasked with transmitting data related to the volume of water being treated and reused (expressed in cubic meters) to the Hypercube platform, which in turn is connected to a node of the Algorand blockchain. This process allows for secure recording and verification of information (the 'datasets'). In practice, the wallet associated with the sensor executes a transaction on the blockchain where, in the notes field of the transaction itself, all relevant data is included, such as the amount of reused water, the time range of the measure, location ecc.

Example of dataset notarization transaction

#### Transaction ID

ZV7FMAQ3SZZLDDDI4KSQC5DLIXR3U2STZE7V7FPZP737V3QURJDA

#### Plant Wallet

WTR3W2LG5JJIESCCQCWVC5Z7HED4L4JHDTO4UPENO6BBBE2R2MPO3S7B24

#### Explorer link

<https://app.dappflow.org/explorer/transaction/ZV7FMAQ3SZZLDDDI4KSQC5DLIXR3U2STZE7V7FPZP737V3QURJDA>

#### Transaction Note Content:

```
{  
  "source": "VDP"  
  "org_name": "VDP SpA"
```

```
"location": "45.7173800000, 11.4206000000"
"data": "DAB1=1824, DAB2=1444, DAB3=1444, Cap1=675, Cap2=450, CT=288, An=288, Man=288, MagAn=288, Tor1=1837, Tor2=0, Tor3=0, F1=954, F2=837, F3=801, BMD1=216, BMD2=216, Rig1=140, Rig2=148, Comp1=216, Comp2=216, data=03-09-2024"
"qty": "12570 m3"
"process": "Water reuse"
"start_date": "2024-03-10 08:00:00"
"end_date": "2024-03-10 08:00:00"
}
```

In this JSON, we can identify the following fields:

- **"source"**: the name of the individual facility that generated the dataset;
- **"org\_name"**: the name of the company that owns the facility;
- **"data"**: optional data related to the sensor, pump, facility, or process, which can be added to the transaction for greater transparency;
- **"qty"**: the most important piece of information, it represents the volume of treated water;
- **"process"**: the process type through which the water was treated (water reuse, desalination, ecc.)

Once the transaction is confirmed, the Hypercube network (manually or automatically) can transfer an amount of WTR tokens from the Hypercube Master Wallet to the Hypercube Drop Wallet, equivalent to the amount of cubic meters in the qty field. The latter is the wallet from which users can purchase tokens through the Hypercube.eco platform (primary market).

All methods for verifying the accuracy of data received from sensors are better detailed in section 3.6.

### 3.4 Transfer to Drop Wallet

The transfer of each WTR from the Hypercube Master Wallet to the Hypercube Drop Wallet occurs only following a notarization transaction of a reused cubic meter of water from one of the sources. The Hypercube Master Wallet holds the off market reserve, meaning all WTR yet to be paired with an equivalent record of reused cubic meters to be put up for sale. WTR held in this wallet can come from:

- a) the original 2% supply kept by Hypercube from creation prior to sending the other 98% to the distribution smart contract;
- b) the distribution smart contract (up to 20M monthly)
- c) the swaps

Example of a Master-to-Drop Wallet transfer transaction

#### Transaction ID

PFIXYQY4UUDLWBXZSU7OFMTP57B6ZD3PJVD33F42XFUNZ2Q2Q34A

#### Explorer Link

<https://app.dappflow.org/explorer/transaction/PFIXYQY4UUDLWBXZSU7OFMTP57B6ZD3PJVD33F42XFUNZ2Q2Q34A>

#### Transaction Note Content

```
{
  "qty_certification_tx": "ZV7FMAQ3SZZLDDDI4KSQC5DLIXR3U2STZE7V7FPZP737V3
    QURJDA"
  "qty": "12570 m3"
  "source": "VDP"
  "org_name": "VDP SpA"
  "Reading_id": "1102"
}
```

In this JSON, we can identify the following fields:



- **"qty\_certification\_tx"** : the most important piece of information, it indicates the transaction ID of the transaction that occurred from the sensor's wallet, which notarizes the cubic meters of treated water;
- **"qty"**: represents the volume of treated water;
- **"source"**: the name of the individual facility that generated the dataset;
- **"org\_name"**: the name of the company that owns the facility;
- **"reading\_id"**: identifier of the dataset in the Hypercube network.

