Water to the World

White Paper

25 December 2017

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1. Executive Summary

The purpose of this Initial Coin Offering (ICO) is to generate funding to complete a thorough Research and Development (R&D) effort to develop, test, and finalize a production prototype machine, capable of producing potable water from the humidity naturally in the air all around us.

The intent of the company developing this project, Water to the World (W2TW), is to provide a smart machine that can be employed anywhere around the world to produce water. The machine will be durable, rugged, reliable, non-polluting, energy-efficient, and solar-power capable.

In addition, the machine will be tied into the Blockchain to record machine status and production parameters, and to report and create a record of meteorological data at the machine's location.

There is an abundance of water on our planet, but most of it is in the oceans, in the polar ice caps, and in the atmosphere, and is not available to drink or use. Water to the World intends to capture some of the water that is present in the air. We are developing a system to efficiently turn humidity into usable, potable water where it is needed around the world – in developing nations, drought areas, disaster zones, and more.

This white paper will describe the water issues driving this project, the machine's history and features, ICO specifications, and the teams involved in its development.

2. WATER ISSUES

2.1 WATER SUPPLY

"At any moment, the atmosphere contains an astounding 37.5 million billion gallons of water, in the invisible vapor phase. This is enough water to cover the entire surface of the Earth (land and ocean) with one inch of rain."[1]

Water is always in a cycle of heating, cooling, evaporation and condensation, which results in weather. The cycle is endless and self-perpetuating, thanks to the sun, moon, and tides. So there is always an endless supply of water in the air, even in most of the very driest places on earth.

There is always more than enough water present, we just cannot always drink it.
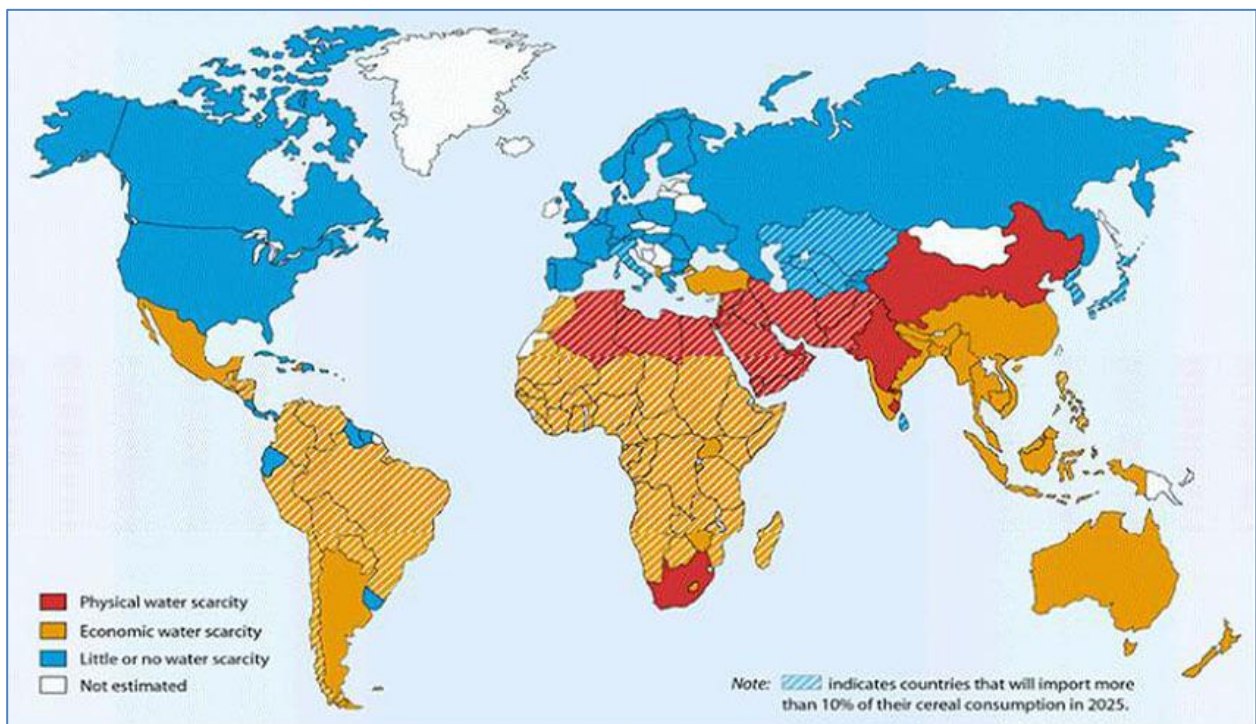