### 3.5 Swap

A user holding a WTR has the right to swap it, meaning to exchange it for an equivalent voluntary water credit. During this process, a specific amount of WTR is transferred from the user's wallet to the Hypercube Master Wallet. When performing a Swap on [hypercube.eco](https://hypercube.eco), the user can select specific Datasets to claim among the ones already being paid for with the FIFO royalty system (paragraph 2.3).

The Swap involves a special transaction called "Atomic". This type of transaction, specific to Algorand, allows for the simultaneous execution of multiple transactions (see: [https://developer.algorand.org/docs/get-details/atomic\\_transfers](https://developer.algorand.org/docs/get-details/atomic_transfers) ).

The need for this function arises from the fact that a Swap may require claiming of numerous Datasets (potentially dozens), while the available space in the Note field of a Transaction is limited to 1024 characters. Considering that transaction IDs occupy 52 characters each and including other essential data such as the description of the swap, a maximum of 10 transactions can be inserted in a single Note field.

By using the structure of an Atomic Transaction, which allows combining up to 16 transactions, it is possible for a single Swap to include up to 160 Datasets (16 transactions for 10 datasets each).

## Example of Swap Transaction

### Swap Transaction Note Content

```
{
  "tx_list":
    "6Z4IJHESD6FFFDURMQQSNRKTHSLQXGGSTQZ2QBNKZ6UJZ2HDKPQ,DCTWJOXIWCB6DPDM
    T7RZSODXZH75USLPSDYKVLXMICFF63F3V6JA,WTVZ2MPQJ44ORIHYYJCDJL5I54AAQLTM2
    JFKSUDURFL453BWQYWA",
  "description": "Water offset for the production of the new Atomic 2024
  shoe line by Acme Inc."
}
```

In this JSON, we can identify the following fields:

- **"tx\_list"** : List of Datasets whose value in cubic meters of water are swapped with the corresponding coins of the transaction.
- **"description"** : This field is filled out by the user performing the swap to specify which water this swap compensates for.

## 3.6 Anomaly Detection

### 3.6.1 The problem and our approach

Despite the state-of-the-art technologies employed by our sources in their water reuse facilities and the operational choices being made as rigorously as possible, human error, anomalies or technical incidents can occur unpredictably (even though the possibility is remote). Therefore, data being sent from a sensor that would trigger the release of WTR from the Master Wallet to the Trade wallet could be erroneous.

To avoid these types of problems, we operate both in a preventive and a corrective way. For the preventive approach, we rely on AI algorithms that, through machine learning, can detect data anomalies, preventing this data from being notarized and triggering the release of tokens (more details on this methodology are provided below).

In the rare case where the automated systems fail to detect anything abnormal, and the notarization and transfer transaction occurs, human reviewers manually check the

transactions and verify that there are no defects or operational discrepancies on the sensor side, or abnormal data oscillations. If a defect is detected, the transaction would be immediately reverted, meaning the Trade Wallet would return the tokens to the Master Wallet, and the corrective transaction would include in the notes field the details and reasons for the rollback, ensuring maximum transparency towards the network.

**On a quarterly basis, Hypercube CTO himself runs a full internal audit and files a report where all relevant issues, corrections and improvements are detailed.**

### 3.6.2 Prevention through AI

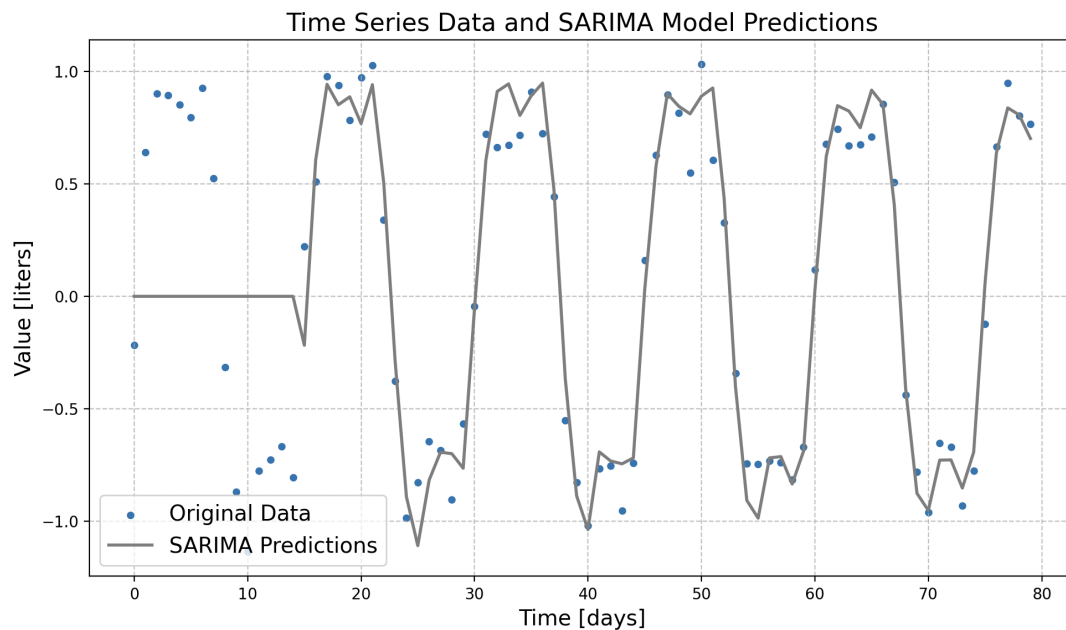
Our approach for anomaly detection in data flows produced by sensors of the sources, is particularly focused on scenarios where data quantity is limited. We have chosen to employ two anomaly detection models: a statistical model that explicitly incorporates seasonality (i.e., regular and periodic variations in data), known as SARIMA, and a more sophisticated model based on clustering, named STSC. This method is selected for its ability to handle various data patterns and to detect seasonality in data even when it is not immediately apparent.

The two systems could be used together, or a choice might be made to utilize only one, should it prove more effective than the other. Initially, both will be used in parallel, then jointly, with the objective being to analyze and adapt these methods to identify the most effective strategy for our specific task. The use of deep learning algorithms has been excluded from our approach, due to their high data requirement for training, a prerequisite not met in the operational context, at least in the initial period (24 months). The methods will undergo testing and modifications to find the most suitable solution, taking into account the peculiarities of the data and the specific characteristics of the problem.

#### 3.6.1.1 SARIMA (Seasonal Autoregressive Integrated Moving Average)

**Functionality:** SARIMA is a time series predictive model, characterized by its ability to incorporate seasonality. This model is composed of three components: autoregression

(AR), differencing (I) to remove seasonality, and moving average (MA), each with a seasonal equivalent. The model is denoted as **SARIMA** ( $p, d, q$ ) ( $P, D, Q$ ) $_s$  where ( $p, d, q$ ) are the non-seasonal parameters, and ( $P, D, Q$ ) are the seasonal parameters, with  $s$  indicating the length of the seasonal period. Once the predictive model is trained, anomalies can be identified simply as points that significantly deviate from the expected trend.