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[1] https://whyfiles.org/2010/how-much-water-is-in-the-atmosphere/index.html
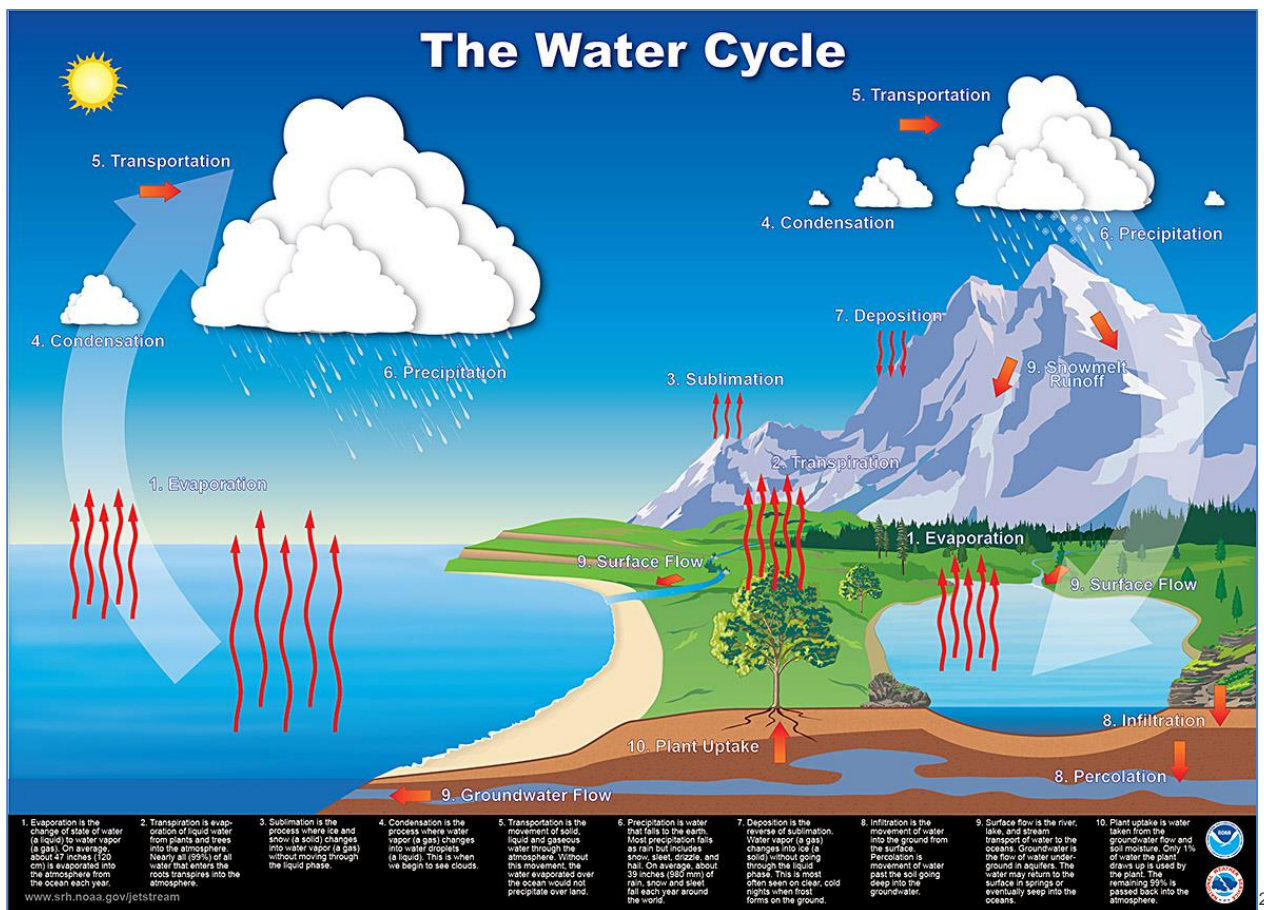
[2] http://www.srh.noaa.gov/jetstream/atmos/whatacycle_max.html

2.2 WATER SCARCITY

Some sources estimate over 1 billion people, or about one-sixth of the world's population, do not have access to fresh water.[3] The lack of access to fresh water has negatively affected education, sanitation, and health, as mentioned below.[4]

- 443 million school days are lost each year due to water-related diseases.

- In developing countries, as much as 80% of illnesses are linked to poor water and sanitation conditions.

- 695 million, of a global 2.4 billion people living without improved sanitation facilities, live in Sub-Saharan Africa.

- Exposure to unsafe drinking water, inadequate sanitation and poor hygiene is a leading cause of cholera, and a variety of infectious and tropical diseases in the African Region,

- Half of the world's hospital beds are filled with people suffering from a water-related disease.

- Nearly 1 out of every 5 deaths worldwide, under the age of 5, is due to a water-related disease.

Legend:
- Physical water scarcity
- Economic water scarcity
- Little or no water scarcity
- Not estimated

Note: ///// indicates countries that will import more than 10% of their cereal consumption in 2025.

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[3] http://academic.evergreen.edu/g/grossmaz/larsenst
[4] https://thewaterproject.org/water-scarcity/water_stats
[5] https://www.kysearo.com/where-does-desalination-plant-be-used/

2.3 WATER URGENCY

Even in areas of the world not normally associated with water shortages, or areas where it is plentiful, there are times when there is no drinkable water to be found.

The past few months have seen multiple typhoons across Asia, a massive earthquake in Mexico, a hurricane in Ireland, and three major hurricanes, an ongoing drought, and massive wildfires in the United States.

The common factor in all these events? An immediate and ongoing lack of clean drinking water.

This is a recurring, unpredictable need, which will only worsen as global climate change accelerates. Whether the cause is a monsoon, an earthquake, a tornado, a fire, hurricane, or other disaster, the people in that area will have an immediate and urgent need for drinking water, and their normal sources will be out of service.

Water to the World intends to help meet that need.

3. SMART MACHINE WATER SOLUTION

A machine that pulls water from the air has been a long quest. There have been some successful systems, but they tend to be large, cumbersome, requiring high levels of energy, and high tech. We propose a new approach taking advantage of natural condensation processes to condense humidity from the air and capture it as usable, drinkable water.

In August 2017 a proof of concept (POC) prototype was assembled to test if the concept was feasible. This rudimentary system produced 3.15 liters of water in approximately 9 hours – a very encouraging result! By comparison, two MIT researchers had recently been in the news for creating a high-tech device in a laboratory to address the same need, and produced almost 3 liters of water per day per kilogram of a synthetic crystalline powder.[6]

Based on W2TW's POC prototype testing, our team has developed a complete system design that will produce water based on the same natural processes and using minimal energy, but that will be more effective, efficient, and productive than the POC prototype. The patent pending system will be deployable almost anywhere in the world, using solar power when needed, or a power grid where available, and will report its status, conditions, and production to the Blockchain.

The system will be engineered to be as simple and durable as possible to withstand the rigors of independent operation in harsh environments around the world for long periods. The machine will also be designed for simplicity of operation, so it can be used by anyone – no technology skills required.