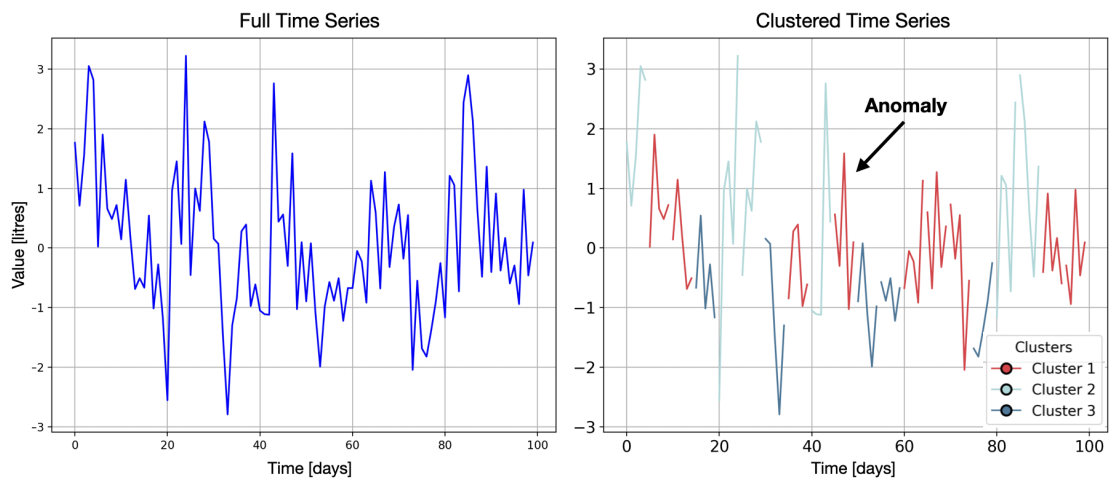


**Effectiveness:** SARIMA is particularly effective in scenarios where data show clear trends and seasonal patterns. The small number of tunable parameters makes the process of updating this model fast and straightforward. However, its performance can be limited with nonlinear or irregular data.

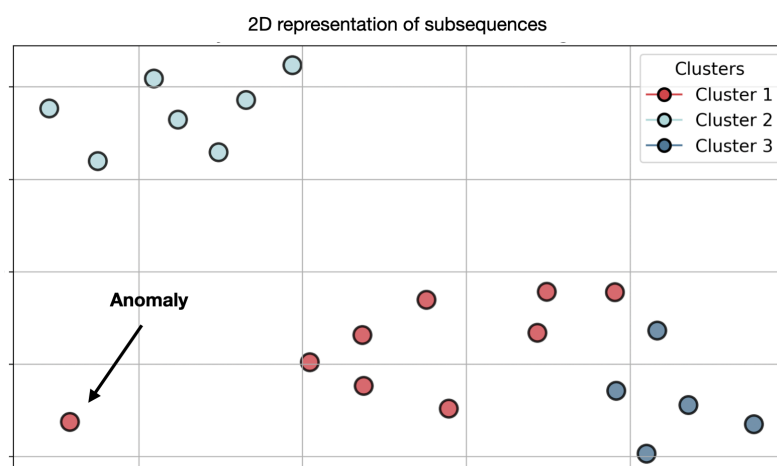
### 3.6.1.2 STSC (Subsequence Time-Series Clustering)

**Functionality:** STSC is an anomaly detection method in time series that relies on segmenting a time series into sub-sequences, followed by their analysis using clustering techniques, such as K-means, to group the sub-sequences based on their similarity. The similarity between sequences can be evaluated using various methods. After clustering, data that do not belong to any of the clusters can be considered

anomalies. The sub-sequences can be represented in 2D using specific algorithms (e.g., t-SNE).



**Effectiveness:** The effectiveness of STSC in anomaly detection is based on its ability to identify complex patterns and unusual variations in data. Anomalies are detected by observing sub-sequences that do not fit well into the formed clusters. This approach is flexible and adapts to different types of time series, allowing for the capture of a wide range of anomalies. The method may include additional post-processing steps to refine detection, such as merging nearby anomalies or filtering false positives.



## 4. Company

### 4.1 Legal Entity & Context

Hypercube SA was incorporated in 2023 in Lugano, Switzerland. The choice of basing the company in Switzerland was made because of several favorable factors, the main being an advanced, sophisticated and globally recognized blockchain regulatory framework. The reason then for incorporating specifically in Lugano was because the city has been pioneering blockchain integration with public administration through a visionary program called “Plan B” (see: <https://planb.lugano.ch/>), which laid the foundation for quite a unique environment, allowing startups and blockchain enthusiasts to basically manage their entire life with crypto: from paying taxes and insurance to shop for groceries.

### 4.2 Team & Advisors



**Pietro Gorgazzini**

Ceo

Serial tech entrepreneur and TedX Speaker. Founder of Madfish digital agency (sold in 2019), Co-founder of Primis Group in 2017 and Spartan Tech in 2019.



**Alan Torrisi**

Cto

Software engineer, blockchain pioneer and serial tech entrepreneur. Co-founder of Primis Group, Spartan Tech, Watchype and Kudom.



**Gherardo De Angelis**

Cso

Entrepreneur with over 10+ years of experience in sales and commodity trading, specialized in large corporate deals and angel investor.





**Jacopo Gerli**

Sourcing Manager

Economics graduate from Westminster University, experience as sales and process efficiency for Fedegari Group and ESG analyst at Kuros & Associated.