3.1 PRODUCT DESCRIPTION

The basic product is envisioned as a portable, self-contained, energy-efficient, reliable smart machine to efficiently extract and supply fresh water from the humidity in the air. The machine will be solar powered when needed, and would be usable in nearly any environment. The concept is scalable for machines from family size to village size to city size, as needed to meet the need. The system will self-monitor and report atmospheric conditions, system status, and any maintenance alerts by utilizing the IOTA Blockchain protocol.

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[6] http://www.sciencemag.org/news/2017/04/new-solar-powered-device-can-pull-water-straight-desert-air

Our intention is to first develop the most basic planned version, The Talaya 80. This patent-pending system will provide the basic daily fresh water needs for a family of four – 80 liters – for drinking, sanitation, and food preparation. This unit will be person-portable and allow rapid setup.

W2TW is ready to commence R&D when funding is obtained. Among other factors, the R&D effort will determine upper and lower limits for temperature and humidity to ensure minimum water production, optimize component design and operating parameters, develop an appropriate solar power supply, and make the system rugged and dependable.

3.2 SCALABILITY

As funding allows, we will also develop a larger unit to provide the water needs for a group of families, or a village. A larger unit has different challenges, but must still be solar powered, rugged, and easily transportable. It also must produce, collect, and store a larger volume of water that is easily dispensed to the user. Such a unit would be useful as an emergency water supply following natural disasters, as a means to replace a well or an unreliable municipal water supply, as a shipboard water supply, and more.

Depending on funding, W2TW also endeavors to prototype a municipal-size unit that can be incorporated into a city's existing water system. This would be a fixed installation system feeding its production directly to a city water supply, augmenting their existing water sources – wells, rivers, desalination, etc. Each installation could be optimized for the individual location to maximize water production. This would be a boon to areas short on water resources but with plentiful humidity, such as coastal areas, remote cities, or deserts with high overnight humidity.

3.3 SMART FEATURES

Being simple to operate does not mean that a device is low tech. To maximize the availability of system information in a distributed ledger technology, each unit will self-report:

- System status

- System status change

- Predictive repairs or maintenance required

- Water Production rate

- Water collection in previous 12/24 hours

- Water dispensed from unit

- Atmospheric conditions– temperature, humidity, pressure, other pertinent data

3.4 COMMERCIALIZATION

Our name is based on the concept of providing *water to the world!* We will use every opportunity for live demonstrations, because people will believe what they can see for themselves. We will aggressively engage with social media, and use the internet to spread worldwide awareness of the product.

This is not just a product for the developing nations, there are many developed countries where water availability is not assured. Where possible, we will work with existing retail networks, such as QVC, Walmart, Amazon, Souq.com, Noon.com, Alibaba, and others, to sell and deliver the machine.

At the back end of the R&D effort, an appropriate management team will be put in place to select the appropriate manufacturer, as well as the distribution channels to maximize the sale of the products.

We will identify partner opportunities such as Rotary International's water program, music and other popular festivals, such as Coachella, Wakarusa, Burning Man, and others to further increase awareness and availability of the products.

We will work with government and non-government organizations (NGO) providing disaster relief and water assistance around the world. When a working prototype is developed, our intention is build a fleet of them to deploy to disaster areas as rapidly as possible, such as post-flood, post-hurricane, and post-earthquake water supply – for example, Key West, Puerto Rico, Barbuda, Houston, etc.

We will put these units into production for free to supply fresh water. Those people all need drinking water, and they need it now. Our systems will help people in need, provide positive media coverage for W2TW, and will give us real-world opportunities to field test every aspect of the systems.

3.5 GENEROSITY

The driving impetus behind this project is to provide water to the world, which everyone needs. Water to the World will partner with charitable groups working to improve water access for people worldwide in desperate need of fresh water.

For every 50 machines sold, W2TW will offer a randomly-selected ICO participant the opportunity to purchase a family-sized machine at cost, to be delivered to a family in need, in the name of our ecosystem donor. The full retail price will be tax deductible for the donor.

In addition, for every 100 machines sold, W2TW will provide one family-size machine to a partner water crisis organization.

3.6 WATER TO THE WORLD GOALS

There are six key goals for Water to the World:

1. Obtain ICO funding.

2. Conduct R&D effort, scaled to make best use of the funding, to optimize system design to maximize water production and minimize machine cost.

3. Optimize design to maximize production to meet the daily needs of a family of four.

    a. Determine upper and lower limits for temperature and humidity, for effective use in varied weather conditions.

    b. Test and optimize design for great durability to withstand the rigors of harsh environments.

    c. Determine most effective means to tie each unit into a distributed ledger technology platform IOTA to report key parameters and conditions and provide transparency of the data collected.

    d. Extensively test system under all possible conditions to determine minimum and maximum operating limits, system durability, power source requirements and capability, and identify opportunities for improvement in any of those areas.

4. Explore manufacturing opportunities.

5. Develop a worldwide distribution network for sales and disaster relief contributions.

6. Finalize design, shipping options, instructions, and other pre-manufacturing issues.

4. WATER TO THE WORLD TOKEN

The W2TW token will be a utility holding for all token holders after the sale. The benefits of this ecosystem would include special rights to view environmental data produced by each smart machine. Ecosystem participants with proof of stake will have the ability to collaborate with smart machine owners to monetize the atmospheric data for sale to research organizations, universities, and government agencies across the planet.

The W2TW token will also serve as proof of stake in the ecosystem giving members exclusive discounts and naming rights for donated Smart machines to areas in most need of water.

Each machine collects and produces data which will be transmitted to an IOTA distributed ledger, with a small fee or micropayment for the information transmission, through the W2TW token (each machine can be preset with a set amount of W2TW tokens when purchased).

The data transmitted by all the machines will be collated and stored in a decentralized repository. Third parties, such as researchers, universities, companies, consumers, etc., that require access to this database will make a micropayment, greater than the payment made for uploading the data.

A predetermined allocation of this fee paid by third parties for access to the database will be retransmitted to the machine uploading the data, the W2TW organization, other machines within the predefined region, and all other machines that maintain and validate the W2TW ledger.

Participants in the W2TW token sale will be eligible to purchase the machine at below market price (for example, at cost price), once the product has come to market.

4.1 TOKEN SALE AND TIMELINE

Through a sale of the W2TW Token, Water to the World aims to research and refine its prototype to prepare for the commercialization and manufacturing stage. The ICO will be hosted on the WatertotheWorld.IO website, with pre-sale bonus rounds to provide investors with enhanced and discounted ownership for early-stage contribution.

- The campaign will offer 1,000,000,000 tokens set at $0.65 per token, and end on 25 February 2018, or earlier if all tokens are sold out. The soft cap will be set at USD 25,000,000, and any unsold tokens will be burned.

- The Pre-Sale stages 1-3 (28 December 2017 – 15 January 2018) will include 20% of the tokens – 200,000,000 Pre-ICO tokens with varying levels of discounts. These tokens will only be open to accredited investors, Blockchain venture capitalists, Cryptocurrency Hedge Funds, Family Offices, and privately invited participants.

- The Public Sale (25 January 2018 - 25 February 2018) will offer 80% of the tokens – 800,000,000 tokens at $0.65 per token.

- The ICO will also incorporate an Airdrop campaign for the first 3,000 subscribers, who sign up on the Whitelist and Telegram channel. Each subscriber will receive 20 W2TW Tokens, which will be rewarded after the token sale.

- Contributions may be made through Ether (via MyEtherWallet.com), Credit Cards (via Simplex payment gateway), or Wire Transfer (directly from any bank account).