**Michele Novembre**

Trading Director

Graduated from law school with honors, 20+ years of experience as a lawyer and law lecturer, turned independent trader in 2016.



**Eleonora Del Plato**

Coo

Business graduate, brand specialist in Henkel and Danone and 4 years running operations for blockchain startups.



**Antonio Luigi Fabio Gerli**

Advisor

30+ years owning and managing a group of hard commodities (mainly metals) trading companies, 10+ years managing a PV production and wholesale, 10+ years managing motor yacht sales.



**Lars Schlichting**

Advisor

Former FINMA employee and KPMG resp. for legal and regulatory area in Ticino, in 2023 has founded Lexify, legal advisory firm specialized in digital law with focus on the blockchain technology.



**Oscar Di Montigny**

Chief Evangelist

International speaker, best-selling author, creator of Spherical Economy® and Humanovability® models, 20+ years as Mediolanum Group executive, founder of Grateful Foundation.

## 5. Roadmap

### 5.1 Milestones

In the first 6 months from incorporation, Hypercube has achieved most of its first year goals ahead of time, favorable market conditions such as the CSRD coming into effect in Europe have significantly helped to accelerate growth.

#### 2023

- **June** - receiving Finma no-action letter for WTR tokenomics
- **September** - going live with Hypercube.eco platform
- **October** - signing the first distribution agreement for international token sales
- **November** - connecting the first water reuse facility and issuing the first WTR
- **December** - finalizing KPMG water credit protocol and closing the first token sale

Having successfully deployed the technology and kicked off WTR primary market in the first year, 2024 priority will be listing the token on multiple crypto exchanges with a double purpose: building a global community of supporters joining the fight to protect water, and providing the ecosystem with as much liquidity as possible to exponentially accelerate large-scale adoption of water reuse systems.

### 5.2 Strategy

Wateract® ecosystem is primarily b2b: companies running water reuse facilities within their production plants on one side, companies looking to mitigate their water waste by purchasing water credits on the other. WTR supply and WTR demand. On the supply side, what we call “sources” as they provide the underlying treated cubic meters for WTR issuing, are quite easy to attract as turning a cost (running water reuse facilities) into potential revenues (WTR royalties) is quite a no-brainer. **On the demand side, WTR buyers are virtually any business in the world involving water at any step of their**

**production/distribution chain:** that's why prioritizing our targets is going to be crucial. We'll be addressing water-intensive industries with higher reputational risk first, such as the fashion, the high tech and the pharma industry: whether because of regulations or the need for better positioning, these companies will be driving our sales in the first phase.

With Hypercube capital fully paid up, all major tech developments done and sales kicking off, we had no need to raise capital to fund operations and therefore a classic ICO wasn't considered. While gaining traction on the primary market, though, we figured no matter how many sources we would onboard and how many WTR sales we would make, in order to reach the scale we need to have a significant global impact on water supply, we need support from the people. We have to involve as many supporters as we can, globally, and the best way to do it is going retail by listing the WTR on multiple crypto exchanges, which will also provide liquidity to accelerate water reuse adoption exponentially.

### 5.3 Key Success Factors

Meme coins season is (finally) over, the wave of hype about nft and metaverse tokens as well, the market is now more aware and is looking for tokens with actual utility or real assets as underlying value. In this landscape, Wateract® is quite a unique token for several reasons:

- **Real Value** given by the underlying voluntary water credit, which has an actual off-chain global market growing larger year over year as awareness on water shortage spreads and governments prioritize water within their environmental impact mitigation agenda.
- **Real Scarcity** as global water demand exceeds global water supply, thus the token doesn't need any form of artificial scarcity schemes to appreciate.

- **Real Impact** as WTR tokenomics provides liquidity to incentivize water reuse facilities and fuel large-scale adoption.
- **Real Traction** proven by global brands already buying WTR and leveraging its utility to meet their environmental targets.
- **No Delivery Risk** since Hypercube has already successfully deployed its technology and it has been up and running since September 2023.
- **Strong Compliance** both from a financial and environmental perspective, by having validated the full tokenomics through Finma and developed the water credit protocol together with KPMG.
- **No Green-Washing Risk** by design, as the system itself won't allow double counting, any degree of opacity and simulated retirement of credits.