- Anticipate W2TW token to be tradeable, within six weeks of the token sale completion, on Kraken, Bitfinex, CEX.IO, Poloniex, BitFlyer, EtherDelta, and Coincheck exchanges.
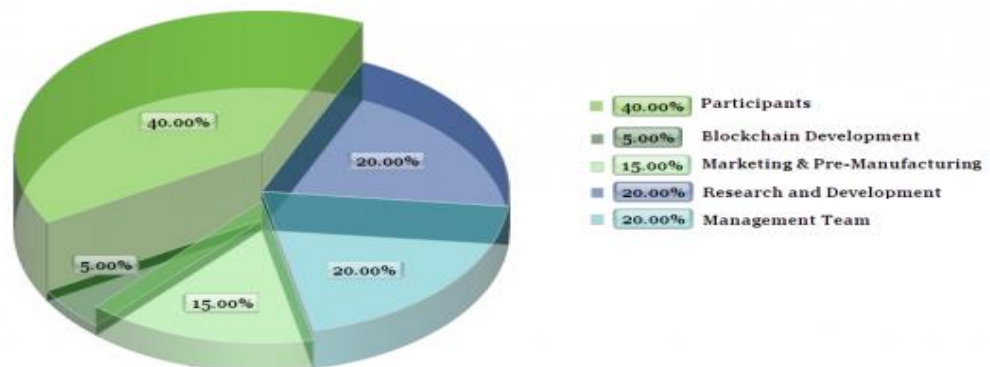
Stage 1 – Pre-Sale **49% Discount**	28 December 2017- 3 January 2018 Discounted price of $0.33 per token
Stage 2 – Pre-Sale **29% Discount**	4 January 2018 - 10 January 2018 Discounted price of $0.46 per token
Stage 3 – Pre-Sale **15% Discount**	11 January 2018 - 15 January 2018 Discounted price of $0.55 per token
Stage 4 – Public Sale	25 January 2018 - 25 February 2018 $0.65 per token
Exchange Listing	Anticipate W2TW token to be tradeable within six weeks of the token sale completion

Anticipated Timeline (subject to change based on token demand)

4.2 FUNDS UTILIZATION

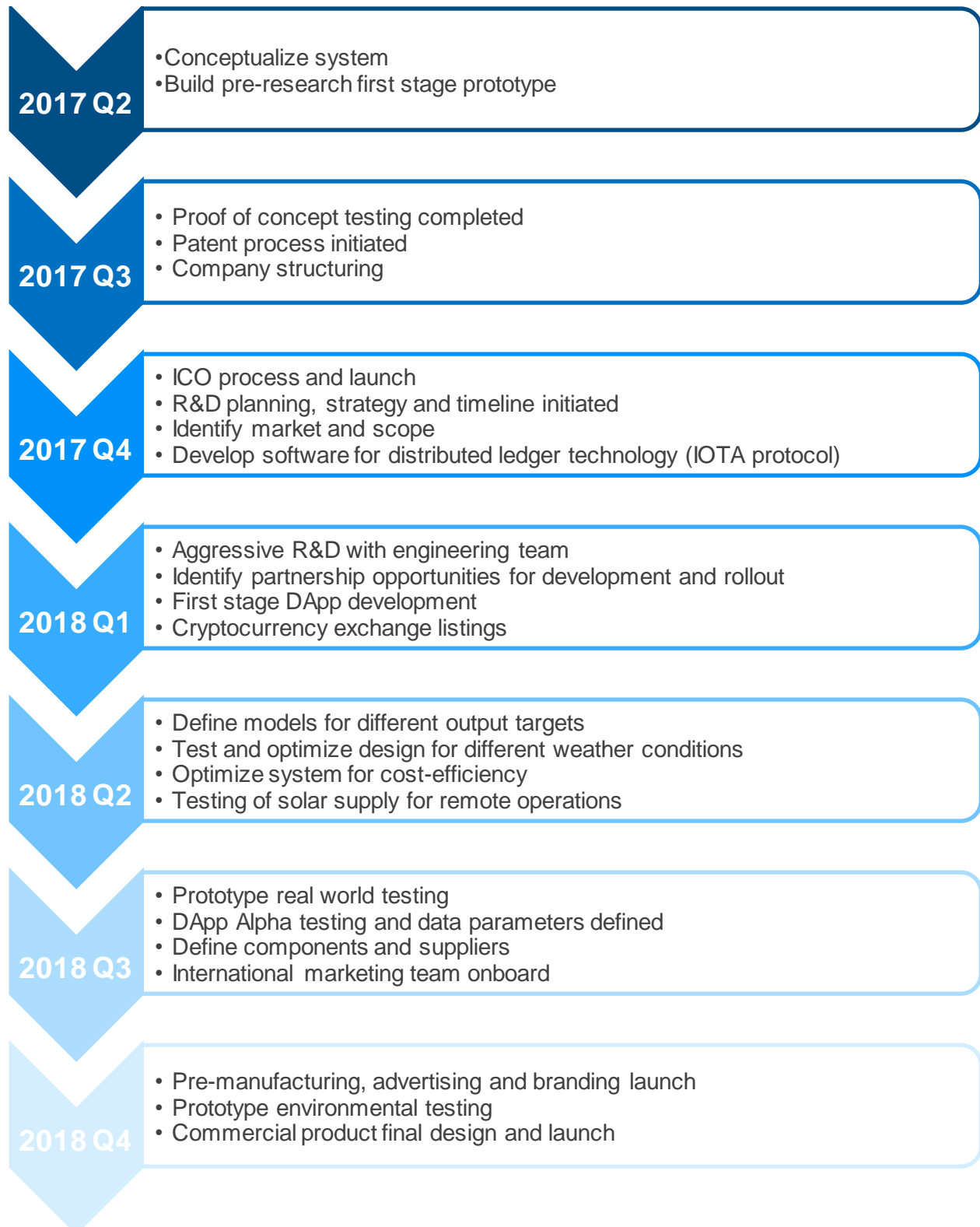The W2TW Token will be distributed in the following manner:

Token Distribution

- 40.00% Participants
- 5.00% Blockchain Development
- 15.00% Marketing & Pre-Manufacturing
- 20.00% Research and Development
- 20.00% Management Team

5. R&D ROADMAP

Water to the World has successfully completed extensive experimentation of a proof of concept system, which far exceeded expectations for water production. The next major stages include the ICO completion, research and development, and product commercialization of the smart machine.

The timeline below outlines major steps to complete the R&D program and prepare for the product commercialization phase.

2017 Q2
- Conceptualize system
- Build pre-research first stage prototype

2017 Q3
- Proof of concept testing completed
- Patent process initiated
- Company structuring

2017 Q4
- ICO process and launch
- R&D planning, strategy and timeline initiated
- Identify market and scope
- Develop software for distributed ledger technology (IOTA protocol)

2018 Q1
- Aggressive R&D with engineering team
- Identify partnership opportunities for development and rollout
- First stage DApp development
- Cryptocurrency exchange listings

2018 Q2
- Define models for different output targets
- Test and optimize design for different weather conditions
- Optimize system for cost-efficiency
- Testing of solar supply for remote operations

2018 Q3
- Prototype real world testing
- DApp Alpha testing and data parameters defined
- Define components and suppliers
- International marketing team onboard

2018 Q4
- Pre-manufacturing, advertising and branding launch
- Prototype environmental testing
- Commercial product final design and launch

6. TEAM

These teams will coordinate to execute the ICO for Water to the World.

6.1 CORE PROJECT TEAM

Mark Gieringer

Mark Gieringer is the W2TW leader and inventor. He spent a career as a USAF pilot, and another as instructional designer and technical writer. His understanding of mechanical processes and broad comprehension of atmospheric forces contributed to his ability to envision and develop this concept, and will help guide the R&D effort to optimize the system.

Mark has extensive experience developing documentation for manufacturing, troubleshooting, and maintaining complex mechanical and electronic systems, as well as top-level business processes and procedures. With Bachelor of Science and Master of Science degrees, he is well-prepared to develop this product and lead the company to take the product to market.

Shannon Sears

Shannon Sears plays a multifaceted role supporting the project development and serving as Business Advisor for W2TW, where she will assist with all aspects of planning, coordinating, and executing the organization's daily and long-term operations.

Shannon brings years of international experience working with executives to support the management of complex organizations. Her background in anthropology and ethnographic research also brings an understanding of the role of culture in shaping the ways that humans interact with each other and the world, which will directly support W2TW's worldwide mission.

Marlon Weems

Marlon Weems is the founder of Hillcrest Strategies, an independent consultancy focused on innovative technologies. Marlon has held leadership positions at several boutique investment banking firms and navigated the start-up of several electronic trading desks.

For over ten years, Marlon led trading operations for a number of Wall Street investment boutiques, most notably, for an affiliate of Cantor Fitzgerald, before starting Hillcrest Strategies, a consulting and advisory firm.

Marlon has built a reputation as an expert on fintech, global market structure, and regulatory issues affecting the capital markets. He has been quoted in many financial media outlets such as Financial Planning, Benzinga, Investor's Business Daily, and Financial Advisor IQ.
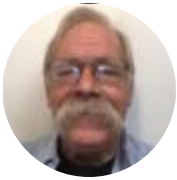
Kenneth Friend

Kenneth Friend is a semi-retired auto repair shop owner with 45 years in the automobile service and repair trade as mechanic, repair shop owner, craftsman, and engineer. Ken is also a race car fabricator and racer, and resides in Northwest Arkansas.

Ken is a U.S. Army veteran, and has lived and served across Europe. He is a graduate of the Porsche Audi technical school, and of a U.S. automotive electrical school. He has extensive knowledge and experience with hydraulic, mechanical, and electrical systems, and in component fabrication.

6.2 ADVISORY TEAM

Jonathan Lane

Jonathan is the Founder and Chief Executive Officer at BlockVisory, a consultancy firm specializing in helping clients understand Blockchain and its potential opportunities. With a background in analysis, finance and emerging technologies, Jonathan has managed corporate restructuring for commercial and government entities, and has been at the helm of entrepreneurial ventures in the United States and the United Arab Emirates.

Jonathan holds a Bachelor in Business Administration from the University of Phoenix in the United States. He has also authored "How to Invest in Initial Coin Offerings – The Modern Day Gold Rush."

Kiran Sajwani

Kiran leads the research, design and delivery of growth-oriented strategic projects. With a background in client management, research, and entrepreneurship, Kiran has led a number of innovation strategy projects in organizational realignment, operational efficiency, and user experiences.

Kiran holds a Bachelor of Science in Business from Champlain College in the United States, and a Master of Business Administration from the University of Toronto in Canada.

Jane Orafu

Jane leads the marketing and social media outreach for BlockVisory. With a background in Blockchain, cryptocurrency trading, event management, and entrepreneurship, Jane has managed technology and financial projects in the United States and Europe.

Jane holds a Bachelor in Business and Marketing from the Ohio State University in the United States.

Jason Hung

Jason Hung is an entrepreneur and inventor in mobile technology, Blockchain ecosystem, digital marketing, AI, and ERP related business. He is the co-founder or advisor of Treascovery, Chidopi, MBAT bank, GoldPower and MiroBTC.

With more than 20 years' experience in managing R&D, IT, sales, and consulting, Jason holds nine technology-related patents which are in use in more than 2,000 apps. He was also the former PeopleSoft and JDE solution head in Greater China.

Henrique Centieiro

Henrique Centieiro is an entrepreneur and consultant in Blockchain and cryptocurrencies. With a background in international banking and financial services in Europe and the United Arab Emirates, Henrique advises ICO ventures on Blockchain technologies, cryptocurrencies, and smart contracts. In addition, Henrique advises clients on AML (Anti-money laundering) approaches, business analysis, business planning, venture capital, project finance, financial planning, funding, tax optimization, and offshore business operations.

7. CONCLUSION

Water to the World combines a proven concept to convert humidity to potable water with portability, durability, data collection and monitoring, and cost effectiveness framed within a distributed ledger technology ecosystem to provide an essential human need. We hope you are as passionate as we are, about addressing humanity's looming water crisis. We look forward to you being a part of our journey to bring Water to the World.